CITY OF DOVER

DOVER PLANNING BOARD – AGENDA

Meeting Type:	Regular Meeting
Meeting Location:	Council Chambers, City Hall, 288 Central Ave, Dover NH 03820
Meeting Date:	**Tuesday, May 28, 2019**
Meeting Time:	**7:00 pm**

1. CITIZENS' FORUM

2. APPROVAL OF THE PRIOR MINUTES

- May 14, 2019 Regular Meeting Minutes

3. OLD BUSINESS

A. Public hearing and vote to adopt of the posted Architectural Design Standards in Chapter 149. The full text of the amendments is available in Planning Department & at www.dover.nh.gov located under City Documents & View Current City Reports.*

4. NEW BUSINESS

A. Public hearing and consideration of a request for an excavation permit by Brox Industries, Inc., Assessor's Map C, Lots 12A, 13 & 14, zoned R-40, located on Rochester Neck Road/Tolend Road. *(P19-39)

B. Public hearing and consideration of a request for an excavation permit by Candia South Branch Holdings, LLC, Assessor's Map H, Lots 59, 60 & 61, zoned I-4, located on Mast Road. *(P19-40)

C. Consideration and acceptance of a Conditional Use Permit for Little Bay Marina & Development LLC, Assessor's Map 8, Lots 9, 10, 11, & 12, zoned LBW, located at 421, 423, 425, and 427 Dover Point Road. (Proposal will create 2,304 sq. ft. of wetlands impact, 15,579 sq. ft. of 50 foot wetland buffer impact and 58,203 sq. ft. of Conservation District impact on tidal Little Bay. Additionally 4,300 sq. ft. of a soil causeway is proposed to be replaced in the Conservation District.). *(P19-05)

D. Consideration and acceptance of a Site Review for Little Bay Marina & Development, LLC, Assessor's Map 8, Lots 9, 10, 11, & 12, zoned LBW, located at 421, 423, 425, and 427 Dover Point Road. (Proposal is to develop a condominium containing 23 units plus marina/marina office with 1 dwelling unit and 27 parking spaces. This project has TDR approval from the Planning Board). *(P19-04)

E. Consideration and acceptance of a Site Review for Northern Pool & Spa (Owner: 29 Littleworth Road LLC) Assessor's Map G, Lot 6, zoned I-4, and located at 29 Littleworth Road. (Proposal is to construct an 11,728 sq. ft. office and warehouse. Other improvements include access and parking areas, stormwater treatment and an on-site wastewater disposal field). *(P19-26)

F. Consideration and acceptance of a Conditional Use Permit for One First Dover, LLC, Assessor's Map 6, Lot 20, zoned CDB-G, and located at 1 First Street. (Proposal is to allow a sixth story building in an area that only allows five). *(P19-17)

G. Consideration and acceptance of a Site Review for One First Dover, LLC, Assessor's Map 6, Lot 20, zoned CBD-G, and located at 1 First Street. (Proposal is to raze the existing building and construct a five to six story building containing 71 residential units and 4 street-level commercial spaces totaling 6,199 sq. ft. The proposal includes a lower level parking garage containing 29 parking spaces). *(P19-16)

5. STAFF COMMENTS

6. MEMBER COMMENTS

7. ADJOURNMENT

*Indicates that if the application is accepted for discussion, the public hearing will be held the same evening. Note that some hearings will be continued from one meeting to another and some may be postponed. Since this is only a partial description of the proposal and may change, persons with questions or wishing to see the plans are invited to visit the Planning Office, Monday through Thursday from 8:30 am to 5:30 pm and Friday 8:30 am to 4:00 pm or email Dover-Planning@dover.nh.gov. You may also view materials at www.dover.nh.gov. Follow us on Twitter @DoverNHPlanning and find us on Facebook at https://www.facebook.com/DoverNHPlanning.

CITY OF DOVER

DOVER PLANNING BOARD – MINUTES

Meeting Type:	Regular Meeting
Meeting Location:	City Council Chamber's 288 Central Avenue
Meeting Date:	**Tuesday, May 14, 2019**
Meeting Time:	**7:00 pm**

Members Present: Gina Cruikshank (Chair), Dave White, Dave Landry, Frank Torr, Tom Clark, Jackson Kaspari, Lee Skinner, Hayley Harmon (Vice Chair), Ellen Brooks (Alternate), Matt Sullivan (Alternate)

Members Not Present (excused): Dennis Ciotti (Councilor), James Burdin (Alternate)

Members Not Present (un-excused): None

Staff Present: Christopher Parker, Assistant City Manager, Donna Benton, City Planner

The Chair called the meeting to order at 7:00 pm and noted that no alternate can sit for Councilor Ciotti.

1. CITIZENS' FORUM

Citizens Forum Open No one spoke. *Citizens Forum Closed.*

2. APPROVAL OF THE PRIOR MINUTES

- April 23, 2019 Regular Meeting Minutes

Motion: F. Torr made a motion to approve the minutes. Seconded by D. Landry. Vote: U/A.

3. OLD BUSINESS

A. Consideration and possible vote on posting the proposed Architectural Design Standards in Chapter 170 and the associated Zoning Tables. The full text of the amendments is available in Planning Department & at www.dover.nh.gov located under City Documents & View Current City Reports.

B. Consideration and possible vote on posting the proposed Architectural Design Standards in Chapter 149. The full text of the amendments is available in Planning Department & at www.dover.nh.gov located under City Documents & View Current City Reports.

C. Parker gave background of the project.

D. Benton gave a brief overview of the process and reviewed the zoning changes proposed.

D. Landry wondered if a project will be revisited if it is renovated again. It was noted that, the language is based on language from the building department. If those properties are renovated, they will have to make life safety upgrades to meet code standards. He also asked about the language, "character". D. Benton explained that it is not defined but is the character of Dover.

He also asked for clarification regarding the criteria for projects to meet 'solar-ready' standards. D. Benton explained the consultant made recommendations based on national research.

D. White also inquired about the solar panel requirements along with what else is needed for equipment on the roof to support it. D. Benton explained those calculations were taken into account.

L. Skinner proposed two grammatical edits which were accepted.

D. Benton reviewed the site review changes proposed.

L. Skinner proposed grammatical edits which were accepted.

D. Landry wondered about the process of selecting exterior materials. D. Benton said it is normally discussed during the technical review process.

Motion: T. Clark made a motion to post the Zoning amendments as amended.
Seconded by F. Torr. Vote: U/A.

Motion: T. Clark made a motion to post the Site Review amendments as amended.
Seconded by F. Torr. Vote: U/A.

4. NEW BUSINESS

A. Consideration and acceptance of an Amendment to the conditions for a previously approved Subdivision Plan for TDAK & Company LLC, Assessor's Map 35, Lot 57, zoned R-12, located at 99 Sixth Street. (Proposal is to adjust grading and add a fence and arborvitae). *(P18-07B)

C. Parker explained that the applicant wishes to amend the previous approved subdivision with the installation of a 4' high retaining wall on the easterly side of unit 3 and add a landscaped buffer and a 8' white vinyl fence to provide a buffer from unit 3 to abutters as well as to construct a rain garden in the northeast corner of the lot. These amendments are a result of some violations that occurred on the site, and the affected abutters. The Dionne's have worked with the applicant to develop the plan before the Board. Staff has agreed that where this is a first infraction by the applicant, that if the remedy is in place in a timely manner, the fines will be waived.

James Hayden, Berry Surveying and Engineering, represented the applicant and explained the plan.

D. White commented that by having both the fencing close to the structure along with the landscaping buffer seems to prevent the unit owner from utilizing the exterior property. C. Parker explained both parties are aware of the proposal.

Motion: F. Torr made a motion to accept the applications. Seconded by L. Skinner. Vote U/A.

Public hearing opened.
Susan Keenan, 31 Hillcrest Drive expressed concerns regarding: how the amendments will affect the abutters, pooling water on abutting properties and if the amendment will make this problem better or worse, if there is flooding on abutting properties who is responsible for the costs and maintenance, the discrepancy between the plans and the actual height of the arborvitaes.

J. Hayden addressed the concerns:
The upkeep/ maintenance of the rain garden will be taken care of by HOA.
Runoff to abutters will be less likely because that is what the rain garden will manage.

C. Parker added that formal complaints, if necessary, can be filed at the office.

Public Hearing closed.

STAFF RECOMMENDATION:
Chapter 155-15 of the Land Subdivision Regulations of the City Code provides for subdivisions of existing lots. This plan is consistent with the regulations, and the Planning Department recommends that the Planning Board approve the amendment with the following conditions:

Condition to be Met Prior to Signing of the Plans:

1. All other conditions from P18-07 and P18-07A shall be met.
2. The applicant shall provide a digital version of the amended plat to the Planning Department.
3. Amend the stormwater report to the satisfaction of the City Engineer.
4. The applicant shall revise the plat to:
    a. Indicate the previous amended arborvitaes along the easterly property line an additional 80' southbound to align with the end of the driveway
    b. Owner shall sign and date the amended plat
    c. PE shall sign and stamp the amended plat

Condition to be Met Prior to Occupying 14 Carmen's Drive:

5. The applicant shall complete the landscaping and fencing
    a. If the above is not completed by June 1, 2019, any fines accrued shall be paid before occupancy.
    b. If the rain garden, and final section of fencing, is not completed by June 15, 2019, any fines accrued shall be paid before occupancy.

J. Kaspari asked how the storm water reports are compiled and if future climate forecasts are taken into consideration rather than just historical information. J. Hayden clarified the information is pulled from national research by many universities. The plan meets all of the standards for five, ten, 50-year floodplain.

Motion: H. Harmon made a motion to amend the approved plan with staff recommended conditions. Seconded by L. Skinner. Vote U/A.

B. Consideration and acceptance of a Lot Line Adjustment for Roger C. Groux, (Owners: Groux/Bow Street & 280 Dover Pt Rd LLC), Assessor's Map L, Lots 106 & 106A, zoned R-20, located at Dover Point Road & 278 ½ Dover Point Road. *(P19-38)

C. Parker explained that the applicant wishes to adjust the lot line between the two subject lots moving 0.09 +/- acres or 4,132 s. f. from lot 106 to lot 106A. It was noted that during the review the tax map needs to be updated, as do the tax records regarding two small lots along Dover Point Road, also owned by the applicant.

The subject lots access would remain the same without frontage on a public street but through rights as outlined in the applicant's narrative dating May 2, 2019. Therefore, staying in the legal nonconforming status.

David Vincent, Vincent Land Surveying, represented the applicant and owner and reviewed the application.

Motion: F. Torr made a motion to accept the applications. Seconded by L. Skinner. Vote U/A.

Public hearing opened.
No one spoke.
Public Hearing closed.

STAFF RECOMMENDATION:
Chapter 155-18 of the Land Subdivision Regulations of the City Code provides for the adjustment of existing lot lines between two or more lots. This plan is consistent with those regulations. This plan is consistent with the regulations, and the Planning Department recommends that the Planning Board approve the Minor Subdivision with the following conditions:

Conditions to Be Met Prior to Signing of Plans:

1. The applicant shall provide the Planning Department with a digital version of the final plat which includes the two smaller lots providing access to correct the City's tax maps.
2. The applicant work with the Assessing office to assign lot IDs to those lots and separate tax cards.
3. The applicant shall revise the plat to:
   a. Add Planning file number P19-38
   b. Add signature and stamp of LLS
   c. Add owners' signatures

Motion: D. White made a motion to approve with staff recommended conditions. Seconded by T. Clark. Vote U/A.

5. STAFF COMMENTS

- TRC item since the last meeting: Final review of 1 First Street, Northern Pool and Spa at 29 Littleworth, 10 Fourth Street and 22 Fifth Street.
- Council voted a change to track board member attendance as excused or unexcused.
- State 10-year plan update
- Rezoning Committee update

6. MEMBER COMMENTS

- D. Landry mentioned the board wanted to discuss TDR and wondered if discussion will be in June. C. Parker noted it is anticipated for a June meeting.

7. ADJOURNMENT

Motion: H. Harmon made a motion to adjourn at 8:09 pm. Seconded by F. Torr. Vote U/A

Please bring

Architectural Design

Site Regulation Amendments

from previous meeting

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P19-39

Application Type:	Excavation Permit
Applicant(s):	Brox Industries, Inc.
Owner(s):	Stephen M. Brox Rev. Indenture of Trust
Location:	Rochester Neck/Tolend Roads (Tax Map C, Lots 12-A, 13, 14)
Meeting Date:	May 28, 2019

INTENT: To obtain an Excavation Permit renewal for an existing excavation operation.

UNITS PROPOSED: N/A

AGENDA ITEM #: 4-A

ACREAGE: 4.8, 10.8, and 80 +/- acres

ZONING DISTRICT: R-40

EXISTING LAND USE: Excavation

PROPOSED LAND USE: Continued Excavation

SURROUNDING LAND USE: Excavation, vacant, City-owned

ZBA ACTION: Map C, Lot 12-A: H89-9, granted appeal of administrative decision to consider an asphalt plant an accessory use to a gravel pit with the condition that all aggregate material is extracted on site.

ATTACHMENT:
Excavation Permit application, Excavation Plan, Reclamation Plan

APPLICATION IS COMPLETE:
Yes

NOTICES SENT: Abutter notices were sent by certified mail to all abutters for this meeting

PERMITS REQUIRED:
Excavation

WAIVERS REQUESTED: None

Summary of Request and Background
The subject property is located off of Rochester Neck Road and Tolend Road at both the Barrington and Rochester municipal boundaries. The Applicant has submitted excavation and reclamation plans for each of its three lots in Dover, along with an application for an excavation permit. This constitutes a renewal of the permit approved May 9, 2017 (a biennial process)

Consistency With Land Use Regulations
Section 170-29 of the Zoning Ordinance of the City Code governs the excavation of earth in the City of Dover pursuant to the authority granted by NH RSA 155-E, and requires that earth excavations obtain a permit, which is valid for two years.

STAFF RECOMMENDATION:
The Planning Department recommends that the Planning Board accept the application, hold the public hearing, and approve the Excavation Permit with the following condition:

1. Confirmation from the City's Environmental Consultant and/or Community Services staff that existing conditions are consistent with excavation plan.

Rochester Neck Road and Tolend Road



MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Dover, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 5/3/2019
Data updated Daily

Account # P19-39

Application Fee Paid _____ Permit Fee _____

Date Received RECEIVED Planning Office

Time Received MAY 09 2019 Dover, New Hampshire

Revised March 28, 2017

CITY OF DOVER, NEW HAMPSHIRE
EXCAVATION PERMIT APPLICATION

Application is hereby made for an extraction permit pursuant to the procedures set forth in the City of Dover's Zoning Ordinance.

(FOR OFFICE USE ONLY)
This application is hereby approved (disapproved) and permission is hereby granted (refused) to the applicant. This approval is good for two years from the date specified. Once approved by the Planning Board, a permit fee of $75.00 shall be paid prior to the permit taking effect.

SUBJECT TO THE FOLLOWING CONDITIONS:

APPROVED BY: _____ DATE: _____

1. GENERAL INFORMATION

Date: 04-16-19 Project Number: _____ Telephone #: 603-332-4262

Name of Applicant: BROX INDUSTRIES

Address of Applicant: 1471 METHUEN STREET DRACUT, MASS. 01826

Name of Property Owner: STEPHEN M. BROX REV INDENTURE OF TRUST

Address of Property Owner: SAME

Address of Property Being Excavated: ROCHESTER NECK ROAD/ TOLEND ROAD

Assessor's Map # C Lot # 12-A, 13, 14

Acres of Land: 4.8, 10.8, 80+/- Zoning District: R-40

Depth of Excavation: +50' Finished Elevation: 121+/-

Elevation of Highest Annual Average Groundwater Table: 115+/-

Projected Length of Excavation Project: COMPLETION OF REMOVAL OF ALL MATERIALS

2. PROFESSIONAL SIGNOFF

Name of Professional (Licensed in NH) ROBERT TARDIF

Check One: Engineer XX Land Surveyor _____ Architect _____

Address: DUNBARTON, N.H.

License No. 10022 Tele. # 603-332-4262

3. 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. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner: _____ Date: _____

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

4. AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the 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, excavation phase, and reclamation phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Date: _____

PLEASE RETURN THE FOLLOWING WITH YOUR APPLICATION TO THE PLANNING OFFICE:

1. 16 copies (five 22" x 34" and eleven 11" x 17") of excavation plan prepared in accordance with 170-30.3.A (one full-size plan sent to Conservation Commission)
2. 16 copies (five 22" x 34" and eleven 11" x 17") of reclamation plan prepared in accordance with 170-30.3.B (one full-size plan sent to Conservation Commission)
3. Tax Collector's statement that all property taxes have been paid in full & that excavation taxes have been paid in full & that there are no unreleased tax liens encumbering said properties
4. Surety Bond or other form of performance guarantee
5. Copy of Notice of Intent to Excavate that is filed with Assessor's Office
6. A written statement from the Tax Collector that all current property and excavation taxes levied against all properties in the operation have been paid in full and that there are no unreleased tax liens encumbering said properties
7. Digital Version of the Plan in PDF/A format
8. **An annual report documenting compliance with the requirements of Zoning Section 170-28, Groundwater Protection. Pursuant to RSA 155-E:11, the requirements of this section may be waived if the applicant demonstrates that such exception shall be recorded in the Registry of Deeds, and one copy filed with the NH Department of Environmental Services**
9. Check made out to the City of Dover for fees calculated below

CITY OF DOVER SITE REVIEW
LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. The applicant must obtain the abutter information from the records of the Tax Assessor's Office (not more than five days prior to filing) in order to process the site review application.

ABUTTER is defined as the owner of record of a parcel of land located in New Hampshire and that adjoins or is directly within two hundred (200) feet (including land across the street or waterway) of the proposed site under consideration by the Planning Board. For a condominium or other collective form of ownership, abutter means the officers of the collective or association. *(See additional requirement below)*

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS
C	12-A, 13, 14	STEPHEN M BROX	DRACUT MASS.

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS
SAME		

Surveyor and/or Engineer:

NAME	COMPANY	MAILING ADDRESS
ROBERT TARDIF		DUNBARTON, N.H.

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

Abutters:

TAX MAP	LOT #	OWNER (S) OF RECORD	MAILING ADDRESS
C	11-B	STEPHEN M. BROX	DRACUT MASS
C	11-C	TYLER AND PAT FOSS	PO BOX 984 DOVER,NH 03820
C	7,12,8,20	CITY OF DOVER, N.H.	MUNICIPAL BLDG DOVER, N.H.
		BARRINGTON	
15	58	STEPHEN M. BROX	DRACUT, MASS.
15	57	SAME	
15	58-A	BEATRICE HARRIMAN TRUST	175 EXETER ROAD
			NEWMARKET, N.H. 03857-2036

For projects which meet 149-4A, if a condominium association is an abutter, add all owners of individual units that are located within two hundred (200) feet of the common property line for notification by first class mail.

UNIT #	OWNER (S) OF RECORD	MAILING ADDRESS

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 = $ _____
   - 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 = $ 150.00
   - 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 # 3 of x $8.00 =
2. Certified letters fee: # of abutters 3 X $8.00 = $ 24.00
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 # 6 per sheet of plan set = $ 6.00

(Revised May 15, 2017)

TOTAL FEE **$** 260.00

Willis Towers Watson

FOR

Telephone: 860-241-4428
Website: www.willistowerswatson.com
E-mail: erin.kiernan@willistowerswatson.com

October 25, 2018

LOT 14

Brox Industries, Inc.
Attn.: Leslie Bernstein
1471 Methuen Street
Dracut, MA 01826

RE: ***Bond Number:*** **30540722**
Obligee: **The City of Dover, NH**
Description: **License and Permit Bond**

Attached is the completed document per your request. This was issued based upon the information you provided to our office and we urge you to check all of the information for accuracy (i.e. Power of Attorney, signatures, dates, amounts, description, etc.).

Please verify that the form attached is the form required and complete the execution with the proper signature(s) and seal.

If a premium is charged, our invoice will follow under a separate cover. Please note the premium payment for this bond is due upon receipt.

Thank you for the opportunity to service your surety needs. Should you have any questions, please do not hesitate to contact any member of your Willis Towers Watson Surety Team.

Sincerely,

Erin Kiernan

Willis of Massachusetts, Inc.
10 State House Square, Floor 11
Hartford, CT 06103

CONTINUATION CERTIFICATE

The Fidelity and Deposit Company of Maryland (hereinafter called the Surety) hereby continues in force its Bond No. 30540722 in the sum of Forty Thousand Dollars and 00/100 ($40,000.00) Dollars, on behalf of Brox Industries, Inc. in favor of City of Dover, NH subject to all the conditions and terms thereof through December 31, 2019 at location of risk.

This Continuation is executed upon the express condition that the Surety's liability shall not be cumulative and shall be limited at all times by the amount of the penalty stated in the bond.

IN WITNESS WHEREOF, the Surety has caused this instrument to be signed by its duly authorized Attorney-in-Fact and its corporate seal to be hereto affixed this 25th day of October, 2018.

Fidelity and Deposit Company of Maryland
Surety

By: _____
Donna M. Planeta, Attorney-in-Fact

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by **MICHAEL BOND, Vice President,** in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Donna M. PLANETA, Joshua SANFORD, Aimee R. PERONDINE, Aiza LOPEZ, Danielle D. JOHNSON, Michelle Anne McMAHON, Saykham CHANTHASONE and Noah William PIERCE, all of Hartford, Connecticut, EACH** its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 9th day of July, A.D. 2018.

ATTEST:

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: _____
Assistant Secretary
Joshua Lecker

_____
Vice President
Michael Bond

State of Maryland
County of Baltimore

On this 9th day of July, A.D. 2018, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **MICHAEL BOND, Vice President, and JOSHUA LECKER, Assistant Secretary,** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

_____
Constance A. Dunn, Notary Public
My Commission Expires: July 9, 2019

POA-F 063-9180A

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by **MICHAEL BOND, Vice President,** in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Donna M. PLANETA, Joshua SANFORD, Aimee R. PERONDINE, Aiza LOPEZ, Danielle D. JOHNSON, Michelle Anne McMAHON, Saykham CHANTHASONE and Noah William PIERCE, all of Hartford, Connecticut, EACH** its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 9th day of July, A.D. 2018.

ATTEST:

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: _____
Assistant Secretary
Joshua Lecker

_____
Vice President
Michael Bond

State of Maryland
County of Baltimore

On this 9th day of July, A.D. 2018, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **MICHAEL BOND, Vice President, and JOSHUA LECKER, Assistant Secretary,** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

_____
Constance A. Dunn, Notary Public
My Commission Expires: July 9, 2019

POA-F 063-9180A

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 25th day of October, 2018.



David McVicker, Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT ALL REQUIRED INFORMATION TO:

Zurich American Insurance Co.
Attn: Surety Claims
1299 Zurich Way
Schaumburg, IL 60196-1056

Willis Towers Watson

25K

Telephone: 860-241-4428
Website: www.willistowerswatson.com
E-mail: erin.kiernan@willistowerswatson.com

October 26, 2018

LOT 13

Brox Industries, Inc.
Attn: Leslie Bernstein
1471 Methuen Street
Dracut, MA 01826

RE: ***Bond Number: 30141533***
Obligee: City of Dover, NH
Description: Operation of a Gravel Pit

Attached is the completed document per your request. This was issued based upon the information you provided to our office and we urge you to check all of the information for accuracy (i.e. Power of Attorney, signatures, dates, amounts, description, etc.).

Please verify that the form attached is the form required and complete the execution with the proper signature(s) and seal.

If a premium is charged, our invoice will follow under a separate cover. Please note the premium payment for this bond is due upon receipt.

Thank you for the opportunity to service your surety needs. Should you have any questions, please do not hesitate to contact any member of your Willis Towers Watson Surety Team.

Sincerely,

Erin Kiernan

Willis of Massachusetts, Inc.
10 State House Square, Floor 11
Hartford, CT 06103

CONTINUATION CERTIFICATE

The Fidelity and Deposit Company of Maryland (hereinafter called the Surety) hereby continues in force its Bond No. 30141533 in the sum of Twenty Five Thousand Dollars and 00/100 ($25,000.00) Dollars, on behalf of Brox Industries Inc. in favor of City of Dover, NH subject to all the conditions and terms thereof through January 1, 2020 at location of risk.

This Continuation is executed upon the express condition that the Surety's liability shall not be cumulative and shall be limited at all times by the amount of the penalty stated in the bond.

IN WITNESS WHEREOF, the Surety has caused this instrument to be signed by its duly authorized Attorney-in-Fact and its corporate seal to be hereto affixed this 26 day of October, 2018.

Fidelity and Deposit Company of Maryland
Surety

By: _____
Joshua Sanford Attorney-in-Fact

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by **MICHAEL BOND, Vice President,** in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Donna M. PLANETA, Joshua SANFORD, Aimee R. PERONDINE, Aiza LOPEZ, Danielle D. JOHNSON, Michelle Anne McMAHON, Saykham CHANTHASONE and Noah William PIERCE, all of Hartford, Connecticut, EACH** its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 9th day of July, A.D. 2018.

ATTEST:

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: _____
Assistant Secretary
Joshua Lecker

_____
Vice President
Michael Bond

State of Maryland
County of Baltimore

On this 9th day of July, A.D. 2018, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **MICHAEL BOND, Vice President, and JOSHUA LECKER, Assistant Secretary,** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

_____
Constance A. Dunn, Notary Public
My Commission Expires: July 9, 2019

POA-F 063-9180A

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 26th day of October, 2018.



David McVicker, Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT ALL REQUIRED INFORMATION TO:

Zurich American Insurance Co.
Attn: Surety Claims
1299 Zurich Way
Schaumburg, IL 60196-1056

Willis Towers Watson

12.5K

Telephone: 860-241-4428
Website: www.willistowerswatson.com
E-mail: erin.kiernan@willistowerswatson.com

October 25, 2018

LOT-12-A

Brox Industries, Inc.
Attn.: Leslie Bernstein
1471 Methuen Street
Dracut, MA 01826

RE: ***Bond Number:*** **30141529**
Obligee: **The City of Dover, NH**
Description: **License and Permit Bond**

Attached is the completed document per your request. This was issued based upon the information you provided to our office and we urge you to check all of the information for accuracy (i.e. Power of Attorney, signatures, dates, amounts, description, etc.).

Please verify that the form attached is the form required and complete the execution with the proper signature(s) and seal.

If a premium is charged, our invoice will follow under a separate cover. Please note the premium payment for this bond is due upon receipt.

Thank you for the opportunity to service your surety needs. Should you have any questions, please do not hesitate to contact any member of your Willis Towers Watson Surety Team.

Sincerely,

Erin Kiernan

Willis of Massachusetts, Inc.
10 State House Square, Floor 11
Hartford, CT 06103

CONTINUATION CERTIFICATE

The Fidelity and Deposit Company of Maryland (hereinafter called the Surety) hereby continues in force its Bond No. 30141529 in the sum of Twelve Thousand Five Hundred Dollars and 00/100 ($12,500.00) Dollars, on behalf of Brox Paving Materials, Inc. in favor of The City of Dover, NH subject to all the conditions and terms thereof through January 1, 2020 at location of risk.

This Continuation is executed upon the express condition that the Surety's liability shall not be cumulative and shall be limited at all times by the amount of the penalty stated in the bond.

IN WITNESS WHEREOF, the Surety has caused this instrument to be signed by its duly authorized Attorney-in-Fact and its corporate seal to be hereto affixed this 25th day of October, 2018.

Fidelity and Deposit Company of Maryland
Surety

By: 
Donna M. Planeta, Attorney-in-Fact

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 25th day of October, 2018

David McVicker, Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT ALL REQUIRED INFORMATION TO:

Zurich American Insurance Co.
Attn: Surety Claims
1299 Zurich Way
Schaumburg, IL 60196-1056

CONTINUATION CERTIFICATE

The Fidelity and Deposit Company of Maryland (hereinafter called the Surety) hereby continues in force its Bond No. 30141529 in the sum of Twelve Thousand Five Hundred Dollars and 00/100 ($12,500.00) Dollars, on behalf of Brox Paving Materials, Inc. in favor of The City of Dover, NH subject to all the conditions and terms thereof through January 1, 2020 at location of risk.

This Continuation is executed upon the express condition that the Surety's liability shall not be cumulative and shall be limited at all times by the amount of the penalty stated in the bond.

IN WITNESS WHEREOF, the Surety has caused this instrument to be signed by its duly authorized Attorney-in-Fact and its corporate seal to be hereto affixed this 25th day of October, 2018.

Fidelity and Deposit Company of Maryland
Surety

By: _____
Donna M. Planeta, Attorney-in-Fact

FORM
PA-38
139

NEW HAMPSHIRE DEPARTMENT OF REVENUE ADMINISTRATION

NOTICE OF INTENT TO EXCAVATE

RSA 72-B

COPY

RECEIVED
JAN 28 2019
DOVER ASSESSING

YR 19 - TOWN 125 - OP# 01 - E

For Tax Year April 1, ~~2019~~ to March 31, ~~2020~~

GENERAL INSTRUCTIONS FOR FILING THIS FORM ON REVERSE

PLEASE TYPE or PRINT *(If filling in form on-line; use TAB key to move through fields)*

1. Town/City of: DOVER
2. Tax Map/Block/Lot #: C-13
3. Name of Road From Which Accessible: ROCHESTER NECK RD
4. Total Acreage of Lot: 10.8
5. Date of Permit per RSA 155-E:2: _____ *(Municipal Excavation Permit)*
   or
6. Date of Report, *if required*, per RSA 155-E:2, I (d): _____
7. Permit Number per RSA 485-A:17, *if any*: WPB 4588 *(Alteration of Terrain Permit)*
8. Incidental Construction/155-E Exception: *Check if Yes* ☐
9. Total Permitted Area (acres): 9.5
10. Excavation Area (acres) as of April 1: 8.5
11. Reclaimed Area (acres) as of April 1: 1
12. Remaining Cubic Yards of Earth to Excavate: 33,800
13. Type of Ownership *(Check only one)*:
    - ☑ Owner of land
    - ☐ Previous owner retaining deeded earth excavation rights
    - ☐ Owner of earth or earth excavation rights on public lands (Fed, State, Municipal, etc) or, removes earth from public lands or right of way
14. DESCRIPTION OF EARTH TO BE EXCAVATED **DURING TAX YEAR**

EARTH TYPE	ESTIMATED CUBIC YARDS (CY)
GRAVEL	
SAND	1000
LOAM	
STONE PRODUCTS	
OTHER ( )	
TOTAL	1,000

15. **CHECK ONLY THE BOX THAT DESCRIBES THIS INTENT**
    - ☑ ORIGINAL WITH $100.00 FEE (check payable to to State of New Hampshire)
    - ☐ ORIGINAL WITH NO FEE (excavation of 1,000 cubic yards or less)
    - ☐ SUPPLEMENTAL WITH $100.00 FEE (exceeding original estimate of 1,000 cubic yards or less)
    - ☐ SUPPLEMENTAL WITH NO FEE (fee previously paid with original intent)
16. We hereby assume responsibility for reporting all earth excavated within 30 days of completion or by the end of the tax year, whichever comes first. (If a Corporation, an Officer must sign.)

A. _____ 1/23/19
SIGNATURE (in Ink) OF OWNER(S) OR CORPORATE OFFICER(S) — DATE SIGNED

STEPHEN M. BROX REVOCABLE INDENTURE OF TRUST
PRINT OWNER(S) OR CORPORATE OFFICER(S) NAME CLEARLY

B. _____
SIGNATURE (in Ink) OF OWNER(S) OR CORPORATE OFFICER(S) — DATE SIGNED

PRINT OWNER(S) OR CORPORATE OFFICER(S) NAME CLEARLY

1471 METHUEN STREET
MAILING ADDRESS

DRACUT — CITY OR TOWN
MA — STATE
1,826 — ZIPCODE

E-MAIL ADDRESS: bstevenson@broxindustries.com

TELEPHONE: (978) 805-9749 *(Type numbers only; no symbols)*
CELL PHONE: (978) 815-2973 *(Type numbers only; no symbols)*

DATE INTENT SENT TO TOWN: Jan 28, 2019

E-MAIL REPORT & CERTIFICATE? ☑ *(Check if YES. If No, they will be mailed to the address above)*

TO BE COMPLETED BY ASSESSING OFFICIALS

Amount of Security Required $ _____

Security Posted (Bond, Certified Check, etc.) $ _____

SIGNATURES & DATE OF ASSESSING OFFICIALS

The Selectmen/Assessing Officials hereby acknowledge receipt of the Notice of Intent to Excavate and certify that:

1. All owners of record have signed the Intent;
2. If the land is in Current Use, the land use change tax shall be assessed on the non-qualifying land;
3. The form is complete and;
4. Any bond required under RSA 72-B:5 has been received.

SIGNATURE (IN INK)

SIGNATURE (IN INK)

SIGNATURE (IN INK)

SIGNATURE (IN INK)

SIGNATURE (IN INK)

FOR DRA USE ONLY

SIGNED ORIGINAL COPY - RETAINED BY CITY/TOWN
SIGNED COPY TO - OWNER, RETURNED BY ASSESSING OFFICIALS
SIGNED COPY TO - DEPT. OF REVENUE, PROPERTY APPRAISAL DIVISION

Rev 1/13
PA-38

FORM
PA-38
139

NEW HAMPSHIRE DEPARTMENT OF REVENUE ADMINISTRATION

NOTICE OF INTENT TO EXCAVATE

RSA 72-B

COPY

RECEIVED
JAN 28 2019
DOVER ASSESSING

YR | TOWN | OP#

19 - 125 - 02 - E

For Tax Year April 1, 2019 to March 31, 2020

GENERAL INSTRUCTIONS FOR FILING THIS FORM ON REVERSE

PLEASE TYPE or PRINT *(If filling in form on-line: use TAB key to move through fields)*

1. Town/City of: DOVER
2. Tax Map/Block/Lot #: C-12A
3. Name of Road From Which Accessible:
   ROCHESTER NECK RD
4. Total Acreage of Lot: 4.75
5. Date of Permit per RSA 155-E:2: _____ *(Municipal Excavation Permit)*
   or
6. Date of Report, *if required*, per RSA 155-E:2, I (d): _____
7. Permit Number per RSA 485-A:17, *if any*: WPB 4588 *(Alteration of Terrain Permit)*
8. Incidental Construction/155-E Exception: *Check if Yes* ☐
9. Total Permitted Area (acres): 3
10. Excavation Area (acres) as of April 1: 2
11. Reclaimed Area (acres) as of April 1: 1
12. Remaining Cubic Yards of Earth to Excavate: 38,700
13. Type of Ownership *(Check only one)*:
    - ☑ Owner of land
    - ☐ Previous owner retaining deeded earth excavation rights
    - ☐ Owner of earth or earth excavation rights on public lands (Fed, State, Municipal, etc) or, removes earth from public lands or right of way
14. DESCRIPTION OF EARTH TO BE EXCAVATED **DURING TAX YEAR**

EARTH TYPE	ESTIMATED CUBIC YARDS (CY)
GRAVEL	
SAND	1000
LOAM	
STONE PRODUCTS	
OTHER ( )	
TOTAL	1,000

15. **CHECK ONLY THE BOX THAT DESCRIBES THIS INTENT**
    - ☑ ORIGINAL WITH $100.00 FEE (check payable to to State of New Hampshire)
    - ☐ ORIGINAL WITH NO FEE (excavation of 1,000 cubic yards or less)
    - ☐ SUPPLEMENTAL WITH $100.00 FEE (exceeding original estimate of 1,000 cubic yards or less)
    - ☐ SUPPLEMENTAL WITH NO FEE (fee previously paid with original intent)
16. We hereby assume responsibility for reporting all earth excavated within 30 days of completion or by the end of the tax year, whichever comes first. (If a Corporation, an Officer must sign.)

A. _____ 1/23/19
SIGNATURE (in Ink) OF OWNER(S) OR CORPORATE OFFICER(S) — DATE SIGNED

STEPHEN M. BROX REVOCABLE INDENTURE OF TRUST
PRINT OWNER(S) OR CORPORATE OFFICER(S) NAME CLEARLY

B. _____
SIGNATURE (in Ink) OF OWNER(S) OR CORPORATE OFFICER(S) — DATE SIGNED

PRINT OWNER(S) OR CORPORATE OFFICER(S) NAME CLEARLY

1471 METHUEN STREET
MAILING ADDRESS

DRACUT — CITY OR TOWN
MA — STATE
1,826 — ZIPCODE

E-MAIL ADDRESS: bstevenson@broxindustries.com

TELEPHONE: (978) 805-9749 *(Type numbers only; no symbols)*
CELL PHONE: (978) 815-2973 *(Type numbers only; no symbols)*

DATE INTENT SENT TO TOWN: Jan 28, 2019

E-MAIL REPORT & CERTIFICATE? ☑ *(Check if YES. If No, they will be mailed to the address above)*

TO BE COMPLETED BY ASSESSING OFFICIALS

Amount of Security Required $ _____

Security Posted (Bond, Certified Check, etc.) $ _____

SIGNATURES & DATE OF ASSESSING OFFICIALS

The Selectmen/Assessing Officials hereby acknowledge receipt of the Notice of Intent to Excavate and certify that:
1. All owners of record have signed the Intent;
2. If the land is in Current Use, the land use change tax shall be assessed on the non-qualifying land;
3. The form is complete and;
4. Any bond required under RSA 72-B:5 has been received.

SIGNATURE (IN INK)

SIGNATURE (IN INK)

SIGNATURE (IN INK)

SIGNATURE (IN INK)

SIGNATURE (IN INK)

FOR DRA USE ONLY

SIGNED ORIGINAL COPY - RETAINED BY CITY/TOWN
SIGNED COPY TO - OWNER, RETURNED BY ASSESSING OFFICIALS
SIGNED COPY TO - DEPT. OF REVENUE, PROPERTY APPRAISAL DIVISION

Rev 1/13
PA-38

FORM
PA-38
139

NEW HAMPSHIRE DEPARTMENT OF REVENUE ADMINISTRATION

NOTICE OF INTENT TO EXCAVATE

RSA 72-B

COPY

RECEIVED
JAN 28 2019
DOVER ASSESSING

YR: 19 - TOWN: 125 - OP#: 03 - E

For Tax Year April 1, 2019 to March 31, 2020

GENERAL INSTRUCTIONS FOR FILING THIS FORM ON REVERSE

PLEASE TYPE or PRINT *(If filling in form on-line; use TAB key to move through fields)*

1. Town/City of: DOVER
2. Tax Map/Block/Lot #: C-14
3. Name of Road From Which Accessible: ROCHESTER NECK RD
4. Total Acreage of Lot: 83
5. Date of Permit per RSA 155-E:2: _____ *(Municipal Excavation Permit)*
   or
6. Date of Report, *if required*, per RSA 155-E:2, I (d): _____
7. Permit Number per RSA 485-A:17, *if any*: WPB 4588 *(Alteration of Terrain Permit)*
8. Incidental Construction/155-E Exception: *Check if Yes* ☐
9. Total Permitted Area (acres): 16
10. Excavation Area (acres) as of April 1: 16
11. Reclaimed Area (acres) as of April 1: 0
12. Remaining Cubic Yards of Earth to Excavate: 328,800
13. Type of Ownership *(Check only one)*:
    - ☑ Owner of land
    - ☐ Previous owner retaining deeded earth excavation rights
    - ☐ Owner of earth or earth excavation rights on public lands (Fed, State, Municipal, etc) or, removes earth from public lands or right of way
14. DESCRIPTION OF EARTH TO BE EXCAVATED **DURING TAX YEAR**

EARTH TYPE	ESTIMATED CUBIC YARDS (CY)
GRAVEL	**4000**
SAND	**1000**
LOAM	
STONE PRODUCTS	
OTHER (OVERBURDEN)	
TOTAL	**5,000**

15. **CHECK ONLY THE BOX THAT DESCRIBES THIS INTENT**
    - ☑ ORIGINAL WITH $100.00 FEE (check payable to to State of New Hampshire)
    - ☐ ORIGINAL WITH NO FEE (excavation of 1,000 cubic yards or less)
    - ☐ SUPPLEMENTAL WITH $100.00 FEE (exceeding original estimate of 1,000 cubic yards or less)
    - ☐ SUPPLEMENTAL WITH NO FEE (fee previously paid with original intent)
16. We hereby assume responsibility for reporting all earth excavated within 30 days of completion or by the end of the tax year, whichever comes first. (If a Corporation, an Officer must sign.)

A. _____ 1/23/19
SIGNATURE (in Ink) OF OWNER(S) OR CORPORATE OFFICER(S) — DATE SIGNED

STEPHEN M. BROX REVOCABLE INDENTURE OF TRUST
PRINT OWNER(S) OR CORPORATE OFFICER(S) NAME CLEARLY

B. _____
SIGNATURE (in Ink) OF OWNER(S) OR CORPORATE OFFICER(S) — DATE SIGNED

PRINT OWNER(S) OR CORPORATE OFFICER(S) NAME CLEARLY

1471 METHUEN STREET
MAILING ADDRESS

DRACUT — MA — 1,826
CITY OR TOWN — STATE — ZIPCODE

E-MAIL ADDRESS: bstevenson@broxindustries.com

TELEPHONE: (978) 805-9749 *(Type numbers only; no symbols)*
CELL PHONE: (978) 815-2973 *(Type numbers only; no symbols)*

DATE INTENT SENT TO TOWN: Jan 28, 2019

E-MAIL REPORT & CERTIFICATE? ☑ *(Check if YES. If No, they will be mailed to the address above)*

TO BE COMPLETED BY ASSESSING OFFICIALS

Amount of Security Required $ _____

Security Posted (Bond, Certified Check, etc.) $ _____

SIGNATURES & DATE OF ASSESSING OFFICIALS

The Selectmen/Assessing Officials hereby acknowledge receipt of the Notice of Intent to Excavate and certify that:

1. All owners of record have signed the Intent;
2. If the land is in Current Use, the land use change tax shall be assessed on the non-qualifying land;
3. The form is complete and;
4. Any bond required under RSA 72-B:5 has been received.

SIGNATURE (IN INK) _____
SIGNATURE (IN INK) _____
SIGNATURE (IN INK) _____
SIGNATURE (IN INK) _____
SIGNATURE (IN INK) _____

FOR DRA USE ONLY

SIGNED ORIGINAL COPY - RETAINED BY CITY/TOWN
SIGNED COPY TO - OWNER, RETURNED BY ASSESSING OFFICIALS
SIGNED COPY TO - DEPT. OF REVENUE, PROPERTY APPRAISAL DIVISION

Rev 1/13
PA-38

Summary | **Detail** | Notes | Payment Plan

Year id	Sub System	Bill Number	Billed	Paid	Balance Due	Late Charges	Total Due	1st Due	2nd Due
2019	Real Property Tax	RE1270	$6,469.48	$3,234.74	$3,234.74	$0.00	$3,234.74	$0.00	$3,234.74

○ Balance Forward ◉ Balance Forward Detail ○ Applied Records ○ Cash Flow

DETAILS

Entry Date	Installment	Trans Type	Class Code	Amount	Balance Due	Amount Billed	Posted	Posting Stamp
12/20/2018	1 st	Payment	ben00305497	($3,234.74)	$3,234.74		Yes	12/21/2018 10:15:45 AM
11/30/2018	2 nd	Billed	Real Estate Tax - TY 2018	$3,234.74	$6,469.48		Yes	11/21/2018 12:48:19 PM
11/30/2018	1 st	Billed	Real Estate Tax - TY 2018	$3,234.74	$3,234.74	$6,469.48	Yes	11/21/2018 12:48:19 PM

TOTALS

				$3,234.74	$3,234.74	$6,469.48		

Refresh | Search | Inquiry | Reverse Sort | Re-Apply

Summary | **Detail** | Notes | Payment Plan

Year id	Sub System	Bill Number	Billed	Paid	Balance Due	Late Charges	Total Due	1st Due	2nd Due
2019	Real Property Tax	RE1268	$8,019.26	$4,009.63	$4,009.63	$0.00	$4,009.63	$0.00	$4,009.63

( ) Balance Forward (•) Balance Forward Detail ( ) Applied Records ( ) Cash Flow

DETAILS

Entry Date	Installment	Trans Type	Class Code	Amount	Balance Due	Amount Billed	Posted	Posting Stamp
12/20/2018	1 st	Payment	ben00305494	($4,009.63)	$4,009.63		Yes	12/21/2018 10:15:45 AM
11/30/2018	2 nd	Billed	Real Estate Tax - TY 2018	$4,009.63	$8,019.26		Yes	11/21/2018 12:48:19 PM
11/30/2018	1 st	Billed	Real Estate Tax - TY 2018	$4,009.63	$4,009.63	$8,019.26	Yes	11/21/2018 12:48:19 PM

TOTALS

				$4,009.63	$4,009.63	$8,019.26		

Refresh | Search | Inquiry | Reverse Sort | Re-Apply

Summary | **Detail** | Notes | Payment Plan

Year id	Sub System	Bill Number	Billed	Paid	Balance Due	Late Charges	Total Due	1st Due	2nd Due
2019	Real Property Tax	RE1269	$5,686.74	$2,843.37	$2,843.37	$0.00	$2,843.37	$0.00	$2,843.37

( ) Balance Forward (•) Balance Forward Detail ( ) Applied Records ( ) Cash Flow

DETAILS

Entry Date	Installment	Trans Type	Class Code	Amount	Balance Due	Amount Billed	Posted	Posting Stamp
12/20/2018	1 st	Payment	ben00305495	($2,843.37)	$2,843.37		Yes	12/21/2018 10:15:45 AM
11/30/2018	2 nd	Billed	Real Estate Tax - TY 2018	$2,843.37	$5,686.74		Yes	11/21/2018 12:48:19 PM
11/30/2018	1 st	Billed	Real Estate Tax - TY 2018	$2,843.37	$2,843.37	$5,686.74	Yes	11/21/2018 12:48:19 PM

TOTALS

				$2,843.37	$2,843.37	$5,686.74		

Refresh | Search | Inquiry | Reverse Sort | Re-Apply

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF REVENUE ADMINISTRATION
MUNICIPAL AND PROPERTY DIVISION
109 PLEASANT STREET
P.O. BOX 487
CONCORD, NH 03302-0487
TELEPHONE: (603) 230-5950

OFFICE OF THE
COMMISSIONER

2019

EXCAVATION TAX CERTIFICATE

POST IN A CONSPICIOUS PLACE ON OPERATION SITE

THIS CERTIFICATE EXPIRES MARCH 31, 2020

OPERATION # 19-125-01-E

This certifies that :
STEPHEN M BROX , REVOCABLE INDENTURE OF TRUST

In accordance with the provision of RSA 72-B:8 filed in the Town/City of: DOVER and with the Department of Revenue Administration a Notice of Intent to Excavate on Tax Map and Lot # : C-13

ISSUED BY:

Mary E. Pinkham-Langer

Mary E. Pinkham-Langer, Gravel Tax Appraiser
Department of Revenue Administration

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF REVENUE ADMINISTRATION
MUNICIPAL AND PROPERTY DIVISION
109 PLEASANT STREET
P.O. BOX 487
CONCORD, NH 03302-0487
TELEPHONE: (603) 230-5950

OFFICE OF THE
COMMISSIONER

2019

EXCAVATION TAX CERTIFICATE

POST IN A CONSPICIOUS PLACE ON OPERATION SITE

THIS CERTIFICATE EXPIRES MARCH 31, 2020

OPERATION # 19-125-03-E

This certifies that :
STEPHEN M BROX , REVOCABLE INDENTURE OF TRUST

In accordance with the provision of RSA 72-B:8 filed in the Town/City of: DOVER and with the Department of Revenue Administration a Notice of Intent to Excavate on Tax Map and Lot # : C-14

ISSUED BY:

Mary E. Pinkham-Langer

Mary E. Pinkham-Langer, Gravel Tax Appraiser
Department of Revenue Administration

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF REVENUE ADMINISTRATION
MUNICIPAL AND PROPERTY DIVISION
109 PLEASANT STREET
P.O. BOX 487
CONCORD, NH 03302-0487
TELEPHONE: (603) 230-5950

OFFICE OF THE
COMMISSIONER

2019

EXCAVATION TAX CERTIFICATE

POST IN A CONSPICIOUS PLACE ON OPERATION SITE

THIS CERTIFICATE EXPIRES MARCH 31, 2020

OPERATION # 19-125-02-E

This certifies that :
STEPHEN M BROX , REVOCABLE INDENTURE OF TRUST

In accordance with the provision of RSA 72-B:8 filed in the Town/City of: DOVER and with the Department of Revenue Administration a Notice of Intent to Excavate on Tax Map and Lot # : C-12A

ISSUED BY:

Mary E. Pinkham-Langer

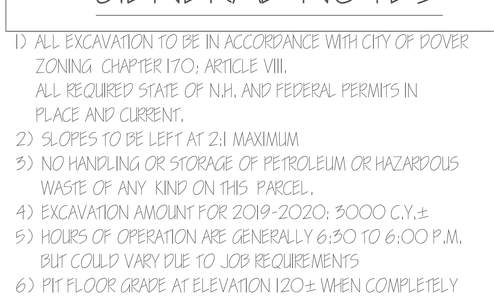
Mary E. Pinkham-Langer, Gravel Tax Appraiser
Department of Revenue Administration

P19-39 **Rochester Neck Road & Tolend Road**

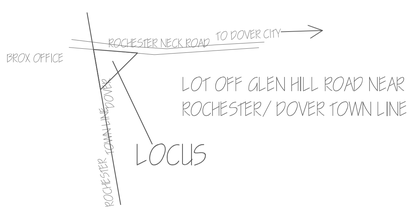
Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
C0007-000000	ROCHESTER NECK RD	CITY OF DOVER		CENTRAL AVENUE	DOVER	NH	03820
C0008-000000	110 GLEN HILL RD	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
C0010-000000	ROCHESTER NECK RD	BROX STEPHEN M REVOCABLE INDENTURE OF T	BROX STEPHEN M TRUSTEE	1471 METHUEN ST	DRACUT	MA	01826
C0011-000000	ROCHESTER NECK RD	BROX STEPHEN M REVOCABLE INDENTURE OF T	BROX STEPHEN M TRUSTEE	1471 METHUEN ST	DRACUT	MA	01826
C0011-A00000	ROCHESTER NECK RD	BROX STEPHEN M REVOCABLE INDENTURE OF T	BROX STEPHEN M TRUSTEE	1471 METHUEN ST	DRACUT	MA	01826
C0011-B00000	38 ROCHESTER NECK RD	SUNSET ROCK LLC		1471 METHUEN ST	DRACUT	MA	01826
C0012-000000	140 GLEN HILL RD	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
C0013-000000	ROCHESTER NECK RD	BROX STEPHEN M REVOCABLE INDENTURE OF T	BROX STEPHEN M TRUSTEE	1471 METHUEN ST	DRACUT	MA	01826
C0015-000000	TOLEND RD	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
C0016-000000	TOLEND RD	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
C0017-000000	TOLEND RD	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
C0019-000000	TOLEND RD	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
C0020-000000	GLEN HILL RD	CITY OF DOVER		288 CENTRAL AV	DOVER	NH	03820
C0012-A00000	GLEN HILL RD	BROX STEPHEN M REVOCABLE INDENTURE OF T	BROX STEPHEN M TRUSTEE	1471 METHUEN ST	DRACUT	MA	01826
C0014-000000	TOLEND RD	BROX STEPHEN M REVOCABLE INDENTURE OF T	BROX STEPHEN M TRUSTEE	1471 METHUEN ST	DRACUT	MA	01826
		TYLER & PAT FOSS		P.O. BOX 984	DOVER	NH	03820
		BEATRICE HARRIMAN TRUST		175 EXETER ROAD	NEWMARKET	NH	03857-2036

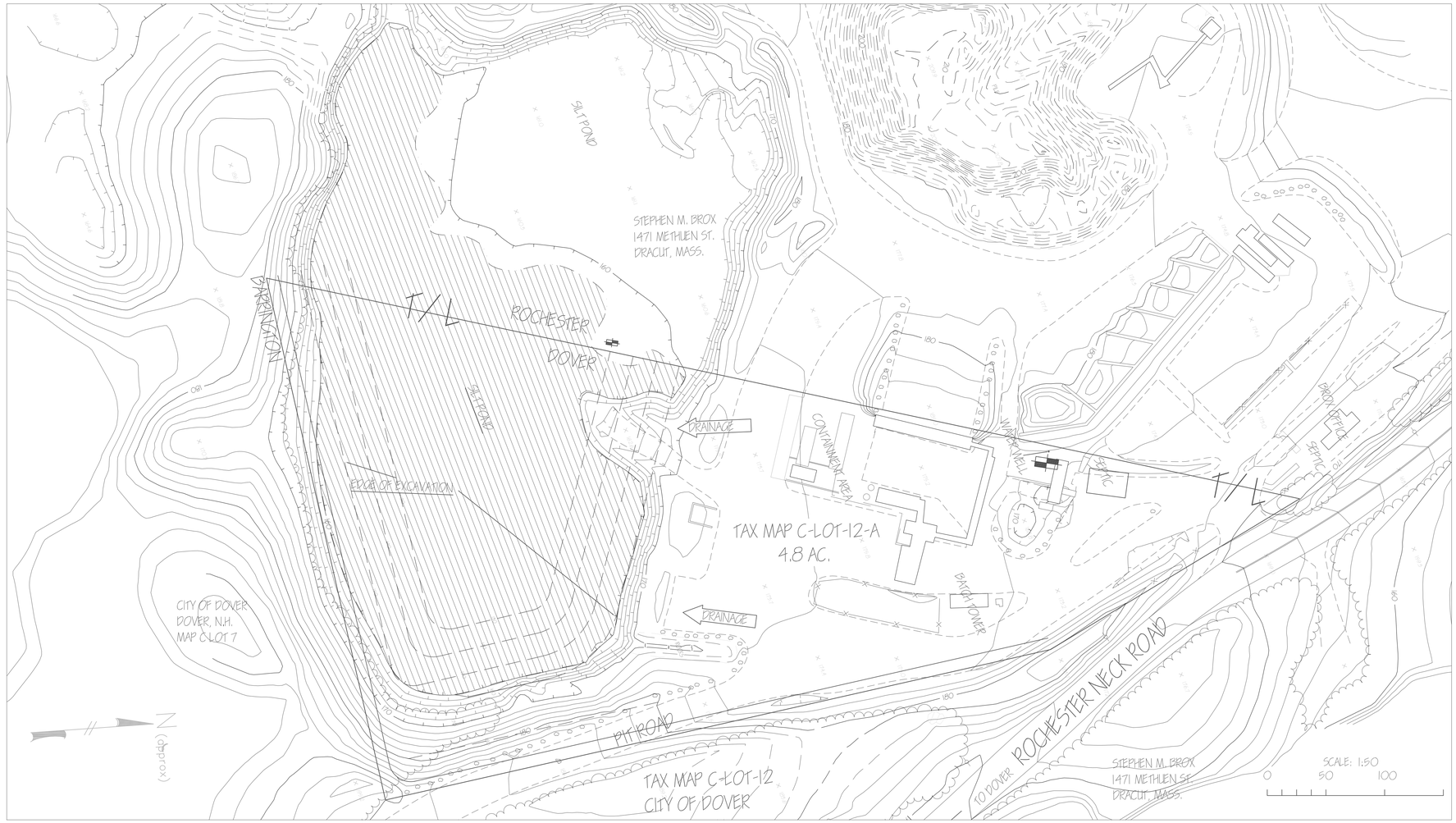
GENERAL NOTES

1) ALL EXCAVATION TO BE IN ACCORDANCE WITH CITY OF DOVER ZONING CHAPTER 170; ARTICLE VIII. ALL REQUIRED STATE OF N.H. AND FEDERAL PERMITS IN PLACE AND CURRENT.
2) SLOPES TO BE LEFT AT 2:1 MAXIMUM
3) NO HANDLING OR STORAGE OF PETROLEUM OR HAZARDOUS WASTE OF ANY KIND ON THIS PARCEL.
4) EXCAVATION AMOUNT FOR 2019-2020: 3000 C.Y.±
5) HOURS OF OPERATION ARE GENERALLY 6:30 TO 6:00 P.M. BUT COULD VARY DUE TO JOB REQUIREMENTS
6) PIT FLOOR GRADE AT ELEVATION 120± WHEN COMPLETELY EXCAVATED AND RECLAIMED.
7) SETBACKS FLAGGED FOR DOVER OFFICIALS.
8) ALL SURFACE WATER RUNOFF TO REMAIN ON BROX PARCELS, WITH NO DISCHARGES OFF SITE.
9) SLOPES THAT ARE RECLAIMED, THAT WILL HAVE NO FUTURE EXCAVATION, SEEDED TO ASSURE STABILIZATION.
10) ABUTTERS TO THIS PROPERTY RECOGNIZED AS APPROVING THUS ONLY A 10' SETBACK TO THEIR PROPERTY LINES
11) LOT AND ABUTTERS IN DOVER ZONING ZONE-R-40
12) FINISH PIT FLOOR IS + 6' ABOVE WATER TABLE
13) ALL BUILDINGS AND SEPTICS WITHIN 200' OF BOUNDARIES SHOWN. ROW TO CITY OF DOVER ON PIT ROAD.
14) AREA OF EXCAVATION 72228 S.F.(1.66 AC.)
15) ALL TRAFFIC USES ROCHESTER NECK ROAD.(PAVED ENTRANCE)
16) RECLAMATION TO BE COMPLETED AT CESSATION OF EXCAVATION.
17) PROPERTY NOT TO BE USED FOR THE STORAGE OR INTRODUCTION OF ANY FOREIGN MATERIALS UNLESS THE PIT OPERATOR HAS SOUGHT AND RECEIVED ADVANCED WRITTEN PERMISSION FROM THE CITY'S COMMUNITY SERVICES DEPARTMENT.



LOCATION MAP





SCALE:1"=50'

TEST PIT DATA

WATER WELL(GRAVEL PACK)
PIEZOMETER READING 2017 =ELEV. 115±
FINISH PIT ELEVATION =ELEV. 130±

MAP#C LOT# 12-A

STATE OF NEW HAMPSHIRE
ROBERT A TARDIF
No. 10022
LICENSED
PROFESSIONAL ENGINEER

ROBERT TARDIF, PE (# 10022)
46 CLIFFORD FARM ROAD
DUNBARTON, N.H. 03046

EXCAVATION PLAN

OWNER:
STEPHEN M. BROX REV. INDENTURE OF TRUST
1471 METHUEN ST.
DRACUT, MASS. 01826

DRAWN BY: D.CLIFF 03-15-19
CHKD BY: R. TARDIF 04-19

ORIGINAL TOPOGRAPHY FROM 2014 FLYOVER AND PLAN BY EASTERN TOPO
CURRENT CONTOURS UPDATED 03- 2019

SCALE AS NOTED

GENERAL NOTES

1) RECLAIM FINISH SLOPES TO MAX. 2:1 OR LESS.

2) APPLY HEAVEY COVER OF SOIL SUITABLE FOR ESTABLISHING VEGETATION ON ALL COMPLETED EXCAVATION AREAS.

3) SEED AND FERTILIZE SLOPES PER NH DOT STANDARD SPECIFICATIONS- SECTIONS 641-647.

4) CONTROL EROSION AREAS WITH STONE OR TREE GRINDINGS AS NESSACARY.

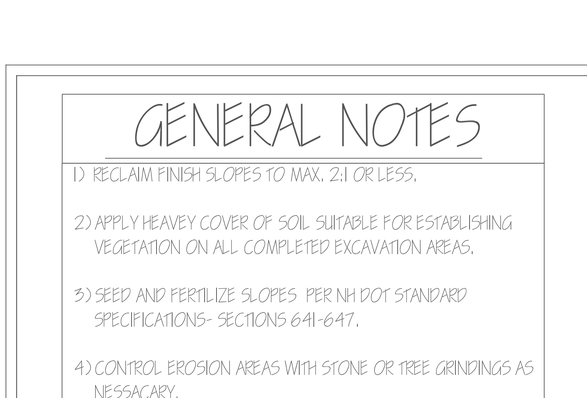
5) CONSTRUCT DETENTION PONDS AS NESSACARY TO SPREAD RUNOFF EVENLY AS TO PREVENT HEAVEY PONDING.

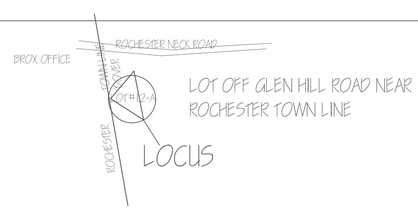
6) TRACK SLOPES AS NESSACARY TO STABILIZE FOR PLANTING.

7) STUMPS ONLY BURIED 75' FROM SURFACE WATER AND MIN. 4' ABOVE SEASONAL HIGH WATER TABLE.

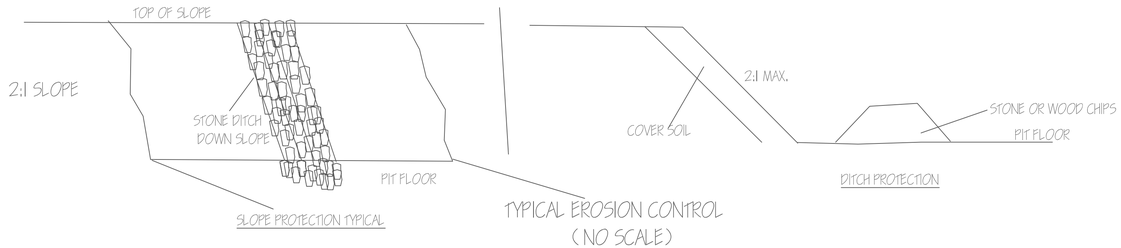
8) NO SETBACK REQUIREMENTS AS ABUTTING LAND ALL PROPERTY OF OWNER.

9) SLOPE RECLAMATION TO BE COMPLETED AT AREAS WITH NO FUTURE EXCAVATION EXPECTED.





LOCATION MAP



TYPICAL EROSION CONTROL
(NO SCALE)



SCALE:1"=50'

MAP# C LOT# 12-A

ROBERT TARDIF, PE (#10022)
46 CLIFFORD FARM ROAD
DUNBARTON, N.H. 03242

RECLAMATION PLAN

OWNER:
STEPHEN M. BROX INDENTURE OF TRUST
1471 METHUEN ST.
DRACUT, MASS. 01826

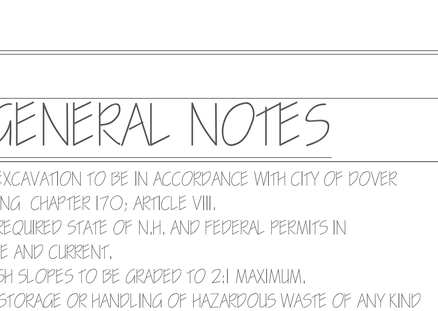
DRAWN BY: D.CLUFF 02-18 CHKD BY: R. TARDIF
03-26-19 03-19

ORIGINAL TOPOGRAPHY FROM 2014 FLYOVER BY EASTERN TOPO CURRENT CONTOURS UPDATED 03-2019.

SCALE AS NOTED

GENERAL NOTES

1) ALL EXCAVATION TO BE IN ACCORDANCE WITH CITY OF DOVER ZONING CHAPTER 170; ARTICLE VIII. ALL REQUIRED STATE OF N.H. AND FEDERAL PERMITS IN PLACE AND CURRENT.
2) FINISH SLOPES TO BE GRADED TO 2:1 MAXIMUM.
3) NO STORAGE OR HANDLING OF HAZARDOUS WASTE OF ANY KIND ON THIS PARCEL.
4) EXCAVATION AMOUNT FOR 2017 AND 2018: 3000 C.Y.±
5) HOURS OF OPERATION ARE GENERALLY 6:30 TO 6:00 P.M. BUT COULD VARY DUE TO JOB REQUIREMENTS.
6) PIT FLOOR GRADE AT ELEVATION 120± WHEN COMPLETELY EXCAVATED AND RECLAIMED.
7) SETBACKS FLAGGED FOR DOVER OFFICIALS.
8) ALL SURFACE WATER RUNOFF TO REMAIN ON BROX PARCELS, WITH NO DISCHARGES OFF SITE.
9) SLOPES THAT ARE RECLAIMED, THAT WILL HAVE NO FUTURE EXCAVATION, SEEDED TO ASSURE STABILIZATION.
10) ABUTTERS TO THIS PROPERTY RECOGNIZED AS APPROVING THUS ONLY A 10' SETBACK TO THIER PROPERTY LINES.
11) LOT AND ABUTTERS IN DOVER ZONING CODE ZONE-R-40.
12) FINISH PIT FLOOR @ 5'± ABOVE WATER TABLE.
13) ALL BUILDINGS AND SEPTICS WITHIN 200' OF BOUNDARIES, SHOWN. ROW TO CITY OF DOVER ON PIT ROAD.
14) AREA OF EXCAVATION 392040 S.F.(9 AC.)
15) ALL TRAFFIC USES ROCHESTER NECK ROAD.(PAVED ENTRANCE)
16) RECLAMATION TO BE COMPLETED AT CESSATION OF EXCAVATION.
17) PROPERTY NOT TO BE USED FOR THE STORAGE OR INTRODUCTION OF ANY FOREIGN MATERIALS UNLESS THE PIT OPERATOR HAS SOUGHT AND RECEIVED ADVANCED WRITTEN PERMISSION FROM THE CITY'S COMMUNITY SERVICES DEPARTMENT.



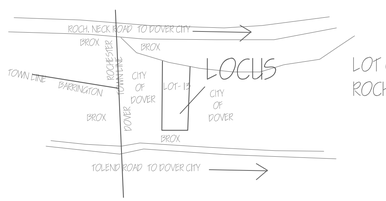
TEST PIT DATA

TEST PIT #4(PITS ALL SIMILAR)
GROUND WATER ELEVATION AT PIT FLOOR =ELEV. 115±
FINISH FLOOR OF PIT = ELEV. =120



SCALE:1"=100'

LOCATION MAP



LOT OFF GLEN HILL ROAD NEAR ROCHESTER TOWN LINE

MAP# C LOT# 13

STATE OF NEW HAMPSHIRE
ROBERT A TARDIF
No. 10022
LICENSED PROFESSIONAL ENGINEER

ROBERT TARDIF, PE (# 10022)
46 CLIFFORD FARM ROAD
DUNBARTON, N.H. 03242

EXCAVATION PLAN

OWNER:
STEPHEN M. BROX REV INDENTURE OF TRUST
1471 METHUEN ST.
DRACUT, MASS. 01826

DRAWN BY: D.CLIFF 03-20-19
CHKD BY:R. TARDIF 03-19

ORIGINAL TOPOGRAPHY FROM 2014 FLYOVER AND PLAN BY EASTERN TOPO
CURRENT CONTOURS UPDATED 03-2019

SCALE AS NOTED

GENERAL NOTES

1) GRADE RECLAIMED SLOPES TO MAX. 2:1 OR LESS.

2) APPLY HEAVEY COVER OF SOIL SUITABLE FOR ESTABLISHING VEGETATION.

3) SEED AND FERTILIZE SLOPES PER NHDOT STANDARD SPECIFICATIONS SECTIONS 641-647.

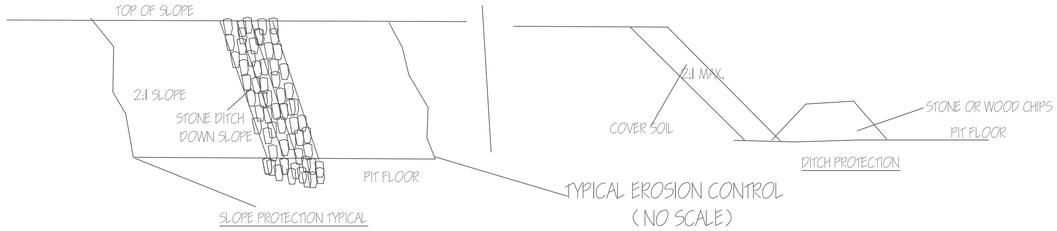
4) CONTROL EROSION AREAS WITH STONE OR TREE GRINDINGS AS NECESSARY.

5) LOT AND ABUTTERS IN DOVER ZONING ZONE R-40.

6) TRACK SLOPES AS NECESSARY TO STABILIZE FOR PLANTING.

7) STUMPS MAY ONLY BE BURIED 75' FROM SURFACE WATER AND MIN. 4' ABOVE GROUND WATER TABLE.

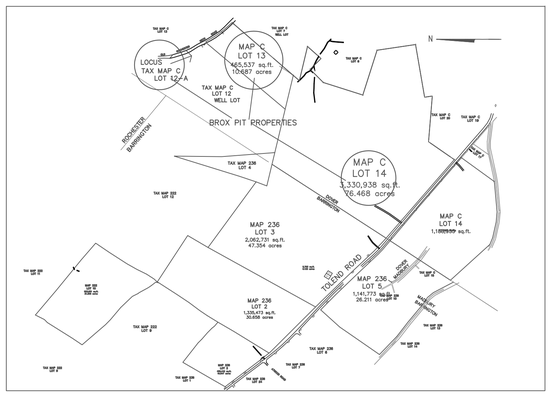
8) RECLAMATION TO OCCUR AT CESSATION OF EXCAVATION AREAS THAT ARE NOT TO BE REDUG AT LATER DATE.



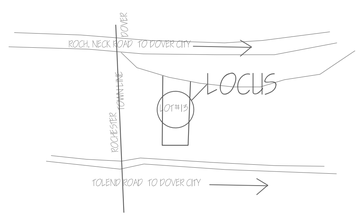
TYPICAL EROSION CONTROL
(NO SCALE)



SCALE:1"=100'



LOCATION MAP



LOT OFF ROCHESTER NECKL ROAD
NEAR ROCHESTER TOWN LINE

MAP# C LOT#13

STATE OF NEW HAMPSHIRE
ROBERT A TARDIF
No. 10022
LICENSED
PROFESSIONAL ENGINEER

ROBERT TARDIF, PE (10022)
46 CLIFFORD FARM ROAD
DUNBARTON, N.H. 03242

RECLAMATION PLAN

OWNER:
STEPHEN M. BROX REV INDENTURE OF TRUST
1471 METHUEN ST.
DRACUT, MASS. 01826

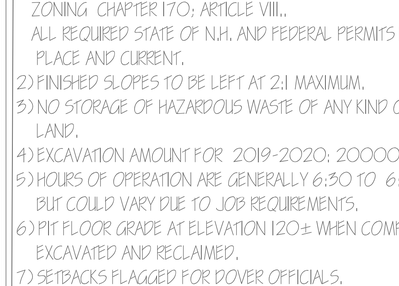
DRAWN BY: D.CLIFF 03-26-19
CHKD BY: R. TARDIF 03-19

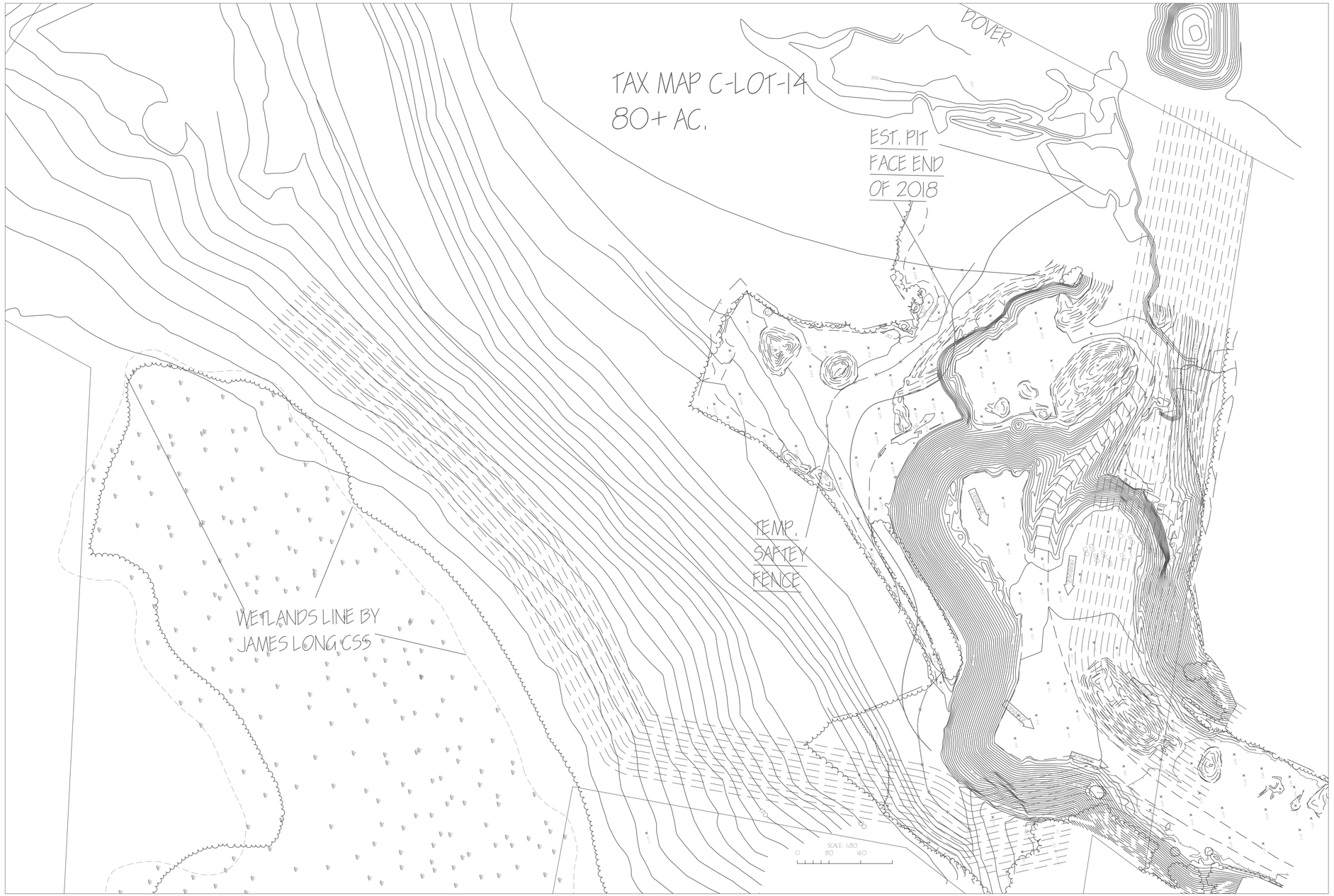
ORIGINAL TOPOGRAPHY FROM 2005 FLYOVER AND PLAN BY EASTERN TOPO CURRENT CONTOURS UPDATED 03-2019

SCALE AS NOTED

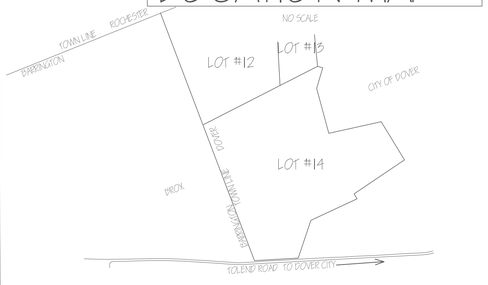
GENERAL NOTES

1) ALL EXCAVATION TO BE IN ACCORDANCE WITH CITY OF DOVER ZONING CHAPTER 170; ARTICLE VIII., ALL REQUIRED STATE OF N.H. AND FEDERAL PERMITS IN PLACE AND CURRENT.
2) FINISHED SLOPES TO BE LEFT AT 2:1 MAXIMUM.
3) NO STORAGE OF HAZARDOUS WASTE OF ANY KIND ON THIS LAND.
4) EXCAVATION AMOUNT FOR 2019-2020: 20000 C.Y.±.
5) HOURS OF OPERATION ARE GENERALLY 6:30 TO 6:00 P.M., BUT COULD VARY DUE TO JOB REQUIREMENTS.
6) PIT FLOOR GRADE AT ELEVATION 120± WHEN COMPLETELY EXCAVATED AND RECLAIMED.
7) SETBACKS FLAGGED FOR DOVER OFFICIALS.
8) ALL SURFACE WATER RUNOFF TO REMAIN ON BROX PARCELS, WITH NO DISCHARGES OFF SITE.
9) EXCAVATED SLOPES THAT ARE RECLAIMED, THAT WILL HAVE NO FUTURE EXCAVATION, SEEDED TO ASSURE STABILIZATION.
10) ABUTTERS TO THIS PROPERTY RECOGNIZED AS APPROVING THUS ONLY A 10' SETBACK TO THIER PROPERTY LINES.
11) LOT AND ABUTTERS IN DOVER ZONING ZONE-R-40.
12) FINISH PIT FLOOR @ MIN. OF 5'± ABOVE ESTIMATED SHWT.
13) ALL BUILDINGS AND SEPTICS WITHIN 200' OF BOUNDARIES SHOWN.
14) AREA OF POSSIBLE EXCAVATION APPROX 40 AC.±
15) ALL TRAFFIC USES ROCHESTER NECK ROAD.(PAVED ENTRANCE)
16) RECLAMATION TO BE COMPLETED AT CESSATION OF EXCAVATION.
17) WETLANDS TO SOUTH OF PARCEL FLAGGED BY JAMES LONG CERTIFIED SOIL SCIENTIST/ WETLAND SCIENTIST
17) PROPERTY NOT TO BE USED FOR THE STORAGE OR INTRODUCTION OF ANY FOREIGN MATERIALS UNLESS THE PIT OPERATOR HAS SOUGHT AND RECEIVED ADVANCED WRITTEN PERMISSION FROM THE CITY'S COMMUNITY SERVICES DEPARTMENT.





LOCATION MAP



TEST PIT DATA

TEST PIT #3(ALL SIMILAR)
GROUND WATER ELEVATION AT PIT FLOOR =ELEV. 115±
FINISH FLOOR ELEV. @ 120±

MAP# C LOT# 14

STATE OF NEW HAMPSHIRE
ROBERT A TARDIF
No. 10022
LICENSED
PROFESSIONAL ENGINEER

ROBERT TARDIF, PE (# 10022)
46 CLIFFORD FARM ROAD
DUNBARTON, N.H. 03242

EXCAVATION PLAN

OWNER:
STEPHEN M. BROX REV INDENTURE OF TRUST
1471 METHUEN ST.
DRACUT, MASS. 01826

DRAWN BY: D.CLIFF CHKC. BY R. TARDIF
03-28-19 03-19

ORIGINAL TOPOGRAPHY FROM 2014 FLYOVER AND PLAN BY EASTERN TOPO CURRENT CONTOURS UPDATED 03-2019.

SCALE:1"=80'

GENERAL NOTES

1) CUT FINISH SLOPES TO MAX. 2:1 OR LESS.

2) APPLY HEAVEY COVER OF SOIL SUITABLE FOR ESTABLISHING VEGETATION.

3) SEED AND FERTILIZE SLOPES PER NHDOT SPECIFICATIONS SECTIONS 641-647.

4) CONTROL EROSION AREAS WITH STONE OR TREE GRINDINGS AS NECESSARY.

5) LOT AND ABUTTERS IN ZONE : R-40.

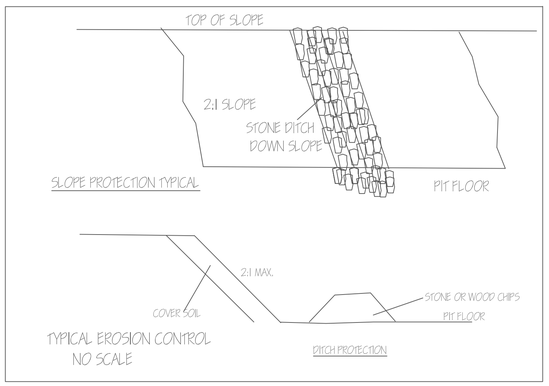
6) TRACK SLOPES AS NECESSARY TO STABILIZE FOR PLANTING.

7) STUMPS ONLY BURIED 75' FROM SURFACE WATER AND MIN. 4' ABOVE GROUND WATER TABLE.

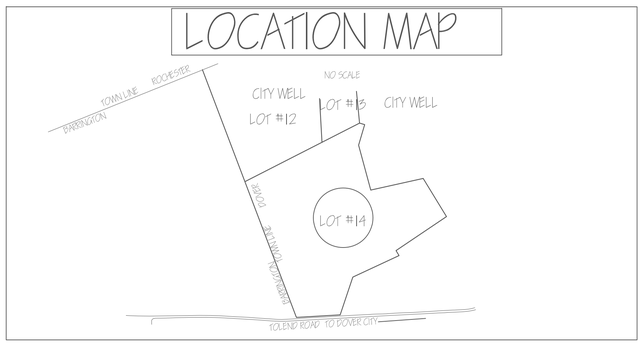
8) ALL RUNOFF REMAINS ON BROX PROPERTY. NO DISCHARGE FROM THIS PARCEL.

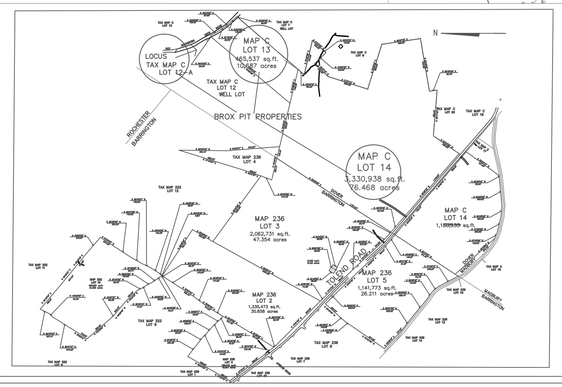
9) RECLAMATION TO OCCUR AT CESSATION OF ALL EXCAVATION.





LOCATION MAP





SCALE:1"=100'

MAP# C LOT#14



ROBERT TARDIF, PE (# 10022)
46 CLIFFORD FARM ROAD
DUNBARTON, N.H. 03242

RECLAMATION PLAN

OWNER:
STEPHEN M. BROX REV INDENTURE OF TRUST
1471 METHUEN ST.
DRACUT, MASS. 01826

DRAWN BY: D.CLUFF 03-19
CHKD BY: R. TARDIF 04-19

ORIGINAL TOPOGRAPHY FROM 2014 FLYOVER BY EASTERN TOPO
CURRENT CONTOURS UPDATED 03-2019

SCALE AS NOTED

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P19-40

Application Type:	Excavation Permit
Applicant(s):	Candia South Branch Holdings, LLC
Owner(s):	Candia South Branch Holdings, LLC
Location:	Mast Road (Tax Map H, Lots 59, 60, 61)
Meeting Date:	May 28, 2019

INTENT: To obtain an Excavation Permit renewal for an existing excavation operation.

UNITS PROPOSED: N/A

AGENDA ITEM #: 4-B

ACREAGE: 33.35 acres

ZONING DISTRICT: I-4

EXISTING LAND USE:
Excavation/vacant

PROPOSED LAND USE: Continued Excavation

SURROUNDING LAND USE: Residential, commercial, industrial

ZBA ACTION: Map H, Lot 59: H69-20 granted to permit a storage bin
Map H, Lot 59 or 61: H85-21 denied request to construct a "hot top plant"
Map H, Lot 60: H85-22 denied request to permit excavation within 20' of lot lines
Map H, Lot 59 or 61: H85-23 denied request to permit excavation within 20' of lot lines
Map H, Lot 62: H85-24 denied request to permit excavation within 20' of lot lines

ATTACHMENT:
Excavation Permit application, Excavation Plan, Reclamation Plan

APPLICATION IS COMPLETE: Yes

NOTICES SENT: Abutter notices were sent by certified mail to all abutters for this meeting

PERMITS REQUIRED:
Excavation

WAIVERS REQUESTED: None

Summary of Request and Background
The subject property is located on Mast Road between Community Services/City-owned land, the Town of Madbury, and the Bellamy River. The Applicant has submitted excavation and reclamation plans for its lots along with an application for an excavation permit. This constitutes a renewal of the permit approved last approved May 9, 2017 (a biennial process).

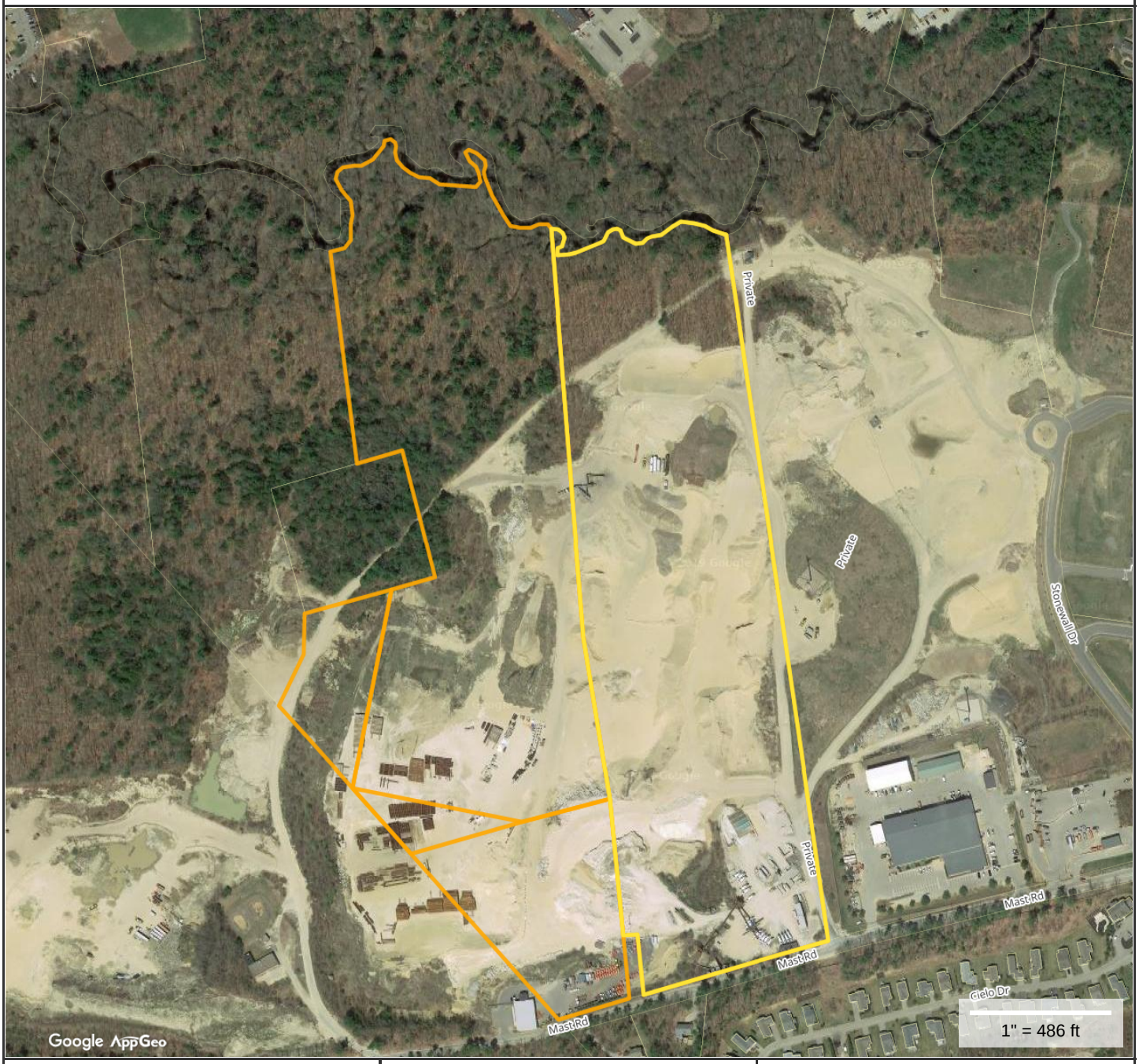
Please note that the concrete batch plant currently operated by Redimix on Map H, Lot 59 has existed in that location since 1950, does not obtain its materials from this excavation site, and cannot be considered under the Planning Board's review of an excavation permit renewal.

Consistency With Land Use Regulations
Section 170-29 of the Zoning Ordinance of the City Code governs the excavation of earth in the City of Dover pursuant to the authority granted by NH RSA 155-E, and requires that earth excavations obtain a permit, which is valid for two years.

STAFF RECOMMENDATION:
The Planning Department recommends that the Planning Board accept the application, hold the public hearing, and approve the Excavation Permit with the following conditions:

Conditions to be Met Prior to Signing of Plans:
1. Confirmation from the City's Environmental Consultant and/or Community Services staff that existing conditions are consistent with excavation plan.
2. The Applicant shall add a note to the excavation plan that the property shall not be used for the storage or introduction of any foreign materials unless the pit operator has sought and received advance written permission from the City's Community Services Department.
3. The Applicant shall add a note to the excavation plan that hours of operation shall be restricted to 7:00 AM to 5:00 PM weekdays and 7:00 AM to 2:00 PM Saturdays, with gates to the site opening no earlier than 6:30 AM and no Sunday hours.
4. The Applicant shall add a note to the plan regarding the schedule of regular access roadway water wash-downs.

Mast Road



Property Information

Property ID	H0059-000000
Location	325 MAST RD
Owner	CANDIA SOUTH BRANCH BROOK HOLDINGS LLC
Land Use	410

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Dover, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 5/3/2019
Data updated Daily

Account # _____ Date Received _____

Application Fee Paid _____ Permit Fee_____ Time Received _____

Revised March 28, 2017

CITY OF DOVER, NEW HAMPSHIRE
EXCAVATION PERMIT APPLICATION

Application is hereby made for an extraction permit pursuant to the procedures set forth in the City of Dover's Zoning Ordinance.

(FOR OFFICE USE ONLY)
This application is hereby approved (disapproved) and permission is hereby granted (refused) to the applicant. This approval is good for two years from the date specified. Once approved by the Planning Board, a permit fee of $75.00 shall be paid prior to the permit taking effect.

SUBJECT TO THE FOLLOWING CONDITIONS:

APPROVED BY: _____ DATE: _____

1. GENERAL INFORMATION

Date: 5/6/19 Project Number: 1964 Telephone #: 603-483-7001

Name of Applicant: CANDIA SOUTH BRANCH HOLDINGS, LLC

Address of Applicant: P.O. BOX 410 CANDIA, NH 03034

Name of Property Owner: SAME

Address of Property Owner: SAME

Address of Property Being Excavated: MAST ROAD

Assessor's Map # H Lot # 59, 60 & 61

Acres of Land: 33.35 Zoning District: I - 4

Depth of Excavation: 96' ASL Finished Elevation: 100' ASL

Elevation of Highest Annual Average Groundwater Table: 96' ASL

Projected Length of Excavation Project: 4± YEARS

2. PROFESSIONAL SIGNOFF

Name of Professional (Licensed in NH) KEVIN MCENEANEY - MCENEANEY SURVEY ASSOCIATES

Check One: Engineer _____ Land Surveyor X Architect _____

Address: 24 CHESTNUT STREET DOVER, NH 03820

License No. 661 Tele. # 603-742-0911

3. 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. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner: _____ Date: 5/6/19

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

4. AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the 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, excavation phase, and reclamation phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Date: 5/6/19

PLEASE RETURN THE FOLLOWING WITH YOUR APPLICATION TO THE PLANNING OFFICE:

1. 16 copies (five 22" x 34" and eleven 11" x 17") of excavation plan prepared in accordance with 170-30.3.A (one full-size plan sent to Conservation Commission)
2. 16 copies (five 22" x 34" and eleven 11" x 17") of reclamation plan prepared in accordance with 170-30.3.B (one full-size plan sent to Conservation Commission)
3. Tax Collector's statement that all property taxes have been paid in full & that excavation taxes have been paid in full & that there are no unreleased tax liens encumbering said properties
4. Surety Bond or other form of performance guarantee
5. Copy of Notice of Intent to Excavate that is filed with Assessor's Office
6. A written statement from the Tax Collector that all current property and excavation taxes levied against all properties in the operation have been paid in full and that there are no unreleased tax liens encumbering said properties
7. Digital Version of the Plan in PDF/A format
8. **An annual report documenting compliance with the requirements of Zoning Section 170-28, Groundwater Protection. Pursuant to RSA 155-E:11, the requirements of this section may be waived if the applicant demonstrates that such exception shall be recorded in the Registry of Deeds, and one copy filed with the NH Department of Environmental Services**
9. Check made out to the City of Dover for fees calculated below

CITY OF DOVER SITE REVIEW
LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. The applicant must obtain the abutter information from the records of the Tax Assessor's Office (not more than five days prior to filing) in order to process the site review application.

ABUTTER is defined as the owner of record of a parcel of land located in New Hampshire and that adjoins or is directly within two hundred (200) feet (including land across the street or waterway) of the proposed site under consideration by the Planning Board. For a condominium or other collective form of ownership, abutter means the officers of the collective or association. *(See additional requirement below)*

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS
H	59, 59A, 60, 61	CANDIA SOUTH BRANCH HOLDINGS, LLC	P.O. BOX 202 CANDIA, NH 03034

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer:

NAME	COMPANY	MAILING ADDRESS
Kevin M. McEneaney, LLS	MCENEANEY SURVEY ASSOCIATES	24 CHESTNUT STREET DOVER, NH 03820

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

Abutters:

TAX MAP	LOT #	OWNER (S) OF RECORD	MAILING ADDRESS

For projects which meet 149-4A, if a condominium association is an abutter, add all owners of individual units that are located within two hundred (200) feet of the common property line for notification by first class mail.

UNIT #	OWNER (S) OF RECORD	MAILING ADDRESS

FORM
PA-38

NEW HAMPSHIRE DEPARTMENT OF REVENUE ADMINISTRATION

NOTICE OF INTENT TO EXCAVATE

RSA 72-B

For Tax Year April 1, **2019** to March 31, **2020**

RECEIVED
APR 19
DOVER ASSESSING

(Assigned by Municipality)

YR	TOWN	OP#
19	125	04 - E

PLEASE TYPE or PRINT *(If filling in form on-line; use TAB key to move through fields)*

1. Town/City of: **DOVER**
2. Tax Map/Block/Lot #: **MAP H LOT 59**
3. Name of Access Road: **MAST ROAD**
4. Total Acreage of Lot: **17**
5. Date of Permit per RSA 155-E:2: _____ *(Municipal Excavation Permit)*
   or
6. Date of Report, *if required*, per RSA 155-E:2, I (d): _____
7. Permit Number per RSA 485-A:17, *if any*: _____ *(Alteration of Terrain Permit)*
8. Incidental Construction/155-E:2-a Exception: *Check if YES* ☐
9. Total Permitted Area (acres): **17**
10. Excavation Area (acres) as of April 1: **13**
11. Reclaimed Area (acres) as of April 1: **2**
12. Remaining Cubic Yards of Earth to Excavate: **300,000**
13. Type of Ownership:
    - ☑ Owner of land
    - ○ Previous owner retaining deeded earth excavation rights
    - ○ Owner of earth or earth excavation rights on public lands (Fed., State, Municipal, etc) or, removes earth from public lands or right-of-ways
14. DESCRIPTION OF EARTH TO BE EXCAVATED DURING TAX YEAR

EARTH TYPE	ESTIMATED CUBIC YARDS (CY)
GRAVEL	30,000
SAND	70,000
LOAM	
STONE PRODUCTS	
OTHER ( )	
TOTAL	100,000

15. CHECK THE BOX THAT DESCRIBES THIS INTENT
    - ☑ ORIGINAL WITH $100 FEE (check payable to State of New Hampshire)
    - ○ ORIGINAL WITH NO FEE (excavation of 1,000 cubic yards or less)
    - ○ SUPPLEMENTAL WITH $100 FEE (exceeding original estimate of 1,000 cubic yards or less)
    - ○ SUPPLEMENTAL WITH NO FEE (fee previously paid with original intent)
16. We hereby assume responsibility for reporting all earth excavated within 30 days of completion or by the end of the tax year, whichever comes first. (If a Corporation, an Officer must sign.)

PRINT CLEARLY OR TYPE NAME OF OWNER

SIGNATURE (in ink) OF OWNER(S) OR OFFICER(S) — DATE SIGNED: 4-19-19

RONALD SEVERINO MANAGER
PRINT SIGNATORY NAME (AND TITLE IF APPLICABLE)

SIGNATURE (in ink) OF OWNER(S) OR OFFICER(S) — DATE SIGNED

C/O SEVERINO TRUCKING CO., INC.
PRINT SIGNATORY NAME (AND TITLE IF APPLICABLE)

PO BOX 202
MAILING ADDRESS

CANDIA | NH | 03034
CITY OR TOWN | STATE | ZIPCODE

rseverino@severino.com
E-MAIL ADDRESS

(603) 483-7001 | (603) 234-8501
HOME PHONE (Enter number without dashes) | CELL PHONE (Enter number without dashes)

DATE INTENT SENT TO TOWN: **April 19, 2019**

E-MAIL REPORT & CERTIFICATE? YES ☑ NO ○
If NO, Report and Certificate will be mailed to the address above.

TO BE COMPLETED BY MUNICIPAL ASSESSING OFFICIALS

Amount of Security Required $ _____

Security Posted (Bond, Certified Check, etc.) $ _____

SIGNATURES OF MUNICIPAL ASSESSING OFFICIALS & DATE

The Municipal Assessing Officials hereby acknowledge receipt of the Notice of Intent to Excavate and certify that:

1. All owners of record have signed the Intent;
2. If the land is in Current Use, the land use change tax shall be assessed on the non-qualifying land;
3. The form is complete; and
4. Any bond required under RSA 72-B:5 has been received.
5. The Tax Collector shall be notified within 30 days of signing the Intent pursuant to RSA 72-B:6

4/30/19

SIGNATURE OF MUNICIPAL ASSESSING OFFICIAL — DATE

SIGNATURE OF MUNICIPAL ASSESSING OFFICIAL — DATE

SIGNATURE OF MUNICIPAL ASSESSING OFFICIAL — DATE

SIGNATURE OF MUNICIPAL ASSESSING OFFICIAL — DATE

SIGNATURE OF MUNICIPAL ASSESSING OFFICIAL — DATE

FOR DRA USE ONLY

SIGNED ORIGINAL COPY - RETAINED BY CITY/TOWN

SIGNED COPY TO - OWNER, RETURNED BY MUNICIPAL ASSESSING OFFICIALS

SIGNED COPY TO - DEPT. OF REVENUE, MUNICIPAL & PROPERTY DIVISION

FORM
PA-38

NEW HAMPSHIRE DEPARTMENT OF REVENUE ADMINISTRATION

NOTICE OF INTENT TO EXCAVATE

RSA 72-B

(Assigned by Municipality)

YR: 19 - TOWN: 125 - OP#: 05 - E

For Tax Year April 1, 2019 to March 31, 2020

PLEASE TYPE or PRINT *(If filling in form on-line, use TAB key to move through fields)*

1. Town/City of: DOVER
2. Tax Map/Block/Lot #: MAP H LOT 61
3. Name of Access Road: MAST ROAD
4. Total Acreage of Lot: 4
5. Date of Permit per RSA 155-E:2: *or* *(Municipal Excavation Permit)*
6. Date of Report, *if required*, per RSA 155-E:2, I (d):
7. Permit Number per RSA 485-A:17, *if any*: *(Alteration of Terrain Permit)*
8. Incidental Construction/155-E:2-a Exception: *Check if YES* ☐
9. Total Permitted Area (acres): 4
10. Excavation Area (acres) as of April 1: 4
11. Reclaimed Area (acres) as of April 1: 0
12. Remaining Cubic Yards of Earth to Excavate: 300,000
13. Type of Ownership:
    - ☑ Owner of land
    - ○ Previous owner retaining deeded earth excavation rights
    - ○ Owner of earth or earth excavation rights on public lands (Fed., State, Municipal, etc) or, removes earth from public lands or right-of-ways
14. DESCRIPTION OF EARTH TO BE EXCAVATED DURING TAX YEAR

EARTH TYPE	ESTIMATED CUBIC YARDS (CY)
GRAVEL	30,000
SAND	70,000
LOAM	
STONE PRODUCTS	
OTHER ( )	
TOTAL	100,000

15. CHECK THE BOX THAT DESCRIBES THIS INTENT
    - ☑ ORIGINAL WITH $100 FEE (check payable to State of New Hampshire)
    - ○ ORIGINAL WITH NO FEE (excavation of 1,000 cubic yards or less)
    - ○ SUPPLEMENTAL WITH $100 FEE (exceeding original estimate of 1,000 cubic yards or less)
    - ○ SUPPLEMENTAL WITH NO FEE (fee previously paid with original intent)
16. We hereby assume responsibility for reporting all earth excavated within 30 days of completion or by the end of the tax year, whichever comes first. (If a Corporation, an Officer must sign.)

PRINT CLEARLY OR TYPE NAME OF OWNER

SIGNATURE (in ink) OF OWNER(S) OR OFFICER(S) — DATE SIGNED: 4-19-19

RONALD SEVERINO MANAGER

PRINT SIGNATORY NAME (AND TITLE IF APPLICABLE)

SIGNATURE (in ink) OF OWNER(S) OR OFFICER(S) — DATE SIGNED

C/O SEVERINO TRUCKING CO., INC.

PRINT SIGNATORY NAME (AND TITLE IF APPLICABLE)

PO BOX 202
MAILING ADDRESS

CANDIA | NH | 03034
CITY OR TOWN | STATE | ZIPCODE

rseverino@severino.com
E-MAIL ADDRESS

(603) 483-7001 HOME PHONE (Enter number without dashes)
(603) 234-8501 CELL PHONE (Enter number without dashes)

DATE INTENT SENT TO TOWN: April 19, 2019

E-MAIL REPORT & CERTIFICATE? YES ☑ NO ○
If NO, Report and Certificate will be mailed to the address above.

TO BE COMPLETED BY MUNICIPAL ASSESSING OFFICIALS

Amount of Security Required $

Security Posted (Bond, Certified Check, etc.) $

SIGNATURES OF MUNICIPAL ASSESSING OFFICIALS & DATE

The Municipal Assessing Officials hereby acknowledge receipt of the Notice of Intent to Excavate and certify that:

1. All owners of record have signed the Intent;
2. If the land is in Current Use, the land use change tax shall be assessed on the non-qualifying land;
3. The form is complete; and
4. Any bond required under RSA 72-B:5 has been received.
5. The Tax Collector shall be notified within 30 days of signing the Intent pursuant to RSA 72-B:8

SIGNATURE OF MUNICIPAL ASSESSING OFFICIAL — DATE: 4/23/19

SIGNATURE OF MUNICIPAL ASSESSING OFFICIAL — DATE

SIGNATURE OF MUNICIPAL ASSESSING OFFICIAL — DATE

SIGNATURE OF MUNICIPAL ASSESSING OFFICIAL — DATE

SIGNATURE OF MUNICIPAL ASSESSING OFFICIAL — DATE

FOR DRA USE ONLY

SIGNED ORIGINAL COPY - RETAINED BY CITY/TOWN

SIGNED COPY TO - OWNER, RETURNED BY MUNICIPAL ASSESSING OFFICIALS

SIGNED COPY TO - DEPT. OF REVENUE, MUNICIPAL & PROPERTY DIVISION

Berkley Insurance Company

c/o Berkley Surety

One Acadia Commons
Westbrook, ME 04092
Phone: (207) 228-1922 - Fax: -

Continuation Certificate

Bond Number: 0145212

Surety

Berkley Insurance Company

Producer

Rowley Agency, Inc. (The)
Producer #: 434
State: NH

Principal

Severino Trucking Co., Inc.
512 Raymond Rd
P.O. Box 202
Candia, NH 03034

Obligee

City of Dover
Municipal Office Building
288 Central Avenue
Dover, NH 03820

CONTINUATION PERIOD	AMOUNT OF BOND	RENEWAL PREMIUM
Effective Date: 2/28/2019 Expiration Date: 2/28/2020	Bond Amount: $50,000	Premium: $500

DESCRIPTION

Restoration Bond - Pruven Aggregates Gravel Pit, Mast Road, Dover, NH

COPY

In consideration of the renewal premium charged, the bond designated above is hereby continued in full force and effect for the period described, subject to all its terms and conditions, provided the *liability* under said bond and all continuations thereof shall not be cumulative.

Dated: 1/28/2019

Berkley Insurance Company
(Surety)

By _____
(Attorney-in-fact)
Paula J. Cantara, Attorney-In-Fact

(File a copy of this certificate with your bond.)

City of Dover
Tax/Clerk's Office
288 Central Avenue
Dover, NH 03820
603-516-6019

May 17, 2019

City of Dover NH
Planning Department
ATTN: Jean

RE: Tom Severino 603-234-8502

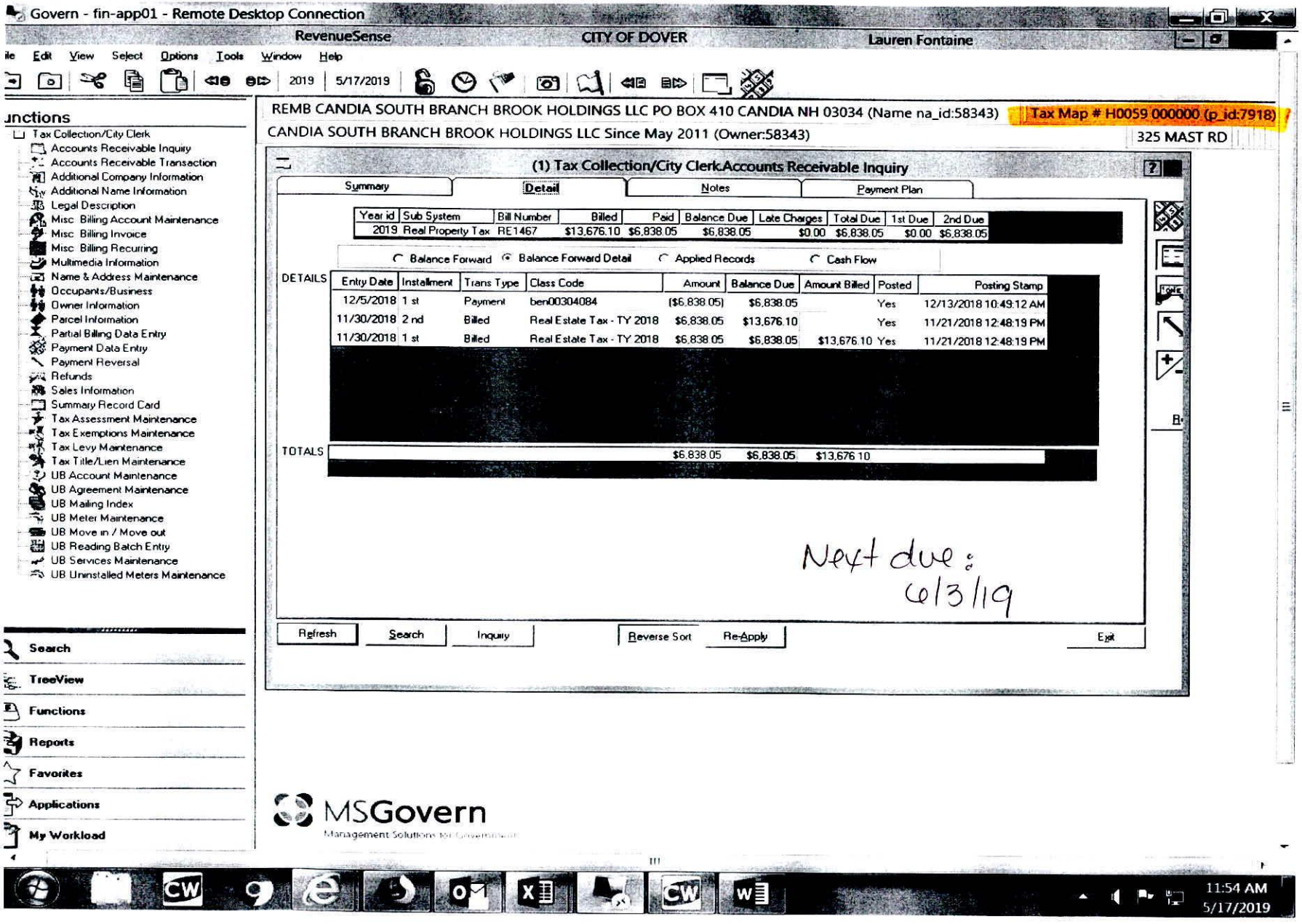
Mr. Severino came into our office today requesting that we provide screen shots of two parcels showing that they are current on taxes. The next due date will be June 3, 2019.

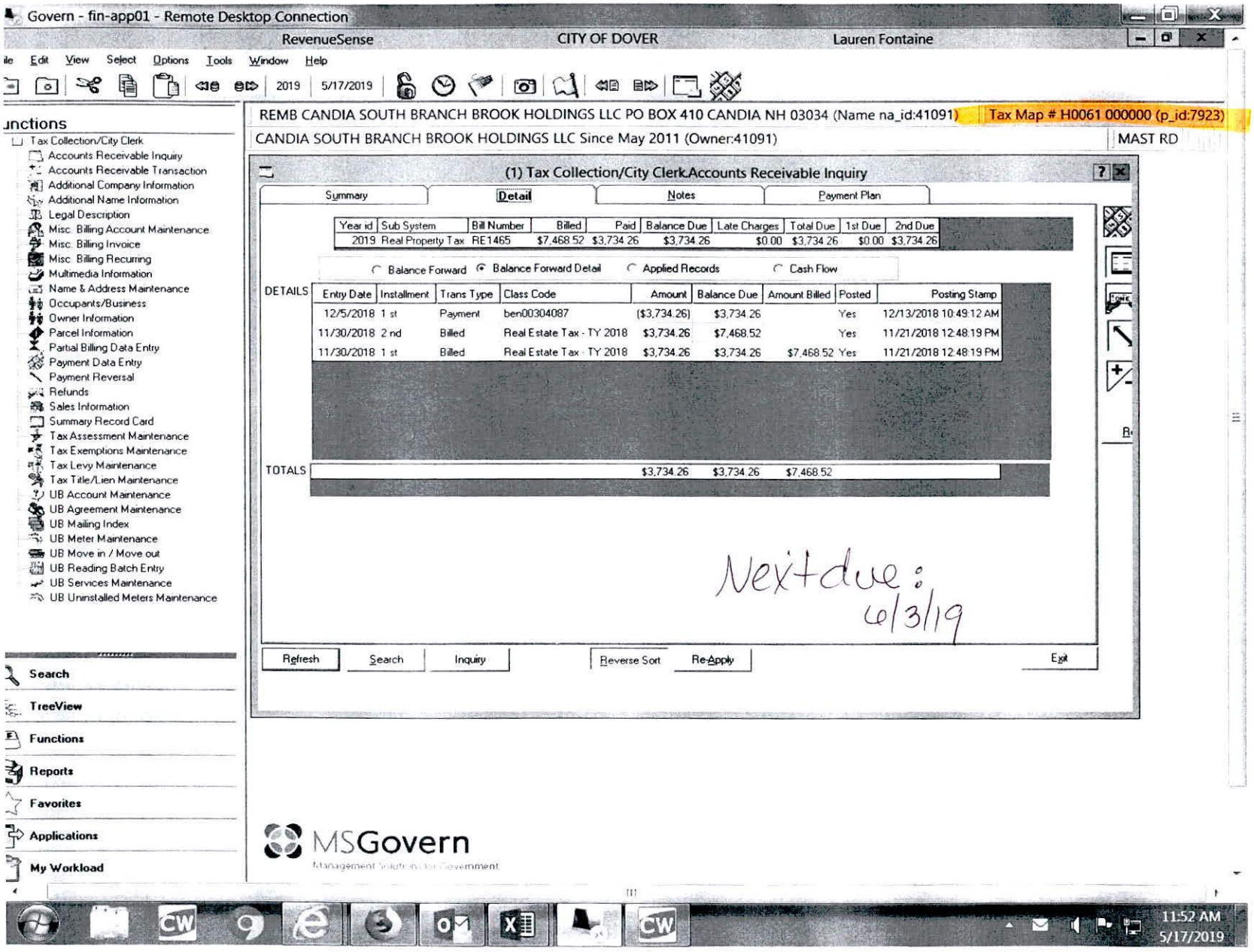
He said that these were a requirement on an application that he has pending with your office.

PROP ID: H0059-000000
PROP ID: H 0061-000000

Thank you.

Lauren Fontaine
City of Dover, NH
City Clerk / Tax Collection


Govern - fin-app01 - Remote Desktop Connection
RevenueSense
CITY OF DOVER
Lauren Fontaine
File Edit View Select Options Tools Window Help
2019 5/17/2019
REMB CANDIA SOUTH BRANCH BROOK HOLDINGS LLC PO BOX 410 CANDIA NH 03034 (Name na_id:58343)
Tax Map # H0059 000000 (p_id:7918)
CANDIA SOUTH BRANCH BROOK HOLDINGS LLC Since May 2011 (Owner:58343)
325 MAST RD
(1) Tax Collection/City Clerk:Accounts Receivable Inquiry
Summary
Detail
Notes
Payment Plan
Year id | Sub System | Bill Number | Billed | Paid | Balance Due | Late Charges | Total Due | 1st Due | 2nd Due
2019 Real Property Tax RE1467 $13,676.10 $6,838.05 $6,838.05 $0.00 $6,838.05 $0.00 $6,838.05
Balance Forward
Balance Forward Detail
Applied Records
Cash Flow
DETAILS
Entry Date | Installment | Trans Type | Class Code | Amount | Balance Due | Amount Billed | Posted | Posting Stamp
12/5/2018 1 st Payment ben00304084 ($6,838.05) $6,838.05 Yes 12/13/2018 10:49:12 AM
11/30/2018 2 nd Billed Real Estate Tax - TY 2018 $6,838.05 $13,676.10 Yes 11/21/2018 12:48:19 PM
11/30/2018 1 st Billed Real Estate Tax - TY 2018 $6,838.05 $6,838.05 $13,676.10 Yes 11/21/2018 12:48:19 PM
TOTALS
$6,838.05 $6,838.05 $13,676.10
Next due:
6/3/19
Refresh
Search
Inquiry
Reverse Sort
Re-Apply
Exit
Functions
Tax Collection/City Clerk
Accounts Receivable Inquiry
Accounts Receivable Transaction
Additional Company Information
Additional Name Information
Legal Description
Misc Billing Account Maintenance
Misc Billing Invoice
Misc Billing Recurring
Multimedia Information
Name & Address Maintenance
Occupants/Business
Owner Information
Parcel Information
Partial Billing Data Entry
Payment Data Entry
Payment Reversal
Refunds
Sales Information
Summary Record Card
Tax Assessment Maintenance
Tax Exemptions Maintenance
Tax Levy Maintenance
Tax Title/Lien Maintenance
UB Account Maintenance
UB Agreement Maintenance
UB Mailing Index
UB Meter Maintenance
UB Move in / Move out
UB Reading Batch Entry
UB Services Maintenance
UB Uninstalled Meters Maintenance
Search
TreeView
Functions
Reports
Favorites
Applications
My Workload
MSGovern
11:54 AM
5/17/2019


Govern - fin-app01 - Remote Desktop Connection
RevenueSense
CITY OF DOVER
Lauren Fontaine
File Edit View Select Options Tools Window Help
2019
5/17/2019
REMB CANDIA SOUTH BRANCH BROOK HOLDINGS LLC PO BOX 410 CANDIA NH 03034 (Name na_id:41091)
Tax Map # H0061 000000 (p_id:7923)
CANDIA SOUTH BRANCH BROOK HOLDINGS LLC Since May 2011 (Owner:41091)
MAST RD
Functions
Tax Collection/City Clerk
Accounts Receivable Inquiry
Accounts Receivable Transaction
Additional Company Information
Additional Name Information
Legal Description
Misc. Billing Account Maintenance
Misc. Billing Invoice
Misc. Billing Recurring
Multimedia Information
Name & Address Maintenance
Occupants/Business
Owner Information
Parcel Information
Partial Billing Data Entry
Payment Data Entry
Payment Reversal
Refunds
Sales Information
Summary Record Card
Tax Assessment Maintenance
Tax Exemptions Maintenance
Tax Levy Maintenance
Tax Title/Lien Maintenance
UB Account Maintenance
UB Agreement Maintenance
UB Mailing Index
UB Meter Maintenance
UB Move in / Move out
UB Reading Batch Entry
UB Services Maintenance
UB Uninstalled Meters Maintenance
Search
TreeView
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Reports
Favorites
Applications
My Workload
(1) Tax Collection/City Clerk.Accounts Receivable Inquiry
Summary
Detail
Notes
Payment Plan
Year id | Sub System | Bill Number | Billed | Paid | Balance Due | Late Charges | Total Due | 1st Due | 2nd Due
2019 | Real Property Tax | RE1465 | $7,468.52 | $3,734.26 | $3,734.26 | $0.00 | $3,734.26 | $0.00 | $3,734.26
Balance Forward
Balance Forward Detail
Applied Records
Cash Flow
DETAILS
Entry Date | Installment | Trans Type | Class Code | Amount | Balance Due | Amount Billed | Posted | Posting Stamp
12/5/2018 | 1 st | Payment | ben00304087 | ($3,734.26) | $3,734.26 | | Yes | 12/13/2018 10:49:12 AM
11/30/2018 | 2 nd | Billed | Real Estate Tax - TY 2018 | $3,734.26 | $7,468.52 | | Yes | 11/21/2018 12:48:19 PM
11/30/2018 | 1 st | Billed | Real Estate Tax - TY 2018 | $3,734.26 | $3,734.26 | $7,468.52 | Yes | 11/21/2018 12:48:19 PM
TOTALS
$3,734.26 | $3,734.26 | $7,468.52
Next due: 6/3/19
Refresh
Search
Inquiry
Reverse Sort
Re-Apply
Exit
MSGovern
11:52 AM
5/17/2019

Parker, Christopher G.

From: Agnes Dietz <melanie831973@yahoo.com>
Sent: Monday, May 20, 2019 8:45 PM
To: City of Dover - Planning
Subject: Permit request hearing for Mast rd.

Dear Dover Planning Board:

My name is Agnes Taranto. I live at 330 Mast Rd. I recently received a notice from your department regarding a public hearing to address the request for an excavating permit by Candia South Branch Brook Holding, LLC, Assessor Map H, lots 59, 60 & 61, zoned I-4, located on Mast Road.

I'm writing to express my concern over this renewal. I bought this home in 2013. I spoke to the owner of the pit prior to purchasing my home and I was told they would be done excavating the pit in five (5) years. I was even told that there would be nothing left to excavate so the site would be used for some other purpose, eventually.

Since owning this home, I have experienced some scary things whenever they are excavating across the street. Initially, it was just mildly loud sound coming from across the street and coming up through my basement. Over the last four years, things have changed; the loud noises have become louder and the vibrations more noticeable and intense. Shaking occurs in my home often. I've watched water sitting in a pan in my sink vibrate rapidly for over an hour or more. I've had items on my countertops move. Plates in the dishrack fall to the floor and break.

While working from home and during their excavation, I've had my kitchen cabinets come off the wall. Requiring my husband and I to put them back up. The sound when they are excavating vibrates through my home loudly. I work from home and I've had to cancel or reschedule meetings or calls due to the noise. I'm overtaken by the shaking. I'm extremely concerned that my plumbing pipes will burst or break; they shake and move when they are excavating, or lines going to and from my oil or gas tank may come apart, break, or sever. The other major concern I have is the impact the increased intensity that I'm experiencing may have or be causing to my home's foundation. I plan to have another inspection soon.

This was the first home I have ever purchased. Perhaps, I was foolish, unaware or just uneducated regarding the impact of living across the street from this pit or believing they would be done working there in five (5) years.

I went to the Planning Board Office today to ask for help or see what possible recourse I would have if this continues or causes more serious issues to my home. The women suggested that perhaps they can provide notice to me prior to any blasting or excavating. That would be helpful, however, that does not really address my concerns or solve the problems that are occurring during their intense excavating activities.

I know I'm not the only one that is experiencing these things on this block. This pit has been here for a long time well before I purchased this home. I don't know if this letter will hurt or help me. I have been coping with this, believing that the excavating or the operations at the pit would come to an end soon. I'm not sure what can be done here. Nonetheless, I needed to at least write and explain how the intensity has changed and what we are experiencing when they are excavating. I plan to attend the hearing on May 28th at 7:00 PM to discuss these concerns in person.

Sincerely,

Mrs. Taranto

Sent from Yahoo Mail for iPhone

P19-40 **Mast Road**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
H0004-000000	CIELO DR	HERON BAY PARTNERS LLC		242 CENTRAL AV	DOVER	NH	03820
H0004-000025	25 CIELO DR	KLINE JOSEPH K & SUSAN TRUSTEES	KLINE JOSEPH AND SUSAN E REVOCABLE FAMIL	25 CIELO DR	DOVER	NH	03820
H0004-000029	29 CIELO DR	STEARNS CHARLENE		29 CIELO DR	DOVER	NH	03820-4146
H0004-000031	31 CIELO DR	SANDBERG BARRY &	SANDBERG MONA R	31 CIELO DR	DOVER	NH	03820
H0004-000033	33 CIELO DR	SCHULTEN CAROLYN H & STEPHEN B CO-TRUST	SCHULTEN STEPHEN BREWER REVOCABLE TRUST	18 COTE DR	DOVER	NH	03820
H0005-B00000	330 MAST RD	TARANTO AGNES M		330 MAST RD	DOVER	NH	03820-5489
H0005-B00001	324 MAST RD	BROWNE DAVID D JR	BROWNE PAMELA R	324 MAST ROAD	DOVER	NH	03820
H0035-D00000	LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H0058-000000	271 275 MAST RD	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
H0058-000LS2	273 MAST RD	OMNIPOINT HOLDINGS INC	ATTN PROPERTY MANAGEMENT	4 SYLVAN WAY	PARSIPPANY	NJ	07054
H0059-A00000	325 MAST RD	CANDIA SOUTH BRANCH BROOK HOLDINGS LLC		PO BOX 410	CANDIA	NH	03034
H0060-A00000	MAST RD	CITY OF DOVER		288 CENTRAL AV	DOVER	NH	03820
H0062-000000	MAST RD	CANDIA SOUTH BRANCH BROOK HOLDINGS LLC		PO BOX 410	CANDIA	NH	03034
H0059-000000	325 MAST RD	CANDIA SOUTH BRANCH BROOK HOLDINGS LLC		PO BOX 410	CANDIA	NH	03034
H0060-000000	MAST RD	CANDIA SOUTH BRANCH BROOK HOLDINGS LLC		PO BOX 410	CANDIA	NH	03034
H0061-000000	MAST RD	CANDIA SOUTH BRANCH BROOK HOLDINGS LLC		PO BOX 410	CANDIA	NH	03034
		MCENEANEY SURVEY ASSOCIATES		24 CHESTNUT STREET	DOVER	NH	03820
H0004-000035	35 CIELO DR	THEORET ROGER A & PAULINE C TRUSTEES	THEORET FAMILY REVOCABLE TRUST	35 CIELO DR	DOVER	NH	03820-5608

MADBURY

Tax Map 9, Lot 62	Fresh Pond Realty Trust					
Tax Map 9, Lot 63	Candia South Branch Brook Holdings, LLC		P.O. Box 410	Candia	NH	03034
Tax Map 9, Lot 64	Candia South Branch Brook Holdings, LLC		P.O. Box 410	Candia	NH	03034
Tax Map 9, Lot 66	Scott D. Nicol	Diane d. Nicol	6 Freshet Road	Madbury	NH	03823
Tax Map 9, Lot 66A	Daniel Sabin	Mihaiela C. Sabin	8 Freshet Road	Madbury	NH	03823

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING CONDITIONS OF THE SUBJECT PARCELS UTILIZING RECORD BOUNDARY DATA AND REFERENCE PLAN #1 UPDATED BY THIS OFFICE WITH FIELD OBSERVATIONS DATED THROUGH MAY 10, 2019 THIS PLAN IS NOT INTENDED TO BE A BOUNDARY SURVEY.
2. SUBJECT PARCEL SHOWN AS LOTS 59, 60 & 61 ON THE CITY OF DOVER ASSESSOR'S MAP H. NO TOPOGRAPHIC INFORMATION HAS BEEN GATHERED ON THE UNDISTURBED WOODED AREA OF LOT H/60 NORTH OF THE WELL ACCESS ROAD.
3. SUBJECT PARCEL IS LOCATED IN THE CITY OF DOVER ZONING DISTRICT I–4.
4. OWNER OF RECORD: CANDIA SOUTH BRANCH BROOK HOLDINGS, LLC
   P.O. BOX 410
   CANDIA, NEW HAMPSHIRE 03034
   S.C.R.D. VOL. 3923, PAGE 904
   S.C.R.D. VOL. 4211, PAGE 934
5. 5' PERIMETER BERMS PER MINE SAFTEY & HEALTH ADMINSITRATION ON SLOPES GREATER THAN 2:1
6. AREA OF EXCAVATION = 43.8 ACRES±
7. DURATION OF EXCAVATION = 4+ YEARS.
8.) THE LOT OWNERS HAVE NEITHER COLLECTED NOR DOCUMENTED WELL HEAD OR WATER ELEVATION DATA SINCE THE COMPLETION OF THE HYDROLOGY STUDY ORGANIZED AND PREPARED BY GZA GEO–ENVIRONMENTAL, INC., IN MAY OF 2008. GZA WAS COMMISSIONED BY THE CITY OF DOVER, AND FUNDED BY PRUVEN AGGREGATES, INC., TO ANALYZE AND DETERMINE A REASONABLE AND LASTING ESTIMATION FOR AN OTHERWISE FLUCTUATING WATER ELEVATION. THE 2008 GZA STUDY CONSIDERED BOTH SEASONAL FLUCTUATIONS AND THE UNCERTAIN INFLUENCE OF LOCALIZED ARTIFICIAL RECHARGE IN RECOMMENDING THAT THE MAXIMUM SEASONAL GROUNDWATER ELEVATION BE FIXED AT 96' ASL. BASED ON THE GZA'S RECOMMENDATIONS, AND CONSISTENT WITH DOVER'S GROUNDWATER REGULATIONS, THE LOT OWNERS HAVE MAINTAINED A CORRESPONDING MINIMUM PIT FLOOR ELEVATION OF 100'. CANDIA SOUTH BRANCH BROOK HOLDINGS LLC, PER GZA'S RECOMMENDATION, PLANS TO OBSERVE THE SAME 100' MINIMUM PIT FLOOR ELEVATION.

REFERENCE PLANS:

1.) EXCAVATION AND RECLAMATION PLANS (DOVER), SEVERINO TRUCKING CO., INC., DOVER, NEW HAMPSHIRE; SCALE: 1" = 100'; DATED: APRIL 1, 2012; BY AMERICAN ENGINEERING CONSULTANTS, CORP.

H/35–0
NEW MEADOWS
1 LILAC LANE
DOVER, NH 03820

H/58
CITY OF DOVER
288 CENTRAL AVE.
DOVER, NH 03820

H/4–0
HERON BAY PARTNERS, LLC
242 CENTRAL AVENUE
DOVER, NH 03820

H / 59A
CANDIA SOUTH BRANCH
BROOK HOLDINGS LLC
P.O. BOX 410
CANDIA, NH 03034

H/5–B–1
DAVID BROWNE, Jr.
PAMELA R. BROWNE
324 MAST ROAD
DOVER, NH 03820

H/5–B
AGNES M. TARANTO
330 MAST RD.
DOVER, NH 03820

H / 60A
CITY OF DOVER
288 CENTRAL AVENUE
DOVER, NH 03820

H / 62
CANDIA SOUTH BRANCH
BROOK HOLDINGS LLC
P.O. BOX 410
CANDIA, NH 03034

9 / 63
CANDIA SOUTH BRANCH
BROOK HOLDINGS LLC
P.O. BOX 410
CANDIA, NH 03034

CONCRETE BOUND
N – 244,230.37
E – 1,188,881.47

TOWN LINE BOUND
W/ DRILL HOLE FOUND

STONE BOUND
N – 245,411.00
E – 1,187,559.62

— 2019 —

NO.	DATE	DESCRIPTION	BY	CHK
		REVISIONS		
14–1964		EXCAVATION		
PROJECT NO		TYPE	FIELDBOOK & PAGES	

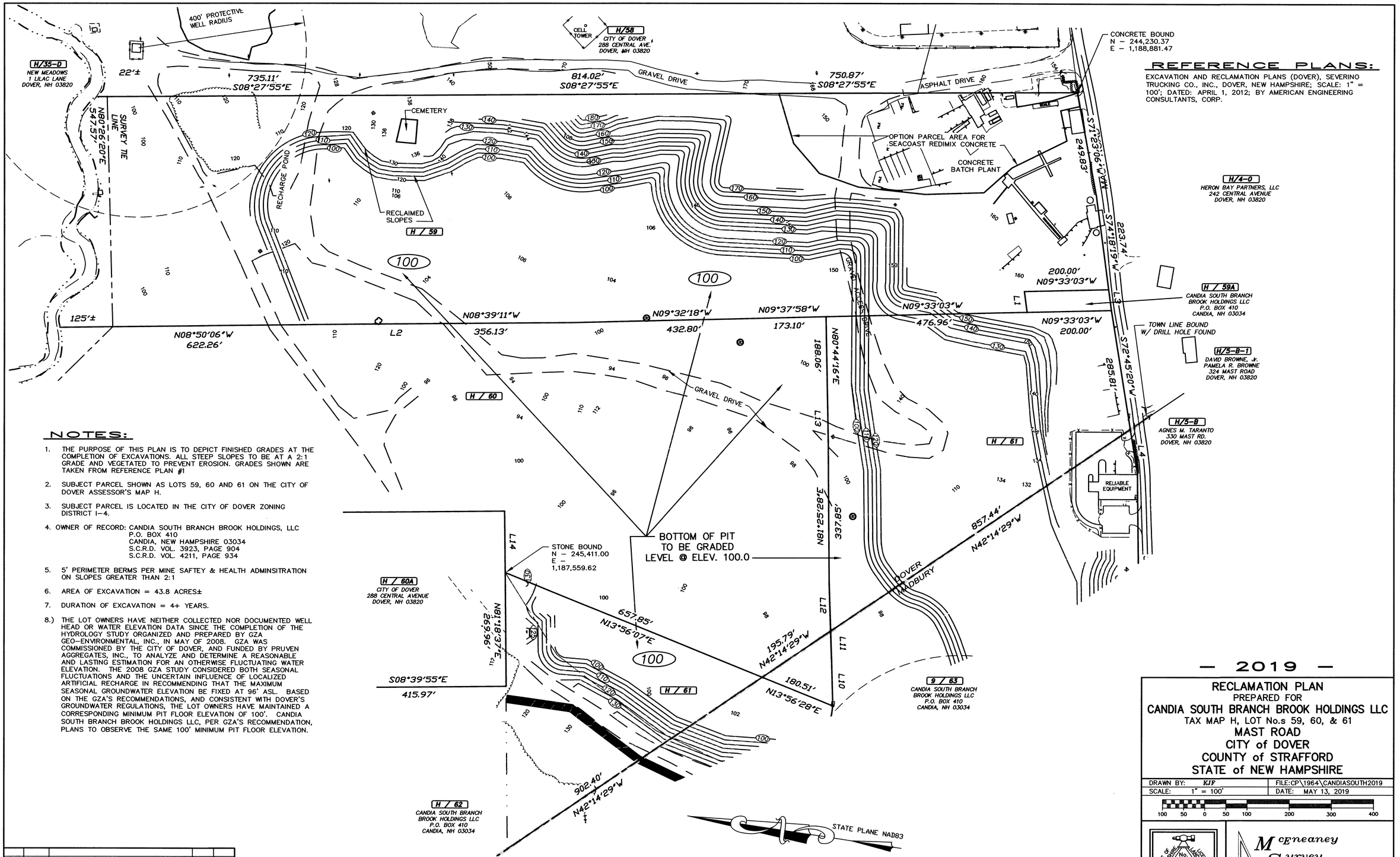
EXCAVATION PLAN
PREPARED FOR
CANDIA SOUTH BRANCH BROOK HOLDINGS LLC
TAX MAP H, LOT No.s 59, 60 & 61
MAST ROAD
CITY of DOVER
COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DRAWN BY: KJP	FILE: VKCP\1061\CANDIASOUTH2017
SCALE: 1" = 100'	DATE: MAY 13, 2019

100 50 0 50 100 200 300 400

STATE OF NEW HAMPSHIRE No. 661 KEVIN M. McENEANEY LICENSED LAND SURVEYOR
SIGNATURE

McEneaney Survey Associates
P.O. Box 681 – 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742–0911
SURVEYING – PLANNING – CONSULTING



NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT FINISHED GRADES AT THE COMPLETION OF EXCAVATIONS. ALL STEEP SLOPES TO BE AT A 2:1 GRADE AND VEGETATED TO PREVENT EROSION. GRADES SHOWN ARE TAKEN FROM REFERENCE PLAN #1
2. SUBJECT PARCEL SHOWN AS LOTS 59, 60 AND 61 ON THE CITY OF DOVER ASSESSOR'S MAP H.
3. SUBJECT PARCEL IS LOCATED IN THE CITY OF DOVER ZONING DISTRICT I–4.
4. OWNER OF RECORD: CANDIA SOUTH BRANCH BROOK HOLDINGS, LLC
   P.O. BOX 410
   CANDIA, NEW HAMPSHIRE 03034
   S.C.R.D. VOL. 3923, PAGE 904
   S.C.R.D. VOL. 4211, PAGE 934
5. 5' PERIMETER BERMS PER MINE SAFTEY & HEALTH ADMINSITRATION ON SLOPES GREATER THAN 2:1
6. AREA OF EXCAVATION = 43.8 ACRES±
7. DURATION OF EXCAVATION = 4+ YEARS.
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NO.	DATE	DESCRIPTION	BY	CHK
		REVISIONS		

14–1964	EXCAVATION	
PROJECT NO	TYPE	FIELDBOOK & PAGES

– 2019 –

RECLAMATION PLAN
PREPARED FOR
CANDIA SOUTH BRANCH BROOK HOLDINGS LLC
TAX MAP H, LOT No.s 59, 60, & 61
MAST ROAD
CITY of DOVER
COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DRAWN BY: KJF	FILE:CP\1964\CANDIASOUTH2019
SCALE: 1" = 100'	DATE: MAY 13, 2019

100 50 0 50 100 200 300 400

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 661 KEVIN M. McENEANEY SIGNATURE

McEneaney Survey Associates
P.O. Box 681 – 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742–0911
SURVEYING – PLANNING – CONSULTING

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P19-04

Application Type:	Site Plan Review
Applicant(s):	Little Bay Marina & Development, LLC
Owner(s):	Little Bay Marina & Development, LLC
Location:	421, 423, 425, 427 Dover Point Road (Map 8, Lots 9-12)
Meeting Date:	May 28, 2019

INTENT: Proposal is to develop a condominium containing 23 units plus marina/marina office with 1 dwelling unit and 27 parking spaces.

LOTS/UNITS PROPOSED: 23

AGENDA ITEM #: 4-D

ACREAGE: 3.49 acres

ZONING DISTRICT: LBW

EXISTING LAND USE: Marina and Single Family Dethatched Homes

PROPOSED LAND USE: Marina and Single Family Attached Homes

SURROUNDING LAND USE: Commercial, Spaulding Turnpike, and Bellamy River

ZBA ACTION: Relief was granted to allow multi-family where 3 and 4 family units per lot are allowed

ATTACHMENTS: 5/13/19 Conservation Commission minutes ***Please bring previous materials***

NOTICES SENT: Abutter notices were sent by certified or first class mail to all abutters for a previous meeting

PERMITS REQUIRED: Alteration of Terrain, Wetland Permit and Shore land Permit, Conditional Use Permit

WAIVERS REQUESTED:
N/A

Summary of Request and Background
The applicant proposes to merge the existing lots and develop a condominium with 23 units plus 1 dwelling unit above the marina office. The site would be serviced by public water and sewer.

The Board voted to sell the additional TDR units at their September 11, 2018 meeting.

The application was reviewed by the Technical Review Committee on February 28, 2019.

The Planning Board and Conservation Commission held a site walk on April 30th.

The Conservation Commission endorsed the applications at its May 13, 2019 meeting (minutes attached).

Consistency with Land Use Regulations
Chapter 149-4 of the Site Review Regulations of the City Code provides for site review by the Planning Board of new construction of various types. This plan is consistent with those regulations.

STAFF RECOMMENDATION:
The Planning Department recommends the Planning Board to accept the application, open the public hearing, and vote to approve the Site Plan with the following conditions:

Conditions to Be Met Prior to the Signing of Plans:

1. Conditional Use Permit (P19-05) is approved
2. All conditions of approval from TDR application (P18-41) shall be addressed including paying the TDR fees.
3. The applicant shall provide
    a. a digital version of plan set
    b. cross access easement documentation and Condominium Association Documents to the satisfaction of the Assistant City Manager with consultation from the City's Legal Counsel.
    c. documentation that Newick's will allow the emergency access onto their property
    d. traffic study stamped by PE
4. The applicant must revise final plan set to:
    a. Add the owner's signatures to the final plat submitted for signature to be recorded at the Strafford County Registry of Deeds
    b. Add LLS, PE, Architect, and LA signatures and stamps to final plan
    c. Add state permit numbers
    d. Revise note 3 to indicate what is being provided in the proposed column.

e. Indicate materials (vinyl clapboard and azek on trim) to the elevations
f. Lighting plan to meet regulations
g. Label floor plan for marina office as "retail" rather than "shop"
h. Remove "variance plan " on architectural plans
i. Provide contours 100' feet off the property.

Conditions to Be Met Prior to any Construction Activity:

5. A site construction sign with the contact information for the general contractor must be located and approved by the City Engineer or Assistant City Manager.
6. Applicant shall complete Land Use Development Tracking Form, most recently revised version, utilizing the online Pollution Tracking and Accounting Pilot Project (PTAPP) portal. https://www.unh.edu/unhsc/ptapp

Conditions to Be Met Prior to Issuance of a Building Permit:

7. The new building shall be assessed and pay the current water and sewer investment fees in place at the time of application for service.
8. The applicant shall provide proof that the cross access easement has been recorded or is not necessary.

Conditions to Be Met Prior to Occupancy:

9. Issuance of a certificate of occupancy.
10. Impact fees shall be paid per the invoice included with the Notice of Decision.
11. The applicant shall provide a letter of credit or other form of security acceptable to the City for any unfinished work.
12. The applicant shall provide proof that the condominium association has been formed and is active.

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P19-05

Application Type:	Conditional Use Permit
Applicant(s):	Little Bay Marina & Development, LLC
Owner(s):	Little Bay Marina & Development, LLC
Location:	421, 423, 425, 427 Dover Point Road (Map 8, Lots 9-12)
Meeting Date:	May 28, 2019

INTENT: Proposed multifamily development will impact 2,304 sq. ft. of non-tidal wetlands, the total area of the 100' tidal buffer is 58,203 sq. ft. and the 50' buffer area to be impacted will be 15,579 sq. ft.

LOTS/UNITS PROPOSED: 23

AGENDA ITEM #: 4-C

ACREAGE: 3.49 acres

ZONING DISTRICT: LBW

EXISTING LAND USE: Marina and Single Family Dethatched Homes

PROPOSED LAND USE: Marina and Single Family Attached Homes

SURROUNDING LAND USE: Commercial, Spaulding Turnpike, and Bellamy River

ZBA ACTION: Relief was granted to allow multi-family where 3 and 4 family units per lot are allowed

ATTACHMENTS: 5/13/19 Conservation Commission minutes ***Please bring previous materials***

NOTICES SENT: Abutter notices were sent by certified or first class mail to all abutters for a previous meeting

PERMITS REQUIRED: Alteration of Terrain, Wetland Permit and Shore land Permit, Conditional Use Permit

WAIVERS REQUESTED:
N/A

Summary of Request and Background
The applicant is proposing a multifamily development with impacts within the wetlands, 100' tidal buffer, and 50' buffer area.

The Planning Board and Conservation Commission held a site walk on April 30th.

The Conservation Commission endorsed the applications at their May 13, 2019 meeting (minutes attached).

The Board voted to sell the additional TDR units at their September 11, 2018 meeting.

The application was reviewed by the Technical Review Committee on February 28, 2019.

Consistency with Land Use Regulations
The Wetlands Protection District ordinance provides for Conditional Use Permits to allow impacts to wetlands and wetland buffers if standards related to demonstration of need, avoidance, minimization, and mitigation are met. This proposal is consistent with those standards.

STAFF RECOMMENDATION:
The Planning Department recommends the Planning Board to accept the application, open the public hearing, and vote to approve the Site Plan with the following conditions:

Conditions to Be Met Prior to the Issuance of a Conditional Use Permit:

1. Provide copies of permits from NHDES
2. Add permit numbers to site plan.

P19-05



Property Information

Property ID	08009-000000
Location	423 DOVER POINT RD
Owner	LITTLE BAY MARINA & DEVELOPMENT LLC
Land Use	384

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Dover, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 5/3/2019
Data updated Daily

DOVER CONSERVATION COMMISSION – MINUTES

CITY OF DOVER

Meeting Type:	Regular Meeting
Meeting Location:	**1st Floor Conference Room** - 288 Central Avenue, Dover, NH
Meeting Date:	Monday, May 13, 2019
Meeting Time:	5:30 pm

MEMBERS PRESENT: Bill Hunt (Chair); Steve Fellows (Vice Chair); Amy Kramer Perry, Abby Lyon, Jason Aube, Zach Schmidt (Alternate)

Absent (Excused): Robert Atwood

Absent (Un-excused): Richard Erickson

STAFF PRESENT: Steve Bird (City Planner)

OTHERS PRESENT: Steve Haight, Art Williams, Brian Stern (by telephone), Leslie Herd, Ken Herd

1. **The meeting was convened at 5:30 PM and a roll call was done.**
2. **APPROVAL OF THE PRIOR MEETING MINUTES** – April 8, 2019

Lyon moved to approve the April 8, 2019 minutes, Kramer-Perry seconded. Vote: 3 in favor, 3 abstained.

3. **OLD BUSINESS:**
4. **NEW BUSINESS:**

A. Request for two City of Dover Conditional Use Permits and two NHDES Wetland Permits for Little Bay Marina & Development., LLC, Assessor's Map 8, Lots 9, 10, 11 & 12, zoned LBW, located at 421, 423, 425 & 427 Dover Point Road.

Steve Haight of Civilworks was present to explain the proposal for 23 multi-family units in 5 buildings, 1 mixed use building, and associated parking and drainage creating 2,304 sq. ft. of wetlands impact, 15,579 sq. ft. of 50 foot wetland buffer impact and 58,203 sq. ft. of Conservation District impact on tidal Little Bay. Additionally 4,300 sq. ft. of a soil causeway is to be replaced in the Conservation District. DES wants to have both projects go together. There is no storm water treatment now but all water will be treated by this plan. The second DES Wetlands application was submitted. We added wetland seed mix along the shoreline and in the detention pond area based on input we received last month. There will be some porous pavement and grass pavers.

Bird: The Planning Board held a site walk on April 30th but no one from the Conservation Commission attended.

Hunt: What is a grass paver?

Haight: It is a plastic structure with soil that is planted with grass to provide a solid surface for parking. The existing gas tank will be removed.

Schmidt confirmed with Haight that all houses will be hooked into the municipal water and sewer system.

Lyon: What provisions have you made to account for sea level rise?

Haight: We have raised the elevation to 11 feet for the closest buildings. The flood elevation is 6 feet so that is at least 5 feet higher. That is based on a recommendation from DES AOT.

Bird: The flood zoning requires new building be a minimum of 2 feet above the base flood elevation. Could the site plan portion of this project proceed without the causeway improvements being completed?

Haight: Yes they are mutually exclusive.

Aube: What are the plans for maintaining the porous pavement and other drainage facilities?

Haight: Their maintenance is covered in the required operation and maintenance plan and included in the condominium documents as their responsibility. All sidewalks are also pervious.

Fellows moved to endorse the Conditional Use Permits as presented, Schmidt seconded. Vote: 5 in favor, Lyon opposed

Fellows moved to endorse the DES Wetlands Permits, Kramer-Perry seconded. Vote: 5 in favor, Lyon opposed

DRAFT

B. Request for Approval of a Forest Management Plan for Timber Harvest, as prepared by professional forester Daniel Nickerson, on a Conservation Easement for Art and Birgit Williams, 160 Varney Road, Assessor's Map A, Lot 32-B. Conservation easement (17.4 acres) obtained on 1/20/05 and held by City of Dover Conservation Commission.

Art Williams was present to explain the forest management plan for the property. There are looming pine trees near the house that are being removed. The timber harvest is selective and only a small number of trees are being removed now. I hired a forester to come in and mark the trees to be taken. He prepared the letter and list of trees.

Hunt: What kind of equipment will be used for the tree harvest?

Williams: Only one skidder will be used to remove trees and taken to the landing area near the driveway.

Hunt: When will the work be done?

Williams: Soon since there is no wetland to be crossed. I will use the limbs for my wood furnace.

Fellows: I looked at the conservation easement deed and under forestry requirements it states that the plan shall include statements that the plan meets the easement requirements and that it is consistent with the easement goals.

Hunt: I am concerned about the leftover slash in terms of a fire hazard.

Williams: Any leftover trees or limbs will be cut into lengths of 4 feet and placed in plies to be burned as firewood.

Fellows moved to approve the forest management plan with the condition that the forester amend his letter to specifically address the deed requirements of section 2-A:3, Lyon seconded. Vote: 6 in favor

C. Request for Approval of a Forest Management Plan for Timber Harvest, as prepared by professional forester Charles Moreno, on a Conservation Easement for Brian Stern, Tolend Road, Assessor's Map E, Lot 47-1. Conservation easements (30.62 acres) obtained on 9/19/06 and 2/16/17 and held by City of Dover Conservation Commission.

Bird explained that the forester could not attend and the owner is in Germany but will participate by telephone. The plan is very detailed and I will display it on the TV screen. The conservation easement covers a portion of the property but the plan covers the entire property.

Stern (via telephone): I had a prior management plan and timber harvest 15 years ago. Moreno felt I was overdue for another selective harvest. The plan does a good job of my objectives on pages 14 & 15. NRCS is involved.

Fellows: Are invasive species a priority?

Stern: Yes the plan address the types and locations of invasive species. Trees to be removed will be individually marked to make sure the logger knows.

Hunt: Have you considered working with the NE Cottontail program for your land?

Stern: I am familiar with it and practice many of the same techniques already, but I didn't want the restrictions.

Aube: When will the harvest take place?

Stern: It will be weather dependent so no schedule yet.

Bird: Do you know who the logger will be yet?

Stern: No it will be one that Moreno uses so it will be someone I can rely on.

Fellows: I am impressed with the details of the plan and all the maps. The City can use this as a model.

Stern: The NRCS has new requirements for plans to be more detailed.

DRAFT

Bird: Does the plan address the easement deed language about 50 foot buffer to Horn Brook and 100 foot buffer to Cochecho River?

Stern: The Cochecho River is specially mentioned. Nothing will be a full cut. Al trees are individually marked.

Lyon moved to approve the forest management plan as submitted, Fellows seconded. Vote: 6 in favor

5. **REPORT FROM THE CHAIR**

A. Review of Correspondence Received From NH Department of Environmental Services:

Letter from DES to Cocheco Country Club about a potential wetlands violations on Gulf Road.

6. OTHER BUSINESS:

A. Update on Forest Management Sub-committee Meeting Held on May 6, 2019

Fellows: The sub-committee meeting held their third meeting. AJ Dupere of the Urban Forestry Center and Dean Peschel attended and were very helpful. They provided advice on forest management and street trees. We are looking at a group of parcels near the Tolend Road landfill. We did a site walk this morning with Andy Fast and Peschel to assess potential for timber harvest. Next step is doing RFP for hiring forester.

B. Discussion on Conservation Commission conducting easement monitoring visit to Washington Highlands conservation easement on Morrison Lane

Bird explained that the City holds a conservation easement on 23 acres owned by an HOA on Morrison Lane. Conservation Commission approved a management plan on October 13, 2015 after years of discussions. It was a long and difficult process for many reasons. The HOA was supposed to return in one year to update you on the status of the plan but that didn't happen and I did not follow up with them. I would propose that the Conservation Commission conduct an easement monitoring visit as soon as I can make arrangements with the HOA.

Discussed dates and times. Preferences are weeknights, Mondays, at 5:30. Bird will e-mail two potential dates.

C. NH Coastal Program climate assistance opportunity

Bird distributed an e-mail he received from Lisa Wise explaining assistance available to incorporate climate change into conservation planning.

Bird distributed a flyer for a Community Trail Trash Takedown on Saturday, June 1st from 10:00 to noon.

7. ADJOURNMENT

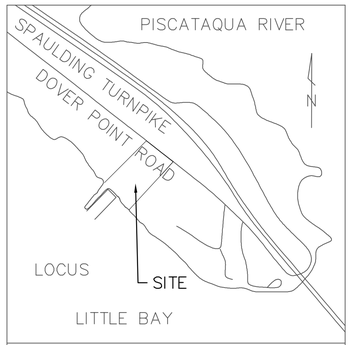
The Chair declared the meeting adjourned at 7:40 pm.

DRAFT

LITTLE BAY MARINA MIX USE DEVELOPMENT
MULTI UNIT RESIDENTIAL
AND MARINA OFFICE SITE PLAN

TAX MAP 8, LOTS 9, 10, 11 & 12

DOVER POINT ROAD
DOVER, NH
FEBRUARY 21, 2019
REVISED: MARCH 25, 2019
REVISED: APRIL 4, 2019
REVISED: MAY 1, 2019



LOCATION PLAN
1" = 1,000'±

OWNER/APPLICANT
LITTLE BAY MARINA & DEVELOPMENT, LLC
197 LOUDON ROAD, SUITE 350
CONCORD, NH 03301

FOR:_____ DATE

SITE CIVIL ENGINEER
CIVILWORKS NEW ENGLAND
CIVIL ENGINEERING
181 Watson Road, P.O. Box 1166
Dover, New Hampshire 03820
(603) 749-0443

LAND SURVEYOR
MCENEANEY SURVEY ASSOCIATES, INC.
P.O. BOX 681
24 CHESTNUT STREET
DOVER, NH 03820
(603) 742–0911

LANDSCAPE ARCHITECT
WOODBURN & COMPANY
103 KENT PLACE
NEWMARKET, NH 03857
(603) 659–5949

SHEET INDEX	SHEET
COVER SHEET	1
NEIGHBORHOOD PLAN	2
EXISTING CONDITIONS PLAN (BY MCENEANEY SURVEY)	3
NOTE SHEET	4
OVERALL SITE PLAN	5
DEMOLITION PLAN	6
SITE PLAN	7
GRADING, DRAINAGE & EROSION CONTROL PLAN	8
SITE IMPACT PLAN	9
UTILITY PLAN	10
EROSION CONTROL NOTES	11
EROSION CONTROL DETAILS	12
DETAILS	13 - 16
LIGHTING PLAN	17
LIGHTING DETAILS	18
DOVER LADDER TRUCK MOVEMENT PLAN	19
SITE SPECIFIC SOILS PLAN	-
LANDSCAPE PLAN	-
STREET SCAPE PLAN	-
ARCHITECTURAL ELEVATIONS & FLOOR PLANS	-

PLANNING FILE NO.: P19–04



ABUTTERS LIST
(WITHIN 200 FT)

TAX MAP	LOT NO.	NAME & ADDRESS
8 / 8-B	8	8-B JOHN H & M BLACKWELL 57 PLEASANT LANE HAMPSTEAD, NH 03841
8 / 13-A	8	13-A NEWICK FAMILY REAL ESTATE LLC & NEWWICK JOAN LIFE ESTATE 431 DOVER POINT ROAD DOVER, NH 03820
8 / 29	8	29 STATE OF NEW HAMPSHIRE PO BOX 483 CONCORD, NH 03302-0483
8 / 38	8	38 SETH C. DESJARDINS 422 DOVER POINT ROAD DOVER, NH 03820
8 / 38-A	8	38-A MILES C. & COUTRNEY E. ROBERGE 420 DOVER POINT ROAD DOVER, NH 03820
8 / 38-C	8	38-C PATRICK J. CRAGIN PO BOX 250 DOVER, NH 03820
H / 33-D	8	38-D PAUL G. LONG JR. 418 DOVER POINT ROAD DOVER, NH 03820

H / 33-E TAX MAP LOT NUMBER

W N E

MAGNETIC

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P19-04

CIVILWORKS NEW ENGLAND
CIVIL ENGINEERING
181 Watson Road, P.O. Box 1166
Dover, New Hampshire 03820
(603) 749-9413

NO.	REVISION	DATE	APP'D
2	TRC COMMENTS	4-4-19	SJH
1	AOT SUBMISSION	1-22-19	SJH

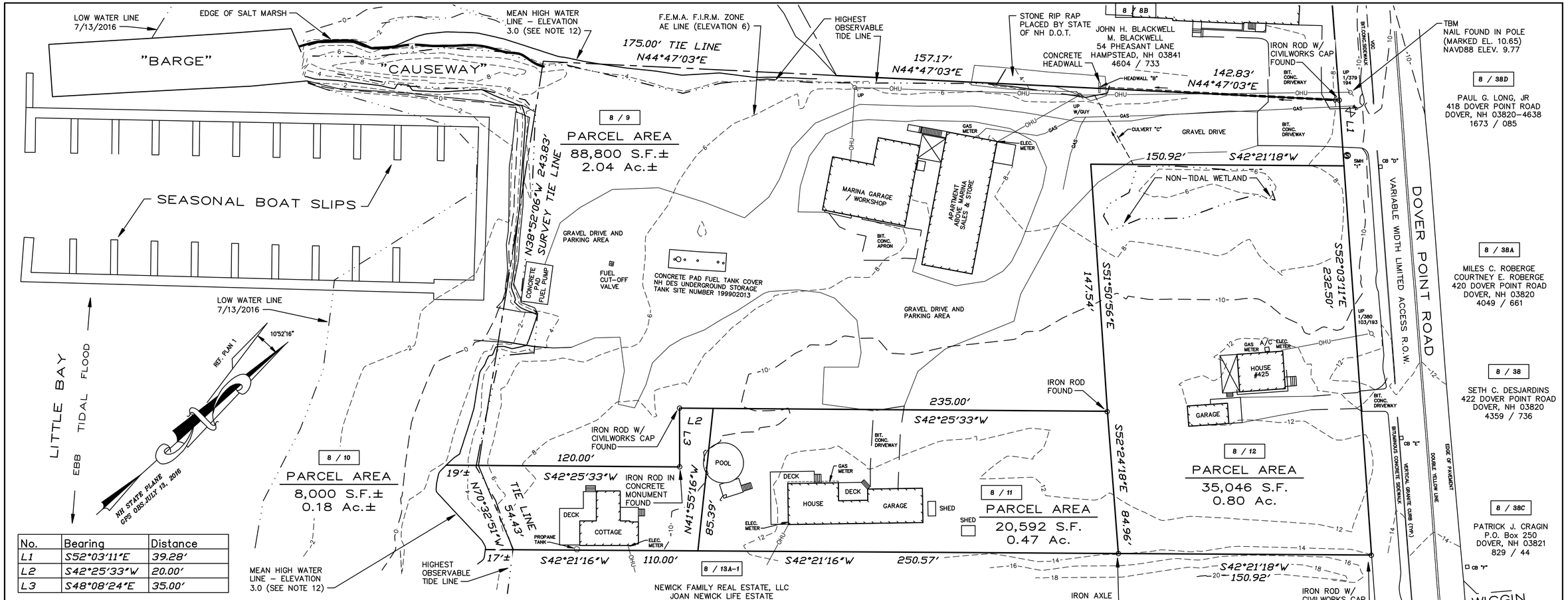
PROJECT NO:1788
FILE: SITE.DWG
DESIGN BY: SRD
DRAWN BY: SRD
SCALE: AS NOTED
DATE: 11-2-18
APPROVED BY:SJH

NEIGHBORHOOD PLAN

LITTLE BAY MARINA
DOVER POINT ROAD
DOVER, NH

LITTLE BAY MARINA &
DEVELOPMENT, LLC
197 LOUDON ROAD, SUITE 350
CONCORD, NH 03301

2



No.	Bearing	Distance
L1	S52°03'11"E	39.28'
L2	S42°25'33"W	20.00'
L3	S48°08'24"E	35.00'

ATTENTION:

HIGH PRESSURE GAS MAIN EXISTS WITHIN THE RIGHT OF WAY OF DOVER POINT ROAD; PRIOR TO ANY EARTH MOVING ACTIVITY CONTACT DIGSAFE AT 1-888-344-7233 TO VERIFY LOCATION.

LEGEND

I.R. (set) o – IRON ROD W/ I.D. CAP (SET)
S.F. – SQUARE FEET
Ac. – ACRE
(TYP.) – TYPICAL
± – MORE OR LESS
ø – DIAMETER
S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS
-o- UP – UTILITY POLE

– · · · – EDGE OF WETLAND
– – – – EDGE OF PAVEMENT
O.A. – OVERALL
R.O.W. – RIGHT OF WAY
CB – CATCH BASIN
SMH – SEWER MANHOLE
WV – WATER GATE VALVE
BIT. – BITUMINOUS
CONC. – CONCRETE
ELEV. – ELEVATION
FF – FINISH FLOOR
ELEC. – ELECTRIC
OHU – OVERHEAD UTILITIES

NOTES:

1.) OWNERS OF RECORD:

8 / 9 — LITTLE BAY MARINA & DEVELOPMENT, LLC, 197 LOUDON ROAD, SUITE 350, CONCORD, NEW HAMPSHIRE 03301-8000, S.C.R.D. VOL. 4101, PAGE 409, REF. S.C.R.D. VOL. 4593, PAGE 978

8 / 10 — LITTLE BAY MARINA & DEVELOPMENT, LLC, 197 LOUDON ROAD, SUITE 350, CONCORD, NEW HAMPSHIRE 03301-8000, S.C.R.D. VOL. 4473 PAGE 288

8 / 11 — LITTLE BAY MARINA & DEVELOPMENT, LLC, 197 LOUDON ROAD, SUITE 350, CONCORD, NEW HAMPSHIRE 03301-8000D, S.C.R.D. VOL. 4589, PAGE 826

8 / 12 — LITTLE BAY MARINA & DEVELOPMENT, LLC, 197 LOUDON ROAD, SUITE 350, CONCORD, NEW HAMPSHIRE 03301-8000, S.C.R.D. VOL. 4415, PAGE 221

2.) 8 / 9 – DENOTES TAX MAP AND PARCEL NUMBER.

3.) ZONING DISTRICT: LITTLE BAY WATERFRONT (LBW)

MINIMUM LOT SIZE	= 10,000 S.F.
MAXIMUM COVERAGE	= 50 PERCENT
MINIMUM FRONTAGE	= 75 FEET
FRONT SETBACK	= 15 FEET
ABUT A STREET SETBACK	= 15 FEET
SIDE SETBACK	= 10 FEET
REAR SETBACK	= 15 FEET
MAXIMUM BUILDING HEIGHT	= 40 FEET

4.) PLAN INTENT: TO DEPICT THE PROJECT PARCEL BOUNDARIES AND IMPROVEMENTS AS OF NOVEMBER 2018, PARCELS ARE SERVICED BY MUNICIPAL SEWER AND WATER SUPPLY SYSTEMS.

5.) A PORTION OF PARCEL 8 / 9 & PARCEL 8 / 10 IS LOCATED WITHIN THE 0.2 PERCENT ANNUAL CHANCE FLOODPLAIN, ZONE AE (ELEVATION 6) AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY NUMBER 330145; PANEL 0405; SUFFIX E; MAP NUMBER 33017C0405E; EFFECTIVE DATE SEPTEMBER 30, 2015. PARCELS 8 / 11 AND 8 / 12 ARE LOCATED OUTSIDE OF THE 0.2 PERCENT ANNUAL CHANCE FLOODPLAIN AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY NUMBER 330145; PANEL 0405; SUFFIX E; MAP NUMBER 33017C0405E; EFFECTIVE DATE SEPTEMBER 30, 2015.

6.) BASIS OF BEARINGS IS NH STATE PLANE GRID FROM GPS OBSERVATION TAKEN ON JULY 13, 2016.

7.) VERTICAL DATUM IS NAVD88 FROM GPS OBSERVATION TAKEN ON JULY 13, 2016.

8.) JURISDICTIONAL WETLANDS AND HIGHEST OBSERVABLE TIDE LINE (H.O.T.L.) IDENTIFIED AND FLAGGED BY LUKE HURLY OF GOVE ENVIRONMENTAL SERVICES< INC. NHCWS #232 DURING THE SUMMER OF 2018.

9.) PORTIONS OF THE PARCELS ARE SUBJECT TO THE RULES OF THE SHORELAND WATER QUALITY PROTECTION ACT (NH RSA 483-B), THOSE AREAS WITHIN TWO HUNDRED AND FIFTY (250) FEET OF THE LITTLE BAY H.O.T.L. (REFERENCE LINE).

10.) REFERENCE IS MADE TO CERTAIN SEWER EASEMENTS GRANTED TO THE CITY OF DOVER, ALTHOUGH IT APPEARS THAT THE SAID SEWER LINE WAS NEVER CONSTRUCTED.
PARCEL 8 / 9 – S.C.R.D. VOL. 1006, PAGE 450
PARCEL 8 / 11 – S.C.R.D. VOL. 1011, PAGE 244
PARCEL 8 / 12 – S.C.R.D. VOL. 1014, PAGE 904

11.) PARCELS ARE SUBJECT TO ACCESS RIGHTS IN COMMON WITH EACH OTHER.

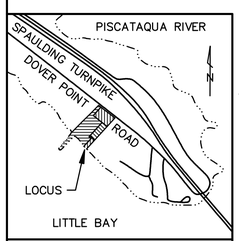
12.) MEAN HIGH WATER (ELEVATION 3.0) IS BASED ON NATIONAL TIDAL DATUM EPOCH INFORMATION PUBLISHED BY NOAA FOR STATION 8423005, ATLANTIC TERMINALS T14A NH (https://tidesandcurrents.noaa.gov/datums.html?id=8423005)

13.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES, INC. DATED APRIL 2018 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.

REFERENCE PLANS:

1.) PLAN OF LAND PREPARED FOR LITTLE BAY MARINA & DEVELOPMENT, LLC AND RICHARD J.C. & VICTORIA BENN AND LITTLE BAY MARINA & DEVELOPMENT, LLC, TAX MAP 8, LOT Nos. 9, 10, 11 & 12, DOVER POINT ROAD & LITTLE BAY, CITY of DOVER, COUNTY of STRAFFORD, STATE of NEW HAMPSHIRE. SCALE: 1" = 30'; DATED: APRIL 1, 2018; BY: THIS OFFICE. RECORDED S.C.R.D. PLAN 116-58.

2.) LOT LINE ADJUSTMENT PLAN PREPARED FOR ANN SHINE TAX MAP 8, LOT No. 8, 419 DOVER POINT ROAD AND JOHN ANASTAS & GLORIA ESPOSITO-ANASTAS TAX MAP 8, LOT No. 8B, 419A DOVER POINT ROAD, CITY of DOVER, COUNTY of STRAFFORD, STATE of NEW HAMPSHIRE. SCALE: 1" = 20'; DATED: AUGUST 17, 2018, REVISED THROUGH 9/18/18; BY THIS OFFICE. RECORDED S.C.R.D. PLAN 117-33.



LOCATION PLAN
1" = 1,000'±

SANITARY SEWER STRUCTURE SCHEDULE

EXIST. SMH "1"
RIM ELEV: = 8.9
INVERT IN: = 3.1 – SITE
INVERT IN: = 3.2 NORTH WEST
INVERT OUT: = 3.0 SOUTH EAST

EXIST. SMH "2"
RIM ELEV: = 16.4
INVERT IN: =
INVERT OUT: =

STORMDRAINAGE STRUCTURE SCHEDULE

EXIST. CB "A"
RIM = 7.7
INVERT OUT = 4.1
SUMP = 3.7
12" HDPE

EXIST. HEADWALL "B" – CONCRETE
TOP = 5.3±
INVERT OUT: = 2.7 12" HDPE

EXIST. CULVERT "C"
INVERT IN = 4.8± 6" CMP
INVERT OUT = 4.0± 6" CLAY

EXIST. CB "D"
RIM = 10.0

EXIST. CB "E"
RIM = 12.3

EXIST. CB "F"
RIM = 13.3

NO.	DATE	DESCRIPTION	BY	CHK
2	4-26-19	ADD EDGE OF SALT MARSH LINE (ALONG NLY CAUSEWAY)	RJM	KMM
1	1-3-19	REVISE NOTE 8	RJM	KMM

REVISIONS

16-2123	EXIST. COND.	16-05	23-47
PROJECT NO	TYPE	FIELDBOOK & PAGES	

EXISTING CONDITIONS PLAN
PREPARED FOR
LITTLE BAY MARINA & DEVELOPMENT, LLC
TAX MAP 8, LOT Nos. 9, 10, 11 & 12
DOVER POINT ROAD & LITTLE BAY
CITY of DOVER
COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DOVER PLANNING FILE No. P 18-__

DRAWN BY: RJM	FILE: W10 CP\2123\16-2123 2018EC
SCALE: 1" = 30'	DATE: NOVEMBER 27, 2018

30 15 0 15 30 60 90 120

STATE OF NEW HAMPSHIRE — No. 661 — KEVIN M. McENEANEY — LICENSED LAND SURVEYOR — SIGNATURE

McEneaney Survey Associates, inc.
P.O. Box 681 – 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742-0911

SURVEYING – PLANNING – CONSULTING

GENERAL NOTES

1. OWNERS OF RECORD:
   8 / 9, 10, 11 & 12 — LITTLE BAY MARINA & DEVELOPMENT, LLC
   197 LOUDON ROAD, SUITE 350
   CONCORD, NEW HAMPSHIRE 03301
   S.C.R.D. VOL. 4101, PAGE 409
2. 8 / 9 — DENOTES TAX MAP AND PARCEL NUMBER.
3. ZONING DISTRICT: LITTLE BAY WATERFRONT (LBW)

		EXIST	PROPOSED
MINIMUM LOT SIZE	=	10,000 S.F.	–
MAXIMUM COVERAGE	=	50%	–
MINIMUM FRONTAGE	=	75 FEET	–
FRONT SETBACK	=	15 FEET	–
ABUT A STREET SETBACK	=	15 FEET	–
SIDE SETBACK	=	10 FEET	–
REAR SETBACK	=	15 FEET	–
MAXIMUM BUILDING HEIGHT	=	40 FEET	–

4. PLAN INTENT: TO DEVELOP A CONDOMINIUM CONTAINING 23 UNITS PLUS A MARINA/MARINA OFFICE WITH 1 ACCESSORY DWELLING UNITS WITH 27 SURFACE PARKING SPACES.
5. A PORTION OF PARCEL 8 / 9 & PARCEL 8 / 10 IS LOCATED WITHIN THE 1% PERCENT ANNUAL CHANCE FLOOD PLAIN, ZONE AE (ELEVATION 6) AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY NUMBER 330145; PANEL 0405; SUFFIX E; MAP NUMBER 33017C0405E; EFFECTIVE DATE SEPTEMBER 30, 2015.
   PARCELS 8 / 11 AND 8 / 12 ARE LOCATED OUTSIDE OF THE 1% PERCENT ANNUAL CHANCE FLOOD PLAIN AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY NUMBER 330145; PANEL 0405; SUFFIX E; MAP NUMBER 33017C0405E; EFFECTIVE DATE SEPTEMBER 30, 2015.
6. BASIS OF BEARINGS IS NH STATE PLANE GRID FROM GPS OBSERVATION TAKEN ON JULY 13, 2016.
7. VERTICAL DATUM IS NAVD88 FROM GPS OBSERVATION TAKEN ON JULY 13, 2016.
8. JURISDICTIONAL WETLANDS AND HIGHEST OBSERVABLE TIDE LINE (H.O.T.L.) IDENTIFIED AND FLAGGED BY DAMON BURT, N.H.C.W.S. #163 OF FRAGGLE ROCK ENVIRONMENTAL SERVICES. DURING JULY 2016 AND FIELD LOCATED BY McENEANEY SURVEY ASSOCIATES, INC., IN ACCORDANCE WITH CHAPTER 170–27.1 OF THE ZONING ORDINANCE.
9. PORTIONS OF THE PARCELS ARE SUBJECT TO THE RULES OF THE SHORELAND WATER QUALITY PROTECTION ACT (NH RSA 483–B), THOSE AREAS WITHIN TWO HUNDRED AND FIFTY (250) FEET OF THE BELLAMY RIVER H.O.T.L.
10. REFERENCE IS MADE TO CERTAIN SEWER EASEMENTS GRANTED TO THE CITY OF DOVER, ALTHOUGH IT APPEARS THAT THE SAID SEWER LINE WAS NEVER CONSTRUCTED.
    PARCEL 8 / 9 – S.C.R.D. VOL. 1003, PAGE 450
    PARCEL 8 / 11 – S.C.R.D. VOL. 1101, PAGE 244
    PARCEL 8 / 12 – S.C.R.D. VOL. 1014, PAGE 904
11. PARCELS ARE SUBJECT TO ACCESS RIGHTS IN COMMON WITH EACH OTHER.
12. THE OWNER OF RECORD SHALL RECORD AT THE REGISTRY OF DEEDS DOCUMENTATION SUFFICIENT TO PROVIDE NOTICE TO ALL PERSONS THAT MAY ACQUIRE ANY PROPERTY SUBJECT TO THE REQUIREMENTS AND RESPONSIBILITIES DESCRIBED IN THE APPROVED STORMWATER MANAGEMENT PLAN. THE NOTICE SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS FOR RECORDING CONTAINED IN RSA 477 AND 478. THE NOTICE NEED NOT SET FORTH THE REQUIREMENTS AT LENGTH, SO LONG AS IT IS SUFFICIENT TO PROVIDE NOTICE TO PROSPECTIVE PURCHASERS TO THE REQUIREMENTS FOR MAINTENANCE AND REPORTING.

DEMOLITION NOTES:

1. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
2. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR SHALL NOTIFY "DIG SAFE" PRIOR TO ANY DEMOLITION/ CONSTRUCTION ACTIVITIES. (811).
4. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, UTILITIES AND PAVEMENT ON THE SITE TO THE LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT AND POLES.
5. IT IS THE CONTRACTORS RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
6. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS NOT ALREADY OBTAINED BY THE OWNER AND ARRANGE AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF–SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
8. THE LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATION IS NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
9. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF–SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES, AND CODES.
10. EXISTING ("OLD") WATER SERVICES TO THE SUBJECT SITE SHALL BE DISCONNECTED AND SHUT–OFF AT THE WATER MAIN.
11. EXISTING SEWER SERVICES TO BE CUT AND PERMANENTLY CAPPED AT PROPERTY LINE.
12. ALL EROSION CONTROL NOTES SHALL INCLUDE PROVISIONS FOR CONSTRUCTION SEQUENCING, TEMPORARY EROSION CONTROL MEASURES, AND PERMANENT STANDARDS SUCH AS LOAM SPREAD RATE FOR DISTURBED AREAS, RATES OF LIME, TYPE AND RATES FOR FERTILIZER, AND SEED AND MULCH MIXTURE WITH RATES OF APPLICATION.

SITE NOTES:

1. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A PLAN REFERENCED AND PREPARED BY MCENEANEY SURVEY ASSOCIATES INC. (SEE EXISTING CONDITIONS PLAN IN THIS PLAN SET)
2. THE INTENT OF THIS PLAN IS TO SHOW SITE IMPROVEMENTS ASSOCIATED WITH THE CONSTRUCTION OF 6 MULTI–UNIT CONDOMINIUM BUILDINGS, 1 MIXED–USE COMMERCIAL BUILDING, SURFACE PARKING, DRIVE AISLES, DRAINAGE IMPROVEMENTS, AND UTILITIES.
3. EXTERIOR LIGHTING SHALL BE CUT–OFF TYPE FIXTURES PER CHAPTER 149–14–E AND SHALL PROVIDE LIGHTING DIRECTED ON–SITE ONLY.
4. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13.
5. ALL ON–SITE UTILITIES SHALL BE INSTALLED UNDERGROUND.
6. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY AND STATE CODES.
7. STRIPE PARKING AREAS AS SHOWN INCLUDING HANDICAP SYMBOLS AND PAINTED ISLANDS. ALL MARKINGS SHALL BE CONSTRUCTED USING WHITE TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M–248–TYPE N.
8. ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", THE "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS, AND THE AMERICAN WITH DISABILITIES ACT, LATEST EDITIONS.
9. PAINTED ISLANDS SHALL BE 4 INCHES WIDE DIAGONAL LINES 3 FEET ON CENTER.
10. ON–SITE SNOW STORAGE SHALL OCCUR ALONG THE EDGES OF PROPOSED PAVEMENT.
11. ALL LAYOUT SHALL BE PERFORMED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR UNDER CONTRACT WITH THE CONTRACTOR. THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS NH RSA 155–A:5. THE PROPOSED STRUCTURE WILL ALSO BE DESIGNED IN ACCORDANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS.
12. SEE DETAILS FOR SIGN LEGENDS.
13. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE CONSTRUCTION PROCEDURES AND SEQUENCE TO ENSURE THE SAFETY OF THE FACILITIES AND THEIR COMPONENTS DURING DEMOLITION AND CONSTRUCTION UNLESS OTHERWISE DIRECTED BY THE OWNERS REPRESENTATIVE. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIE–DOWNS. SUCH MATERIALS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AT THE COMPLETION OF THE PROJECT.
14. METHODS OF DEMOLITION, CONSTRUCTION AND ERECTION ARE THE CONTRACTOR'S RESPONSIBILITY UNLESS OTHERWISE SPECIFIED. IT IS THE CONTRACTORS' RESPONSIBILITY TO PROVIDE AND MAINTAIN ENVIRONMENTAL CONTROLS AS REQUIRED BY FEDERAL, STATE AND MUNICIPAL REGULATIONS AND PERMITS. ENVIRONMENTAL CONTROLS SHALL INCLUDE BUT SHALL NOT BE LIMITED TO DUST CONTROL AND SILT BARRIERS.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE TO STRUCTURES OR UTILITIES OR INJURIES TO THE PUBLIC DURING THE CONSTRUCTION PHASE CAUSED BY HIMSELF, HIS EMPLOYEES, HIS SUBCONTRACTORS OR EMPLOYEES OF SAME. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL TEMPORARY FACILITIES FOR THE PROTECTION OF THE WORK, WORKERS AND PUBLIC SAFETY.
16. BUILDING ADDRESSES TO BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
17. THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS NH RSA 155–A:5. THE PROPOSED STRUCTURE WILL ALSO BE DESIGNED IN ACCORDANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS.
18. THE SITE SHALL BE MAINTAINED TO PROVIDE ACCESSIBILITY IN ALL WEATHER CONDITIONS.
19. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM WITH DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
20. THE SUBJECT PARCEL(S) IS (ARE) SERVED BY MUNICIPAL WATER AND SEWER.
21. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN THE 50 FT. OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO ANY EARTH DISTRUBAIN ACTIVITY OCCURS.
22. AS–BUILT PLANS OF THE SITE SHALL BE SUBMITTED ON PAPER AND IN A DIGITAL FORMAT IN PDF AND AUTOCAD DWG, AUTOCAD DXF OR AN ESRI FORMAT TO THE CITY OF DOVER ENGINEER'S OFFICE UPON COMPLETION OF PROJECT. AS–BUILT PLANS SHALL BE PREPARED AND CERTIFIED CORRECT BY A L.L.S. OR P.E. DIGITAL FILES SHALL BE GEO–REFERENCED TO NEW HAMPSHIRE STATE PLANE COORDINATES NAD83 AND SHALL BE EXPRESSED IN FEET.
23. A SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 58, ARTICLE I, SECTION 58–2 OF THE CODE OF THE CITY OF DOVER.
24. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY–FRIDAY 7 AM–6 PM, SATURDAY AND NO SUNDAY WORK HOURS. HOURS OF CONSTRUCTION MUST BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH THE CONTACT INFORMATION FOR THE GENERAL CONTRACTOR. SAID SIGNAGE MUST BE LOCATED AND APPROVED BY THE CITY ENGINEER OR ASSISTANT CITY MANAGER.
25. A PRE–CONSTRUCTION CONFERENCE WITH THE DEVELOPER, THE DESIGN ENGINEER, THE EARTHWORK CONTRACTOR AND THE CITY ENGINEER SHALL OCCUR PRIOR TO ANY EARTH DISTURBING ACTIVITY.
26. ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND WITH THE CITY OF DOVER COMMUNITY SERVICES REGULATIONS AND STANDARD SPECIFICATION FOR CONSTRUCTION. THE MORE STRINGENT SPECIFICATION SHALL APPLY.
27. BUILDING ADDRESSES SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
28. THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS. THE PROPOSED STRUCTURE WILL BE ALSO BE DESIGNED IN ACCORDANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS.
29. THE FOLLOWING FEDERAL AND STATE PERMITS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY:
    NHDOT AOT: PENDING
    NHDOT WETLANDS/SHORELAND: PENDING
30. LIST ANY VARIANCES OR SPECIAL EXCEPTIONS GRANTED BY THE ZONING BOARD OF ADJUSTMENT OR CONDITIONAL USE PERMITS GRANTED BY THE PLANNING BOARD FOR THE PROPOSED USE OR STRUCTURE, INCLUDING THE CASE NUMBER AND DATE OF DECISION AND ANY CONDITIONS.
    CONDITIONAL USE PERMIT:
    ZBA Z18–01 TO ALLOW MULTIFAMILY: GRANTED 2–15–18
    PB P18–41 TO ALLOW UP TO 8 ADDITIONAL UNITS (VIA TDR): GRANTED 9–11–18

GRADING NOTES:

1. ALL ROAD (INCLUDING PARKING LOT AND DRAINAGE) WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR CONSTRUCTION OF THE CITY OF DOVER, N.H. AND "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION", LATEST EDITION. THE MORE STRINGENT SPECIFICATION SHALL APPLY.
2. CONTRACTOR SHALL RETAIN A GEOTECHNICAL ENGINEERING CONSULTANT APPROVED BY THE OWNER, TO CONDUCT COMPACTION TESTING AND FILL GRADATION MONITORING PER THE ABOVE REFERENCED "STANDARD SPECIFICATIONS".
3. SEE EROSION CONTROL NOTES & DETAIL SHEET FOR TEMPORARY AND PERMANENT EROSION CONTROL MEASURES.
4. ALL DRAINAGE PIPES SHALL BE HDPE OR APPROVED EQUAL UNLESS OTHERWISE NOTED.
5. ALL DISTURBED AREAS NOT OTHERWISE CALLED FOR SURFACE TREATMENT SHALL RECEIVE 6" OF HIGH QUALITY LOAM AND SHALL BE SEEDED WITH GRASS.
6. ALL SITEWORK CONSTRUCTION SHALL BE ADVANCED USING "BEST MANAGEMENT PRACTICES" SANCTIONED BY THE USDA SCS AND NHDES.
7. TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED, UTILIZED AND MAINTAINED UNTIL BASE MATERIALS ARE CONSTRUCTED.
8. CONTRACTOR SHALL PROVIDE A FINISH GRADED SURFACE FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCE AND UNDER RAISED STRUCTURES.
9. DENSITY REQUIREMENTS:

LOCATION	MINIMUM DENSITY
BELOW PAVED OR CONCRETE AREAS	95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL	95%
BELOW LOAM AND SEED AREA	90%

   * ALL PERCENTAGES SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH AASHTO STANDARD 180, METHOD C. FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH AASHTO STANDARD T–191, T–204, OR T–238 AND T–239.

10. SEE GENERAL EROSION CONTROL NOTES ON DETAIL SHEET.
11. PROVIDE INLET PROTECTION BARRIERS AROUND ALL EXISTING AND PROPOSED STORM DRAINAGE INLETS WITHIN THE WORK LIMITS AND AS SHOWN ON PLAN. MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED AND UPSTREAM AREAS HAVE BEEN STABILIZED.
12. INSPECT SILT BARRIERS AFTER EACH RAIN STORM OF 1/4 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE STRUCTURE HEIGHT.
13. A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED FOR THIS PROJECT. THE SWPPP MUST INCLUDE THE APPROPRIATE BEST MANAGEMENT PRACTICES (BMP'S) TO MINIMIZE THE DISCHARGE OF POLLUTANTS FROM THE SITE. PARTIES RESPONSIBLE FOR DEVELOPING THE SWPPP SHOULD REFER TO THE EPA NPDES CONSTRUCTION GENERAL PERMITS NOTICE OF INTENT FOR A COMPLETE OUTLINE OR REQUIRED ELEMENTS. THESE PLANS AND THE STORMWATER MANAGEMENT SYSTEM INSPECTION & MAINTENANCE PLAN PREPARED FOR THIS PROJECT MAY BE UTILIZED IN FULFILLING THE REQUIREMENTS.
14. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN THE 50 FT. OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS.
15. ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.
16. A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE AND APPROVED CONSTRUCTION SIGN SHALL BE IN PLACE PRIOR TO ANY EARTH DISTURBING ACTIVITY.

UTILITY NOTES:

1. THE PROJECT SITE IS SERVED BY CITY WATER AND SEWER.
2. THE BEST AVAILABLE INFORMATION WAS USED TO DETERMINE THE LOCATION AND SIZE OF EXISTING UTILITIES. THE LOCATION IS NOT GUARANTEED BY THE OWNER OR THE ENGINEER. THE EXACT SIZE AND LOCATION OF UTILITIES SHALL BE CONFIRMED IN THE FIELD BY THE CONTRACTOR PRIOR TO COMMENCING WORK. IT IS ALSO THE CONTRACTOR'S RESPONSIBILITY TO ANTICIPATE CONFLICTS AND REPAIR EXISTING UTILITIES AS NECESSARY TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
3. ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE AS SHOWN. THE CONTRACTOR SHALL VERIFY THEIR EXACT LOCATIONS WITH THE RESPECTIVE UTILITY OWNERS PRIOR TO WORK BEING PERFORMED. CALL DIGSAFE AT 1–888–388–7233 OR "811".
4. ALL PROPOSED UTILITY SERVICES SHALL BE UNDERGROUND WITHIN THE SITE.
5. UNDERGROUND ELECTRIC, TELEPHONE, AND CABLE TV CONDUITS SHALL BE INSTALLED IN ACCORDANCE WITH/PER PSNH, VERIZON, COMCAST, AND UNITIL STANDARDS.
6. PROPOSED INSTALLATION OF UNDERGROUND CONDUITS FOR TELEPHONE, ELECTRIC AND GAS SERVICE SHALL BE COORDINATED WITH THE RESPECTIVE CONTACTS ARE AS FOLLOWS:
   ELECTRIC: EVERSOURCE 1.800.362.7764
   CABLE: COMCAST 603.334.3615
   GAS: UNITIL 866.933.3821
7. SEE ELECTRICAL DRAWINGS AND DETAILS FOR OUTDOOR LIGHTING CONDUIT LOCATIONS.
8. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
9. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
10. SEWAGE LOADING (PER ENV. – Wq 1008.03 TABLE 1008–1)
    23 – 3 BEDROOM RESIDENTIAL TOWNHOMES =
    3 BDRMS x 150 GALS./DAY/BDRM x 23 = 10,350 GPD
    PLUS
    1 – 2 BEDROOM ACCESSORY APT. =
    2 BDRMS x 150 GALS./DAY/BDRM x 1 = 300 GPD
    PLUS
    1 MARINA OFFICE/DRY GOODS STORE @ 16'x20' = 1,400 S.F.
    1,400 S.F. x 5 GPD/100 S.F. + 10 GPD/EMPLOYEE (2) = 90 GPD
    TOTAL = 10,740 GPD
11. THE PROPOSED STRUCTURES SHALL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED UNDER CHAPTER 109–30 OF THE CODE OF THE CITY OF DOVER AND THE 2009 STATE BUILDING CODE.
12. SPRINKLER CONNECTIONS MUST BE FLUSHED IN ACCORDANCE WITH NFPA 24 AND A CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM MUST BE COMPLETED.
13. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13.
14. ALL ON–SITE UTILITIES SHALL BE INSTALLED UNDERGROUND.
15. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY AND STATE CODES.
16. APPROVED BACKFLOW PREVENTORS SHALL BE INSTALLED ON BOTH FIRE AND DOMESTIC WATER LINES.
17. ALL UNUSED WATER SERVICES SHALL BE REMOVED BACK TO THE CORPORATION AT THE MAIN.

LEGEND

S.F.	SQUARE FEET
Ac.	ACRE
±	MORE OR LESS
(TYP.)	TYPICAL
S.C.R.D.	
TBR	TO BE REMOVED
	EXISTING UTILITY POLE
	EXISTING SIGN
	EXISTING WATER SHUT–OFF
WV	EXISTING WATER VALVE
GV	EXISTING GAS VALVE
	EXISTING HYDRANT
	EXISTING LIGHT/SIGNAL POLE
S	EXISTING SEWER MANHOLE
D	EXISTING DRAINAGE MANHOLE
	EXISTING CATCHBASIN
5'R	PAVEMENT RADIUS
SGC	SLOPE GRANITE CURB
VGC	VERTICAL GRANITE CURB
x 74.00	EXISTING SPOT GRADE
–––94–––––	EXISTING GRADE
——OHW——	OVERHEAD WIRES
——E——	EXISTING ELECTRIC
——W——	EXISTING WATER LINE
——S——	EXISTING SEWER LINE
——D——	EXISTING DRAINAGE LINE
——G——	EXISTING GAS LINE

	PROPOSED SIGN
74	PROPOSED FINISH GRADE
x 74.00	PROPOSED SPOT GRADE
PD	PROPOSED DRAIN LINE
	PAVEMENT WITH CURB
	SILT BARRIER
PG	PROPOSED GAS
PW	PROPOSED WATER
	PROPOSED FENCE
PE	PROPOSED ELECTRIC
PD	PROPOSED DRAIN LINE
PUD	PROPOSED UNDERDRAIN LINE
	PROPOSED CATCHBASIN
	INLET PROTECTION
	HANDICAP PARKING SYMBOL
	PROPOSED CONCRETE
	PROPOSED SIDEWALK
	PROPOSED POROUS PAVEMENT

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P19–04

NO.	REVISION	DATE	APP'D
3	AOT COMMENTS 3–14–19	5–1–19	SJH
2	TRC COMMENTS	4–4–19	SJH
1	AOT SUBMISSION	1–22–19	SJH

DATE: 2–21–19
SCALE: AS NOTED
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY: SJH
PROJECT NO: 1788
FILE: SITE.DWG

CIVILWORKS NEW ENGLAND
CIVIL ENGINEERING
181 Watson Road, P.O. Box 1166
Dover, New Hampshire 03820
(603) 749-9413

LITTLE BAY MARINA & DEVELOPMENT, LLC
197 LOUDON ROAD, SUITE 350
CONCORD, NH 03301

LITTLE BAY MARINA
DOVER POINT ROAD
DOVER, NH

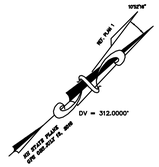
NOTE SHEET

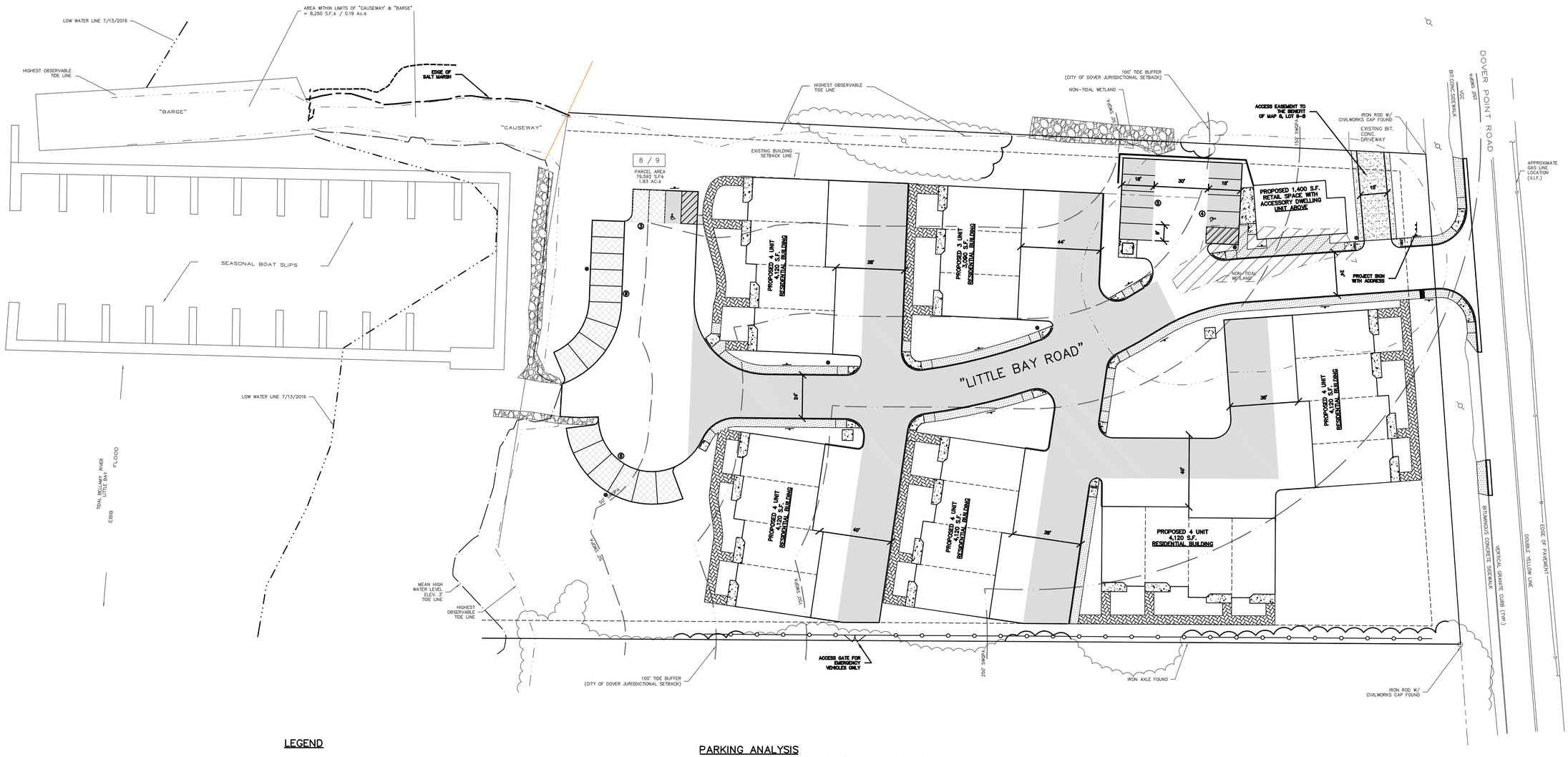
SITE DATA:

1. THE PARCEL IS SHOWN AS LOT NO. 9, 10, 11 & 12 4 ON MAP 8 OF THE CITY OF DOVER, TAX ASSESSOR'S MAPS.
2. THE PROJECT PARCEL CONTAINS 3.49 ACRES OF LAND. (152,024.4 S.F.).
3. PARKING CALCS:
   RETAIL: 1 PER 275 S.F. 1400 S.F./275 S.F. = 5 SPACES
   RESIDENTIAL UNITS: 24 24 UNITS x (1.4+0.5) = 45 SPACES
   GATHERING SPACES: SLIPS: 42 x .5 = 21 SPACES
   MAX ALLOWED = 72
   PROPOSED: 27 SURFACE PARKING AND 24 SPACES W/IN GARAGES = 51
   * THE PROJECT PROPOSES GATHERING AND RETAIL SPACES THAT ARE INTENDED TO BE SHARED WITH RESIDENTIAL FOR VISITOR USE AS NEEDED.

NOTES:

1. NO BOAT STORAGE ALLOWWED ON SITE.
2. NO OVERNIGHT STAYS ON BOATS ALLOWED.
3. NO HOUSE BOATS ALLOWED.





LEGEND

S.F.	SQUARE FEET
Ac.	ACRE
±	MORE OR LESS
(TYP.)	TYPICAL
S.C.R.D.	
TBR	TO BE REMOVED
	EXISTING UTILITY POLE
	EXISTING SIGN
	EXISTING LIGHT/SIGNAL POLE

	PROPOSED SIGN
	PAVEMENT WITH CURB
	PROPOSED FENCE
	HANDICAP PARKING SYMBOL
	PROPOSED CONCRETE
	PROPOSED SIDEWALK
	PROPOSED POROUS PAVEMENT
⑤	PROPOSED PARKING SPACE COUNT
	PROPOSED GRASS PAVERS
	PROPOSED GRASS PAVERS

PARKING ANALYSIS

RETAIL SPACE	1,400 S.F. / 250	= 5.6 SPACES
RECREATION DOCK	5,938 S.F. / 300	= 19.8 SPACES
RECREATION AREA	10,105 S.F. / 300	= 33.7 SPACES
RESIDENTIAL	24 UNITS x 1.6	= 6.4 SPACES
TOTAL		= 65.5 SPACES

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

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PLANNING FILE NO.: P19-04

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CIVIL ENGINEERING
181 Watson Road, P.O. Box 1166
Dover, New Hampshire 03820
(603) 749-9413

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2	TRC COMMENTS	4-4-19	SJH
1	AOT SUBMISSION	1-22-19	SJH

DATE: 2-21-19
SCALE: 1"=20'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO:1788
FILE: SITE.DWG

OVERALL SITE PLAN

LITTLE BAY MARINA & DEVELOPMENT, LLC
197 LOUDON ROAD, SUITE 350
CONCORD, NH 03301

LITTLE BAY MARINA
DOVER POINT ROAD
DOVER, NH

5

8 / 38D
JOHN ANASTAS
GLORIA ESPOSITO–ANASTAS
419A DOVER POINT ROAD
DOVER, NH 03820
2567 / 760

"CAUSEWAY"

8 / 9
PARCEL AREA
79,592 S.F.±
1.83 AC.±

HIGHEST OBSERVABLE TIDE LINE

100' TIDE BUFFER (CITY OF DOVER JURISDICTIONAL SETBACK)

NON–TIDAL WETLAND

50' SWCPA

HEADWALL "B"

OVERHEAD WIRES TO BE REMOVED

OHU

TREES & SHRUBS TO BE REMOVED

PROPOSED NEW TREELINE

STAIRS TO BE REMOVED

CONCRETE TO BE REMOVED

GAS METER (TBR)

ELEC. METER (TBR)

BUILDING TO BE REMOVED

MARINA GARAGE / WORKSHOP

APARTMENT ABOVE MARINA SALES & STORE

GAS

GAS LINE TO BE REMOVED

CULVERT "C" (TO BE REMOVED)

GRAVEL DRIVE (TO BE REMOVED)

PAVEMENT TO BE REMOVED

IRON ROD W/ CIVILWORKS CAP FOUND

EXISTING BIT. CONC. DRIVEWAY

GAS LINE TO BE REMOVED

150' SWCPA

250' SWCPA

BIT.CONC.SIDEWALK

VGC

DOVER POINT ROAD

APPROXIMATE GAS LINE LOCATION (V.I.F.)

GRAVEL DRIVE AND PARKING AREA (TO BE REMOVED)

CONCRETE AND FUEL CUT–OFF VALVE TO BE REMOVED

CONCRETE PAD AND ALL FUEL COMPONENTS TO BE REMOVED

FUEL CUT–OFF VALVE

CONCRETE PAD FUEL TANK COVER NH DES UNDERGROUND STORAGE TANK SITE NUMBER 199902013

PAD FUEL PUMP CONCRETE

CONCRETE FUEL PAD TO BE REMOVED

(TO BE REMOVED)

PAVEMENT TO BE REMOVED

GRAVEL DRIVE AND PARKING AREA (TO BE REMOVED)

NON–TIDAL WETLAND

TREES & SHRUBS TO BE REMOVED

2,304 S.F. OF NON–TIDAL WETLAND TO BE REMOVED

SAWCUT LIMITS

CONCRETE RUBBLE PILE TO BE REMOVED

A/C UNITS TO BE REMOVED

ALL GAS CONPONENTS SHALL BE DISCONNECTED AND REMOVED PER LOCAL UTILITY COMPANY STANDARDS

OHW TO BE REMOVED

BUILDING TO BE REMOVED

HOUSE #425

COVERED PORCH & STAIRS TO BE REMOVED

STAIRS TO BE REMOVED

GARAGE TO BE REMOVED

GARAGE

SAWCUT LIMITS

APPROXIMATE WATERLINE LOCATION (V.I.F.)

TREES & SHRUBS TO BE REMOVED

IRON ROD FOUND (TO BE REMOVED)

50' SWCPA

IRON ROD W/ CIVILWORKS CAP FOUND (TO BE REMOVED)

POOL TO BE REMOVED

DECK & STAIRS TO BE REMOVED

PAVEMENT TO BE REMOVED

GRAVEL TO BE REMOVED

PAVEMENT TO BE REMOVED

TREE & SHRUBS TO BE REMOVED

8 / 12
PARCEL AREA
35,046 S.F.±
0.80 AC.±

CONCRETE TO BE REMOVED

COTTAGE, DECK AND STEPS TO BE REMOVED

8 / 10
LITTLE BAY MARINA & DEVELOPMENT, LLC
111 LOUDON ROAD
CONCORD, NH 03301
4473 / 288

IRON ROD IN CONCRETE MONUMENT FOUND (TO BE REMOVED)

TREES & SHRUBS TO BE REMOVED

DECK & STAIRS TO BE REMOVED

POOL

DECK

HOUSE

GAS METER

GARAGE

SHED TO BE REMOVED

8 / 11
PARCEL AREA
20,592 S.F.±
0.47 AC.±

SHED

SHED

TREES & SHRUBS TO BE REMOVED

PROPOSED NEW TREELINE

APPROXIMATE SEWER LINE LOCATION (V.I.F.)

BITUMINOUS CONCRETE SIDEWALK

VERTICAL GRANITE CURB (TYP.)

DOUBLE YELLOW LINE

EDGE OF PAVEMENT

CB "F"

PROPANE TANK (TBR)

ELEC. METER (TBR)

OHW TO BE REMOVED

100' TIDE BUFFER (CITY OF DOVER JURISDICTIONAL SETBACK)

ELEC. (TBR) METER

PROPOSED NEW TREELINE

OHW TO BE REMOVED

BUILDING TO BE REMOVED

8 / 13A–1
JOHN F. NEWWICK REVOCABLE TRUST 2001
JOHN F NEWICK, TRUSTEE
431 DOVER POINT ROAD
DOVER, NH 03820
2472 / 010

250' SWCPA

PROPOSED NEW TREELINE

IRON AXLE FOUND

IRON ROD W/ CIVILWORKS CAP FOUND

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P19–04

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CIVIL ENGINEERING
181 Watson Road, P.O. Box 1166
Dover, New Hampshire 03820
(603) 749-9413

NO.	REVISION	APP'D	DATE
3	AOT COMMENTS 3–14–19	SJH	5–1–19
2	TRC COMMENTS	SJH	4–4–19
1	AOT SUBMISSION	SJH	1–22–19

DESIGN BY: SRD
DRAWN BY: SRD
SCALE: 1"=20'
DATE: 2–21–19
APPROVED BY:SJH
PROJECT NO:1788
FILE: SITE.DWG

LITTLE BAY MARINA & DEVELOPMENT, LLC
197 LOUDON ROAD, SUITE 350
CONCORD, NH 03301

LITTLE BAY MARINA
DOVER POINT ROAD
DOVER, NH

DEMOLITION PLAN

6

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P19-04

NO.	REVISION	APP'D	DATE
3	AOT COMMENTS 3-14-19	SJH	5-1-19
2	TRC COMMENTS	SJH	4-4-19
1	AOT SUBMISSION	SJH	1-22-19

DATE: 1-21-19
SCALE: 1"=20'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO:1788
FILE: SITE.DWG

CIVILWORKS NEW ENGLAND
CIVIL ENGINEERING
181 Watson Road, P.O. Box 1166
Dover, New Hampshire 03820
(603) 749-9413

LITTLE BAY MARINA & DEVELOPMENT, LLC
197 LOUDON ROAD, SUITE 350
CONCORD, NH 03301

LITTLE BAY MARINA
DOVER POINT ROAD
DOVER, NH

SITE PLAN

7

DRAINAGE SCHEDULE

PDMH 1
RIM=12.75
INV.IN=6.35 (OS-RG1)
INV.OUT=6.35 (PDMH 2)

PDMH 2
RIM=12.25
INV.IN=9.1 (PP1)
INV.IN=5.7 (OS-RG2)
INV.IN=5.6 (PDMH 1)
INV.OUT=5.6 (PDMH 3)

PDMH 3
RIM=9.75
INV.IN=4.7 (OS-RG3)
INV.IN=4.7 (PDMH 2)
INV.OUT=4.7

OS-RG1
INV.IN=(SEE DETAIL)
INV.OUT=6.42 (PDMH 1)

OS-RG2
INV.IN= 7.5 (OS-DP1)
INV.OUT=6.55 (PDMH 2)

OS-RG3
INV.IN=(SEE DETAIL)
INV.OUT=4.8 (PDMH 3)

OS-DP1
INV.IN=(SEE DETAIL)
INV.OUT=8.0 (OS-RG2)

OS-RG4
INV.IN=(SEE DETAIL)
INV.OUT=7.40 (PP7)

POROUS PAVEMENT SCHEDULE

PP 1 (PIPE OUTFALL)
INV.IN= 9.81
INV.OUT=9.10

PP 2 (PIPE OUTFALL)
INV.IN=5.42
INV.OUT=5.42

PP 3 (PIPE OUTFALL)
INV.IN=5.42
INV.OUT=5.42

PP 4 (PIPE OUTFALL)
INV.IN=9.45
INV.OUT=8.95

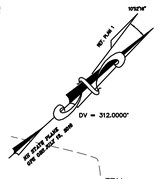
PP 5 (PIPE OUTFALL)
INV.IN= 8.95
INV.OUT=7.75

PP 6 (PIPE OUTFALL)
INV.IN=9.05
INV.OUT=7.75

PP 7 (PIPE OUTFALL)
INV.IN=6.55
INV.OUT=6.45

DRAINAGE PIPE SCHEDULE (ADS N12 PIPE)

PIPE	LENGTH	SIZE	SLOPE
PDL1	150'	15"	0.005
PDL2	178'	18"	0.0051
PDL3	89'	18"	0.0051
PDL4	14'	12"	0.005
PDL5	116'	12"	0.0073
PDL6	5'	18"	0.02
PDL7	46'	12"	0.0109
PP1	30'	6"	0.0237
PP2	60'	6"	0.0000
PP3	60'	6"	0.0000
PP4	47'	6"	0.0106
PP5	10'	6"	0.1200
PP6	20'	6"	0.0650
PP7	20'	6"	0.0050



"CAUSEWAY"
HIGHEST OBSERVABLE TIDE LINE
PROPOSED SILTSOXX
EXISTING BUILDING SETBACK LINE
PROPOSED GRASS LINED SWALE
100' TIDE BUFFER (CITY OF DOVER JURISDICTIONAL SETBACK)
NON-TIDAL WETLAND
HEADWALL "B"
150' SWDPA
250' SWDPA
BIT.CONC.SIDEWALK
VGC
DOVER POINT ROAD
TBM NAIL FOUND IN POLE (MARKED EL. 10.65) NAVD88 ELEV.9.77
IRON ROD W/ CIVILWORKS CAP FOUND
EXISTING BIT CONC DRIVEWAY
TBM NAIL FOUND IN POLE (MARKED EL. 10.65) NAVD88 ELEV. 9.77
APPROXIMATE GAS LINE LOCATION (V.I.F.)

PROPOSED 4 UNIT 4,120 S.F. RESIDENTIAL BUILDING FINISH SLAB EL.=10.75 GARAGE F.F.=10.75
PROPOSED 3 UNIT 3,090 S.F. RESIDENTIAL BUILDING FINISH SLAB EL.=13.00 GARAGE F.F.=13.00
PROPOSED 1,400 S.F. RETAIL SPACE WITH ACCESSORY DWELLING UNIT ABOVE FINISH SLAB EL.=13.40 GARAGE F.F.=13.40
PROPOSED 4 UNIT 4,120 S.F. RESIDENTIAL BUILDING FINISH SLAB EL.=11.75 GARAGE F.F.=11.75
PROPOSED 4 UNIT 4,120 S.F. RESIDENTIAL BUILDING FINISH SLAB EL.=14.00 GARAGE F.F.=14.00
PROPOSED 4 UNIT 4,120 S.F. RESIDENTIAL BUILDING FINISH SLAB EL.=14.50 GARAGE F.F.=14.50
PROPOSED 4 UNIT 4,120 S.F. RESIDENTIAL BUILDING FINISH SLAB EL.=14.50 GARAGE F.F.=14.50

INV.=6.45
INV.=7.75
INV.=6.55
INV.=9.45
INV.=8.95
INV.=9.70
INV.=7.40
INV.=11.05
INV.=10.50
INV.=10.95
INV.=5.42
INV.=8.55
INV.=9.81
INV.=6.52
INV.=6.5
INV.OUT=4.25
IRON AXLE FOUND
IRON ROD W/ CIVILWORKS CAP FOUND
BITUMINOUS CONCRETE SIDEWALK
VERTICAL GRANITE CURB (TYP.)
EDGE OF PAVEMENT
DOUBLE YELLOW LINE

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P19-04

NO.	REVISION	DATE	APP'D
3	AOT COMMENTS 3-14-19	5-1-19	SJH
2	TRC COMMENTS	4-4-19	SJH
1	AOT SUBMISSION	1-22-19	SJH

DATE: 2-21-19
SCALE: 1"=20'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO:1788
FILE: SITE.DWG

CIVILWORKS NEW ENGLAND
CIVIL ENGINEERING
181 Watson Road, P.O. Box 1166
Dover, New Hampshire 03820
(603) 749-9413

GRADING, DRAINAGE & EROSION CONTROL PLAN

LITTLE BAY MARINA & DEVELOPMENT, LLC
197 LOUDON ROAD, SUITE 350
CONCORD, NH 03301

LITTLE BAY MARINA
DOVER POINT ROAD
DOVER, NH

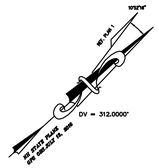
8

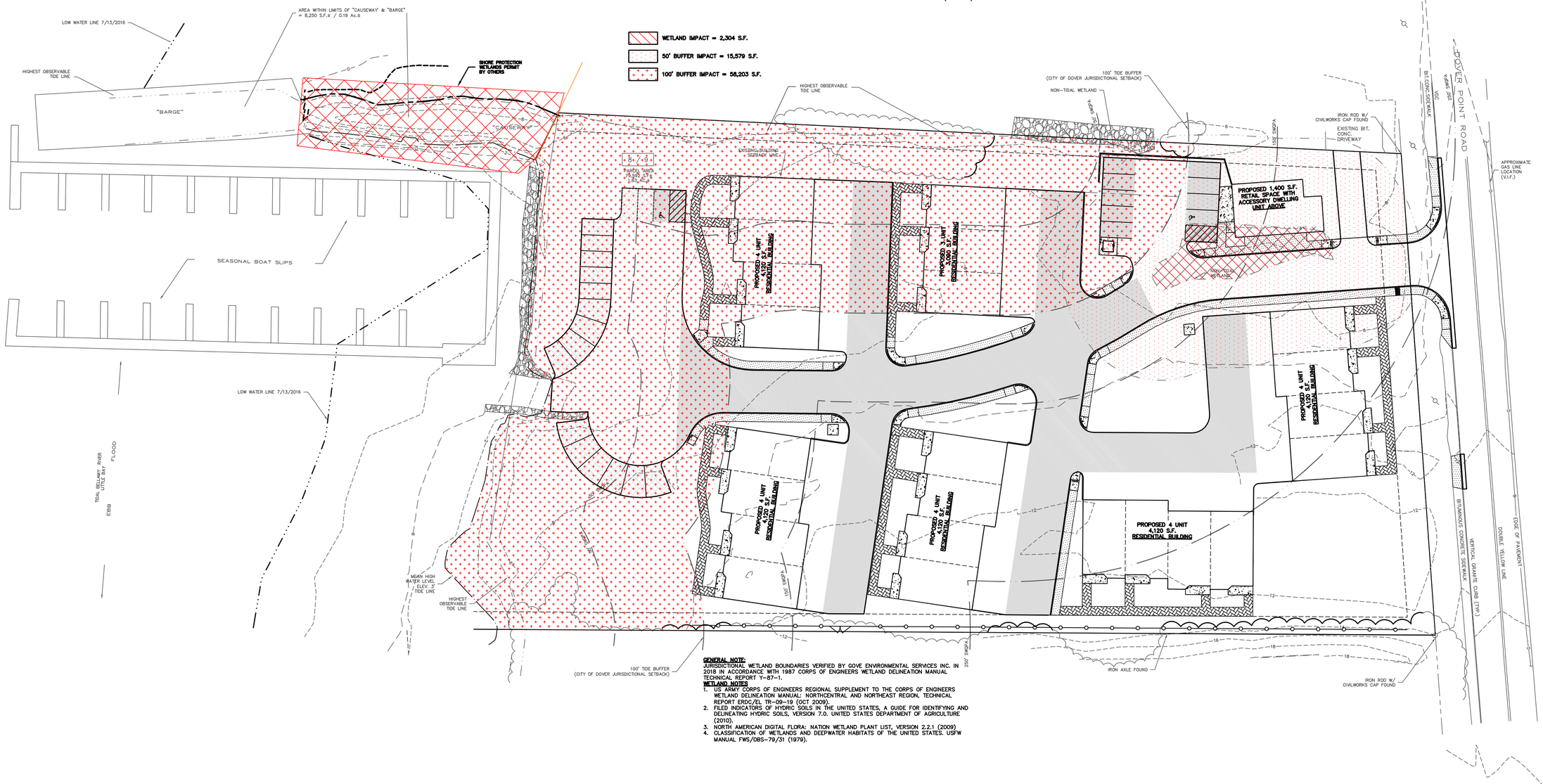
SHORELAND CALCULATIONS

	PRE	POST
PRIMARY STRUCTURES	8,074 S.F.	17,587 S.F.
ACSSORY STRUCTURE		
DRIVERWAY	39,255 S.F.	47,559 S.F.
CONCRETE & WALLS	1,252 S.F.	7,019 S.F.
WALKOUT DECKS & STAIR	1,606 S.F.	1,156 S.F.
TOTAL	50,187 S.F.	73,321 S.F.

TOTAL SHORELAND AREA 250' = 125,988 S.F. S.F.
% PRE-CONSTRUCTION IMPERVIOUS 250' = 38.8%
% POST-CONSTRUCTION IMPERVIOUS 250' = 58.2%

TOTAL AREA 50' & 150' = 50,137 S.F.
AREA BETWEEN 50' & 150' PRE-UNALTERED = 6,826 (13.6%)
AREA BETWEEN 50' & 150' POST-UNALTERED = 331 S.F. (0.66%)





GENERAL NOTE:
JURISDICTIONAL WETLAND BOUNDARIES VERIFIED BY GOVE ENVIRONMENTAL SERVICES INC. IN 2018 IN ACCORDANCE WITH 1987 CORPS OF ENGINEERS WETLAND DELINEATION MANUAL TECHNICAL REPORT Y-87-1.

WETLAND NOTES:
1. US ARMY CORPS OF ENGINEERS REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, TECHNICAL REPORT ERDC/EL TR-09-19 (OCT 2009).
2. FILED INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 7.0. UNITED STATES DEPARTMENT OF AGRICULTURE (2010).
3. NORTH AMERICAN DIGITAL FLORA: NATION WETLAND PLANT LIST, VERSION 2.2.1 (2009)
4. CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. USFW MANUAL FWS/OBS-79/31 (1979).

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P19-04

CIVILWORKS NEW ENGLAND
CIVIL ENGINEERING
181 Watson Road, P.O. Box 1166
Dover, New Hampshire 03820
(603) 749-9443

NO.	REVISION	APP'D	DATE
2	TRC COMMENTS	SJH	4-4-19
1	AOT SUBMISSION	SJH	1-22-19

DATE: 2-21-19
SCALE: 1"=20'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO:1788
FILE: SITE.DWG

IMPACT SITE PLAN

LITTLE BAY MARINA
DOVER POINT ROAD
DOVER, NH

LITTLE BAY MARINA & DEVELOPMENT, LLC
197 LOUDON ROAD, SUITE 350
CONCORD, NH 03301

"CAUSEWAY"

HIGHEST OBSERVABLE TIDE LINE

EXISTING BUILDING SETBACK LINE

8 / 9

PARCEL AREA
79,592 S.F.±
1.83 AC.±

100' TIDE BUFFER
(CITY OF DOVER JURISDICTIONAL SETBACK)

NON-TIDAL WETLAND

HEADWALL "B"

50' SWQPA

150' SWQPA

250' SWQPA

PROPOSED 4 UNIT 4,120 S.F. RESIDENTIAL BUILDING

PROPOSED 3 UNIT 3,090 S.F. RESIDENTIAL BUILDING

PROPOSED 1,400 S.F. RETAIL SPACE WITH ACCESSORY DWELLING UNIT ABOVE

PROPOSED 4 UNIT 4,120 S.F. RESIDENTIAL BUILDING

PROPOSED 2" DOMESTIC SERVICE

PROPOSED 6" FIRE SERVICE

PROPOSED FDC

INV.=5.668

INV.= 5.205

INV.=3.777

INV.=3.905

INV.=6.266

INV.= 5.650

INV.= 5.231

PROPOSED 2" DOMESTIC FOR DOCK SERVICE

PROPOSED WATER SERVICE HUT SEE DETAIL

PROPOSED 6"TO 2" REDUCER

PSMH1

PSMH2

PSMH3

EXISTING SMH

PROPOSED 6"x12" TAPPING SLEEVE WITH THRUST BLOCK

NON-TIDAL WETLAND

TBM
NAIL FOUND IN POLE
(MARKED EL. 10.65)
NAVD88 ELEV.9.77
IRON ROD W/
CIVILWORKS CAP FOUND

TBM
NAIL FOUND IN POLE
(MARKED EL. 10.65)
NAVD88 ELEV. 9.77

EXISTING BIT. CONC. DRIVEWAY

DOVER POINT ROAD

BIT.CONC.SIDEWALK

VGC

APPROXIMATE GAS LINE LOCATION (V.I.F.)

APPROXIMATE WATERLINE LOCATION (V.I.F.)

APPROXIMATE SEWER LINE LOCATION (V.I.F.)

BITUMINOUS CONCRETE SIDEWALK

VERTICAL GRANITE CURB (TYP.)

DOUBLE YELLOW LINE

EDGE OF PAVEMENT

IRON AXLE FOUND

IRON ROD W/ CIVILWORKS CAP FOUND

SANITARY SEWER SCHEDULE

*EXISTING SMH
RIM=8.88
INV.=3.0

PSMH1
RIM=±12.17
INV.IN=3.54
INV.OUT=3.44

PSMH2
RIM=±13.44
INV.IN=4.0
INV.OUT=3.9

PSMH3
RIM=±11.35
INV.IN=4.61
INV.OUT=4.51

*EXISTING MANHOLE SUBJECT TO CHANGE PENDING ONGOING NHDOT IMPROVEMENTS ALONG DOVER POINT ROAD.

NOTE:
ALL SEWER LATERALS & SEWER MAINS 6" SDR-35, MIN. SLOPE OF 0.005.
FDC – FIRE DEPARTMENT CONNECTION

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P19-04

CIVILWORKS NEW ENGLAND
CIVIL ENGINEERING
181 Watson Road, P.O. Box 1166
Dover, New Hampshire 03820
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NO.	REVISION	APP'D	DATE
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1	AOT SUBMISSION	SJH	1-22-19

PROJECT NO:1788
FILE: SITE.DWG
DESIGN BY: SRD
DRAWN BY: SRD
SCALE: 1"=20'
DATE: 2-21-19

UTILITY PLAN

LITTLE BAY MARINA & DEVELOPMENT, LLC
197 LOUDON ROAD, SUITE 350
CONCORD, NH 03301

LITTLE BAY MARINA
DOVER POINT ROAD
DOVER, NH

10

DESCRIPTION

THE INTENT OF THIS PLAN IS TO SHOW THE IMPROVEMENTS ASSOCIATED WITH THE CONSTRUCTION OF (6) MULTI-UNIT BUILDINGS, (1) MIXED USE-COMMERCIAL BUILDING, SITE ACCESS DRIVE, PARKING AREAS, UTILITY INSTALLATION, AND DRAINAGE IMPROVEMENTS.

PROJECT NAME AND LOCATION

LITTLE BAY MARINA & DEVELOPMENT
421 DOVER POINT ROAD
DOVER, NH 03820

LATITUDE N43°07'18"
LONGITUDE W70°49'58"

DISTURBED AREA

±152,438 square feet

SEQUENCE OF MAJOR ACTIVITIES

1. CONTRACTOR SHALL PREPARE THE SWPPP, FILE FOR AND OBTAIN THE NOI A MINIMUM OF 2 WEEKS PRIOR TO COMMENCEMENT OF SITE WORK.
2. PLACE TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S PRIOR TO EARTH MOVING ACTIVITIES.
3. ALL EROSION CONTROL AND PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO COMMENCING EARTH MOVING OPERATIONS.
4. SELECTIVE DEMOLITION.
5. REGRADE SITE TO SUBGRADE.
6. SWALES AND PONDS (AS APPLICABLE) SHALL BE CONSTRUCTED EARLY ON IN THE CONSTRUCTION SEQUENCE AND BEFORE ROUGH GRADING OF THE SITE AND ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
7. INSTALL DRAINAGE STRUCTURES AND CONTROLS.
8. INSTALL UNDERGROUND UTILITIES AND FOUNDATIONS FOR STRUCTURES.
9. PLACE GRAVELS AND FINE GRADE.
10. STABILIZE, ROADWAYS & PARKING LOTS WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
11. ALL CUT AND FILL SLOPES SHALL BE LOAMED AND SEEDED (AS APPLICABLE) WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
12. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY 1/2" OF RAINFALL.
13. IN ALL CASES THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION AND IN NO CASE SHALL EXCEED 3.5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
14. WHEN ALL SITE WORK IS COMPLETE AND ALL DISTURBED AREAS ARE STABILIZED REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND FILE THE EPA – N.O.T.

DEFINITIONS

AN AREA SHALL BE CONSIDERED STABLE OF ONE OF THE FOLLOWING HAS OCCURRED.
1. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED
2. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED
3. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP-RAP HAS BEEN INSTALLED; OR
4. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES OF EROSION AND SEDIMENT CONTROLS

A. GENERAL

1. CONTRACTOR SHALL PREPARE THE SWPPP, FILE FOR AND OBTAIN THE NOI A MINIMUM OF 2 WEEKS PRIOR TO COMMENCEMENT OF SITE WORK.
2. ALL EROSION CONTROL AND PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO COMMENCING EARTH MOVING OPERATIONS.
3. TEMPORARY WATER DIVERSION MUST BE USED AS NECESSARY UNTIL AREAS ARE STABILIZED.
4. SELECTIVE DEMOLITION.
5. REGRADE SITE TO SUBGRADE
6. SWALES AND PONDS (AS APPLICABLE) SHALL BE CONSTRUCTED EARLY ON IN THE CONSTRUCTION SEQUENCE AND BEFORE ROUGH GRADING OF THE SITE AND ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM. RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMP'S ARE STABILIZED.
7. INSTALL DRAINAGE STRUCTURES AND CONTROLS
8. INSTALL UNDERGROUND UTILITIES AND FOUNDATIONS FOR STRUCTURES
9. PLACE GRAVELS AND FINE GRADE
10. STABILIZE, ROADWAYS & PARKING LOTS WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
11. ALL CUT AND FILL SLOPES SHALL BE LOAMED AND SEEDED (AS APPLICABLE) WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
12. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY 1/2" OF RAINFALL.
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14. WHEN ALL SITE WORK IS COMPLETE AND ALL DISTURBED AREAS ARE STABILIZED REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND FILE THE EPA – N.O.T.

1. Silt Fence
   a. Synthetic filter fabric shall be a pervious sheet of propylene, nylon, polyester or ethylene yarn and shall be certified by the manufacturer or supplier as conforming to the following requirements:

Physical Property	Test	Requirements
Filtering Efficiency	VTM-51	75% minimum
Tensile Strength at 20% Maximum Elongation*	VTM-52	Extra Strength 50 lb/in in (min)
Standard Strength 30 lb/in in (min)		
Flow Rate	VTM-51	0.3 gal/sf/min (min)

* Requirements reduced by 50 percent after six (6) months of installation.

   Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six (6) months of expected usable construction life at a temperature range of 0 degrees F to 120 Degrees F.

   b. The height of a silt fence shall not exceed thirty-six (36) inches.
   c. The filter fabric shall be purchased in a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are necessary, filter cloth shall be spliced together only at support post, with a minimum six (6) inch overlap, and securely sealed.
   d. Posts shall be spaced a maximum of ten (10) feet apart at the barrier location and driven securely into the ground (minimum of 12 inches). When extra strength fabric is used without the wire support fence, post spacing shall not exceed 6 feet.
   e. Posts for silt fences shall be 2-inch diameter wood with a minimum length of 5 feet.
   f. Wire fence reinforcement for silt fences using standard strength filter cloth shall be a minimum of 42 inches in height, a minimum of 14 gauge and shall have a maximum mesh spacing of 6 inches.
   g. A trench shall be excavated approximately four (4) inches wide and four (4) inches deep along the line of posts and upslope from the barrier.
   h. When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least one (1) inch long, tie wires or hog rings. The wire shall extend no more than 36 inches above the original ground surfaces.
   i. The "standard strength" filter fabric shall be stapled or wired to the fence, and eight (8) inches of the fabric shall be extended into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.
   j. When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of item (i) applying.
   k. The trench shall be backfilled and the soil compacted over the filter fabric.
   l. Silt fences shall be removed when they have served their useful purpose, but not before the upslope areas has been permanently stabilized.

2. Sequence of Installation
   Sediment barriers shall be installed prior to any soil disturbance of the contributing drainage area above them.

3. Maintenance
   a. Check dams and silt fence barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. They shall be repaired if there are any signs of erosion or sedimentation below them. Any required repairs shall be made immediately. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water behind them, sediment barriers shall be replaced with a temporary check dam.
   b. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier still is necessary, the fabric shall be replaced promptly.
   c. Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately one third (1/3) the height of the barrier.
   d. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform with the existing grade, prepared and seeded.

C. MULCHING

1. Timing
   In order for mulch to be effective, it must be in place prior to major storm events. There are two (2) types of standards which shall be used to assure this.
   a. Apply mulch prior to any storm event. It will be necessary to closely monitor weather predictions, usually by contacting the National Weather Service in Concord, to have adequate warning of significant storms.
   b. Required Mulching within a specified time period. The time period can range from 14 to 21 days of inactivity on a area, the length of time varying with site conditions. Professional judgement shall be used to evaluate the interaction of site conditions (soil erodibility, season of year, extent of disturbance, proximity to sensitive resources, etc.) and the potential impact of erosion on adjacent areas to choose an appropriate time restriction.

2. Application Rate
   Mulch shall be applied at a rate of between 1.5 to 2 tons per acre, or 90 to 100 pounds per 1000 square feet.

3. Guidelines for Winter Mulch Application. When mulch is applied to provide protection over winter (past the growing season) it shall be at a rate of 6,000 pounds of hay or straw per acre. A tackifier may be added to the mulch.

4. Maintenance All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied.

5. Excelsior Matting Excelsior Matting shall be used in place of mulch on all slopes steeper than 3:1.

D. TEMPORARY GRASS COVER

1. Seedbed Preparation
   Apply fertilizer at the rate of 600 pounds per acre of 10-10-10. Apply limestone (equivalent to 50 percent calcium plus magnesium oxide) at a rate of three (3) tons per acre.

2. Seeding
   a. Utilize annual rye grass at a rate of 40 lbs/acre.
   b. Where the soil has been compacted by construction operations, loosen soil to a depth of two (2) inches before applying fertilizer, lime and seed.
   c. Apply seed uniformly by hand, cyclone seeder, or hydroseeder (slurry including seed and fertilizer). Hydroseedings, which include mulch, may be left on soil surface. Seeding rates must be increased 10% when hydroseeding.

3. Maintenance
   Temporary seedings shall be periodically inspected. At a minimum, 95% of the soil surface should be covered by vegetation. If any evidence of erosion or sedimentation is apparent, repairs shall be made and other temporary measures used in the interim (mulch, filter barriers, check dams, etc.).

E. PERMANENT SEEDING

1. Bedding – stones larger than 1 ½ ", trash, roots, and other debris interfere with seeding and future maintenance of the area should be removed. Where feasible, the soil should be tilled to a depth of 4" to prepare a seedbed and mix fertilizer into the soil.

2. Fertilizer – lime and fertilizer should be applied evenly over the area 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 @ 100 lbs. per 1,000 s.f.
   10-20-20 fertilizer @ 12 lbs. per 1,000 s.f.

3. Seed Mixture (recommended)
   Rate:

Type	LBS. per Acre	LBS. per 1,000 s.f.
Tall Fescue	20	0.45
Creeping Red Fescue	20	0.45
Birdsfoot Trefoil	8	0.20
Total	48	1.10

4. Sodding – sodding is done where it is desirable to rapidly establish cover on a disturbed area. Sodding an area may be substituted for permanent seeding procedures anywhere on site. Bed preparation, fertilizing, and placement of sod shall be performed according to the S.C.S. Handbook.

   Sodding is recommended for steep sloped areas, areas immediately adjacent to sensitive water courses, easily erodible soils (fine sand/silt) etc.

5. Provide a minimum of 4 inches (5 inches loose) of topsoil to all areas to be seeded.

F. STORM DRAIN INLET PROTECTION

1. Straw/Hay Bale Inlet Structure
   a. Bales shall be either wire bound or string tied with the bindings oriented around the sides rather than over and under the bales.
   b. Bales shall be placed lengthwise in a single row surrounding the inlet, with the ends of adjacent bales pressed together.
   c. The filter barrier shall be entrenched and backfilled. A trench shall be excavated around the inlet the width of bale to a minimum depth of four (4) inches. After the bales are staked, the excavated soil shall be backfilled and compacted against the filter barrier.
   d. Each bale shall be securely anchored and held in place by at least two (2) stakes or rebars driven through the bale.
   e. Loose straw/hay shall be wedged between bales to prevent water from entering between bales.
   f. All structures should be inspected after every rainstorm and repairs made as necessary.
   g. Sediment should be removed from the devices after the sediment has reached a maximum of one-third the depth of the trap.
   h. Haybales should be removed and the area repaired as soon as the contributing drainage area to the inlet has been completely stabilized.

TIMING OF CONTROLS/MEASURES

As indicated in the sequence of Major Activities the silt fences shall be installed prior to commencing any clearing or grading of the site. Structural controls shall be installed concurrently with the applicable activity. Areas where construction activity temporarily ceases for more than twenty one (21) days will be stabilized with a temporary seed and mulch within fourteen (14) days of the last disturbance. Once construction activity ceases permanently in an area, silt fences and any earth/dikes will be removed once permanent measures are established. All areas shall be stabilized within 72 hours of achieving finish grade.

WASTE DISPOSAL

A. WASTE MATERIALS
   All waste materials will be collected and stored in securely lidded receptacles. All trash and construction debris from the site will be deposited in a dumpster. No construction waste materials will be buried on site. All personnel will be instructed regarding the correct procedure for waste disposal by the superintendent.

B. HAZARDOUS WASTE
   All hazardous waste materials will be disposed of in the manner specified by local or state regulation or by the manufacturer. Site personnel will be instructed in these practices by the superintendent.

C. SANITARY WASTE
   All sanitary waste will be collected from the portable units a minimum of once per week by a licensed sanitary waste management contractor.

SPILL PREVENTION

A. MATERIAL MANAGEMENT PRACTICES

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances during construction to stormwater runoff:

Good Housekeeping:

The following good housekeeping practices will be followed on site during the construction project:

- An effort will be made to store only sufficient amounts of products to do the job.
- All materials stored on site will be stored in a neat, orderly manner in their proper (original if possible) containers and, if possible, under a roof or other enclosure.
- Manufacturer's recommendations for proper use and disposal will be followed.
- The site superintendent will inspect daily to ensure proper use and disposal of materials.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Whenever possible all of a product will be used up before disposing of the container.

Hazardous Products:

The following practices will be used to reduce the risks associated with hazardous materials:

- Products will be kept in their original containers unless they are not resealable.
- Original labels and material safety data will be retained for important product information.
- Surplus product that must be disposed of will be discarded according to the manufacturer's recommended methods of disposal.

B. PRODUCT SPECIFICATION PRACTICES
The following product specific practices will be followed on site:

Petroleum Products:

All on site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled. Any asphalt based substances used on site will be applied according to the manufacturer's recommendations.

Fertilizers:

Fertilizers used will be applied only in the minimum amounts directed by the specifications. Once applied fertilizer will be worked into the soil to limit exposure to stormwater. Storage will be in a covered shed or enclosed trailers. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid

Paints:
spills.
All containers will be tightly sealed and stored when not required for use. Excess paint will not be discharged to the storm sewer system but will be disposed of properly according to manufacturer's instructions or state and local regulations.

Concrete Trucks:

Concrete trucks will discharge and wash out surplus concrete or drum wash water in a contained area on site.

C. SPILL CONTROL PRACTICES

In addition to good housekeeping and material management practices discussed in the previous section the following practices will be followed for spill prevention and cleanup:

- Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area on site. Equipment and materials will include but not be limited to brooms, dustpans, mops, rags, gloves, goggles, kitty litter, sand, sawdust and plastic or metal trash containers specifically for this purpose.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- Spills of toxic or hazardous material will be reported to the appropriate state or local government agency, regardless of the size.
- The spill prevention plan will be adjusted to include measures to prevent this type of spill from recurring and how to cleanup the spill if it recurs. A description of the spill, its cause, and the cleanup measures will be included.
- The site superintendent responsible for day-to-day site operations will be the spill prevention and cleanup coordinator.

The project proponent is required to manage construction to meet the requirements and intent of RSA 430:53 and AGR 3800 relative to controlling invasive species and controlling fugitive dust in accordance with ENV-A 1002.
AGR 3800 Prohibited Invasive Plant Species Rules

The rule, Agr 3800, states : "No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant species, which includes all of their cultivars and varieties, listed in Table 3800.1, New Hampshire prohibited invasive species list". A complete copy of the rules can be accessed on the internet at http://agriculture.nh.gov/topics/plants_insects.htm.

Env-A 1002 FUGITIVE DUST: Precautions to Prevent, Abate, and Control Fugitive Dust.
(a) Any person engaged in any activity within the state that emits fugitive dust, other than those listed in Env-A 1002.02(b), shall take precautions throughout the duration of the activity in order to prevent, abate, and control the emission of fugitive dust.

(b) Precautions required by (a), above, shall include but not be limited to the following:

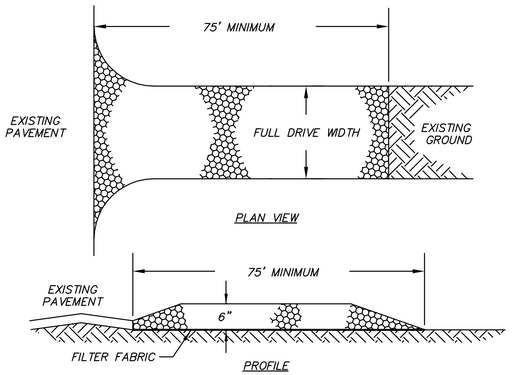
(1) The use of water or hydrophilic material on operations or surfaces, or both;

(2) The application of asphalt, water or hydrophilic material, or tarps or other such covers to material stockpiles;

(3) The use of hoods, fans, fabric filters, or other devices to enclose and vent areas where materials prone to producing fugitive dust are handled;

(4) The use of containment methods for sandblasting or similar operations; and

(5) The use of vacuums or other suction devices to collect airborne particulate matter.



NOTES:
1. SEE EROSION CONTROL NOTES BELOW FOR MATERIAL, INSTALLATION AND MAINTENANCE REQUIREMENTS.
2. TO BE INSTALLED AT EACH POINT OF EGRESS FROM THE WORK AREA.

STABILIZED CONSTRUCTION ENTRANCE

1. SPECIFICATIONS
   A. AGGREGATE SIZE: USE THREE (3) INCHES STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
   B. AGGREGATE THICKNESS: NOT LESS THAN SIX (6) INCHES.
   C. WIDTH TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH OF POINTS WHERE INGRESS OR EGRESS OCCURS.
   D. LENGTH: AS REQUIRED, BUT NOT LESS THAN SEVENTY-FIVEFIFTY (75) FEET. PIPING OF SURFACE WATER UNDER ENTRANCE SHALL BE PROVIDED AS REQUIRED.
   E. GEOTEXTILE: TO BE PLACED OVER THE ENTIRE AREA TO BE COVERED WITH AGGREGATE.
   F. CRITERIA FOR GEOTEXTILE: THE FABRICS SHALL BE TREVIA SPUNBOND 1135, MIRAFI 600X OR EQUAL.

2. MAINTENANCE
   THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

PER 149-10 F:
All site improvements which require blasting of land shall meet the following requirements prior to any blasting occurring.

1. The Applicant shall prepare a pre-blast survey of all structures within five (500) feet of the external boundaries of the proposed lot to be developed. This survey, along with a monitoring plan, shall be on file with the Dover Fire and Rescue. Upon recommendations of the Chief , the planning Board may require a pre-blast survey of all structures within one thousand (1000) feet.
2. The Applicant shall hold a neighborhood meeting to review the blasting plan and pre-blast survey, with representatives of the Fire and Rescue and the blasting company in attendance, prior to any on-site blasting. Abutters within on thousand (1000) feet of the external boundary of the project parcel shall be notified by certified mail (paid for by the applicant) of the meeting no less than ten (10) days prior to the meeting.
3. Permit holders shall be in compliance with NFPA 495, The Code for the Manufacture, Transportation, Storage and Use of Explosive Material, in addition to all other ordinances and codes set forth in the City of Dover Fire Prevention Code, which specifically prohibits the overnight storage of explosive or blasting agents. Further all storage magazines shall be locked in the open position at the end of the days' operation, for easy inspection by City Officials.
4. blasting permits may be obtained by calling the Dover Fire and Rescue during normal business hours. The permits are only active for the dates and time specified on the permit.
5. Permit holders shall hold insurance against claims for damages for personal injury and property which may arise from performance of the work.
6. Hours of operation for the blasting shall be no earlier than 8:00 am and no later than 6:00 pm Monday through Friday, excluding federal holidays.

MAINTENANCE OF STORMWATER MANAGEMENT FACILITIES

The project proponent is responsible for the maintenance of all stormwater facilities during construction and the property owner is responsible after construction is complete.

CATCH BASINS & STORMWATER TREATMENT STRUCTURES

1. Catch basins & Stormwater treatment structures should be inspected on a monthly basis and/or after a major rainfall event to assure that debris or sediments do not reduce the effectiveness of the system.

WINTER CONSTRUCTION NOTES

1. All proposed post-development vegetated areas which do not exhibit a minimum of 85 % vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting, elsewhere. The placement of erosion control blankets or mulch and netting shall not occur over accumulated snow or on frozen ground and shall be completed in advance of thaw or spring melt.
2. All slopes which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th shall be stabilized with stone or erosion control blankets.
3. After October 15th, incomplete road surfaces shall be protected with a minimum of 3-inches of crushed gravel per NHDOT item 403.3, or if construction is to continue through the winter season be cleared of any accumulated snow after each storm event.

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P19-04

NO.	REVISION	APP'D	DATE
3	AOT COMMENTS 3-14-19	SJH	5-1-19
2	TRC COMMENTS	SJH	4-4-19
1	AOT SUBMISSION	SJH	1-22-19

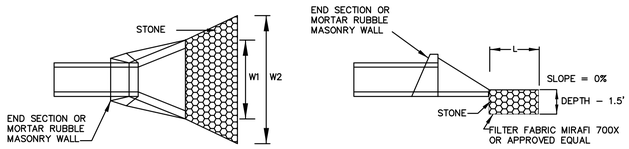
DESIGN BY: SRD
DRAWN BY: SRD
SCALE: AS NOTED
DATE: 2-21-19
FILE: SITE.DWG
PROJECT NO: 1788
APPROVED BY: SJH

CIVILWORKS NEW ENGLAND
CIVIL ENGINEERING
181 Watson Road, P.O. Box 1166
Dover, New Hampshire 03820
(603) 749-9413

LITTLE BAY MARINA & DEVELOPMENT, LLC
197 LOUDON ROAD, SUITE 350
CONCORD, NH 03301

LITTLE BAY MARINA
DOVER POINT ROAD
DOVER, NH

EROSION CONTROL NOTES



PLAN SECTION

STONE APRON OUTLET PROTECTION DETAIL
OUTLET TO FLAT AREA, NON DEFINED CHANNEL

MAINTENANCE

THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIPRAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

STONE GRADATION

% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE
100	1.5 TO 2.0 D50
85	1.3 TO 1.8 D50
50	1.0 TO 1.5 D50
15	0.3 TO 0.5 D50

OUTLET	W1 (FT)	W2 (FT)	L (FT)	D50 (IN)
DMH3	5	20	16	6
PP7	2	6	10	6
CURB CUT	5	5	10	6

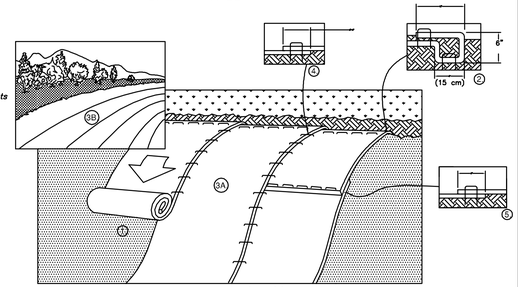
CONSTRUCTION SPECIFICATIONS

1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIPRAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK OR GRAVEL USED FOR FILTER OR RIPRAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIPRAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.
5. STONE APRON SHALL BE CONSTRUCTED ON A 6" THICK (MIN) GRAVEL BASE.

RIP RAP OUTLET PROTECTION
NOT TO SCALE

SLOPE INSTALLATION
NORTH AMERICAN GREEN – SC150

NORTH AMERICAN GREEN
EROSION CONTROL *Products Guaranteed* SOLUTIONS



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
   NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM® , STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH.
   NOTE:
   *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

SILTSACK®
SPECIFICATIONS

NOTE: THE SILTSACK WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS. AS SUPPLIED BY AH HARRIS OF PORTSMOUTH OR APPROVED EQUAL

REGULAR FLOW SILTSACK®

(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	600 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

HI-FLOW SILTSACK®

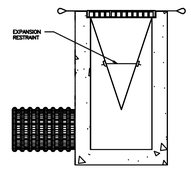
(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

OIL-ABSORBANT SILTSACK®

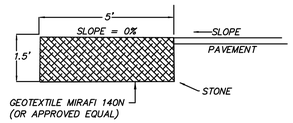
(FOR AREAS WHERE THERE IS A CONCERN FOR OIL RUN-OFF OR SPILLS)

DEPENDING ON YOUR PARTICULAR APPLICATION, THE SILTSACK® CAN BE MADE FROM EITHER ONE OF THE ABOVE FABRICS WITH AN OIL-ABSORBANT PILLOW INSERT OR, MADE COMPLETELY FROM AN OIL-ABSORBANT SILTSACK®, WITH A WOVEN PILLOW INSERT.



INSTALLATION DETAIL

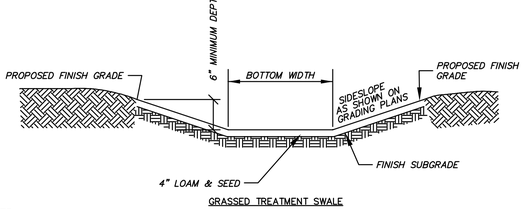
DETAIL OF INLET SEDIMENT CONTROL DEVICE
NOT TO SCALE



GEOTEXTILE MIRAFI 140N
(OR APPROVED EQUAL)

NOTES:
1. RIP-RAP APPLICATIONS SHALL CONSIST OF d50 = 6" (MIN) STONE WITH A STONE LAYER THICKNESS OF 1.5' (MIN) ON FILTER FABRIC WITH A 6" THICK (MIN) GRAVEL BASE. SEE GRADING PLAN FOR APRON LOCATIONS.

RIP-RAP APRON
NOT TO SCALE



GRASSED TREATMENT SWALE

NOTES:

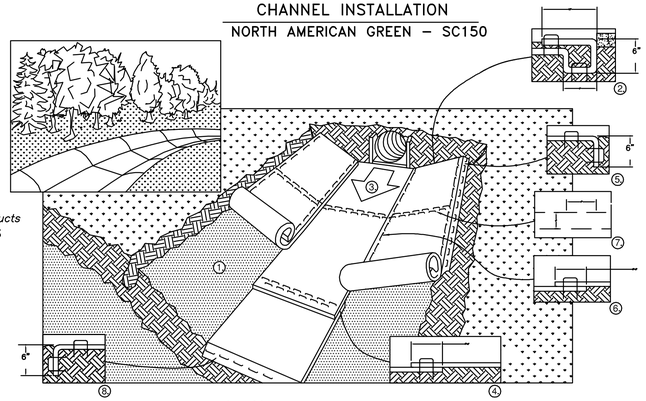
1. THE FOUNDATION AREA OF THE WATERWAY SHALL BE CLEARED AND GRUBBED OF ALL TREES, BRUSH, STUMPS, AND OTHER OBJECTIONABLE MATERIAL. MATERIALS REMOVED SHALL BE DISPOSED OF SO THEY WILL NOT INTERFERE WITH THE CONSTRUCTION OR PROPER FUNCTIONING OF THE WATERWAY.
2. THE WATERWAY SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE AND CROSS SECTION AS REQUIRED TO MEET THE DESIGN CRITERIA. THE WATERWAY SHALL BE FREE OF IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
3. EARTH FILLS REQUIRED TO MEET SUBGRADE REQUIREMENTS BECAUSE OF OVER EXCAVATION OR TOPOGRAPHY SHALL BE COMPACTED TO THE SAME DENSITY AS THE SURROUNDING SOIL TO PREVENT UNEQUAL SETTLEMENT THAT COULD CAUSE DAMAGE TO THE COMPLETED WATERWAY. EARTH REMOVED AND NOT NEEDED IN CONSTRUCTION SHALL BE SPREAD OR DISPOSED OF SO IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE WATERWAY.
4. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER AS TO MINIMIZE EROSION AND AIR AND WATER POLLUTION. ALL APPROPRIATE STATE AND LOCAL LAWS AND REGULATIONS SHALL BE COMPLIED WITH FOR INSTALLATION.
5. VEGETATION SHALL BE ESTABLISHED IN THE SWALE PRIOR TO ALLOWING STORMWATER RUNOFF TO FLOW THROUGH THE SWALE.
6. MAINTENANCE OF THE VEGETATION IN THE GRASSED WATERWAY IS EXTREMELY IMPORTANT IN ORDER TO PREVENT RILLING, EROSION, AND FAILURE OF THE WATERWAY. MOWING SHOULD BE DONE FREQUENTLY ENOUGH TO CONTROL ENCROACHMENT OF WEEDS AND WOODY VEGETATION AND TO KEEP THE GRASSES IN A VIGOROUS CONDITION. THE VEGETATION SHOULD NOT BE MOWED TOO CLOSELY SO AS TO REDUCE THE EROSION RESISTANCE IN THE WATERWAY.
7. THE WATERWAY SHOULD BE INSPECTED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE THE CONDITION OF THE WATERWAY. RILLS AND DAMAGED AREAS SHOULD BE PROMPTLY REPAIRED AND REVEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION.
8. PERIODIC APPLICATIONS OF LIME AND FERTILIZER MAY BE NEEDED TO MAINTAIN VIGOROUS GROWTH.

GRASSED TREATMENT SWALE
NOT TO SCALE

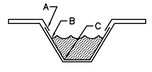
STRUCTURE	WIDTH (ft)	LENGTH (ft)	SLOPE (ft/ft)
TS 1	3.5	110	0.0064
PRE TREATMENT	4	50	±0.005

CHANNEL INSTALLATION
NORTH AMERICAN GREEN – SC150

NORTH AMERICAN GREEN
EROSION CONTROL *Products Guaranteed* SOLUTIONS



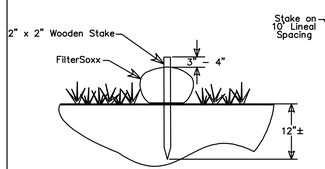
1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
   NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP's IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" ACROSS THE WIDTH OF THE RECP's.
3. ROLL CENTER RECP's IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE RECP's END OVER END (SHINGLE STYLE) WITH A 4" – 6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE RECP's.
5. FULL LENGTH EDGE OF RECP's AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECP's MUST BE OVERLAPPED APPROXIMATELY 2" – 5" (DEPENDING ON RECP's TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE RECP's MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. NOTE: * IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.



CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

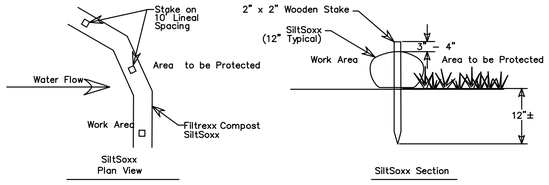
NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.



Notes:
1. All material to meet Filtrexx specifications
2. FilterSoxx compost/soil/rock/seed fill to meet application requirements.
3. Compost material to be dispersed on site, as determined by Engineer.

FilterSoxx Staking Details



Notes:
1. All material to meet Filtrexx specifications or approved equal.
2. SiltSoxx compost/soil/rock/seed fill to meet application requirements.
3. SiltSoxx depicted is for minimum slopes. Greater slopes may require larger socks per the Engineer.
4. Compost material to be dispersed on site, as determined by Engineer.

1. *SEE EROSION CONTROL NOTES FOR MATERIAL, INSTALLATION AND MAINTENANCE REQUIREMENTS.*

Filter Barrier Detail
NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P19-04

CIVILWORKS NEW ENGLAND
CIVIL ENGINEERING
181 Watson Road, P.O. Box 1166
Dover, New Hampshire 03820
(603) 749-9413

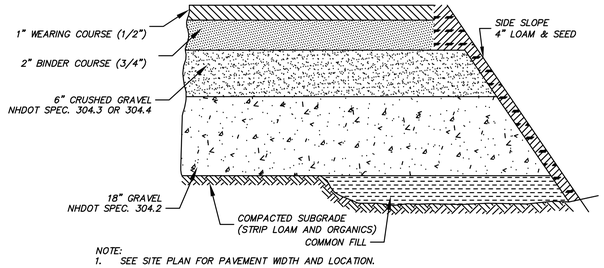
NO.	REVISION	APP'D	DATE
3	AOT COMMENTS 3-14-19	SJH	5-1-19
2	TRC COMMENTS	SJH	4-4-19
1	AOT SUBMISSION	SJH	1-22-19

DATE: 2-21-19
SCALE: AS NOTED
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO:1788
FILE: SITE.DWG

EROSION CONTROL DETAILS

LITTLE BAY MARINA & DEVELOPMENT, LLC
197 LOUDON ROAD, SUITE 350
CONCORD, NH 03301

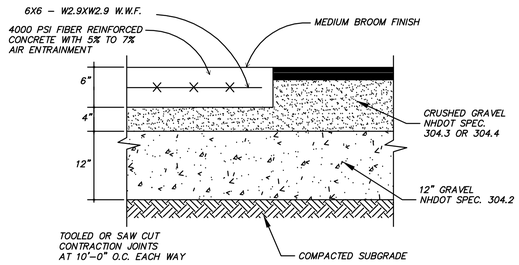
LITTLE BAY MARINA
DOVER POINT ROAD
DOVER, NH



NOTE:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.

TYPICAL PAVEMENT SECTION

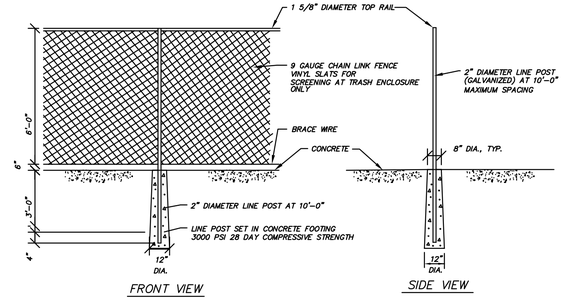
NOT TO SCALE



NOTE: PITCH CONCRETE PAD GRADING TO CENTER

DUMPSTER DETAIL

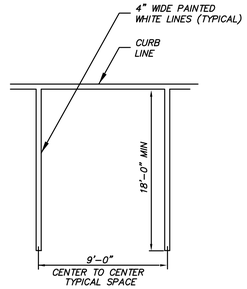
NOT TO SCALE



NOTES:
1. DUMPSTER CHAINLINK FENCE SHALL HAVE GREEN VINYL PRIVACY SLATS.

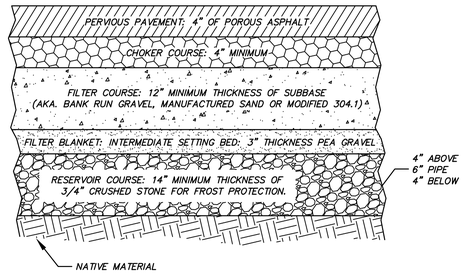
CHAINLINK FENCE DETAIL

NOT TO SCALE



STANDARD PARKING STALL

NOT TO SCALE

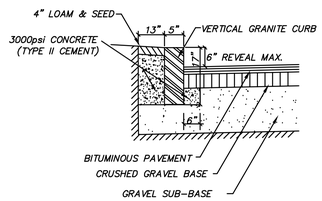


NOTE:
1. SEE SITE PLAN FOR LOCATION OF POROUS PAVEMENT, PAVEMENT WIDTH AND LOCATION.
2. CONSTRUCTION MATERIALS SHALL NOT BE STORED ON THE POROUS PAVEMENT OR BASE MATERIALS.
3. PLACEMENT OF POROUS PAVEMENT AND BASE MATERIALS SHALL BE MONITORED BY THE DESIGN ENGINEER. ADVISE THE CITY ENGINEER AS TO INSTALLATION SCHEDULE.
4. CRUSHED STONE, BANK RUN GRAVEL & CRUSHED GRAVEL MATERIALS SHALL CONFORM WITH MASSDOT STD. SPECIFICATIONS.
5. POROUS PAVEMENT SHALL CONFORM WITH GENERAL POROUS BITUMINOUS PAVING SPECIFICATIONS PREPARED BY THE UNH STORMWATER CENTER 2/14).
6. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.

POROUS PAVEMENT SECTION

NOT TO SCALE

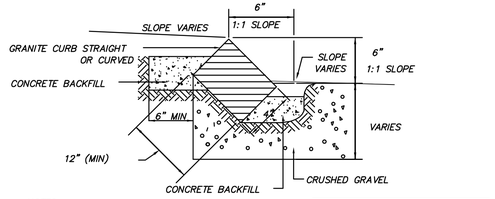
RADIUS	MAX. LENGTH
21'	3'
22'–28'	4'
29'–35'	5'
36'–42'	6'
43'–49'	7'
50'–56'	8'
57'–60'	9'
OVER 60'	10'



NOTES
1. SEE SITE PLAN FOR LIMITS OF CURBING.
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF CURB STONES = 3'
4. MAXIMUM LENGTH OF CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE CHART)
6. ALL RADII 20 FEET AND SMALLER TO BE CONSTRUCTED USING CURVED SECTIONS.

VERTICAL GRANITE CURB

NOT TO SCALE



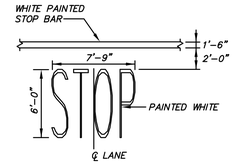
NOTES
1. ADJOINING STONES OF STRAIGHT CURB LAID ON CURVES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH
2. MINIMUM LENGTH OF STRAIGHT CURB STONES = 18"
3. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES – SEE CHART

RADIUS FOR STONES WITH SQUARE JOINTS	MAXIMUM LENGTH
16'–28'	1'–6"
29'–41'	2'
42'–55'	3'
56'–68'	4'
69'–82'	5'
83'–96'	6'
97'–110'	7'
OVER 110'	8'

SLOPED GRANITE CURBING

NOT TO SCALE

LENGTH AS REQUIRED (SEE SITE PLAN)

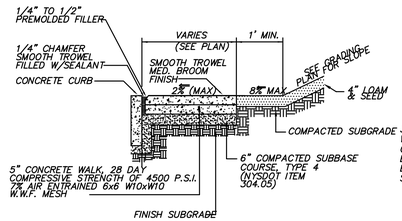


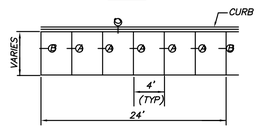
NOTE: PAVEMENT MARKINGS TO BE INSTALLED IN LOCATIONS SHOWN ON THE PLANS. APPLY TWO COATS.

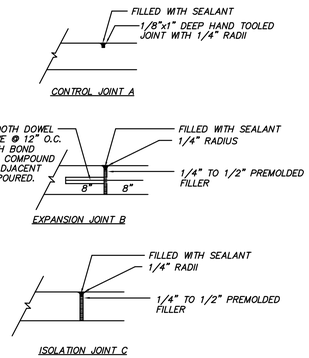
STOP BAR & LEGEND

PAVEMENT MARKINGS

NOT TO SCALE

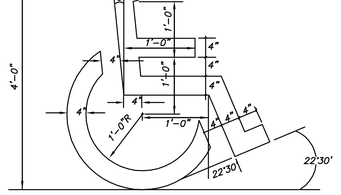






CONCRETE SIDEWALK

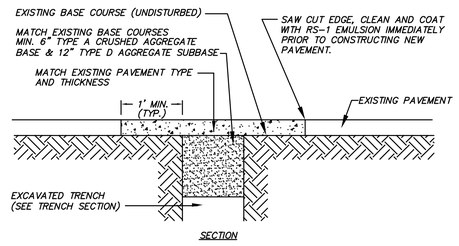
NOT TO SCALE

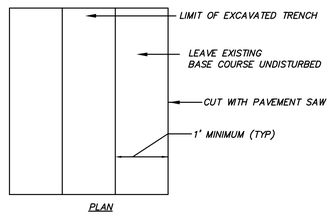


NOTE: SYMBOL TO BE PAINTED IN ALL HANDICAPPED SPACES

PAINTED HANDICAP SYMBOL

NOT TO SCALE

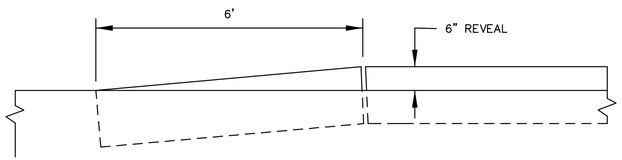




ROADWAY TRENCH PATCH DETAIL

NOT TO SCALE

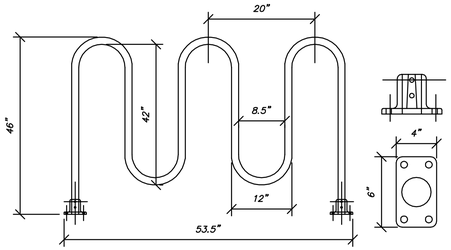
GRANITE CURB & MORTAR JOINTS
SLOPE LAST SECTION TO MEET EXISTING GROUND



SIMILAR TREATMENT BOTH SIDES OF OPENING

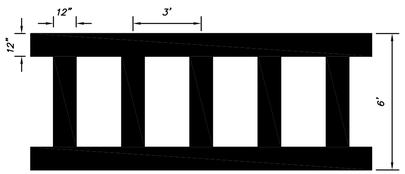
"TIP–DOWN" CURB DETAIL

NOT TO SCALE



BIKE RACK DETAIL

NOT TO SCALE



NOTE:
1. ALL PAINT SHALL BE NORMAL DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248–TYPE N. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOLS & PARKING STALLS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN WITH DISABILITIES ACT.

CROSSWALK MARKING DETAIL

NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P19–04

CIVILWORKS NEW ENGLAND
CIVIL ENGINEERING
181 Watson Road, P.O. Box 1166
Dover, New Hampshire 03820
(603) 749-9413

NO.	REVISION	APP'D	DATE
2	TRC COMMENTS	SJH	4–4–19
1	AOT SUBMISSION	SJH	1–22–19

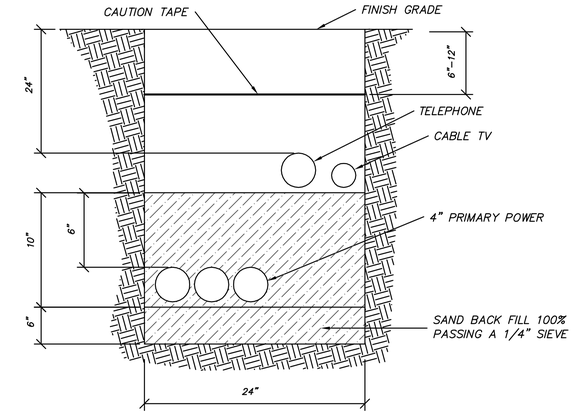
DATE: 2–21–19
SCALE: AS NOTED
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY: SJH
PROJECT NO: 1788
FILE: SITE.DWG

LITTLE BAY MARINA & DEVELOPMENT, LLC
197 LOUDON ROAD, SUITE 350
CONCORD, NH 03301

LITTLE BAY MARINA
DOVER POINT ROAD
DOVER, NH

DETAILS

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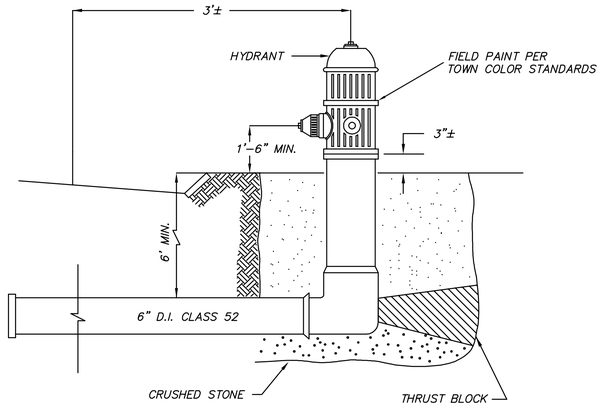


1. TELEPHONE CONDUIT SHALL BE 3" SCHEDULE 40 PVC, WITH STEEL SWEEPS AT RISER POLE, 90° BENDS AND AT BUILDING.
2. LEAVE PULL ROPE IN ALL CONDUITS FOR CABLE INSTALLATION.
3. FOR COMPLETE SPECIFICATIONS SEE "PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE CONSTRUCTION SPECIFICATIONS FOR UNDERGROUND CONDUIT SYSTEMS".
4. CONTRACTOR SHOULD VERIFY THE NUMBER & SIZE OF CONDUIT WITH THE APPROPRIATE UTILITIES.

UTILITY TRENCH

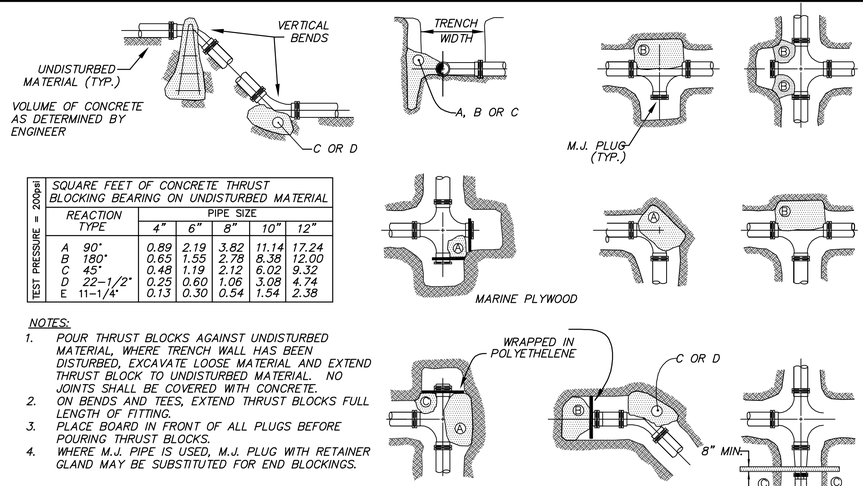
NOT TO SCALE

NOTE:
HYDRANT INSTALLATION & OPERATION TO CONFORM TO REGULATIONS OF CITY OF DOVER FIRE DEPARTMENT.



FIRE HYDRANT DETAIL

NOT TO SCALE

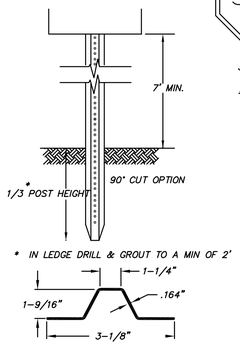


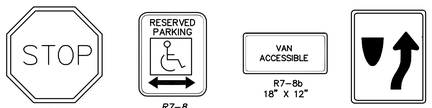
TEST PRESSURE = 200psi	SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL					
	REACTION TYPE		PIPE SIZE			
			4"	6"	8"	10"	12"
	A	90°	0.89	2.19	3.82	11.14	17.24
	B	180°	0.65	1.55	2.78	8.38	12.00
	C	45°	0.48	1.19	2.12	6.02	9.32
	D	22-1/2°	0.25	0.60	1.06	3.08	4.74
	E	11-1/4°	0.13	0.30	0.54	1.54	2.38

NOTES:
1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
4. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.

TRUST BLOCK DETAIL

NOT TO SCALE



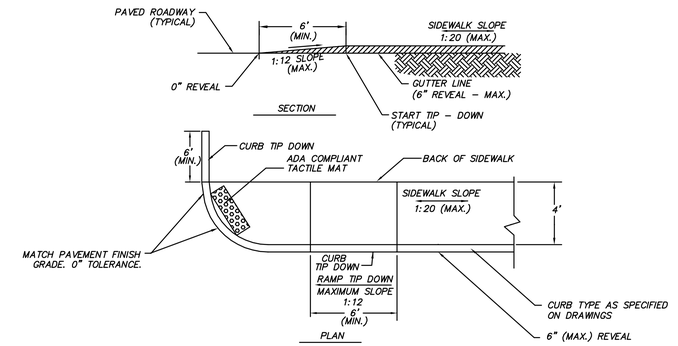


NOTE:
1. ALL SIGNS TO BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070 - 1080)
FINISH: SHALL BE PAINTED WITH TWO COATS OF AN APPROVED MEDIUM GREEN
BAKED ON OR AIR DRIED, PAINT OF WEATHER RESISTANT QUALITY. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

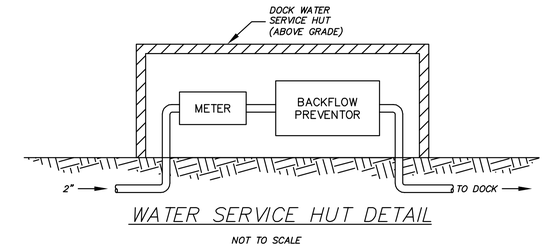
SIGN LEGEND & SIGN POST

NOT TO SCALE



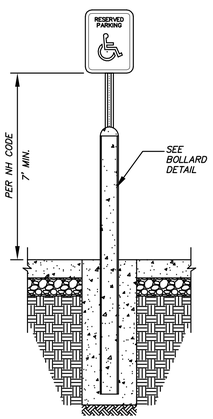
SIDEWALK TIP DOWN RAMP

NOT TO SCALE



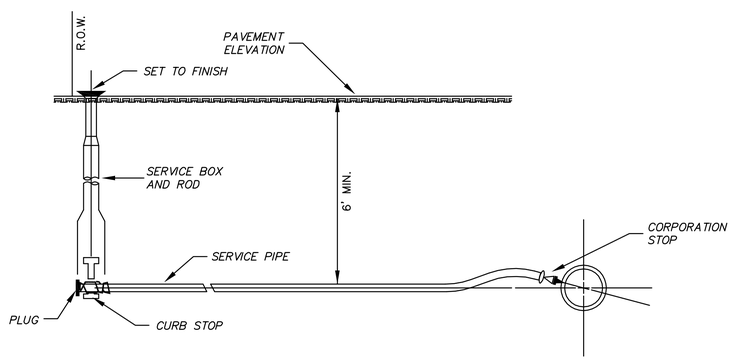
WATER SERVICE HUT DETAIL

NOT TO SCALE



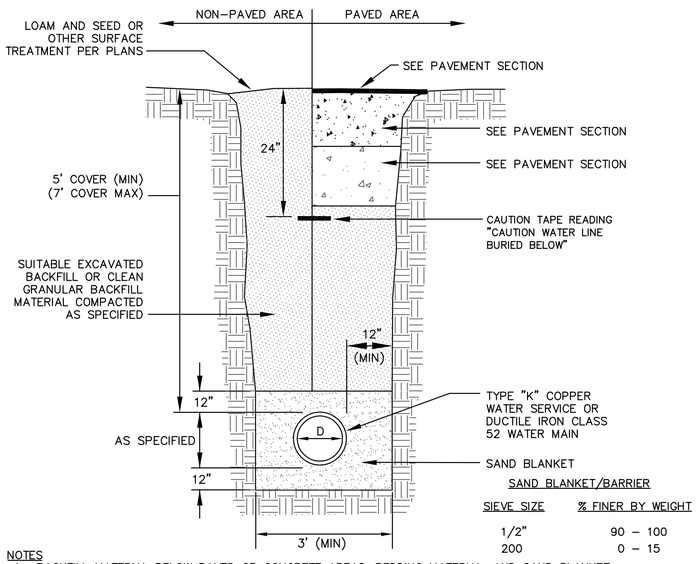
SIGN IN BOLLARD

NOT TO SCALE



TYPICAL WATER SERVICE CONNECTION

NOT TO SCALE



SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 - 100
200	0 - 15

NOTES
1. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

WATER MAIN TRENCH

NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P19-04

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CIVIL ENGINEERING
181 Watson Road, P.O. Box 1166
Dover, New Hampshire 03820
(603) 749-9413

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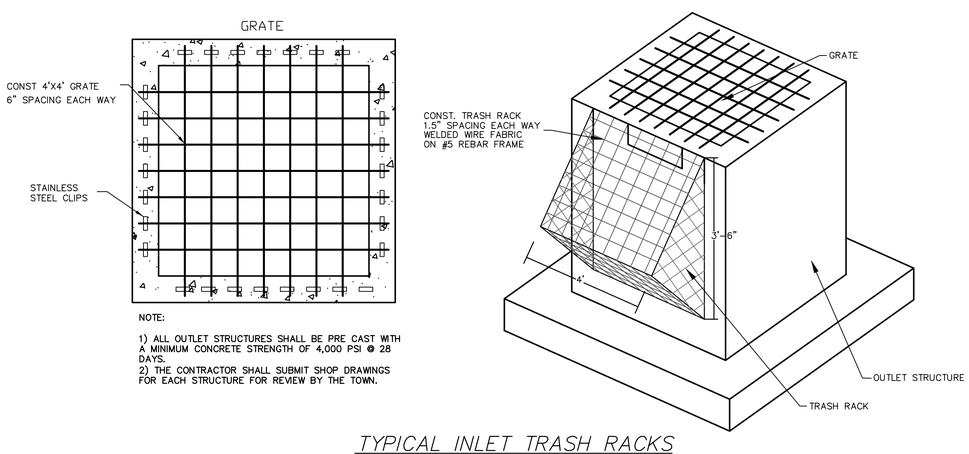
DATE: 2-21-19
SCALE: AS NOTED
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY: SJH
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DOVER POINT ROAD
DOVER, NH

DETAILS

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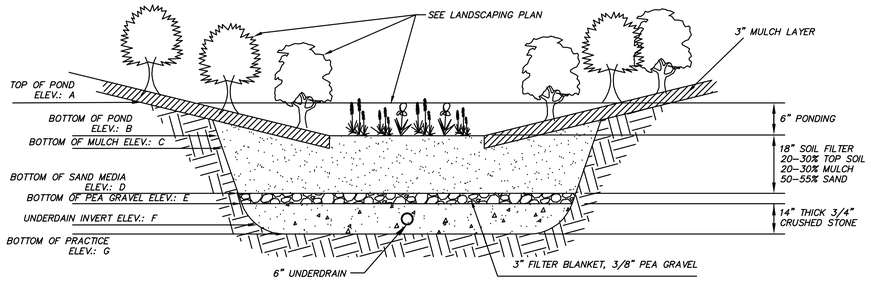


NOTE:

1) ALL OUTLET STRUCTURES SHALL BE PRE CAST WITH A MINIMUM CONCRETE STRENGTH OF 4,000 PSI @ 28 DAYS.
2) THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EACH STRUCTURE FOR REVIEW BY THE TOWN.

TYPICAL INLET TRASH RACKS

NOT TO SCALE



BIORETENTION POND SYSTEM CHART

POND	POND ELEVATION						
	A	B	C	D	E	F	G
RG1	9.5	9.0	8.75	7.5	7.25	6.42	6.09
RG2	10.75	10.25	10.0	8.75	8.5	7.67	7.34
RG3	8.5	8.0	7.75	6.5	6.25	5.42	5.09
RG4	10.5	10.0	9.75	8.5	8.25	7.40	7.09

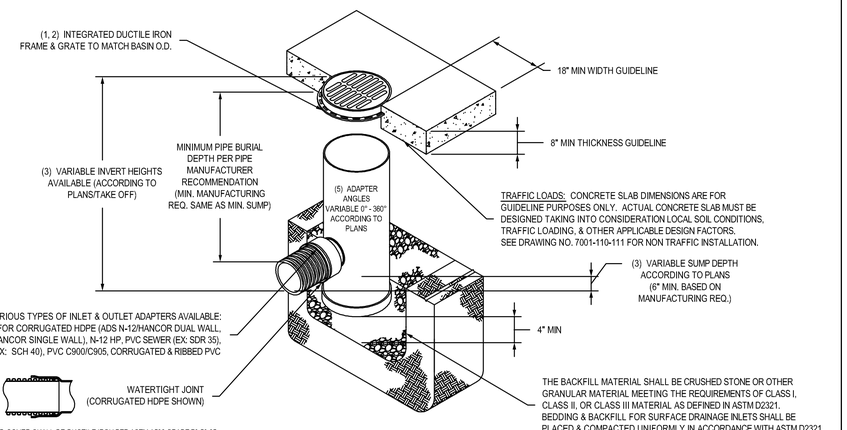
NOTES:

1. *CONSTRUCT GRASSED OVERFLOW SPREADER EARLY DURING INITIAL CONSTRUCTION TO ESTABLISH TURF PRIOR TO CONSTRUCTION OF BIORETENTION SYSTEM.*
2. *DO NOT BEGIN CONSTRUCTION OF THE BIORETENTION AREA UNTIL LAWN AREA ON THE ENTIRE SITE AREA ESTABLISHED WITH AT LEAST 80 PERCENT TURF. FILTER ALL DRAIN INLETS IN THE SEDIMENT FOREBAYS TO PREVENT SILTATION INTO THE BIORETENTION AREA.*
3. *THE RAIN GARDEN SUBGRADE SHALL BE EXCAVATED TO THE DESIGN DEPTH PLUS TWO (2) INCHES. AT THAT DEPTH FOUR (4) INCHES OF COMPOST SHALL BE TILLED INTO THE EXISTING SOILS SUCH THAT THE SOILS ARE WELL MIXED.*
4. *DO NOT DRIVE CONSTRUCTION EQUIPMENT ON FILTER SUBGRADE NOR ON THE FILTER MATERIAL. INSTALL FILTER MATERIAL BY MEANS OF AN EXCAVATOR LOCATED ADJACENT TO THE FILTER AREA.*
5. *MATERIALS: CRUSHED STONE LAYER SHALL MEET NHDOT 304.4. STONE SHALL CONTAIN NO MORE THAN 5% FINES PASSING THE #200 SIEVE. TOPSOIL SHALL CONTAIN 15 TO 25% FINES PASSING THE #200 SIEVE. MULCH SHALL BE SHREDDED HARDWOOD, AGES IN A STOCKPILE OR STORED FOR AT LEAST 12 MONTH. NON-WOVEN GEOTEXTILE BE 4 TO 6 OZ. PER SQUARE YARD WITH A.O.S. OF #70 SIEVE OR LOWER, AND A MINIMUM FLOW RATE OF 125 GAL PER SQUARE FEET. UNDERDRAIN SHALL BE PERFORATED 6" PVC OR TRIPLE WALL PE PIPE; SLOPE 1/4"/FT. MINIMUM.*
6. *REFER TO LANDSCAPING DRAWINGS FOR GRASS SEED MIXES AND PLANTINGS. FERTILIZATION OF THE FILTER AREA SHALL BE AVOIDED UNLESS ABSOLUTELY NECESSARY TO ESTABLISH VEGETATION.*
7. *INITIAL ESTABLISHMENT: DURING THE FIRST 2-3 MONTHS OF ESTABLISHMENT WATER THE GARDEN ON A WEEKLY BASIS (TO SUPPLEMENT RAINFALL FOR TOTAL OF 1 INCH PER WEEK).*
8. *ANNUAL MAINTENANCE: IN THE SPRING OF EACH YEAR, ANY DEAD VEGETATION SHALL BE REMOVED TO ALLOW FOR NEW GROWTH, AND ANY ACCUMULATED SEDIMENT (NORMALLY AT THE ENTRANCE TO THE GARDEN) SHALL ALSO BE REMOVED. DURING THE GROWNG SEASON THE RAIN GARDEN SHALL BE WEEDED TWO (2) TIMES AND ADDITIONAL HARDWOOD MULCH SHALL BE ADDED AS NEEDED TO ASSIST IN WEED SUPPRESSION. TURF AT FILTER SHALL BE MOWED NO MORE THAN 3 TIMES PER GROWNG SEASON. IF WATER PONDS ON THE SURFACE FOR MORE THAN 24 HOURS DURING THE FIRST YEAR OR 72 HOURS THEREAFTER, THE FILTER SURFACE SHALL BE AERATED WITH DEEP TINES OR THE SURFACE REPLACED.*
9. *PLANTINGS SHALL BE NATIVE NON-INVASIVE SPECIES, SEE LANDSCAPE ARCHITECT DRAWINGS.*

BIORETENTION SYSTEM DETAIL *(SEE GRADING PLAN FOR LOCATION)*

NOT TO SCALE

NYLOPLAST 18" DRAIN BASIN: 2818AG _ _ X



1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

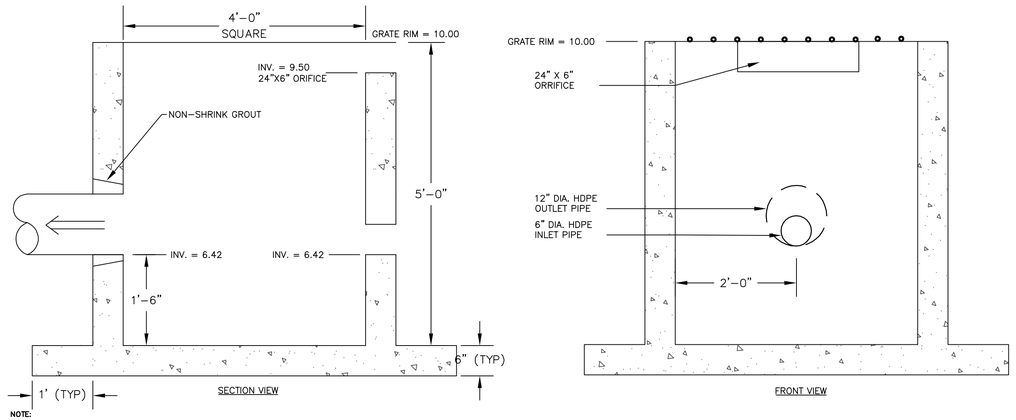
THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. 2013 NYLOPLAST	DRAWN BY EBC DATE 04-03-06 REVISED BY NMH DATE 03-14-16 DWG SIZE A	MATERIAL Nyloplast 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com PROJECT NO./NAME TITLE 18 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL SCALE 1:30 SHEET 1 OF 1 DWG NO. 7001-110-191 REV E

DETAIL NOTES:

1) DRAIN MANHOLES PDMH1, PDMH2, & PDMH3 TO USE SOLID COVERS.
2) RAINGARDEN AND DETENTION POND OUTLETS TO USE DOME COVERS
3) SEE DRAINAGE PLAN FOR INVERTS, INLETS AND OUTLET LOCATION AND SIZES.

TYPICAL OUTLET STRUCTURES AND MANHOLE DETAIL (OS-RG2)(OS-RG3)(OS-RG4)(OS-DP1)(PDMH1)(PDMH2)(PDMH3)

NOT TO SCALE



NOTE:

1) ALL OUTLET STRUCTURES SHALL BE PRE CAST WITH A MINIMUM CONCRETE STRENGTH OF 4,000 PSI @ 28 DAYS.
2) THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EACH STRUCTURE FOR REVIEW BY THE TOWN.

OUTLET STRUCTURE 1 (OS-RG1) DETAIL

NOT TO SCALE

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PLANNING FILE NO.: P19-04

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NO.	REVISION	APP'D	DATE
2	TRC COMMENTS	SJH	4-4-19
1	AOT SUBMISSION	SJH	1-22-19

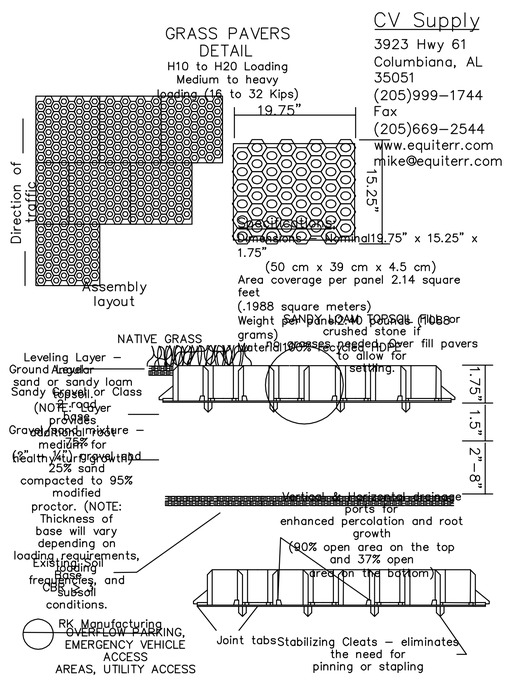
DATE: 2-21-19
SCALE: AS NOTED
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY: SJH
PROJECT NO: 1788
FILE: SITE.DWG

LITTLE BAY MARINA & DEVELOPMENT, LLC
197 LOUDON ROAD, SUITE 350
CONCORD, NH 03301

LITTLE BAY MARINA
DOVER POINT ROAD
DOVER, NH

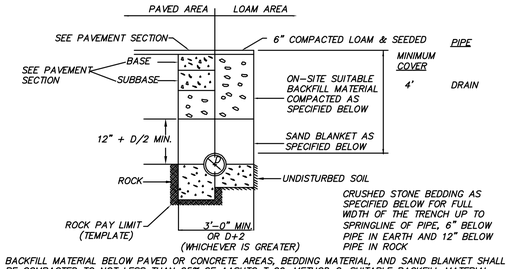
DETAILS

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GRASS PAVER DETAIL

NOT TO SCALE



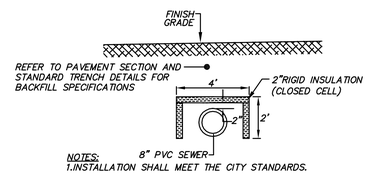
BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

SAND BLANKET & BEDDING	
SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 – 100
200	0 – 15
(FOR WATER MAIN BEDDING)	

3/4" CRUSHED STONE BEDDING	
SIEVE SIZE	% FINER BY WEIGHT
1"	100
3/4"	90 – 100
1/2"	20 – 50
3/8"	0 – 20
# 4	0 – 5

DRAINAGE TRENCH

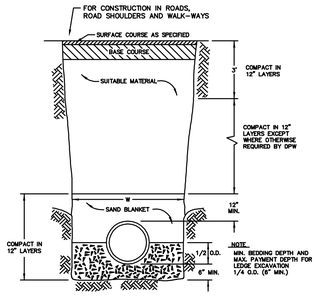
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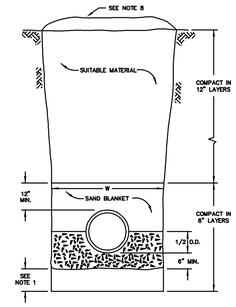
SEWER INSULATION DETAIL

NOT TO SCALE

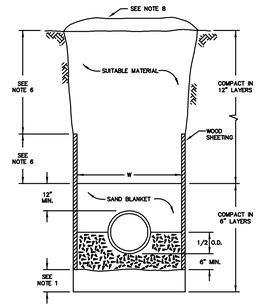
STANDARD TRENCH SECTION



LEDGE CONSTRUCTION



EARTH CONSTRUCTION



EARTH CONSTRUCTION WITH SHEETING

NOTES:

1.) ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE. REFILL WITH BEDDING MATERIAL. SEE ALSO NOTE 7.

2.) BEDDING : SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33 STONE SIZE NO. 67.

100% PASSING	1 INCH SCREEN
90 – 100% PASSING	3/4 INCH SCREEN
20 – 55% PASSING	3/8 INCH SCREEN
0 – 10% PASSING	#4 SIEVE
0 – 5% PASSING	#8 SIEVE

– CRUSHED STONE 1/2 INCH – 1 1/2 INCH MAY BE USED INSTEAD OF SCREENED GRAVEL WHERE ALLOWED BY THE ENGINEER.

3.) SAND BLANKET : CLEAN SAND FREE FROM ORGANIC MATTER SO GRADED THAT 90–100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAN 15% WILL PASS A #200 SIEVE.

4.) SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALK–WAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.

IN CROSS–COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK OR PEAT, IF HE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE AND POSSIBLY RECONSTRUCTION, WHEN NECESSARY, WILL BE PRESERVED.

5.) BASE COURSE , IF ORDERED BY THE ENGINEER, SHALL MEET THE REQUIREMENTS OF DIVISION 300 OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF NEW HAMPSHIRE, DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS, (D.O.T.).

6.) WOOD SHEETING , IF REQUIRED. WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID–DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.

7.) W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES; FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE O.D. W SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.

8.) FOR CROSS COUNTRY CONSTRUCTION , BACKFILL OR FILL SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.

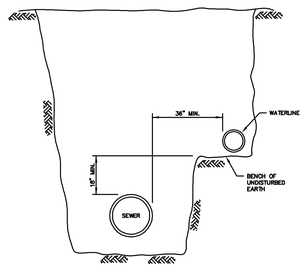
9.) CONCRETE FOR ENCASEMENT SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000#) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATIONS AS FOLLOWS:

CEMENT: 6.0 BAGS PER CUBIC YARD
WATER : 5.75 GALLONS PER BAG CEMENT
MAXIMUM SIZE OF AGGREGATE: 1 INCH

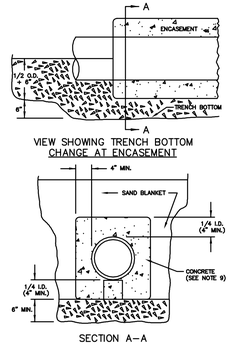
10.) NEW HAMPSHIRE WATER SUPPLY AND POLLUTION CONTROL COMMISSION (NH DES) DESIGN STANDARDS REQUIRE 10 FT. SEPARATION. HOWEVER, SHOULD CONSTRUCTION OPERATIONS REVEAL OR EXPOSE A WATERLINE (MAIN OR SERVICE) RUNNING APPROXIMATELY PARALLEL AND LESS THAN 10 FT. HORIZONTAL FROM THE PROPOSED SEWER INSTALLATION AND WHERE IT IS NOT PRACTICABLE TO RELOCATE THE SEWER, THE FOLLOWING METHODS OF PROTECTION MUST BE EMPLOYED.

A. IF THE WATERLINE CAN BE KEPT AT LEAST 18 INCHES ABOVE AND 3 FEET TO ONE SIDE OF THE SEWER, AS SHOWN AND SUPPORTED ON A BENCH OF ORIGINAL SOIL, NO OTHER PROTECTION IS REQUIRED.

11.) IF FULL CASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MIN.) BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.



WATER AND SEWER IN SAME TRENCH



VIEW SHOWING TRENCH BOTTOM CHANGE AT ENCASEMENT

SECTION A–A

CONCRETE FULL ENCASEMENT

(SEE NOTE 11)

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(603) 749-9413

NO.	REVISION	APP'D	DATE
2	TRC COMMENTS	SJH	4–4–19
1	AOT SUBMISSION	SJH	1–22–19

DATE: 2–21–19
SCALE: AS NOTED
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO:1788
FILE: SITE.DWG

LITTLE BAY MARINA & DEVELOPMENT, LLC
197 LOUDON ROAD, SUITE 350
CONCORD, NH 03301

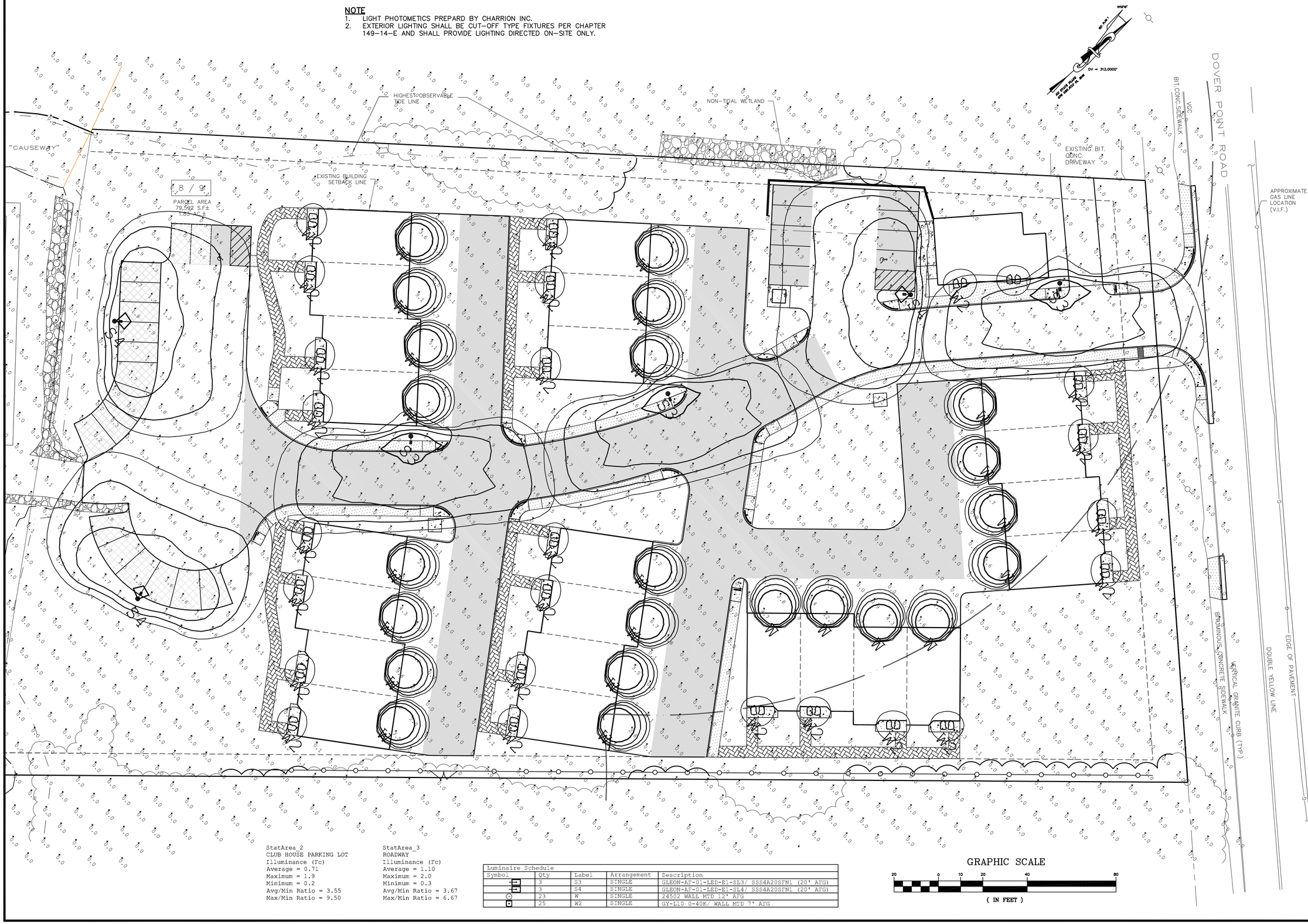
LITTLE BAY MARINA
DOVER POINT ROAD
DOVER, NH

DETAILS

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NOTE

1. LIGHT PHOTOMETICS PREPARD BY CHARRION INC.
2. EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 149-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.



StatArea_2
CLUB HOUSE PARKING LOT
Illuminance (Fc)
Average = 0.71
Maximum = 1.9
Minimum = 0.2
Avg/Min Ratio = 3.55
Max/Min Ratio = 9.50

StatArea_3
ROADWAY
Illuminance (Fc)
Average = 1.10
Maximum = 2.0
Minimum = 0.3
Avg/Min Ratio = 3.67
Max/Min Ratio = 6.67

Luminaire Schedule				
Symbol	Qty	Label	Arrangement	Description
	3	S3	SINGLE	GLEON-AF-01-LED-E1-SL3/ SSS4A20SFN1 (20' AFG)
	3	S4	SINGLE	GLEON-AF-01-LED-E1-SL4/ SSS4A20SFN1 (20' AFG)
	23	W	SINGLE	24502 WALL MTD 12' AFG
	25	W2	SINGLE	GY-L10 0-40K/ WALL MTD 7' AFG

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

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PLANNING FILE NO.: P19-04

NO.	REVISION	APP'D	DATE
3	AOT COMMENTS 3-14-19	SJH	5-1-19
2	TRC COMMENTS	SJH	4-4-19
1	AOT SUBMISSION	SJH	1-22-19

DATE: 2-21-19
SCALE: 1"=20'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO:1788
FILE: SITE.DWG

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CIVIL ENGINEERING
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Dover, New Hampshire 03820
(603) 749-9413

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197 LOUDON ROAD, SUITE 350
CONCORD, NH 03301

LITTLE BAY MARINA
DOVER POINT ROAD
DOVER, NH

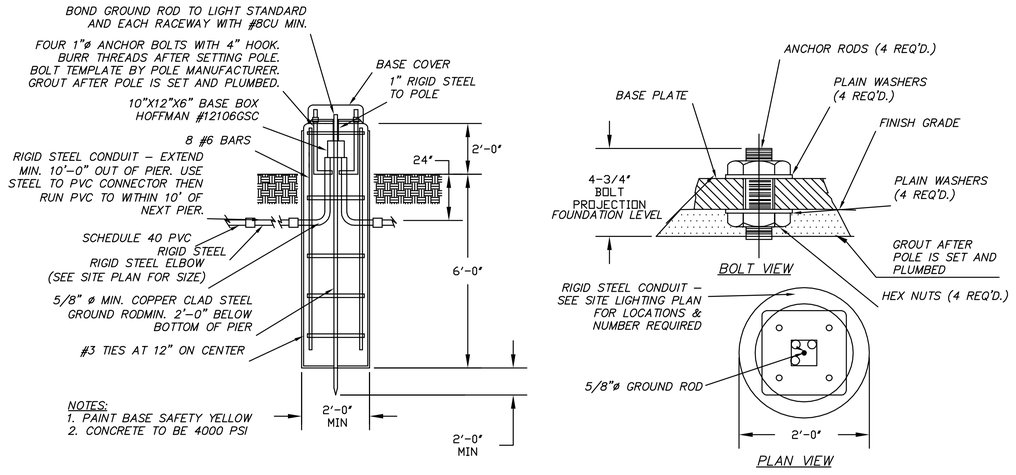
LIGHTING PLAN

17

P:\1788\SUBS\charron\USA RNTA4_Page_1.jpg

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LIGHT POLE BASE

NOT TO SCALE

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1	AOT SUBMISSION	SJH	1–22–19

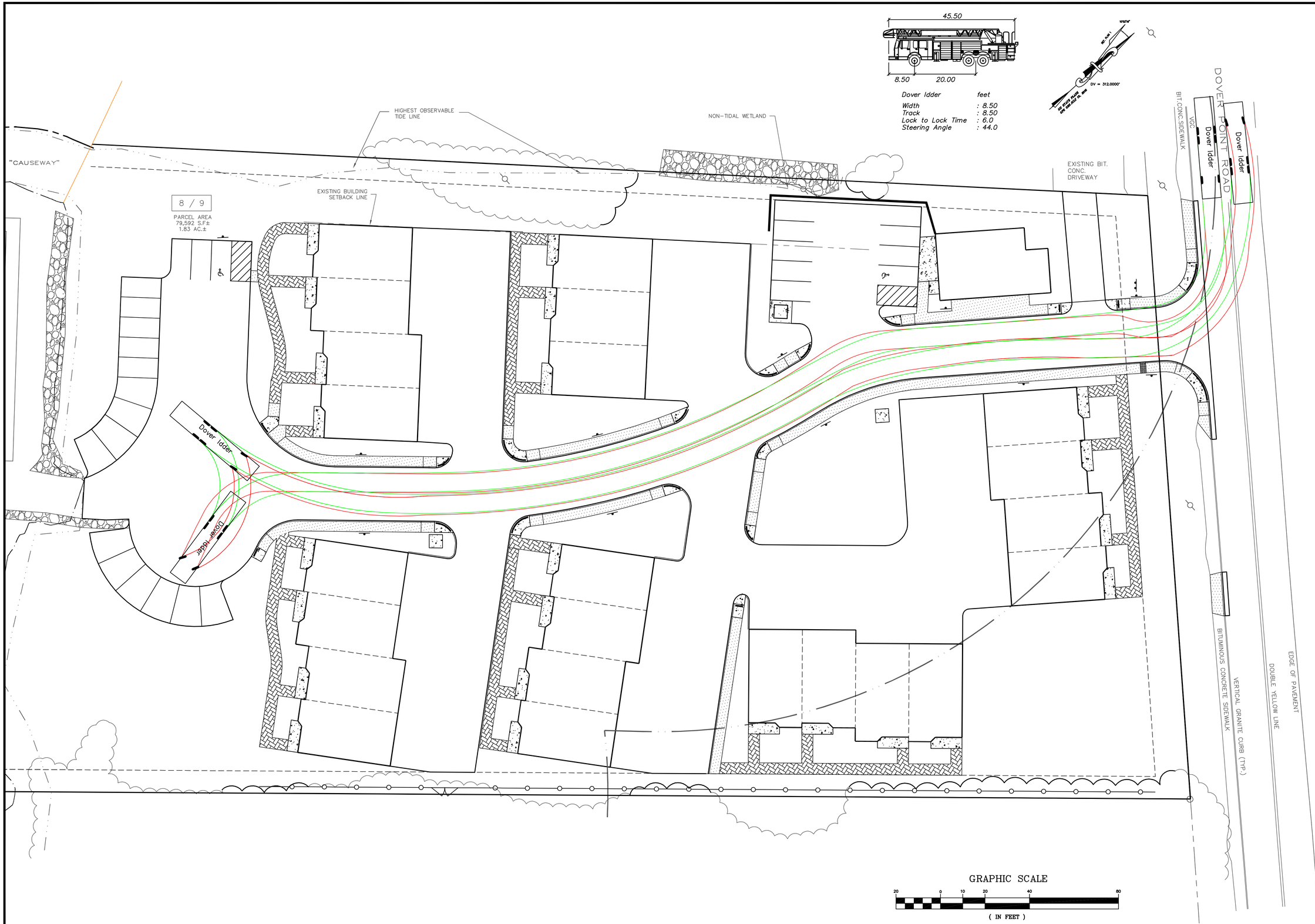
DATE: 2–21–19
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PROJECT NO:1788
FILE: SITE.DWG

DETAILS

LITTLE BAY MARINA & DEVELOPMENT, LLC
197 LOUDON ROAD, SUITE 360
CONCORD, NH 03301

LITTLE BAY MARINA
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DOVER, NH

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NO.	REVISION	APP'D	DATE
2	TRC COMMENTS	SJH	4-4-19

DATE: 2-21-19
SCALE: 1"=20'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO:1788
FILE: SITE.DWG

DOVER LADDER TRUCK MOVEMENT PLAN

LITTLE BAY MARINA
DOVER POINT ROAD
DOVER, NH

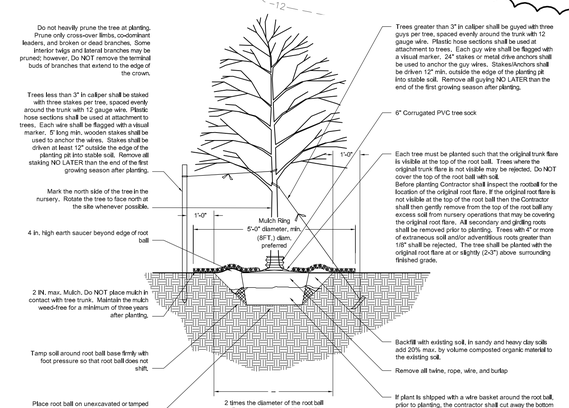
LITTLE BAY MARINA & DEVELOPMENT, LLC
197 LOUDON ROAD, SUITE 350
CONCORD, NH 03301

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Landscape Notes

1. Design is based on drawings by Civilworks New England dated February 2019 and may require adjustment due to actual field conditions.
2. The contractor shall follow best management practices during construction and shall take all means necessary to stabilize and protect the site from erosion.
3. Erosion Control shall be in place prior to construction.
4. Erosion Control to consist of Hay Bales and Erosion Control Fabric shall be staked in place between the work and Water bodies, Wetlands and/or drainage ways prior to any construction.
5. The Contractor shall verify layout and grades and inform the Landscape Architect or Client's Representative of any discrepancies or changes in layout and/or grade relationships prior to construction.
6. It is the contractor's responsibility to verify drawings provided are to the correct scale prior to any bid, estimate or installation. A graphic scale bar has been provided on each sheet for this purpose. If it is determined that the scale of the drawing is incorrect, the landscape architect will provide a set of drawings at the correct scale, at the request of the contractor.
7. Trees to Remain within the construction zone shall be protected from damage for the duration of the project by snow fence or other suitable means of protection to be approved by Landscape Architect or Client's Representative. Snow fence shall be located at the drip line at a minimum and shall include any and all surface roots. Do not fill or mulch on the trunk flare. Do not disturb roots. In order to protect the integrity of the roots, branches, trunk and bark of the tree(s) no vehicles or construction equipment shall drive or park in or on the area within the drip line(s) of the tree(s). Do not store any refuse or construction materials or portalets within the tree protection area.
8. Location, support, protection, and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor.
9. The Contractor shall verify exact location and elevation of all utilities with the respective utility owners prior to construction. Call DIGSAFE at 1-888-344-7233.
10. The Contractor shall procure any required permits prior to construction.
11. Prior to any landscape construction activities Contractor shall test all existing loam and loam from off-site intended to be used for lawns and plant beds using a thorough sampling throughout the supply. Soil testing shall indicate levels of pH, nitrates, macro and micro nutrients, texture, soluble salts, and organic matter. Contractor shall provide Landscape Architect with test results and recommendations from the testing facility along with soil amendment plans as necessary for the proposed plantings to thrive. All loam to be used on site shall be amended as approved by the Landscape Architect prior to placement.
12. Contractor shall notify landscape architect or owner's representative immediately if at any point during demolition or construction a site condition is discovered which may negatively impact the completed project. This includes, but is not limited to, unforeseen drainage problems, unknown subsurface conditions, and discrepancies between the plan and the site. If a contractor is aware of a potential issue, and does not bring it to the attention of the landscape architect or owner's representative immediately, they may be responsible for the labor and materials associated with correcting the problem.
13. The Contractor shall furnish and plant all plants shown on the plan and listed thereon. All plants shall be nursery-grown under climatic conditions similar to those in the locality of the project. Plants shall conform to the botanical names and standards of size, culture, and quality for the highest grade and standards as adopted by the American Association of Nurserymen, Inc. in the American Standard of Nursery Stock, American Standards Institute, Inc. 230 Southern Building, Washington, D.C. 20005.
14. A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.
15. All plants shall be legibly tagged with proper botanical name.
16. The Contractor shall guarantee all plants for not less than one year from time of acceptance.
17. Owner or Owner's Representative will inspect plants upon delivery for conformity to Specification requirements. Such approval shall not affect the right of inspection and rejection during or after the progress of the work. The Owner reserves the right to inspect and/or select all trees at the place of growth and reserves the right to approve a representative sample of each type of shrub, herbaceous perennial, annual, and ground cover at the place of growth. Such sample will serve as a minimum standard for all plants of the same species used in this work.
18. No substitutions of plants may be made without prior approval of the Owner or the Owner's Representative for any reason.
19. All landscaping shall be provided with either of the following
    a. An underground sprinkling system
    b. An outside hose attachment within 150 feet
20. If an automatic irrigation system is installed, all irrigation valve boxes shall be located within planting bed areas.
21. The contractor is responsible for all plant material from the time their work commences until final acceptance. This includes but is not limited to maintaining all plants in good condition, the security of the plant material once delivered to the site, and watering of plants. Plants shall be appropriately watered prior to, during and after planting. It is the contractor's responsibility to provide water from off site, should it not be available on site.
22. All disturbed areas will be dressed with 6" of topsoil and planted as noted on the plans or seeded except plant beds. Plant beds shall be prepared to a depth of 12" with 75% loam and 25% compost.
23. Trees, ground cover, and shrub beds shall be mulched to a depth of 3" with one-year-old, well-composted, shredded native bark not longer than 4" in length and ½" in width, free of woodchips and sawdust. Mulch for ferns and herbaceous perennials shall be no longer than 1" in length. Trees in lawn areas shall be mulched in a 5' diameter min. saucer. Color of mulch shall be black.
24. In no case shall mulch touch the stem of a plant nor shall mulch ever be more than 3" thick total (including previously applied mulch) over the root ball of any plant.
25. Secondary lateral branches of deciduous trees overhanging vehicular and pedestrian travel ways shall be pruned up to a height of 6' to allow clear and safe passage of vehicles and pedestrians under tree canopy.
26. Snow shall be stored a minimum of 5' from shrubs and trunks of trees.
27. Landscape Architect is not responsible for the means and methods of the contractor.



Tree Planting Detail, Typ.

Plant List

TREES

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Gt	*Gleditsia triancanthos inermis 'Halka'*	Halka Thornless	4	3-3.5" Cal	B&B
Ns	*Nyssa Sylvatica*	Black Tupelo	6	3-3.5" Cal	B&B
Th	*Thuja plicata 'Atrovirens'*	Atrovirens Arborvitae	5	8-10' Ht	B&B
Ua	*Ulmus americana 'Princeton'*	Princeton American Elm	6	3-3.5" Cal	B&B

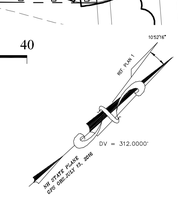
SHRUBS

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Arb	*Thuja occidentalis 'Techny'*	Techny Arborvitae	5	6-7' Ht	B&B
Hy	*Hydrangea arborescens 'Incridiball'*	Incridiball Hydrangea	10	5 gal	
Syr	*Syringa meyeri 'Palibin'*	Dwart Korean Lilac	18	3-4' Ht	B&B
Tax	*Taxus media 'Greenwave'*	Greenwave Yew	10	5 gal	

PERENNIALS, GROUNDCOVERS, VINES and ANNUALS

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
An	*Anemone 'Honorine Jobert'*	Windflower	20	1 gal	
Cal	*Calamagrostis acutifolia 'Karl Foerster'*	Feather Reed Grass	187	1 gal	
Hos	*Hosta 'Sum and Substance'*	Sum and Substance Hosta	7	1 gal	
Rud	*Rudbeckia fulgida 'Goldsturm'*	Black-Eyed Susan	167	1 gal	
Sal	*Salvia nemorosa 'Blue Hill'*	Dark Blue Salvia	269	1 gal	
Vm	*Vinca minor 'Bowles'*	Bowles Periwinkle	420	2.5" pots	

0 5 10 20 40



SEED MIX:
Seed Mix "A" - New England Wetland Plants, Inc.
New England Coastal Salt Tolerant Grass Mix

woodburn &company
LANDSCAPE ARCHITECTURE
103 Kent Place Newmarket, New Hampshire Phone: 603.659.5949

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILENO.: P18-___

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CIVIL ENGINEERING
181 Watson Road, P.O. Box 1166
Dover, New Hampshire 03820
(603) 749-0443

NO.	REVISION	APP'D	DATE
2	SEED MIXES	VM	5.1.2019
1	PER REVISED SITE PLAN	VM	2.21.2019
0	INITIAL SUBMISSION	VM	1.11.2019

DESIGN BY: VM
DRAWN BY: VM
SCALE: 1"=20'
DATE: 01-11-19
PROJECT NO:1788
FILE: SITE.DWG

LITTLE BAY MARINA & DEVELOPMENT, LLC
111 LOUDON ROAD
CONCORD, NH 03301

LITTLE BAY MARINA
DOVER POINT ROAD
DOVER, NH

LANDSCAPE PLAN

L-1



LOOLING SOUTHERLY FROM DOVER POINT ROAD



LOOKING WESTERLY DOWN ACCESS DRIVE TOWARDS THE WATER

LOOKING WESTERLY FROM DOVER POINT ROAD



mjk
Michael J. Keane Architects, PLLC
ARCHITECTURE
PLANNING
DESIGN
101 Kent Place
Newmarket, NH
03857
603-292-1400
mjkarchitects.com

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CONSULTANTS

REVISIONS

APPROVALS

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PROJECT

LITTLE BAY MARINA
DOVER POINT ROAD
DOVER, NH

LITTLE BAY MARINA AND DEVELOPMENT LLC
111 LOUDON ROAD
CONCORD NH 03301

TITLE

STREETSCAPE

DRAWN BY: MJK
CHECKED BY: mjk
DATE: 2/25/2019
SCALE:

DRAWING NO.

A-1

DO NOT SCALE PRINTS



LOOLING SOUTHERLY FROM DOVER POINT ROAD



LOOKING WESTERLY DOWN ACCESS DRIVE TOWARDS THE WATER

LOOKING WESTERLY FROM DOVER POINT ROAD



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DOVER POINT ROAD
DOVER, NH

LITTLE BAY MARINA AND DEVELOPMENT LLC
111 LOUDON ROAD
CONCORD NH 03301

TITLE

STREETSCAPE

DRAWN BY: MJK
CHECKED BY: mjk
DATE: 2/25/2019
SCALE:

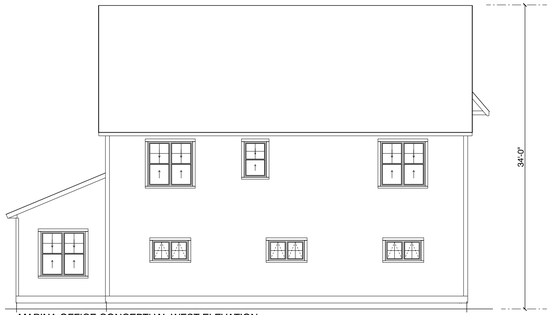
DRAWING NO.

A-1

DO NOT SCALE PRINTS



MARINA OFFICE CONCEPTUAL NORTH ELEVATION



MARINA OFFICE CONCEPTUAL WEST ELEVATION



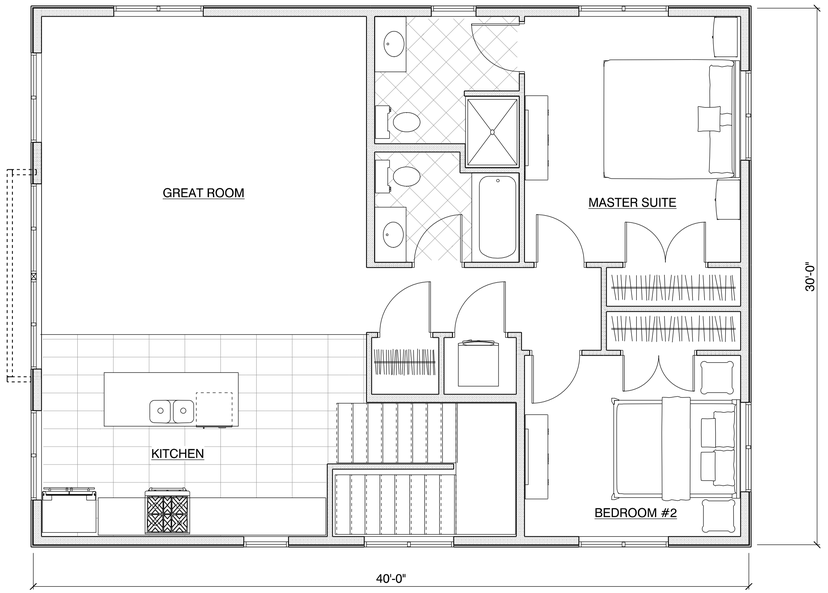
MARINA OFFICE CONCEPTUAL EAST ELEVATION



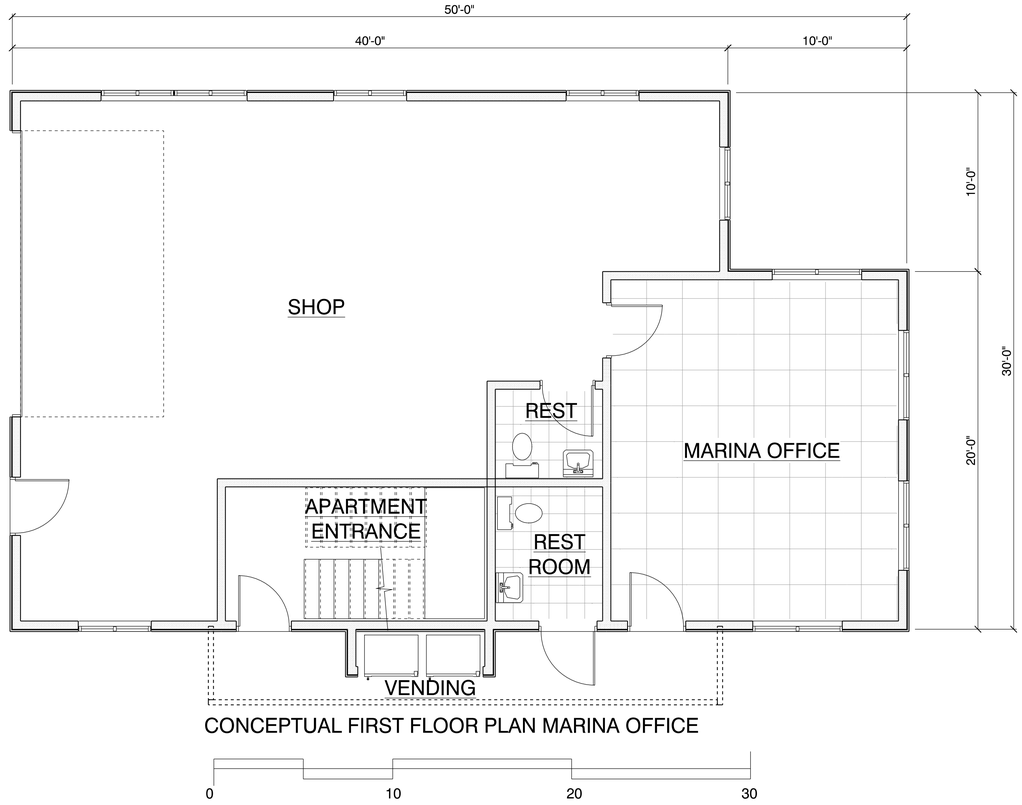
MARINA OFFICE CONCEPTUAL SOUTH ELEVATION







CONCEPTUAL SECOND FLOOR PLAN ACCESSORY APARTMENT



CONCEPTUAL FIRST FLOOR PLAN MARINA OFFICE

mjk
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PROJECT

VARIANCE APPLICATION

LITTLE BAY MARINA AND DEVELOPMENT LLC

DOVER POINT ROAD
DOVER,
NH

TITLE

CONCEPTUAL MARINA OFFICE AND ACCESSORY APARTMENT

DRAWN BY: MJK
CHECKED BY: mjk
DATE: Wednesday, January 24, 2018
SCALE: As Noted

DRAWING NO.

A-1

DO NOT SCALE PRINTS



TYPICAL NORTH AND SOUTH ELEVATIONS TOWNHOUSE CONCEPTUAL



TYPICAL WEST ELEVATION TOWNHOUSE CONCEPTUAL





EAST ELEVATION TOWNHOUSE CONCEPTUAL

mjk

Michael J. Keane
Architects, PLLC

ARCHITECTURE
PLANNING
DESIGN

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Newmarket, NH
03857

603-292-1400
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PROJECT

VARIANCE APPLICATION

LITTLE BAY MARINA AND DEVELOPMENT LLC

DOVER POINT ROAD
DOVER,
NH

TITLE

CONCEPTUAL ELEVATIONS TYPCAL TOWNHOUSE UNITS

DRAWN BY: MJK

CHECKED BY: mjk

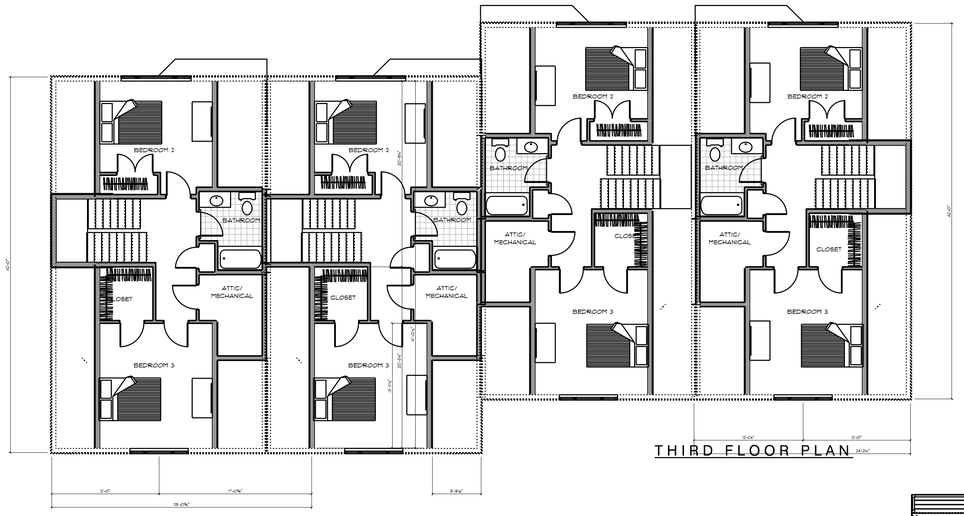
DATE: Wednesday, January 24, 2018

SCALE: 1/8" = 1'-0"

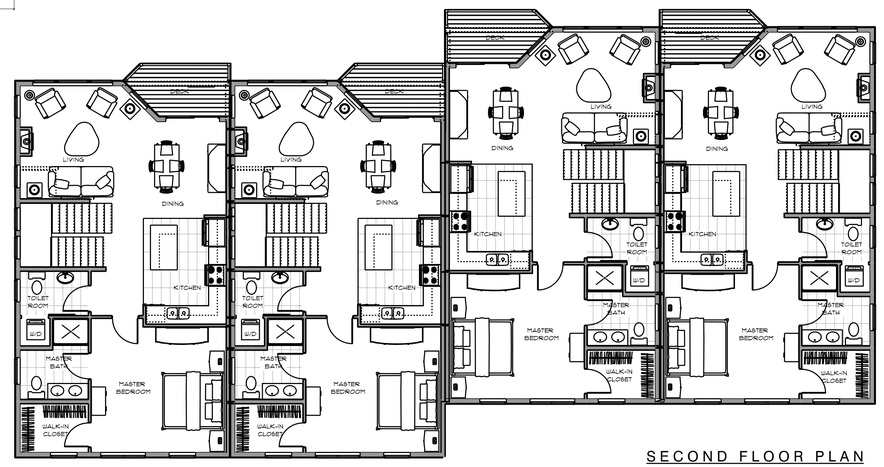
DRAWING NO.

A-2

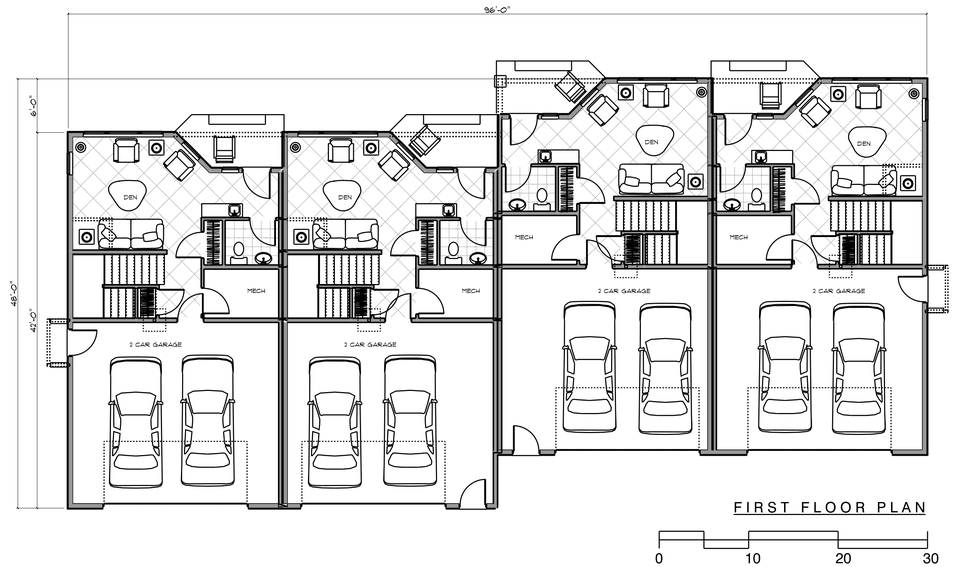
DO NOT SCALE PRINTS



THIRD FLOOR PLAN



SECOND FLOOR PLAN



FIRST FLOOR PLAN

0 10 20 30

mjk
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PROJECT

VARIANCE APPLICATION

LITTLE BAY MARINA AND DEVELOPMENT LLC

DOVER POINT ROAD
DOVER,
NH

TITLE

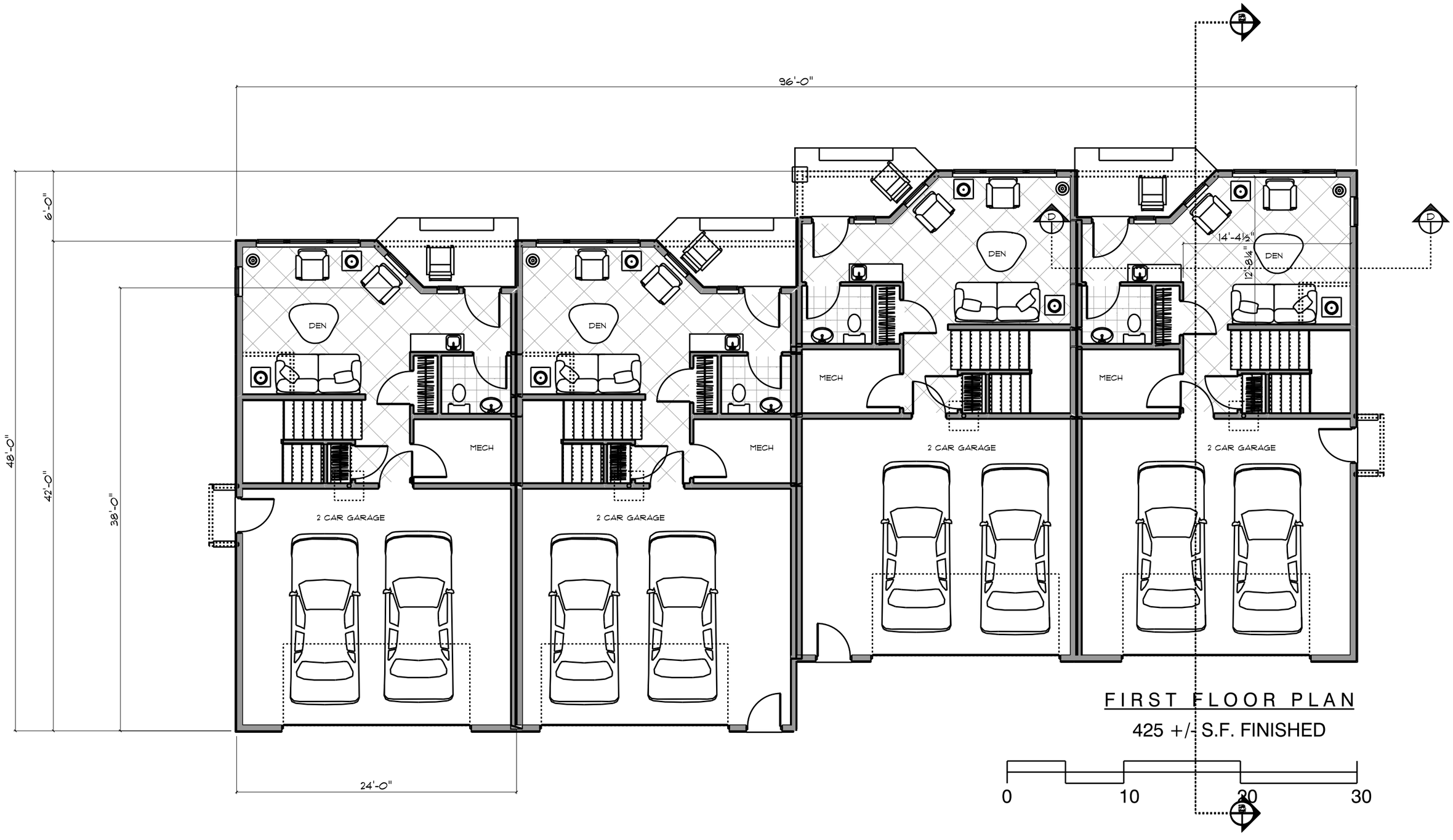
CONCEPTUAL TOWNHOUSE FLOOR PLANS

DRAWN BY: MJK
CHECKED BY: mjk
DATE: Wednesday, January 24, 2018
SCALE: 1/8" = 1'-0"

DRAWING NO.

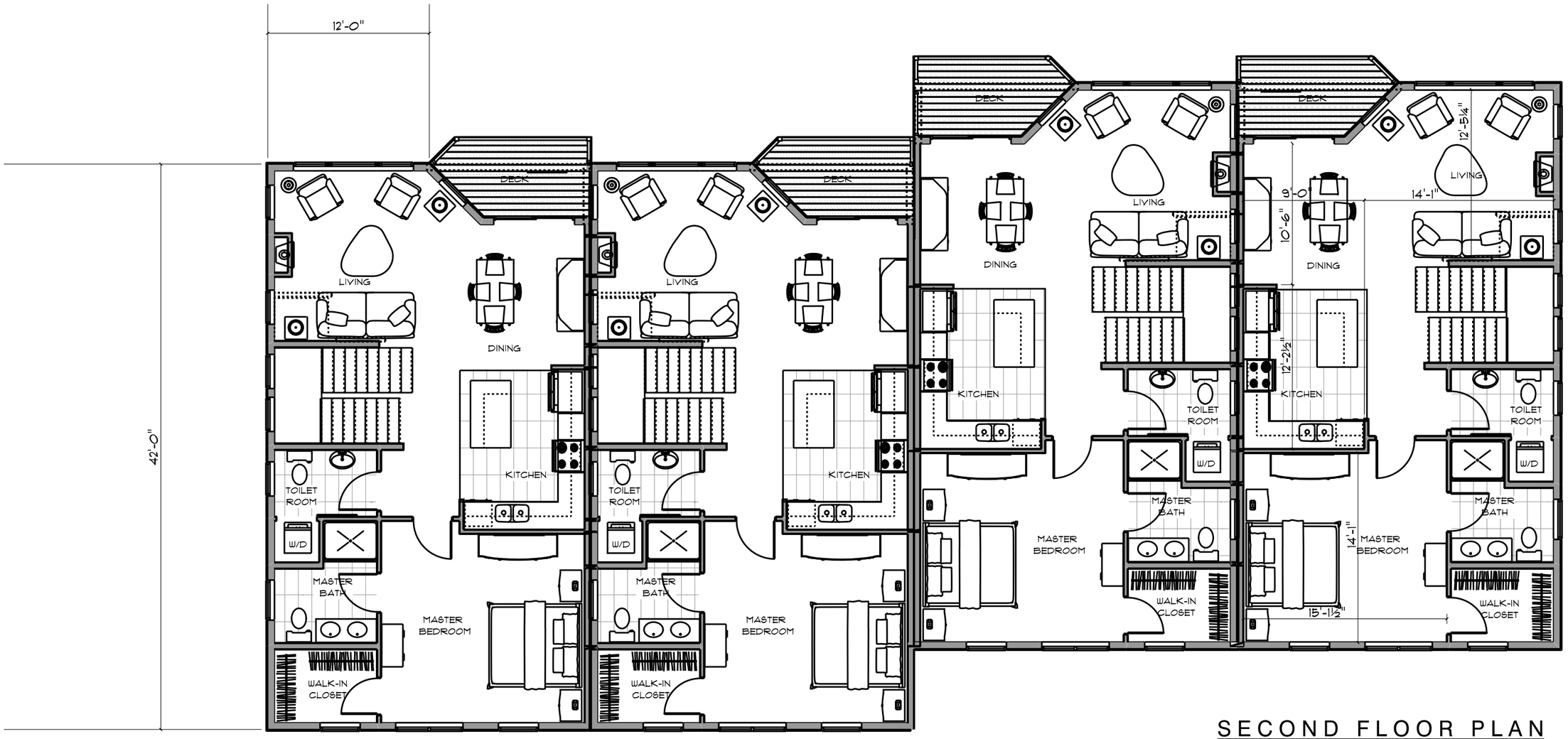
A-3

DO NOT SCALE PRINTS



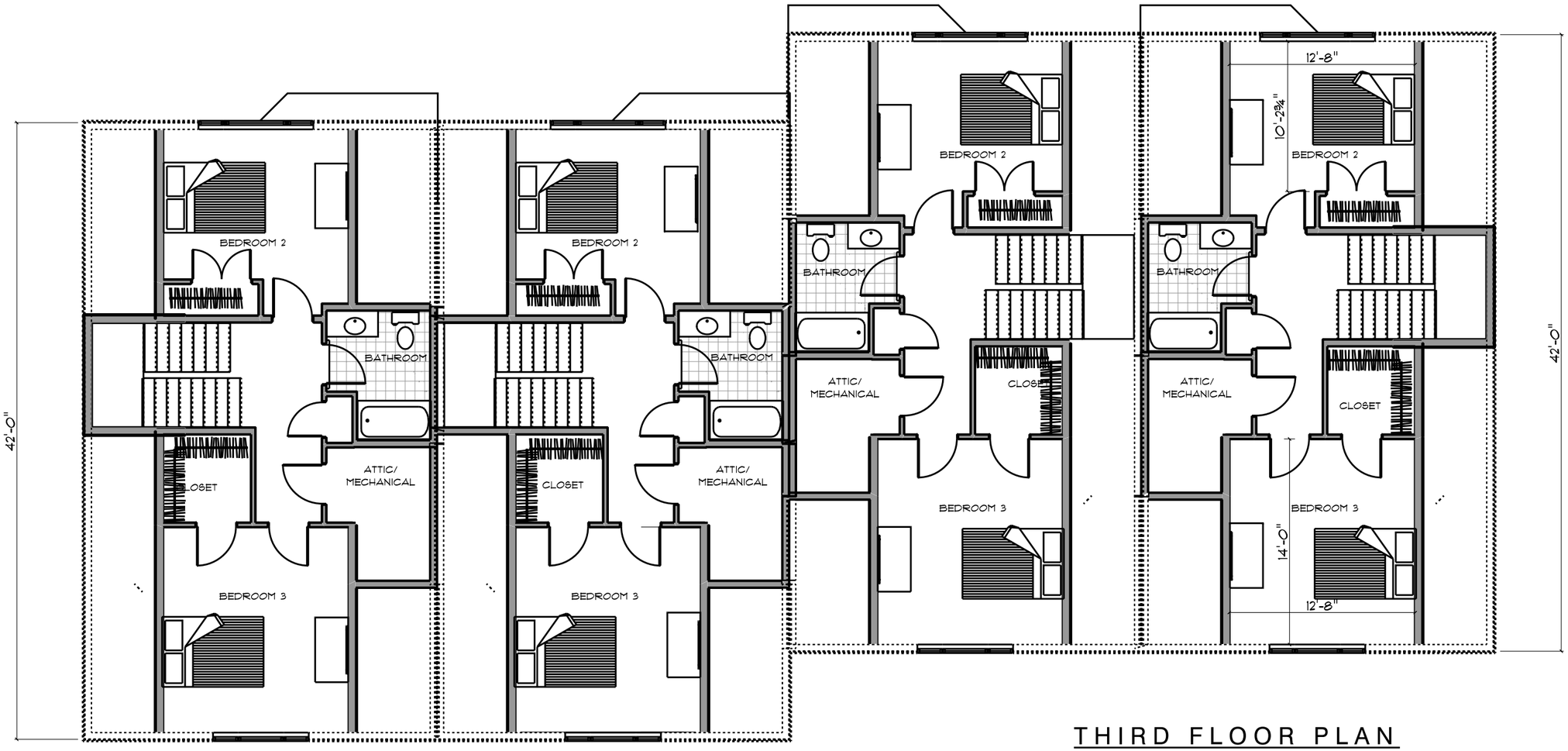
FIRST FLOOR PLAN

425 +/- S.F. FINISHED



SECOND FLOOR PLAN

980 +/- S.F.



THIRD FLOOR PLAN

730 S.F. +/-

P19-04 & P19-05 Dover Point Road

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
08008-000000	419 DOVER POINT RD	SHINE ANN		419 DOVER POINT RD	DOVER	NH	03820
08008-A00000	417 DOVER POINT RD	PUIDOKAS ERIC BAILO		417 DOVER POINT RD	DOVER	NH	03820
08008-B00000	419 A DOVER POINT RD	BLACKWELL JOHN H &	BLACKWELL M SHARON	419 A DOVER POINT RD	DOVER	NH	03820-4627
08013-A00001	431 DOVER POINT RD	NEWICK FAMILY REAL ESTATE LLC &	NEWICK JOAN LIFE ESTATE	431 DOVER POINT ROAD	DOVER	NH	03820
08029-000000	430 DOVER POINT RD	STATE OF NEW HAMPSHIRE		PO BOX 483	CONCORD	NH	03302-0483
08038-000000	422 DOVER POINT RD	DESJARDINS SETH C		422 DOVER POINT RD	DOVER	NH	03820
08038-A00000	420 DOVER POINT RD	ROBERGE MILES C &	ROBERGE COURTNEY E	420 DOVER POINT RD	DOVER	NH	03820
08038-B00000	1 WIGGIN DR	STATE OF NEW HAMPSHIRE		PO BOX 483	CONCORD	NH	03302-0483
08038-C00000	424 DOVER POINT RD	CRAGIN PATRICK J		PO BOX 250	DOVER	NH	03820
08038-D00000	418 DOVER POINT RD	PORTSIDE PROPERTIES LLC		418 DOVER POINT RD	DOVER	NH	03820
08039-000000	416 DOVER POINT RD	WHITE ERIC J &	MONNAT-WHITE DEBORAH J	118 OLD CONCORD RD	SULLIVAN	NH	03445
08009-000000	423 DOVER POINT RD	LITTLE BAY MARINA & DEVELOPMENT LLC		197 LOUDON RD STE 350	CONCORD	NH	03301-8000
08010-000000	427 DOVER POINT RD	LITTLE BAY MARINA & DEVELOPMENT LLC		197 LOUDON RD STE 350	CONCORD	NH	03301-8000
08011-000000	421 DOVER POINT RD	LITTLE BAY MARINA & DEVELOPMENT LLC		197 LOUDON RD STE 350	CONCORD	NH	03301
08012-000000	425 DOVER POINT RD	LITTLE BAY MARINA & DEVELOPMENT LLC		197 LOUDON RD STE 350	CONCORD	NH	03301
		CIVILWORKS NEW ENGLAND	STEPHEN J HAIGHT	P.O. BOX 1166	DOVER	NH	03820

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P19-26

Application Type:	Site Review for Review
Applicant(s):	Northern Pool & Spa
Owner(s):	29 Littleworth Road, LLC
Location:	29 Littleworth Road (Assessor's Map G, Lot 6)
Meeting Date:	May 28, 2019

INTENT: To build a 11,728 s.f. office and warehouse with improved access, parking areas, and stormwater treatment.

LOTS/UNITS PROPOSED: N/A

AGENDA ITEM #: 4-E

ACREAGE: 4.5 acres

ZONING DISTRICT: I-4

EXISTING LAND USE: Vacant

PROPOSED LAND USE: Pool warehouse and office

SURROUNDING LAND USE: Residential, commercial, industrial, and railroad

ZBA ACTION: H67-18 Variance Granted
Z97-14: Variance granted on 6/19/9 7 to maintain used car sales places

ATTACHMENTS: Application materials, TRC minutes, and Site Plan

APPLICATION IS COMPLETE: Yes

NOTICES SENT: Abutter notices were sent by certified mail to all abutters for this meeting

PERMITS REQUIRED: -NHDOT Driveway Permit

WAIVERS REQUESTED: None

Summary of Request and Background
The applicant is requesting to construct a warehouse and office for their pool business at 29 Littleworth Road which is currently a vacant lot near the railroad tracks. The site is proposed to be be serviced by municipal water and sewer.

This application was reviewed by the Technical Review Committee on March 28 and May 2, 2019 (minutes attached).

Consistency with Land Use Regulations
Chapter 149-4 of the Site Review Regulations of the City Code provides for site review by the Planning Board of new construction of various types. This plan is consistent with those regulations.

STAFF RECOMMENDATION:
The Planning Department recommends the Planning Board to accept the application, open the public hearing, and vote to approve the Site Plan with the following conditions:

Conditions to Be Met Prior to the Signing of Plans:

1. The applicant shall provide:
   a. Approval from NHDOT regarding the driveway
   b. A digital version of plan set
   c. Revised letter to serve from Eversource
2. The applicant must revise final plan set to:
   a. Add the owner's signatures to the final plat submitted for signature to be recorded at the Strafford County Registry of Deeds
   b. Add LLS, PE, and Landscape Architect signatures and stamps to final plan
   c. Combine colored architectural renderings, floorplans, existing conditions and site plans into one plan set
   d. Revise the landscape plan to meet the minimal caliber size
   e. Add commons site notes 18, 22, 26, 28, 29 and 34

Conditions to Be Met Prior to any Construction Activity:

3. A site construction sign with the contact information for the general contractor must be located and approved by the City Engineer or Assistant City Manager.
4. Applicant shall complete Land Use Development Tracking Form, most recently revised version, utilizing the online Pollution Tracking and Accounting Pilot Project (PTAPP) portal. https://www.unh.edu/unhsc/ptapp
5. Install signage noting visibility and noise during any earthwork, to the satisfaction of the City Engineer.

Conditions to Be Met Prior to Issuance of a Building Permit:

6. The new building shall be assessed and pay the current water and sewer investment fees in place at the time of application for service.

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P19-26

Application Type:	Site Review for Review
Applicant(s):	Northern Pool & Spa
Owner(s):	29 Littleworth Road, LLC
Location:	29 Littleworth Road (Assessor's Map G, Lot 6)
Meeting Date:	May 28, 2019

Conditions to Be Met Prior to Occupancy:

7. Issuance of a certificate of occupancy.
8. Impact fees shall be paid per the invoice included with the Notice of Decision.
9. The applicant shall provide a letter of credit or other form of security acceptable to the City for any unfinished work.

ATTAR
ENGINEERING, INC
CIVIL • STRUCTURAL • MARINE

Donna Benton
City Planner
Gina Cruikshank
Chair, Planning Board
City of Dover, N.H.
288 Central Avenue
Dover, N.H. 03820-4169

May 6, 2019
Project No.: C147-19

RE: Site Plan Review – P19-26
29 Littleworth Road ((Map G-6, Lot 0-0)

Dear Ms. Benton and Ms. Cruikshank:

On behalf of 29 Littleworth Rd, LLC and Peter Paul, I have enclosed a revised plan set and supporting information for the above referenced project. The applicant is proposing to develop the 3.99-acre parcel with an 11,728 SF office and warehouse. Other improvements include access and parking areas, stormwater treatment and an on-site wastewater disposal field. The site is served by municipal water.

As discussed at the May 2, 2019 Technical Review Committee meeting the following are attached.

1) Eversource Energy letter regarding ability to serve the development.
2) Revised Streetscape and Landscape Design plans.
3) Additional vegetative screening along the southern boundary and documentation of existing tree on Landscape Plan.
4) Abutter information added to Neighborhood Plan.
5) Common Site Plan notes.
6) Revised Lighting Plan.
7) Design professional signatures and stamps on all plans, owner's signatures on site plans.
8) The revised Site Plan and Driveway Application have been sent to Brian Schutt, Division 6, NHDOT.
9) An amended Traffic Report is attached.
10) I have contacted Pace Industries at their Billerica, MA office regarding possibly connecting to their driveway on the abutting parcel to the north. I called on May 2 and confirmed that their Dover facility was managed from this office but could only leave a voice message for the facilities director. I also e-mailed Pace Industries on May 4th (attached). No reply has been received to date.
11) Fire-truck turning template is attached.

We look forward to discussing this project at the next available Planning Board meeting. If any additional information is required, please contact me.

Thank you for your assistance.

Sincerely;

Kenneth A. Wood, PE
President

cc: 29 Littleworth, LLC (Peter Paul)

C147-19_Dover_PlanningBoard_Cover.doc

Encl's:

1) Site Plan Review Application
2) Site Plan Review Checklist
3) Property Deeds
4) Google Earth Imagery
5) Test Pit Logs
6) Traffic Impact Assessment Report
7) Stormwater Management Report
8) Street-Scape Rendering
9) Pace Industries e-mail
10) Fire Truck Template
11) Eversource letter
12) Plan-Set

City of Dover, New Hampshire
SITE REVIEW APPLICATION

[Revision Date: April 02, 2018]

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

APPLICANT AND OWNER INFORMATION

Name of Applicant: 29 Littleworth Rd, LLC c/o Northern Pool & Spa Telephone # 207-439-6800

Address of Applicant: 291 Harold Dow Highway, Eliot, ME 03903

E-Mail Address: peter@northernpoolandspa.com

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

Address of Property Owner:

PROPERTY INFORMATION

Address of Property: 29 Littleworth Road, Dover, NH 03820

Assessor's Map # G-6 Lot(s) # 0-0

Zoning District(s) I-4, Assembly and Office Overlay District(s)

Size of Parcel: 173,804 sq. ft. 3.99 ac. Property Deed: Book 4538 Page: 0447

Existing Use of Property: Vacant land, former buildings were demolished.

SITE PLAN INFORMATION

Describe Proposed Use: Office and Warehouse

Area of Parcel to be Developed: 87,500 SF sq. ft.

If Multi-family Residential, Specify Number of Units & Buildings Proposed: N/A

Number of Parking Spaces: Existing 0 Proposed 22

Highway Access (check where applicable): ____ City Street X State Highway

Number of Employees Total: 20 In Maximum Shift: 20

Disposition of Parcel:

Building Footprint 11,728 sq. ft.

Total Building Area 0 sq. ft.

Paved Area 0 sq. ft.

Building Setbacks:

Front Yard 75' ft.

Rear Yard 75' ft.

Side Yard: Right 75 ft. Left 75 ft.

City Water? ___Yes ___ No How far is city water from the property? on-site

City Sewer? ___Yes X No How far is city sewer from the property? _____

BUILDING INFORMATION

Type of Building to be Built: Office and Warehouse

Height of Building: 34' Finished Floor Elevation: 107.5'

Number of Seats (where applicable) N/A

Estimated value of construction: $420,000 Refuse removal: Public/Private (circle one)

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: _____

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

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) Christian Wilber

Address River Road, Eliot, ME 03903 Telephone #: (207) 451-3940

Professional License #: NH 00847 E-mail address: chriswilberpls@gmail.com

ENGINEER INFORMATION

Name of Engineer and Company (Licensed in N.H.) Kenneth A. Wood, P.E./ Attar Engineering, INC

Address 1284 State Road, Eliot, ME 03903 Telephone #: 207-439-6023

Professional License #: 6917 E-mail address: ken@attarengineering.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: 3-4-2019

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

Signature of Agent: _____ Date: 3/4/2019

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: 3-4-2019

AUTHORIZATION TO COMPLETE THE PROJECT ON SUBJECT PROPERTY

I, and my successors, hereby the City of Dover or 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: 3-4-2019

Signature of Applicant (*if different from owner*): SAME 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: 3-4-2019

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

List of Abutters

Project: 29 Littleworth Rd.

Location: Dover, NH Map G-6, Lot 0-0

Map	Lot	Property Owner	Mailing Address
G-4	0-0	16 Industrial Park, LLC	273 Corporate Drive, Ste 150 Portsmouth, NH 03801
G-4	A-1	Bearings, INC C/O PT Counselors	P.O. Box 3075 McKinney, TX 75070
G-4	G-2	Littleworth Industrial Park Properties LLC	PO Box 118 Dover, NH 03821-0018
G-6	B-0	Willis E. Hutchings	184 W High Street Somersworth, NH 03878
G-6	D-0	Hadley S. & Shane A.	4 Cottage Lane Rollinsford, NH 03869
G-6	C-0	Storemaster Funding, LLC C/O Pace Industries	67 Faulkner Street No. Billerica, MA 01862
H-28	0-0	Richard W. Kay	45 Littleworth Road Dover, NH 03820
H-28	1-0	Richard W. Kay	45 Littleworth Road Dover, NH 03820
H-31	0-0	Ruth K Sousane Nancy K Quinian	30 Littleworth Road Dover, NH 03820
H-65	A-0	Iron Horse Park	High Street N. Billerica, MA 01862
		City of Dover	288 Central Ave Dover, NH 03820

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 = $ _____
   - LOT LINE ADJUSTMENT $200.00 (if more than two lots involved, add $100.00 per lot) =
   - SITE REVIEW – TRANSFER OF DEVELOPMENT RIGHTS Application fee $150.00 = $ _____
   - SITE REVIEW - RESIDENTIAL $100.00 x # ____ per dwelling unit = $ _____
   - SITE REVIEW – NON-RESIDENTIAL (not to exceed $10,000)
     New construction $.15 sq. ft. x # 11,728 sq. ft. = $ 1759.20
     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 # 52,316 = $ 3662.12
   - 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**

(Revised October 2, 2018)

TOTAL FEE $ 5421.32

FD

CITY OF DOVER SITE REVIEW
LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS
G-6	0-0	29 Littleworth Rd LLC	291 Harold Dow Highway, Eliot, ME 03903

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS
	Same	

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Kenneth A. Wood, P.E.	Attar Engineering, INC	1284 State Road, Eliot, ME 03903

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS
		None	

City of Dover, New Hampshire
SITE PLAN REVIEW SUBMISSION CHECKLIST

[Revision Date: June 25, 2018]

This site plan review checklist, as required by Chapter 149-6-B(2), should be completed by the applicant. It is intended to assist the applicant in the planning process of preparing a Site Plan Review 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 site plan review requirements. Please refer to the Site Plan Review Regulations for full details.

APPLICANT: 29 Littleworth, LLC File Number: _____

PROJECT TITLE: 29 Littleworth Rd Site Plan

PROPERTY LOCATION: 29 Littleworth Rd Tax Map: G-6 Lot: 0-0

	Explain How Provided	Reviewed
1. Completed and signed Application form	X	
2. Electronic copy of the engineered/surveyed plan layout	X	
3. Electronic copy of supplementary materials and application	X	
4. Traffic Impact Assessment and Analysis (Standard or Advanced)	X	
5. Waiver requests to the Site Plan Review Regulations, with written justification		
6. Conditional Use Permit applications		
7. A colored rendering of the streetscape that will be created along the existing public right-of-way	X	
8. A colored architectural plan showing all sides of buildings	X	
9. List of all professional agents to be notified for Planning Board	X	
10. Letter to Serve from Public and Private Utilities	Forthcoming	
11. Eight folded copies of site plan w/scale of not less than 1"=50' or 1"=100' for larger site plans, for TRC. Plans shall contain the following items as appropriate:	X	
Location map at appropriate scale	X	
Proposed Project 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	
Depict pedestrian walkways and accessible access	X	
Location and width of existing and proposed access/egress ways	X	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	N/A	
	Explain How Provided	Reviewed

Existing and proposed topographic information at two foot intervals	X	
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 stormwater lines and facilities	X	
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots	X	
Location of Flood Hazard Zone	N/A	
Location of all bodies of water and watercourses	X	
Location of wetlands and buffers	X	
Neighborhood plan with aerial underlay showing how project relates to abutting uses within the plan set	X	
Existing natural features and/or significant vegetation on property	X	
Depict existing contours up to 100 ft. beyond project limits	X	
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect	X	
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces	X	
Location, material and size of existing and proposed pavement area	X	
Location of proposed fire lanes	X	
Specify finished floor elevations of buildings	X	
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening	X	
Depict all service, storage, loading bays and utility areas	X	
All applicable Dover Common Site Plan notes	X	
12. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis	X	
Stormwater Management System Operation and Maintenance Plan	X	
Erosion and Sedimentation Control Plan	X	
Landscape Operation and Maintenance Plan	X	
Proposed restrictive covenants or homeowners association documents	N/A	
Dates and permit numbers of all required state and federal permits	Forthcoming	
If wetland buffer, indicate placards locations, as applicable	X	
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs	X	
Location of proposed drive-in facilities	N/A	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required	X	

REVIEWED BY: _____ DATE_____ TRC DATE_____

Return to:
Atlas-Heritage Title, LLC
903 Central Avenue, #5
Dover, NH 03820

FIDUCIARY DEED

KNOW ALL MEN BY THESE PRESENTS: That Jeffrey McLaughlin, Executor of Estate of Douglas S. Rogers, of 29 Littleworth Road, Dover, NH 03820, pursuant to the power conferred by the Strafford County Probate Court and every other power, for Two Hundred Forty-Three Thousand and 00/100 ($243,000.00) paid grant(s) to Peter Paul, with a mailing address of P.O. Box 694, Dover, NH 03820, with Fiduciary Covenants:

The premises described on Exhibit A, attached hereto.

I/We, the grantor(s) herein hereby release all rights of homestead, if any, in the above described premises.

Executed this 20th day of December, 2017.

Jeffrey J McLaughlin Executor

Jeffrey McLaughlin, Executor of the Estate of Douglas S. Rogers

State of New Hampshire
County of Strafford

December 20, 2017

This instrument was acknowledged before me on December 20, 2017, by Jeffrey McLaughlin, Executor of Estate of Douglas S. Rogers.

Notary Public

Commission expiration:

WILLIAM R. DUNN
COMMISSIONER
MY COMMISSION EXPIRES NOV 4, 2020
OF DEEDS
NEW HAMPSHIRE

Exhibit A

A certain tract of land, with the buildings thereon, situate in Dover, County of Strafford and State of New Hampshire on the easterly side of the Littleworth Road, bounded and described as follows:

Beginning at a marker on the easterly side of the Littleworth Road at land of the Boston and Maine Railroad, thence running N 65° 54' E by said Boston and Maine Railroad land, a distance of 400 feet, more or less, to a marker at land of the S.E.N.H. Industrial Park, thence running N 28° 28' W by said Industrial Park a distance of 438.2 feet, to a marker, thence running S 61° 50' W a distance of 400.00 feet to a marker on the Easterly side of said Littleworth Road, thence running S 28° 28' E by said Littleworth Road a distance of 410 feet, more or less, to the point of beginning.

Being shown on an unrecorded plan entitled "S.E.N.H. Industrial Park, Rogers Land, Dover, N.H., dated October 1966, prepared by G.L. Davis and Associates."

Subject, also, to the easement granted to the Public Service Co. of New Hampshire by deed dated August 28, 1968 and recorded in said Registry at Book 850, Page 186.

Meaning and intending to describe and convey the premises conveyed to Grantor(s) by deed dated 06/27/1972 and recorded in the Strafford Registry of Deeds, Volume 986, Page 124.

Return to:

EDoc # 0019217 Dec 27, 2017 10:46 AM
Book 4538 Page 0447 Page 1 of 2
Register of Deeds, Strafford County

C/H
L-CHIP
STA124983

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, that I, Peter Paul, with a mailing address of P. O. Box 694, Dover, NH 03820, for consideration paid, grants to 29 Littleworth Road, LLC, with a mailing address of P.O. Box 694, Dover, NH 03820, with Warranty Covenants:

A certain tract of land, with the buildings thereon, situate in Dover, County of Strafford and State of New Hampshire on the easterly side of the Littleworth Road, bounded and described as follows:

Beginning at a marker on the easterly side of the Littleworth Road at land of the Boston and Maine Railroad, thence running N 65° 54' E by said Boston and Maine Railroad land, a distance of 400 feet, more or less, to a marker at land of the S.E.N.H. Industrial Park, thence running N 28° 28' W by said Industrial Park a distance of 438.2 feet, to a marker, thence running S 61° 50' W a distance of 400.00 feet to a marker on the Easterly side of said Littleworth Road, thence running S 28° 28' E by said Littleworth Road a distance of 410 feet, more or less, to the point of beginning.

Being shown on an unrecorded plan entitled "S.E.N.H. Industrial Park, Rogers Land, Dover, N.H., dated October 1966, prepared by G.L. Davis and Associates."

Subject, also, to the easement granted to the Public Service Co. of New Hampshire by deed dated August 28, 1968 and recorded in said Registry at Book 850, Page 186.

Meaning and intending to describe and convey the premises conveyed to Grantor by deed of near or even date to be recorded herewith.

This is not homestead property.

This is a non-contractual transfer and is not subject to New Hampshire Transfer Tax Stamps. The said Peter Paul is the sole member of the limited liability company.

Executed this 20th day of December, 2017.

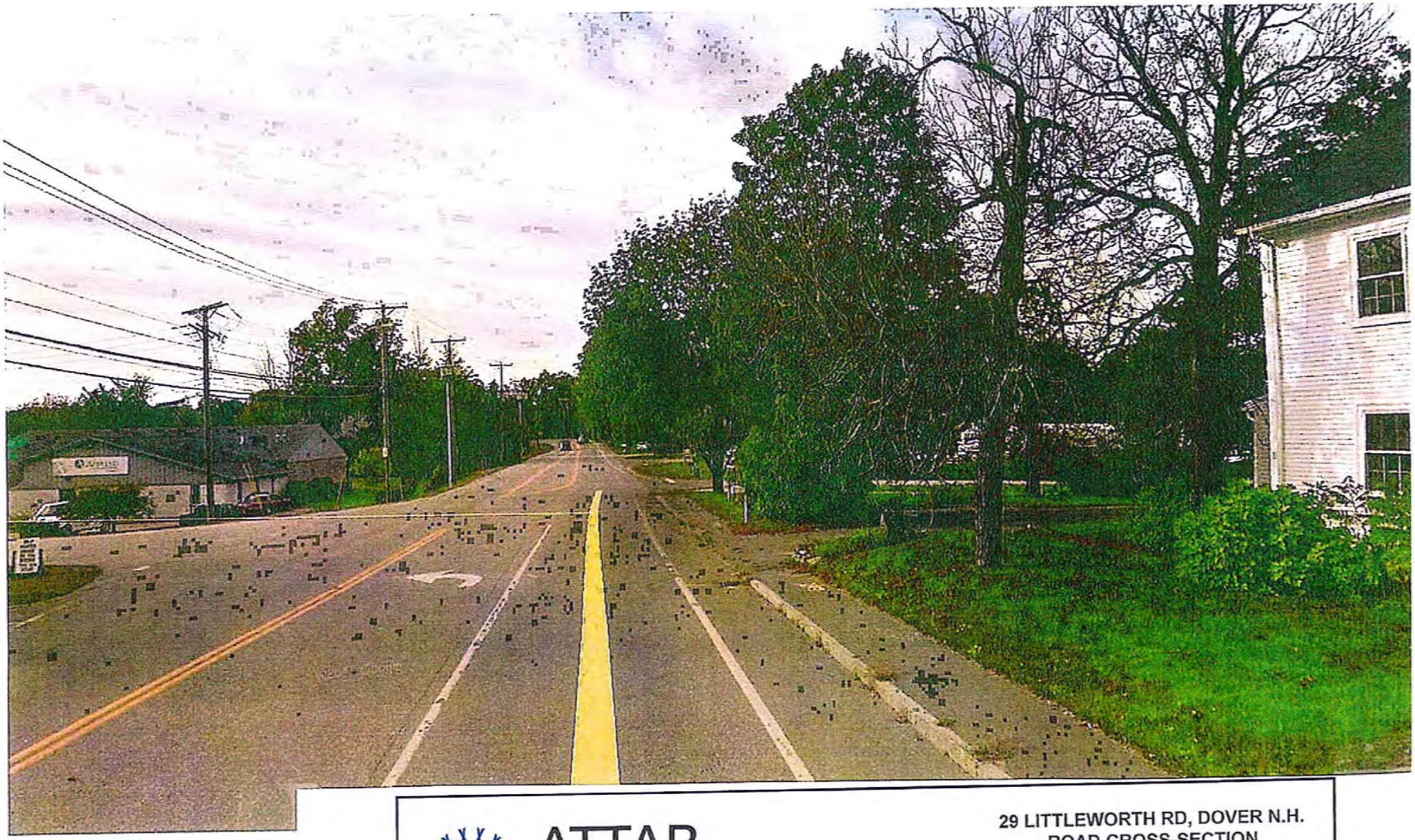
Peter Paul

State of New Hampshire
County of Strafford

This instrument was acknowledged before me on December 20, 2017, by Peter Paul.

Notary Public
Commission expiration:

WILLIAM R DUNN
COMMISSIONER
MY
COMMISSION
EXPIRES
NOV 4, 2020
OF DEEDS
NEW HAMPSHIRE



ATTAR
ENGINEERING, INC
CIVIL · STRUCTURAL · MARINE

29 LITTLEWORTH RD, DOVER N.H.
ROAD CROSS-SECTION
APPROX. SCALE: NONE
PROJECT NO. C147-18



ATTAR
ENGINEERING, INC
CIVIL - STRUCTURAL - MARINE

29 LITTLEWORTH RD, DOVER N.H.
GOOGLE EARTH IMAGERY
APPROX. SCALE: NONE
PROJECT NO. C147-18

Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
207 363 4532
mcuomosoil@gmail.com

TEST PIT DATA

Client: Attar Engineering, Inc.
Location: 29 Littleworth Road, Dover, NH
Date: 3 January 2018

Test Pit: ONE

Depth	Description
0-12"	10YR 3/3 very fine sandy loam, granular, friable.
12-22"	10YR 5/6 very fine sandy loam, blocky, friable.
22-31"	2.5Y 5/4 silt loam, massive, friable, with redox.
31-51"	5Y 4/4 silt loam, massive, firm, with redox.

Depth to Seasonal High Water Table: 22"
Depth to Bedrock: none observed
Observed Water: none
Estimated percolation rate: 16 min./inch

Test Pit Number: TWO

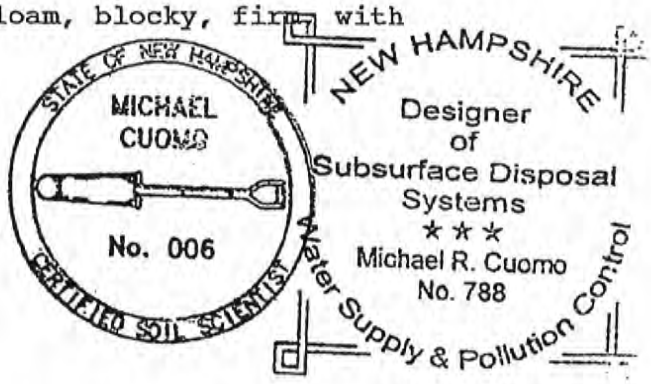
Depth	Description
0-12"	10YR 3/3 very fine sandy loam, granular, friable.
12-22"	10YR 5/4 very fine sandy loam, blocky, friable.
22-30"	2.5Y 5/6 silt loam, massive, friable, with redox.
30-58"	5Y 6/4 silt loam, massive, firm, with redox.

Depth to Seasonal High Water Table: 22"
Depth to Bedrock: none observed
Observed Water: none
Estimated percolation rate: 16 min./inch

Test Pit Number: THREE

Depth	Description
0-7"	10YR 3/3 fine sandy loam, granular, friable.
7-33"	10YR 5/6 fine sandy loam, blocky, friable.
33-48"	2.5Y 6/6 gravelly loamy sand, blocky, firm, with redox.
48-56"	2.5Y 4/4 stony fine sandy loam, blocky, firm, with redox.

Depth to Seasonal High Water Table: 33"
Depth to Bedrock: none observed
Observed Water: none
Estimated percolation rate: 6 min./inch



Test Pit Number: FOUR

Depth	Description
0-12"	10YR 3/2 very fine sandy loam, granular, friable.
12-15"	10YR 5/4 very fine sandy loam, blocky, friable.
15-21"	2.5Y 6/4 silt loam, blocky, friable, with redox.
21-48"	5Y 4/4 silt loam, massive, firm, with redox.
48-61"	2.5Y 4/4 stony fine sandy loam, massive, firm, with redox.

Depth to Seasonal High Water Table: 15"
Depth to Bedrock: none observed
Observed Water: none
Estimated percolation rate: 16 min./inch

Test Pit Number: FIVE

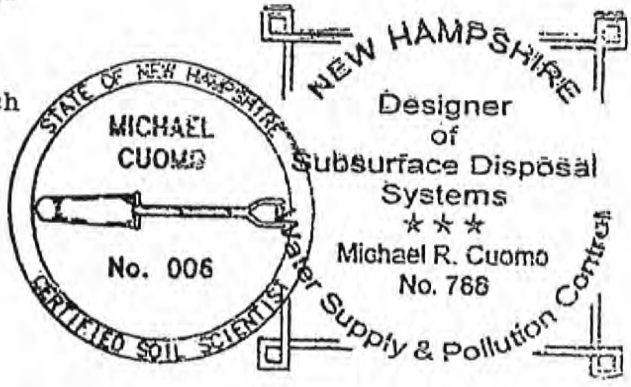
Depth	Description
0-8"	10YR 2/2 very fine sandy loam, granular, friable.
8-12"	10YR 5/4 very fine sandy loam, blocky, friable.
12-16"	2.5Y 5/4 very fine sandy loam, blocky, friable, with redox.
16-32"	2.5Y 6/4 silt loam, blocky, firm, with redox.
32-60"	2.5Y 5/6 stony fine sandy loam, massive, firm, with redox.

Depth to Seasonal High Water Table: 12"
Depth to Bedrock: none observed
Observed Water: none
Estimated percolation rate: 16 min./inch

Test Pit Number: SIX

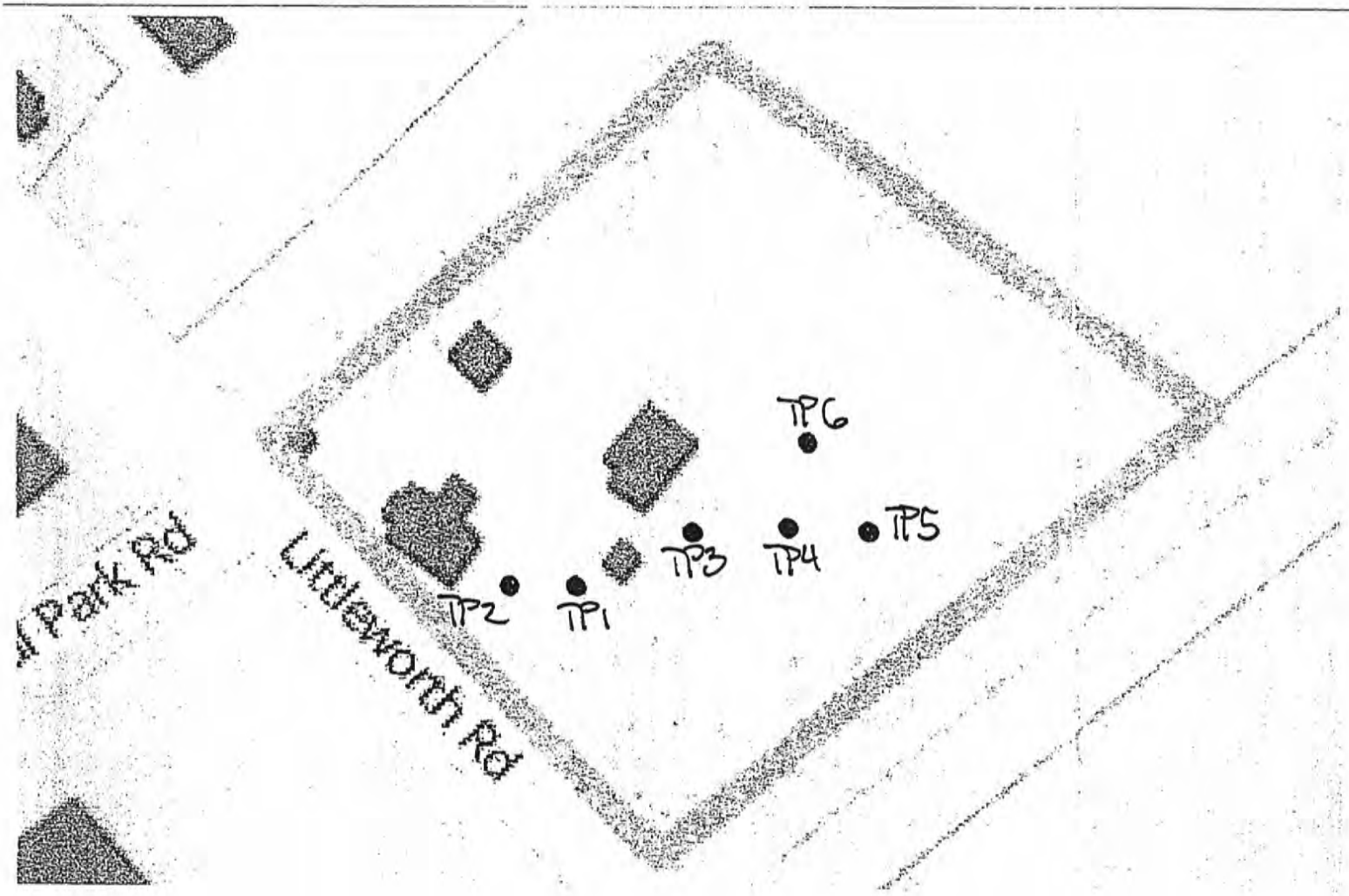
Depth	Description
0-7"	10YR 3/3 gravelly fine sandy loam, granular, friable.
7-15"	10YR 5/4 gravelly fine sandy loam, blocky, friable.
15-56"	2.5Y 5/4 gravelly fine sandy loam, blocky, firm, with redox.

Depth to Seasonal High Water Table: 15"
Depth to Bedrock: none observed
Observed Water: none
Estimated percolation rate: 6 min./inch



Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
207 363 4532
mcuomosoil@gmail.com

29 Littleworth Road, Dover, NH
Rough sketch of approximate test pit locations.
3 January 2018



ATTAR
ENGINEERING, INC
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TRAFFIC IMPACT ASSESSMENT REPORT
COMMERCIAL DEVELOPMENT – 29 LITTLEWORTH ROAD
DOVER, NEW HAMPSHIRE

May 6, 2019

Scope – This report provides a Standard Analysis for the development of 29 Littleworth Road, Dover, New Hampshire. Proposed improvements, consisting of an 11,728 SF building (1,728 SF office and 10,000 SF warehouse area) are shown on the "Site Plan, Northern Pool and Spa, Inc., 29 Littleworth Rd, Dover, NH" prepared by Attar Engineering, Inc.

1) Description of the Site: The 4-acre site is located in the Assembly and Office (I-4 Zoning District. The site is bounded by Littleworth Road, Route 9), to the west, the access drive to Pace Industries to the north, the Pace Industries parcel to the east and B & M Railroad to the south. The proposed entrance is in the same location as a former entrance to a farm and farmstand. Topography is gently sloping towards the rear (east) of the parcel with a difference in elevation of 20' over more than 400'.

2) Description of Roadways: Littleworth Road, Route 9 is a two-lane improved state highway, approximately 47 feet wide (two travel lanes, a left-hand (northbound) center turning lane and two breakdown lanes). Additionally there is a 5' wide raised asphalt sidewalk with granite curb located on the east side of Littleworth Road. The existing driveway curb cut also has sidewalk curb ramps on both the northern and southern sides (see photograph attached). Posted speed limit is 35 MPH; the closest intersections are Industrial Park Road, across from the northern sideline and Old Littleworth Road approximately 800' to the south.

3) Sight Distance: Sight Distance is 605' looking north and 490' looking south. The proposed driveway is in a similar location as the former access drive; Chapter 149-14-H requires a minimum driveway spacing of 310' in the I-4 District from public street intersections in the 35 MPH posted speed limit area but 149-14-H (2) allows "Existing driveways that do not meet the above standards may be retained." Locating the driveway 310' from the intersection with Industrial Park Road is not possible as the driveway would be located adjacent to the railroad bridge and guardrail at the southern sideline (see photograph attached). Sight distance is satisfactory for both the posted speed limit (35 MPH) and the observed vehicular speed of 40 MPH to 50 MPH (see attached sight distance evaluation).

4) Trip Generation: Trip Generation was estimated using the Institute of Traffic Engineers (ITE) Trip Generation Manual, 10th Edition. The "Light Industry" Land Use was used for the Commercial/Industrial Use; this provided a conservative trip generation rate (6.97 daily trips and 0.99 peak hour trips(when compared to warehouse or wholesale uses). The following Selected Land Uses were used in the analysis and, as noted, 95 daily (one-way trip ends) are expected;

Trip Generation from Development - Average Daily Trips

Land Use	Units	Gen Rate	No. Units	Daily Trips	Source
Office (Genl)	1,000 SF	11.01	1.73	19	ITE 710
Comm/Ind	1,000 SF	6.97	10	70	ITE 110
Townhouse	Dwelling	5.86	1	6	ITE 230
Total Daily Trips:				95	

Conversely 15 Peak Hour trips are expected;

Trip Generation from Development - Peak Hourly AM (7-9) and PM (4-6)

Land Use	Units	Trips	No. of Units	Peak Trips
Office	1,000 SF	1.37	1.73	4
Comm/Ind	1,000 SF	0.99	10	10
Townhouse	Each	0.54	1	1
Total Trips:				15

5) Trip Distribution: Average Annual Daily Vehicle Trips (AADT) on Route 9, Littleworth Road have averaged from 8,000 trips (2011) to 10,000 trips (2008), Source; State of New Hampshire, Department of Transportation, Bureau of Traffic. Growth Rate ranges from -7% (2011) to 12% (2017) with the most recent year, 2018, showing a 2% growth rate. Trips are generally split between eastbound and westbound; for 2018 AADT was 10,859 trips with 5444 eastbound and 5415 westbound. Assuming an even split eastbound and westbound for trips generated by the development additional traffic results in an additional 0.14%. No traffic mitigation is anticipated; there are no capacity concerns and adequate sight distance is provided in both directions at the entrance.

6) Certifications: Kenneth A. Wood, P.E. (N.H. P.E. # 6917) has been licensed to practice in the State of New Hampshire since 1987; in addition he is licensed to practice engineering in Maine and Massachusetts. He is also licensed as a State of New Hampshire Natural Scientist and he holds a National Council of Engineering Examiners (NCEE) certificate. He formed Attar Engineering, Inc. in April, 1988; the firm practices civil, structural, and marine engineering and has accomplished many commercial, residential and industrial projects including traffic related items.

Sincerely;

Kenneth A. Wood, P.E.
President



29 LITTLEWORTH RD

Property

Address	29 LITTLEWORTH RD
ID	G0006-000000

Property Information

No results found

City Council

No results found

Voting Information

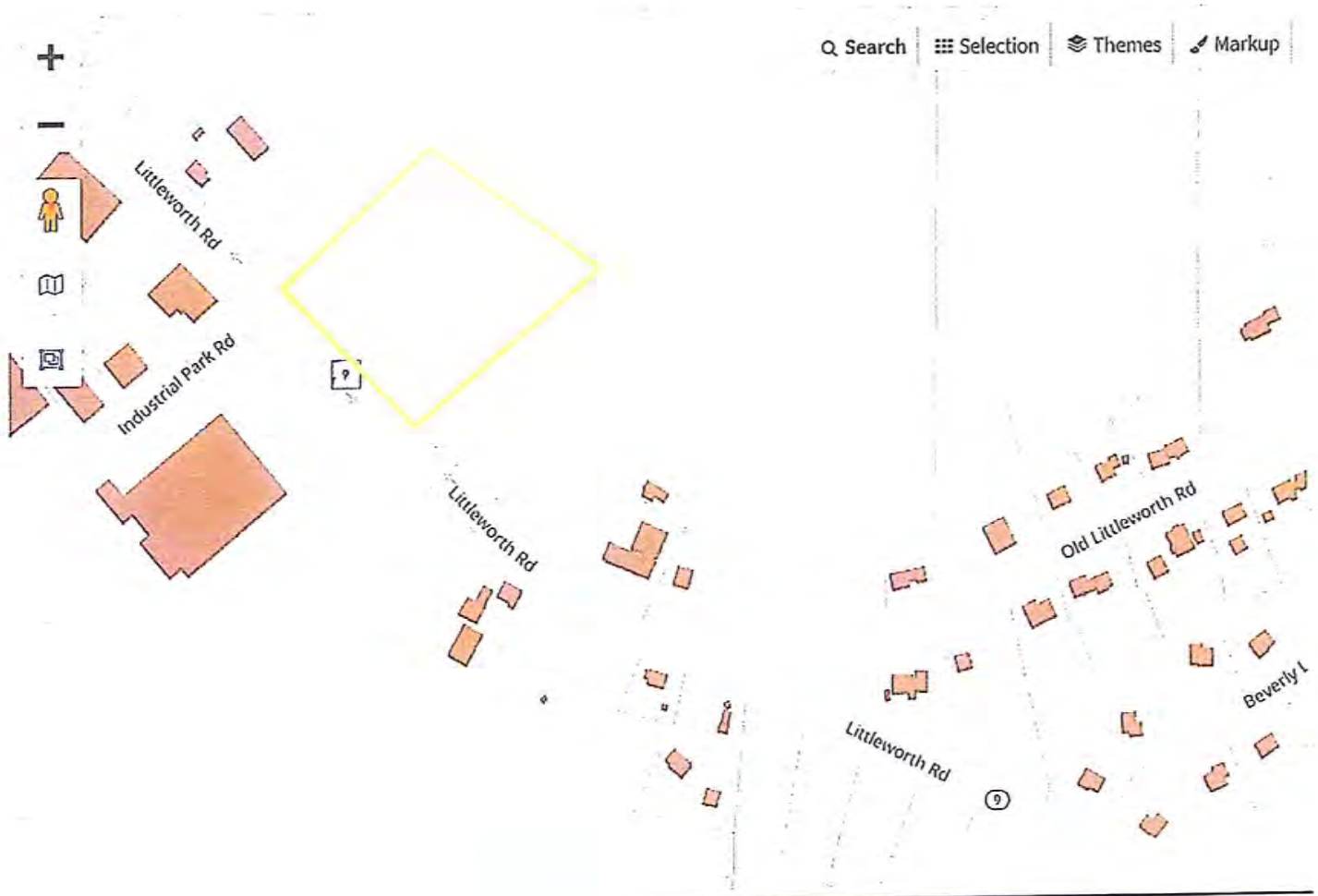
No results found

Ownership

Name	29 LITTLEWORTH ROAD LLC, C/O NORTHERN POOL & SPA
Address	291 HAROD DOW HIGHWAY ELIOT, ME 03903

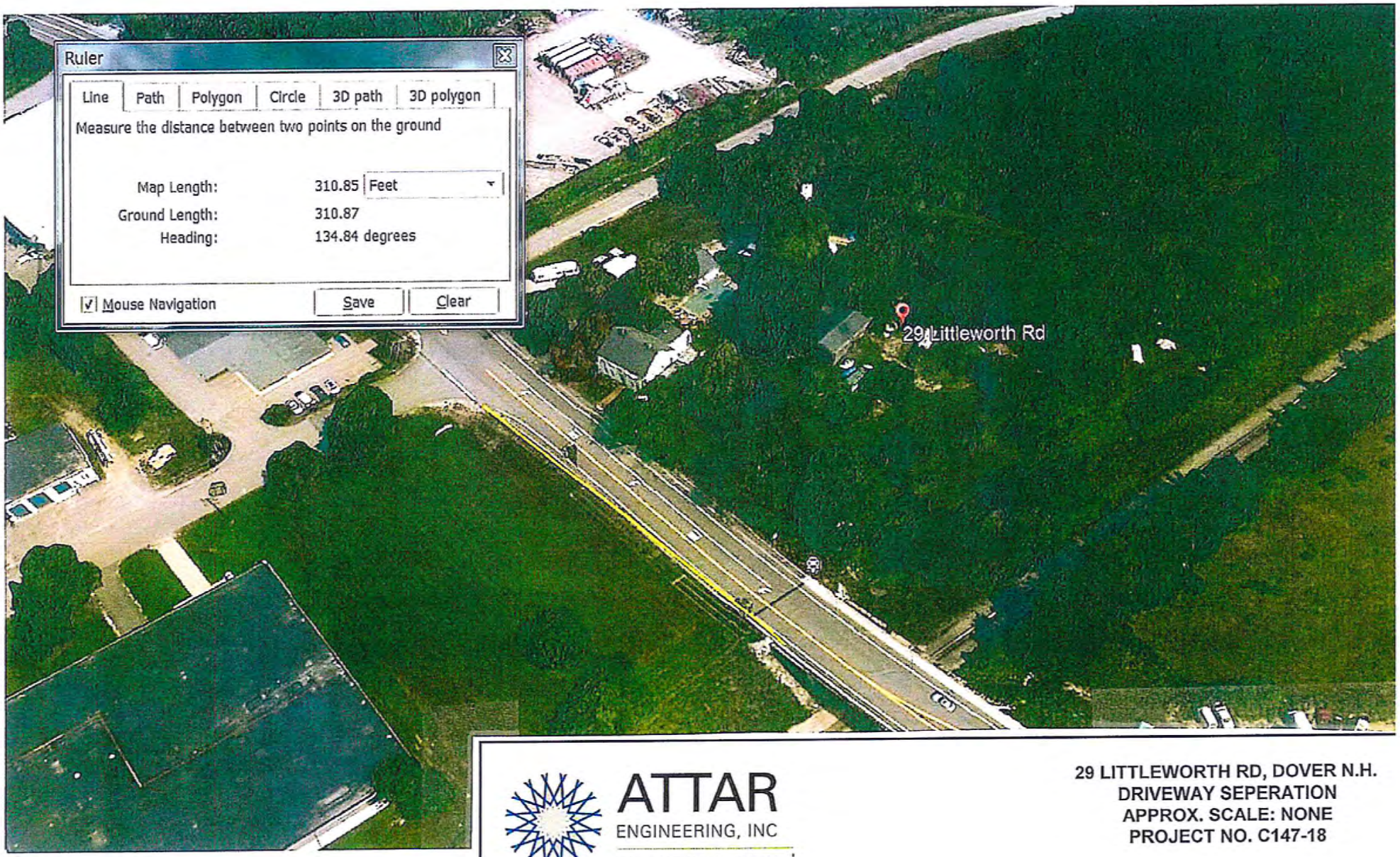
Valuation

Total	$143,300
Buildings	$0



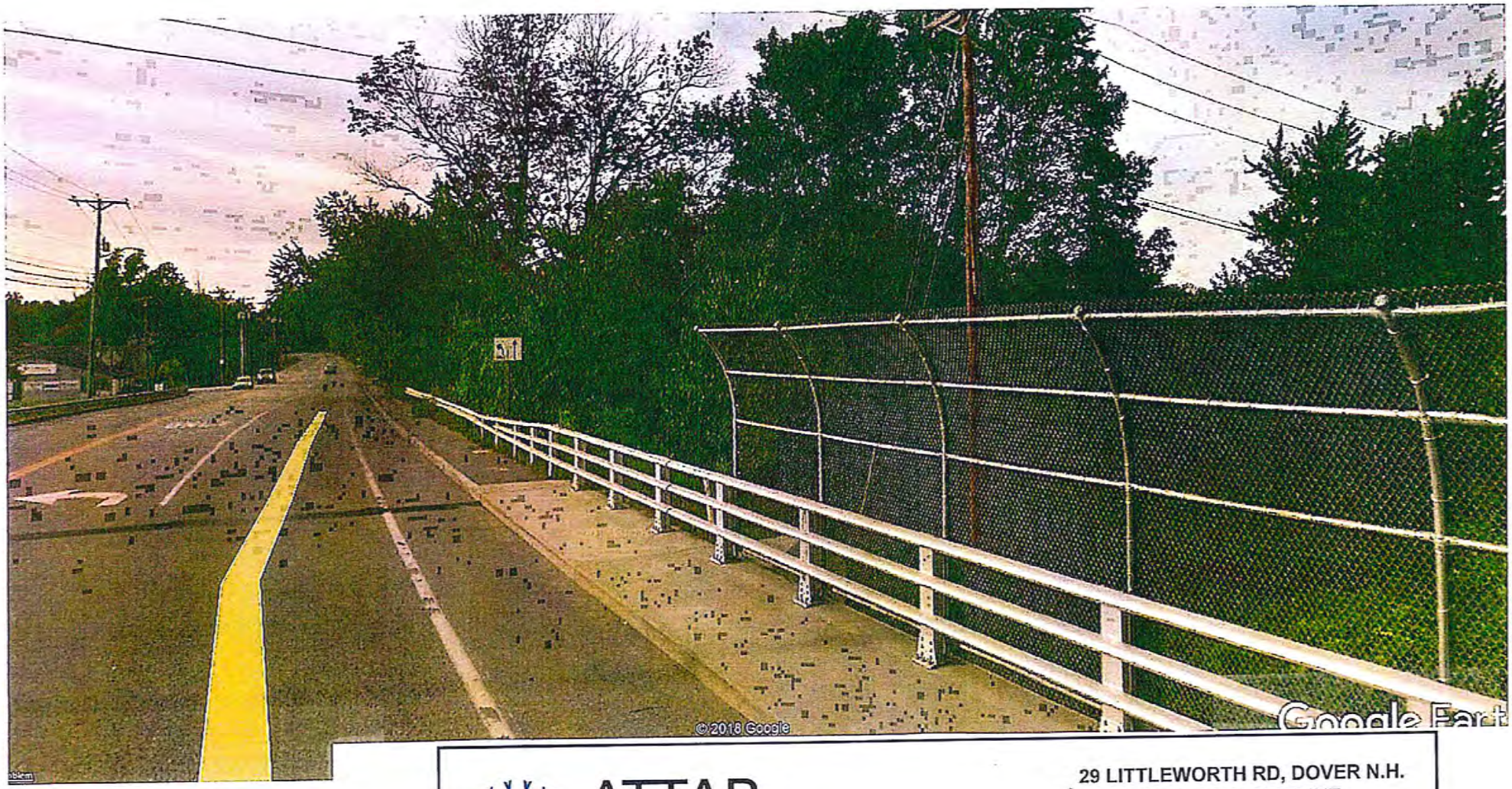
ATTAR ENGINEERING, INC
CIVIL · STRUCTURAL · MARINE

29 LITTLEWORTH RD, DOVER N.H.
LOCATION MAP
APPROX. SCALE: NONE
PROJECT NO. C147-18



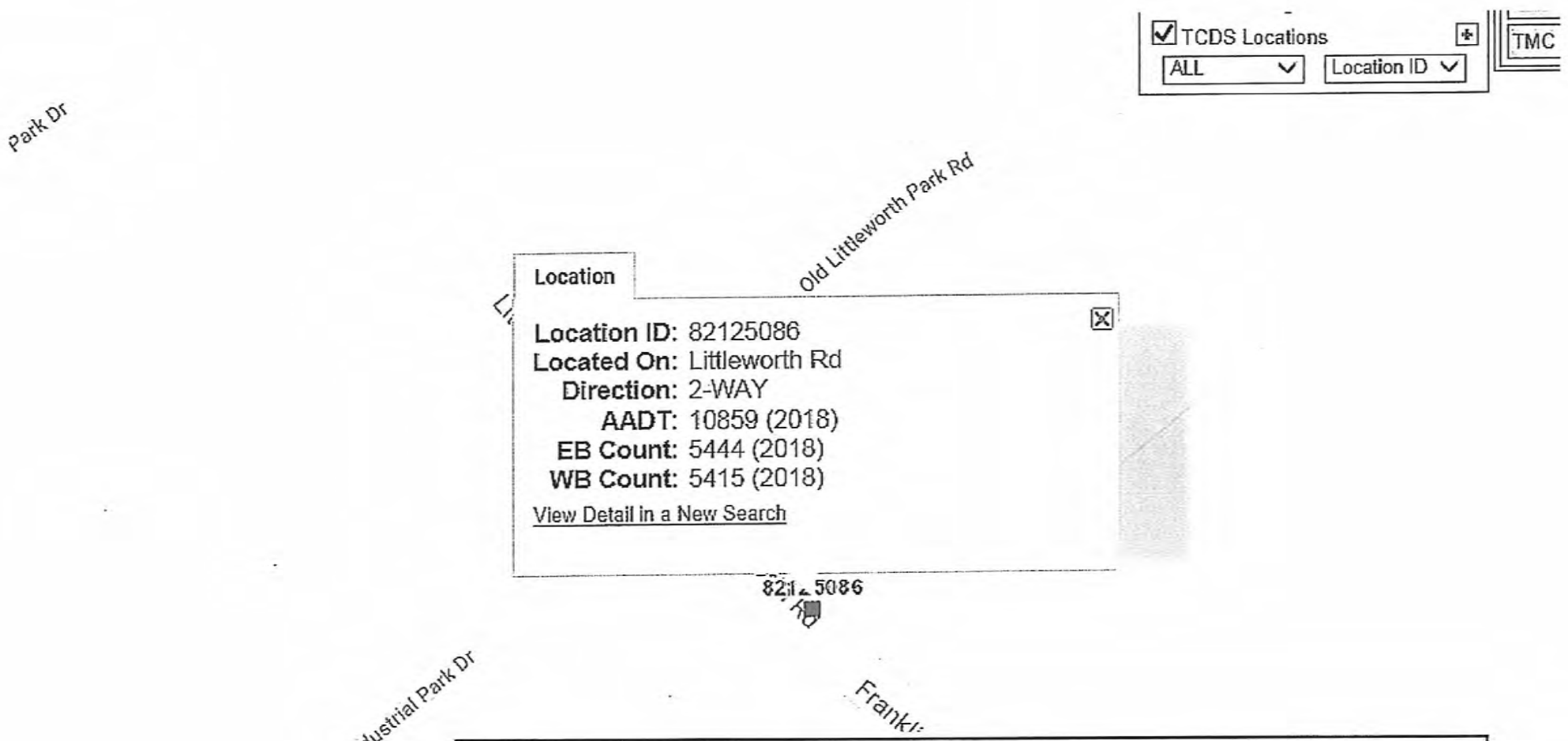
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ENGINEERING, INC
CIVIL · STRUCTURAL · MARINE

29 LITTLEWORTH RD, DOVER N.H.
DRIVEWAY SEPERATION
APPROX. SCALE: NONE
PROJECT NO. C147-18



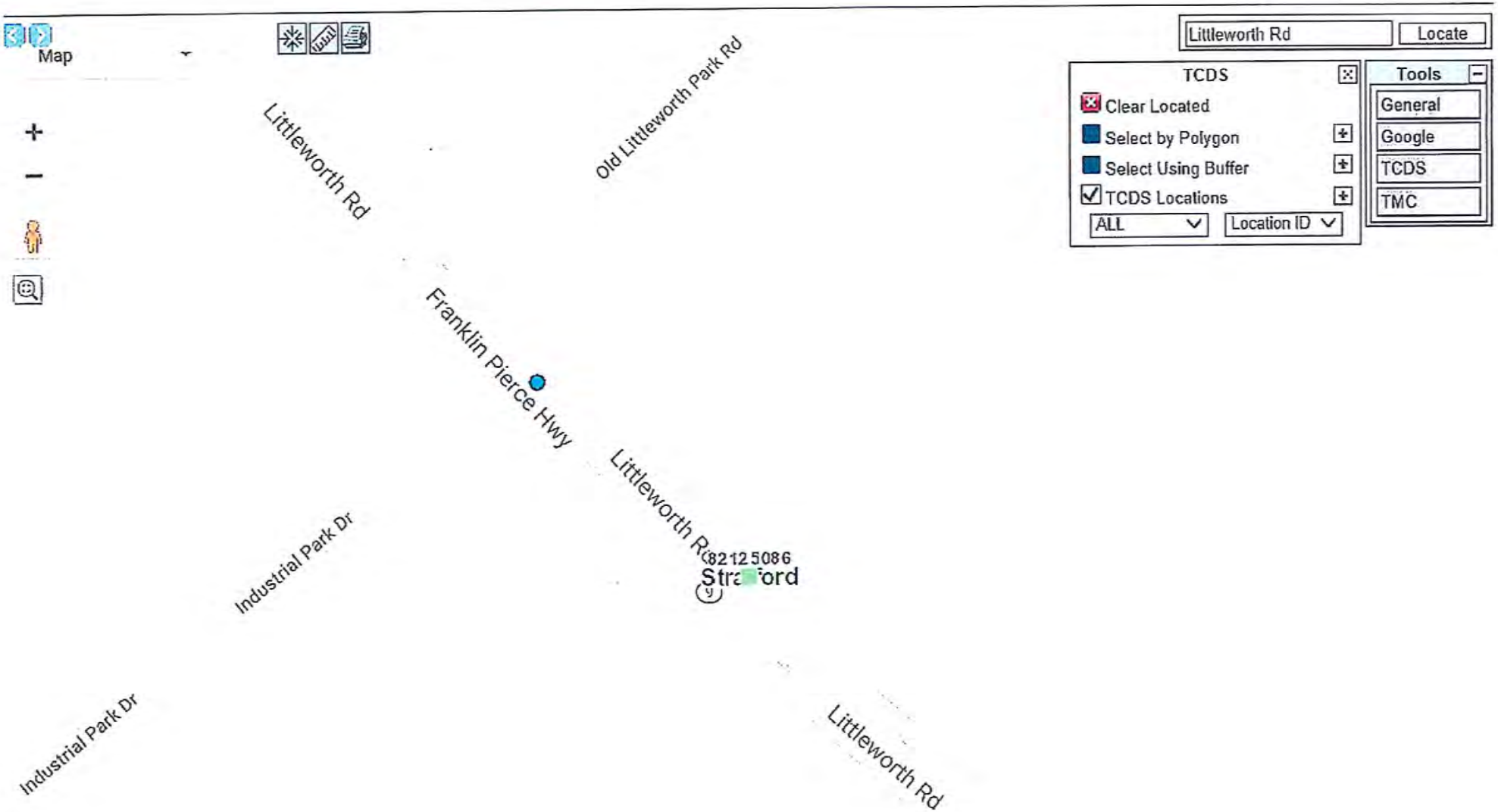
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ENGINEERING, INC
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29 LITTLEWORTH RD, DOVER N.H.
SOUTHERN SIDELINE
APPROX. SCALE: NONE
PROJECT NO. C147-18



ATTAR ENGINEERING, INC
CIVIL · STRUCTURAL · MARINE

29 LITTLEWORTH RD, DOVER N.H.
DAILY TRAFFIC VOLUME
APPROX. SCALE: NONE
PROJECT NO. C147-18



ATTAR ENGINEERING, INC
CIVIL · STRUCTURAL · MARINE

29 LITTLEWORTH RD, DOVER N.H.
DAILY TRAFFIC VOLUME
APPROX. SCALE: NONE
PROJECT NO. C147-18

New Hampshire DOT Department of Transportation

MS2 Transportation Data Management System

List View | All DIRs

Record 1 of 1 Goto Record go

Location ID	82125086	MPO ID	
Type	SPOT	HPMS ID	
On NHS	No	On HPMS	No
LRS ID	S0000009__	LRS Loc Pt.	
SF Group	04	Route Type	
AF Group	04	Route	NH 9
GF Group	E	Active	Yes
Class Dist Grp	Default	Category	3
Seas Clss Grp	Default		
WIM Group	Default		
QC Group	Default		
Fnct'l Class	Minor Arterial	Milepost	
Located On	Littleworth Rd		
Loc On Alias	NH 9 (LITTLEWORTH RD) WEST OF B&M RR BRIDGE		

PR	MP	PT

More Detail

STATION DATA

Directions: 2-WAY | EB | WB

AADT

Year	AADT	DHV-30	K %	D %	PA	BC	Src
2018	10,859[3]		9	55	10,012 (92%)	847 (8%)	Grown from 2017
2017	10,646	969	9	55	9,878 (93%)	768 (7%)	
2016	9,486[3]				8,652 (91%)	834 (9%)	Grown from 2015
2015	9,300[2]						
2011	8,000						

|<< < > >>| 1-5 of 12

Travel Demand Model

	Model Year	Model AADT	AM PHV	AM PPV	MD PHV	MD PPV	PM PHV	PM PPV	NT PHV	NT PPV

VOLUME COUNT

	Date	Int	Total
	Thu 7/27/2017	60	11,812
	Wed 7/26/2017	60	12,246
	Tue 7/25/2017	60	12,019
	Mon 7/24/2017	60	10,893
	Thu 7/16/2015	60	10,835
	Wed 7/15/2015	60	10,752
	Tue 7/14/2015	60	10,691

VOLUME TREND

Year	Annual Growth
2018	2%
2017	12%
2016	2%
2015	4%
2011	-7%
2008	0%

	Thu 6/30/2011	60	9,614
	Wed 6/29/2011	60	9,451
	Tue 6/28/2011	60	9,358

|<< < > >>| 1-10 of 39

To Date

2005	1%
2002	4%
1999	0%
1996	-2%

|<< < > >>| 1-10 of 11

SPEED

	Date	Int	Pace	85th	Total
No Data					

CLASSIFICATION

	Date	Int	Total
No Data			

WEIGH-IN-MOTION

	Date	Axles	Avg GVW	Total
No Data				

PER VEHICLE

	Date	Axles	85th	Total
No Data				

GAP

	Date	Int	Total
No Data			

PARTIAL COUNT

Date	Int	24-Hr Total

NOTES/FILES

	Note	Date	

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC

Bureau of Planning, Traffic Section, Traffic Reports

18-Feb-16

STAT.	TYPE	LOCATION	FC	2008	2009	2010	2011	2012	2013	2014	2015
Town: DOVER											
125065	82	FOURTH ST OVER COCHECO RIVER (EB-WB) (81125140-81125141)	19	*	*	*	*	4400	*	*	2500
125066	82	NH 9/NH 108 (CENTRAL AVE) SB AT COCHECO RIVER BRIDGE	16	12000	*	*	12000	*	*	10000	*
125067	82	NH 9/NH 108 (WASHINGTON ST) EB AT COCHECO RIVER BRIDGE	16	14000	*	*	13000	*	*	11000	*
125068	82	WASHINGTON ST EAST OF HIGHLAND ST (EB-WB) (81125134-81125135)	17	*	*	6000	*	*	5600	*	*
125069	82	SIXTH ST WEST OF GLENWOOD AVE	17	*	*	8400	*	*	8500	*	*
125070	82	TOLEND RD BY SPAULDING TPK BRIDGE	17	*	*	3800	*	*	3700	*	*
125071	62	SPAULDING TPK/NH 16 BETWEEN EXITS 8-9 (SB-NB) (61125071-61125072)	12	*	*	43300	*	*	43500	*	*
125075	82	BELLAMY RD BY BELLAMY RIVER BRIDGE	16	*	*	4600	*	*	5000	*	*
125077	82	NH 108 (DURHAM RD) NORTH OF BACK RIVER RD (SB-NB) (81125202-81125203)	16	*	*	18000	*	*	15000	*	*
125078	82	OAK ST EAST OF CENTRAL AVE	16	*	*	8200	*	*	8000	*	*
125079	82	DOVER POINT RD SOUTH OF HOMESTEAD LANE	16	12000	*	*	13000	*	*	11000	*
125083	82	LONG HILL RD WEST OF OLD ROCHESTER RD (EB-WB) (81125144-81125145)	19	1400	*	*	1800	*	*	1900	*
125084	82	SIXTH ST WEST OF CHESTNUT ST	17	*	*	7100	*	*	6700	*	*
125085	82	TOLEND RD WEST OF WASHINGTON ST	17	5000	*	*	2800	*	*	5600	*
125086	82	NH 9 (LITTLEWORTH RD) WEST OF B&M RR BRIDGE	16	10000	*	*	8000	*	*	*	9300
125087	82	NH 155 (KNOX MARSH RD) SOUTH OF NH 9	16	14000	*	*	13000	*	*	15000	*

ATTAR
ENGINEERING, INC
CIVIL · STRUCTURAL · MARINE

SIGHT DISTANCE EVALUATION
COMMERCIAL DEVELOPMENT – 29 LITTLEWORTH ROAD
DOVER, NEW HAMPSHIRE

May 5, 2019

Ref: 29 Littleworth Road proposed improvements include the construction of an 11,728 SF building (1,728 SF office and 10,000 SF warehouse area) shown on the "Site Plan, Northern Pool and Spa, Inc., 29 Littleworth Rd, Dover, NH" prepared by Attar Engineering, Inc.

Sight Distance: Sight Distance is 605' looking north and 490' looking south. The proposed driveway is in a similar location as the former access drive; Chapter 149-14-H requires a minimum driveway spacing of 310' in the I-4 District from public street intersections in the 35 MPH posted speed limit area but 149-14-H (2) allows "Existing driveways that do not meet the above standards may be retained." Locating the driveway 310' from the intersection with Industrial Park Road is not possible as the driveway would be located adjacent to the railroad bridge and guardrail at the southern sideline (see photograph attached). Sight distance is satisfactory for both the posted speed limit (35 MPH) and the observed vehicular speed of 40 MPH to 50 MPH (15 MPH above the posted speed limit).

1) New Hampshire DOT Declaratory Ruling No. 2001-01 "Driveway Permits", Section 8, Driveway Locations states:
   i. 8 (a): " No more than one driveway shall be permitted to a single parcel of land or lot of record, on a single highway unless there is a safe sight distance of 122 meters, or 400 feet in both directions along the highway. If the all season safe sight distance cannot be obtained, and the driveway is not an unreasonable hazard to the travelling public, the single driveway shall be located at the safest point as determined by the district engineer.
   ii. 8 (b): "When frontage along the highway is 152 meters, or 500 feet or less, no more than 2 driveways to a single parcel of land or lot of record shall be permitted, so long as all season safe sight distance can be maintained for all driveways and there are no significant safety risks that could endanger the travelling public".
   iii. The parcel has 407' of frontage and available sight distances of 490' (south) and 605' (north), thus the standard is met.
2) AASHTO Green Book Standards. AASHTO, Table 4.3 requires the following Minimum Recommended Sight Distances;

Vehicle Speed (MPH)	Sight Distance (Ft) Left Turn Maneuver	Sight Distance (Ft) Right Turn Maneuver
35	390'	335'
40	445'	385'
45	500'	430'
50	555'	480'

The available sight distance of 490' (south) meets the above standards for all right-turn maneuvers. The sight distance to the north, 605' also meets the standards for all left-turn maneuvers.

Additionally, the proposed driveway is in line with Industrial Park Road located on the opposite (west) side of Littleworth Road.

The driveway provides a safe sight distance and is also located directly across from another access, Industrial Park Road, as desired in intersection design.

Please contact me for any additional information required.

Sincerely;

Kenneth A. Wood, P.E.
President



ATTAR
ENGINEERING, INC
CIVIL • STRUCTURAL • MARINE

LITTLEWORTH ROAD – OFFICE/WAREHOUSE
29 LITTLEWORTH ROAD, DOVER, NH
STORMWATER MANAGEMENT STUDY

Project No.: C147-19 March 5th, 2019

♦ Scope

This stormwater management plan has been prepared for a pool construction and retail/office space development located at 29 Littleworth Road in Dover, NH. The entire parcel contains approximately 3.99 acres; the development will include a single building containing a pool construction area, office space, storefront and a small manager's apartment. The project requires a Site Plan Review and must meet the Stormwater Management requirements for the City of Dover. The project will create approximately 2.1 acres of developed area and approximately 1.2 acres of impervious area.

♦ Site and Watershed Description

The project site is located in the Lower Cocheco River Subwatershed. A 7½ minute series U.S.G.S. map of the project area is attached.

The current lot contains meadow areas, woodlands and wetlands. The mapped wetlands are on the western portion of the site. There is a buffer area that extends from the wetland boundary 50' westerly into the property. The existing vegetation shall remain in this area and no grading or other disturbance is proposed for this portion of the site.

The site is not located in a flood zone.

♦ Soils/Hydrologic Soil Groups

Soil types and their respective Hydrologic Soil Groups (HSG) were determined from the USDA NRCS Web Soil Survey. On site soil types consist of Buxton Silt Loam (Bz), Charlton Fine Sandy Loam (Cf), Hollis-Charlton Fine Sandy Loams (Hc), Suffield Silt Loam (Sf) and Sutton Fine Sandy Loam (Sn). Hydrologic Soil Groups (HSG's) range from "B" to "D" for these soil types.

♦ Methodology

The stormwater quantity analysis will be conducted using the HydroCAD Stormwater Modeling System by Applied Microcomputer Systems. The analysis determines the "Existing Condition" and "Developed Condition" stormwater flows. Both cases are analyzed for the 2, 10, 25 and 50-year, 24-hour frequency storm events. The Existing Condition analyzes the site as it currently exists and the Developed Condition models the site with the proposed improvements described above.

♦ Water Quantity Analysis

Existing Condition

The site itself is divided into two subcatchments for analysis. Runoff flows from the west to the eastern side of the property. The two analysis points are at the eastern property line in the upper and lower portions of the wetlands respectively.

Developed Condition

The Developed Condition analysis consists of 6 subcatchments. Other features such as ponds (Bioretention cell) and catch basins were added to account for on-site routing and

detention of stormwater. One Bioretention cell is proposed to provide both stormwater detention and treatment. Calculations are provided to show the required Volume control and treatment required by the City of Dover and the NHDES. All Developed Condition flows were routed to the Analysis Points described above.

Changes in Stormwater Flows

Tables showing Existing Condition peak flows, Developed Condition peak flows and the change in peak flow from Existing Condition to Developed Condition are presented on a separate page.

The analysis indicates a decrease in peak flow at all analysis points (AP's 1 & 2) for all storm events (2, 10, 25 and 50-year).

With the exception of the downhill grading located in subcatchment 60, all of the developed area runoff is routed to the Bioretention cell (1P).

Runoff from the Bioretention cell shall be routed through outlet structures, pipes and level spreaders prior to discharge to undisturbed, on-site areas.

The full runoff volume of the 10 year storm does not cause the Bioretention cell to overtop.

- **Water Quality**

In accordance with the City of Dover the pre and post development conditions were analyzed for water quality requirements using the "Simple Method" described in the NHDES Stormwater Manual Volume 1. The spreadsheet provided by NHDES was used and the results are provided as part of this report.

Runoff from developed areas on the site will receive treatment in the Bioretention cell prior to being discharged. Approximately 90.0 % of the Total Suspended Solids (TSS), 64.1 % of the Total Nitrogen (TN) and 61.5 % of the Total Phosphorus (TP) are treated. This exceeds the required 80% of TSS, 50% of TN and 50% of TP standard provided by the City of Dover. Treatment calculations and Bioretention cell sizing calculations in accordance with the NHDES Stormwater Manual Volumes 1 and 2 are included in this report.

- **Erosion and Sedimentation Control**

All of the proposed Erosion and Sedimentation Control Measures and details are noted on Sheet 5.1 of the plan set.

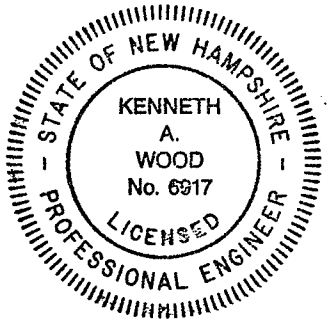
- **Summary**

The use of the Bioretention cell to attenuate peak flows will result in no increase in peak runoff quantity from the proposed development. No adverse effects are anticipated on any downstream properties or drainage structures for the analyzed storm events. Runoff quality is also addressed by the use of the Bioretention cell.

Sincerely;

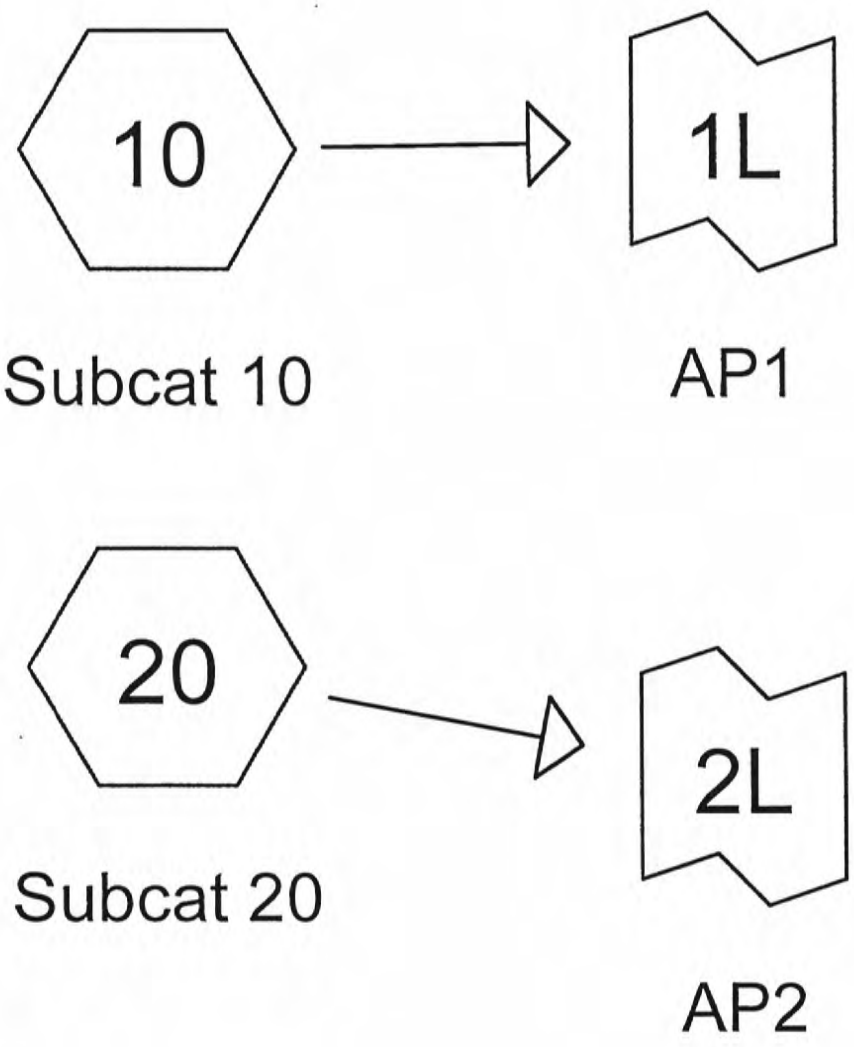
Kenneth A. Wood, P.E.
President

C147-19 SW Littleworth Road.doc



EXISTING CONDITION CALCULATIONS

EXISTING CONDITION CALCULATIONS



Subcat Reach Pond Link

Routing Diagram for Littleworth EXT
Prepared by Hewlett-Packard Company, Printed 3/3/2019
HydroCAD® 10.00-24 s/n 01988 © 2018 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
41,208	58	Meadow, non-grazed, HSG B (10, 20)
15,943	71	Meadow, non-grazed, HSG C (10, 20)
83,330	78	Meadow, non-grazed, HSG D (10, 20)
1,350	98	Paved roads w/curbs & sewers, HSG B (10, 20)
915	98	Paved roads w/curbs & sewers, HSG D (10)
19,254	70	Woods, Good, HSG C (10, 20)
22,825	77	Woods, Good, HSG D (10, 20)
184,825	**72**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
42,558	HSG B	10, 20
35,196	HSG C	10, 20
107,070	HSG D	10, 20
0	Other	
184,825		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
0	41,208	15,943	83,330	0	140,481	Meadow, non-grazed
0	1,350	0	915	0	2,265	Paved roads w/curbs & sewers
0	0	19,254	22,825	0	42,079	Woods, Good
0	**42,558**	**35,196**	**107,070**	**0**	**184,825**	**TOTAL AREA**

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment10: Subcat 10 Runoff Area=1.439 ac 3.34% Impervious Runoff Depth>3.65"
Flow Length=416' Tc=15.7 min CN=73 Runoff=4.60 cfs 19,078 cf

Subcatchment20: Subcat 20 Runoff Area=2.804 ac 0.14% Impervious Runoff Depth>3.55"
Flow Length=409' Tc=17.4 min CN=72 Runoff=8.37 cfs 36,099 cf

Link 1L: AP1 Inflow=4.60 cfs 19,078 cf
Primary=4.60 cfs 19,078 cf

Link 2L: AP2 Inflow=8.37 cfs 36,099 cf
Primary=8.37 cfs 36,099 cf

Total Runoff Area = 184,825 sf Runoff Volume = 55,177 cf Average Runoff Depth = 3.58"
98.77% Pervious = 182,560 sf 1.23% Impervious = 2,265 sf

Summary for Subcatchment 10: Subcat 10

Runoff = 4.60 cfs @ 12.24 hrs, Volume= 19,078 cf, Depth> 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 50-Year Rainfall=7.16"

Area (ac)	CN	Description
0.307	58	Meadow, non-grazed, HSG B
0.143	71	Meadow, non-grazed, HSG C
0.441	78	Meadow, non-grazed, HSG D
0.027	98	Paved roads w/curbs & sewers, HSG B
0.021	98	Paved roads w/curbs & sewers, HSG D
0.126	70	Woods, Good, HSG C
0.374	77	Woods, Good, HSG D
1.439	73	Weighted Average
1.391		96.66% Pervious Area
0.048		3.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0628	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
1.7	179	0.0630	1.76		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.6	137	0.0145	0.30		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
15.7	416	Total			

Summary for Subcatchment 20: Subcat 20

Runoff = 8.37 cfs @ 12.26 hrs, Volume= 36,099 cf, Depth> 3.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 50-Year Rainfall=7.16"

Area (ac)	CN	Description
0.639	58	Meadow, non-grazed, HSG B
0.223	71	Meadow, non-grazed, HSG C
1.472	78	Meadow, non-grazed, HSG D
0.004	98	Paved roads w/curbs & sewers, HSG B
0.316	70	Woods, Good, HSG C
0.150	77	Woods, Good, HSG D
2.804	72	Weighted Average
2.800		99.86% Pervious Area
0.004		0.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	100	0.0350	0.14		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.05"
1.8	183	0.0570	1.67		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.9	126	0.0470	0.54		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
17.4	409	Total			

Summary for Link 1L: AP1

Inflow Area = 62,683 sf, 3.34% Impervious, Inflow Depth > 3.65" for 50-Year event
Inflow = 4.60 cfs @ 12.24 hrs, Volume= 19,078 cf
Primary = 4.60 cfs @ 12.24 hrs, Volume= 19,078 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 2L: AP2

Inflow Area = 122,142 sf, 0.14% Impervious, Inflow Depth > 3.55" for 50-Year event
Inflow = 8.37 cfs @ 12.26 hrs, Volume= 36,099 cf
Primary = 8.37 cfs @ 12.26 hrs, Volume= 36,099 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 10: Subcat 10 Runoff Area=1.439 ac 3.34% Impervious Runoff Depth>0.81"
Flow Length=416' Tc=15.7 min CN=73 Runoff=1.00 cfs 4,240 cf

Subcatchment 20: Subcat 20 Runoff Area=2.804 ac 0.14% Impervious Runoff Depth>0.76"
Flow Length=409' Tc=17.4 min CN=72 Runoff=1.74 cfs 7,766 cf

Link 1L: AP1 Inflow=1.00 cfs 4,240 cf
Primary=1.00 cfs 4,240 cf

Link 2L: AP2 Inflow=1.74 cfs 7,766 cf
Primary=1.74 cfs 7,766 cf

Total Runoff Area = 184,825 sf Runoff Volume = 12,006 cf Average Runoff Depth = 0.78"
98.77% Pervious = 182,560 sf 1.23% Impervious = 2,265 sf

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 10: Subcat 10 Runoff Area=1.439 ac 3.34% Impervious Runoff Depth>1.83"
Flow Length=416' Tc=15.7 min CN=73 Runoff=2.33 cfs 9,571 cf

Subcatchment 20: Subcat 20 Runoff Area=2.804 ac 0.14% Impervious Runoff Depth>1.76"
Flow Length=409' Tc=17.4 min CN=72 Runoff=4.17 cfs 17,879 cf

Link 1L: AP1 Inflow=2.33 cfs 9,571 cf
Primary=2.33 cfs 9,571 cf

Link 2L: AP2 Inflow=4.17 cfs 17,879 cf
Primary=4.17 cfs 17,879 cf

Total Runoff Area = 184,825 sf Runoff Volume = 27,450 cf Average Runoff Depth = 1.78"
98.77% Pervious = 182,560 sf 1.23% Impervious = 2,265 sf

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 10: Subcat 10 Runoff Area=1.439 ac 3.34% Impervious Runoff Depth>2.74"
Flow Length=416' Tc=15.7 min CN=73 Runoff=3.48 cfs 14,332 cf

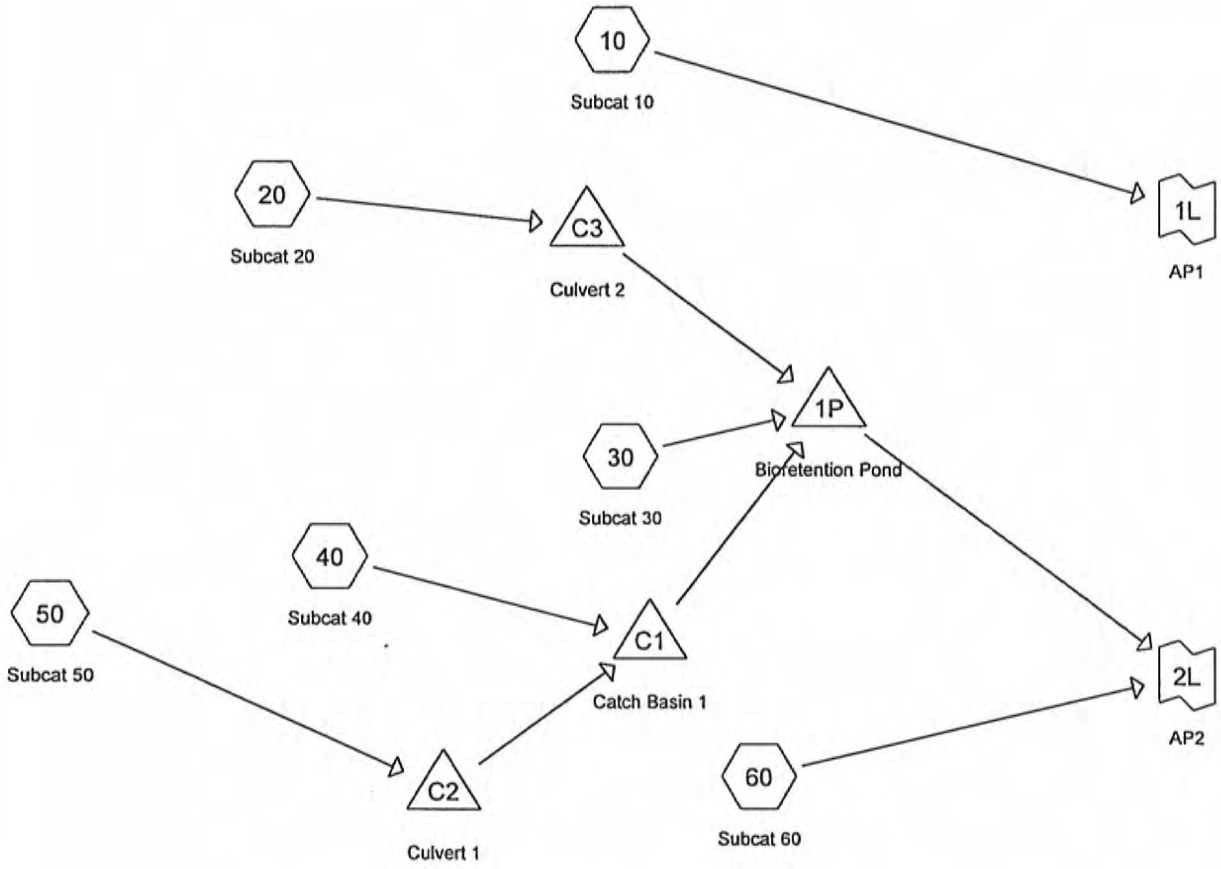
Subcatchment 20: Subcat 20 Runoff Area=2.804 ac 0.14% Impervious Runoff Depth>2.65"
Flow Length=409' Tc=17.4 min CN=72 Runoff=6.29 cfs 26,985 cf

Link 1L: AP1 Inflow=3.48 cfs 14,332 cf
Primary=3.48 cfs 14,332 cf

Link 2L: AP2 Inflow=6.29 cfs 26,985 cf
Primary=6.29 cfs 26,985 cf

Total Runoff Area = 184,825 sf Runoff Volume = 41,317 cf Average Runoff Depth = 2.68"
98.77% Pervious = 182,560 sf 1.23% Impervious = 2,265 sf

DEVELOPED CONDITION CALCULATIONS



Subcat Reach Pond Link

Routing Diagram for Littleworth PRP
Prepared by Hewlett-Packard Company, Printed 3/5/2019
HydroCAD® 10.00-24 s/n 01988 © 2018 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
28,310	58	Meadow, non-grazed, HSG B (10, 20, 40, 50, 60)
15,597	71	Meadow, non-grazed, HSG C (10, 30, 60)
49,547	78	Meadow, non-grazed, HSG D (10, 20, 30, 40, 50, 60)
8,973	98	Paved parking, HSG B (20, 40)
19,994	98	Paved parking, HSG D (20, 30, 40)
5,097	98	Paved roads w/curbs & sewers, HSG B (10, 20, 40)
6,490	98	Paved roads w/curbs & sewers, HSG D (10, 20, 30)
11,761	98	Roofs, HSG D (30, 40)
19,596	70	Woods, Good, HSG C (10, 60)
19,312	77	Woods, Good, HSG D (10, 60)
184,677	**79**	**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
0	28,310	15,597	49,547	0	93,453	Meadow, non-grazed
0	8,973	0	19,994	0	28,967	Paved parking
0	5,097	0	6,490	0	11,587	Paved roads w/curbs & sewers
0	0	0	11,761	0	11,761	Roofs
0	0	19,596	19,312	0	38,908	Woods, Good
0	**42,380**	**35,193**	**107,105**	**0**	**184,677**	**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment10: Subcat 10 Runoff Area=1.215 ac 3.95% Impervious Runoff Depth>4.06"
Flow Length=395' Tc=10.5 min CN=73 Runoff=4.52 cfs 17,912 cf

Subcatchment20: Subcat 20 Runoff Area=0.290 ac 73.45% Impervious Runoff Depth>6.10"
Flow Length=230' Tc=1.8 min CN=91 Runoff=2.02 cfs 6,417 cf

Subcatchment30: Subcat 30 Runoff Area=0.496 ac 50.60% Impervious Runoff Depth>5.75"
Flow Length=90' Tc=0.7 min CN=88 Runoff=3.29 cfs 10,351 cf

Subcatchment40: Subcat 40 Runoff Area=0.692 ac 99.57% Impervious Runoff Depth>6.92"
Flow Length=367' Tc=2.0 min CN=98 Runoff=5.04 cfs 17,383 cf

Subcatchment50: Subcat 50 Runoff Area=12,200 sf 0.00% Impervious Runoff Depth>2.52"
Flow Length=284' Tc=3.5 min CN=58 Runoff=0.83 cfs 2,558 cf

Subcatchment60: Subcat 60 Runoff Area=55,170 sf 0.00% Impervious Runoff Depth>4.07"
Flow Length=367' Tc=5.1 min CN=73 Runoff=5.66 cfs 18,706 cf

Pond 1P: (new Pond) Peak Elev=99.01' Storage=13,680 cf Inflow=10.65 cfs 35,542 cf
Primary=2.19 cfs 26,774 cf Secondary=0.04 cfs 12 cf Outflow=2.23 cfs 26,786 cf

Pond C1: Culvert 1 Peak Elev=100.15' Storage=15 cf Inflow=5.82 cfs 19,914 cf
15.0" Round Culvert n=0.013 L=95.3' S=0.0058 '/' Outflow=5.77 cfs 18,798 cf

Pond C2: Culvert 1 Peak Elev=101.46' Storage=32 cf Inflow=0.83 cfs 2,558 cf
12.0" Round Culvert n=0.013 L=135.0' S=0.0198 '/' Outflow=0.83 cfs 2,532 cf

Pond C3: Culvert 1 Peak Elev=101.79' Storage=36 cf Inflow=2.02 cfs 6,417 cf
12.0" Round Culvert n=0.013 L=62.0' S=0.0373 '/' Outflow=2.02 cfs 6,392 cf

Link 1L: AP1 Inflow=4.52 cfs 17,912 cf
Primary=4.52 cfs 17,912 cf

Link 2L: AP2 Inflow=6.49 cfs 45,492 cf
Primary=6.49 cfs 45,492 cf

Total Runoff Area = 184,677 sf Runoff Volume = 73,326 cf Average Runoff Depth = 4.76"
71.67% Pervious = 132,362 sf 28.33% Impervious = 52,316 sf

Summary for Subcatchment 10: Subcat 10

Runoff = 4.52 cfs @ 12.18 hrs, Volume= 17,912 cf, Depth> 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 50-Year Rainfall=7.16"

Area (ac)	CN	Description
0.237	58	Meadow, non-grazed, HSG B
0.140	71	Meadow, non-grazed, HSG C
0.277	78	Meadow, non-grazed, HSG D
0.027	98	Paved roads w/curbs & sewers, HSG B
0.021	98	Paved roads w/curbs & sewers, HSG D
0.139	70	Woods, Good, HSG C
0.374	77	Woods, Good, HSG D
1.215	73	Weighted Average
1.167		96.05% Pervious Area
0.048		3.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	24	0.0200	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.05"
2.7	35	0.0625	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
2.5	259	0.0617	1.74		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.9	77	0.0110	0.26		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
10.5	395	Total			

Summary for Subcatchment 20: Subcat 20

Runoff = 2.02 cfs @ 12.08 hrs, Volume= 6,417 cf, Depth> 6.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 50-Year Rainfall=7.16"

Area (ac)	CN	Description
0.031	58	Meadow, non-grazed, HSG B
0.046	78	Meadow, non-grazed, HSG D
0.003	98	Paved parking, HSG B
0.024	98	Paved parking, HSG D
0.074	98	Paved roads w/curbs & sewers, HSG B
0.112	98	Paved roads w/curbs & sewers, HSG D
0.290	91	Weighted Average
0.077		26.55% Pervious Area
0.213		73.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0370	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.05"
0.5	115	0.0349	3.79		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	65	0.0520	1.60		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.8	230	Total			

Summary for Subcatchment 30: Subcat 30

Runoff = 3.29 cfs @ 12.06 hrs, Volume= 10,351 cf, Depth> 5.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 50-Year Rainfall=7.16"

Area (ac)	CN	Description
0.035	71	Meadow, non-grazed, HSG C
0.210	78	Meadow, non-grazed, HSG D
0.107	98	Paved parking, HSG D
0.016	98	Paved roads w/curbs & sewers, HSG D
0.128	98	Roofs, HSG D
0.496	88	Weighted Average
0.245		49.40% Pervious Area
0.251		50.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0500	1.69		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.05"
0.2	40	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	90	Total			

Summary for Subcatchment 40: Subcat 40

Runoff = 5.04 cfs @ 12.08 hrs, Volume= 17,383 cf, Depth> 6.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 50-Year Rainfall=7.16"

Area (ac)	CN	Description
0.001	58	Meadow, non-grazed, HSG B
0.002	78	Meadow, non-grazed, HSG D
0.203	98	Paved parking, HSG B
0.328	98	Paved parking, HSG D
0.016	98	Paved roads w/curbs & sewers, HSG B
0.142	98	Roofs, HSG D
0.692	98	Weighted Average
0.003		0.43% Pervious Area
0.689		99.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0425	1.58		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.05"
1.5	317	0.0315	3.60		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.0	367	Total			

Summary for Subcatchment 50: Subcat 50

Runoff = 0.83 cfs @ 12.10 hrs, Volume= 2,558 cf, Depth> 2.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 50-Year Rainfall=7.16"

Area (sf)	CN	Description
12,132	58	Meadow, non-grazed, HSG B
68	78	Meadow, non-grazed, HSG D
12,200	58	Weighted Average
12,200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0425	1.58		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.05"
3.0	234	0.0341	1.29		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.5	284	Total			

Summary for Subcatchment 60: Subcat 60

Runoff = 5.66 cfs @ 12.12 hrs, Volume= 18,706 cf, Depth> 4.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 50-Year Rainfall=7.16"

Area (sf)	CN	Description
4,460	58	Meadow, non-grazed, HSG B
7,974	71	Meadow, non-grazed, HSG C
26,174	78	Meadow, non-grazed, HSG D
13,541	70	Woods, Good, HSG C
3,021	77	Woods, Good, HSG D
55,170	73	Weighted Average
55,170		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	29	0.4130	0.30		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.05"
3.5	338	0.0540	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.1	367	Total			

Summary for Pond 1P: (new Pond)

Inflow Area = 76,582 sf, 65.58% Impervious, Inflow Depth > 5.57" for 50-Year event
Inflow = 10.65 cfs @ 12.07 hrs, Volume= 35,542 cf
Outflow = 2.23 cfs @ 12.32 hrs, Volume= 26,786 cf, Atten= 79%, Lag= 14.6 min
Primary = 2.19 cfs @ 12.32 hrs, Volume= 26,774 cf
Secondary = 0.04 cfs @ 12.31 hrs, Volume= 12 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 99.01' @ 12.32 hrs Surf.Area= 5,678 sf Storage= 13,680 cf

Plug-Flow detention time= 195.1 min calculated for 26,730 cf (75% of inflow)
Center-of-Mass det. time= 88.5 min (857.3 - 768.8)

Volume	Invert	Avail.Storage	Storage Description
#1	96.00'	19,684 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
96.00	3,402	0	0
98.00	4,928	8,330	8,330
99.00	5,671	5,300	13,630
100.00	6,438	6,055	19,684

Device	Routing	Invert	Outlet Devices
#1	Primary	93.53'	**12.0" Round Culvert** L= 52.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 93.53' / 93.03' S= 0.0096 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	93.73'	**6.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 93.73' / 93.63' S= 0.0033 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf
#3	Device 2	96.00'	**2.400 in/hr Exfiltration over Surface area**

#4	Device 1	98.40'	**8.0" Vert. Orifice/Grate** C= 0.600
#5	Device 1	98.80'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Secondary	99.00'	**10.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=2.17 cfs @ 12.32 hrs HW=99.01' (Free Discharge)
- **1=Culvert** (Passes 2.17 cfs of 7.94 cfs potential flow)
  - **2=Culvert** (Passes 0.32 cfs of 1.30 cfs potential flow)
    - **3=Exfiltration** (Exfiltration Controls 0.32 cfs)
  - **4=Orifice/Grate** (Orifice Controls 0.89 cfs @ 2.65 fps)
  - **5=Orifice/Grate** (Weir Controls 0.97 cfs @ 1.49 fps)

Secondary OutFlow Max=0.02 cfs @ 12.31 hrs HW=99.01' (Free Discharge)
- **6=Broad-Crested Rectangular Weir** (Weir Controls 0.02 cfs @ 0.20 fps)

Summary for Pond C1: Culvert 1

Inflow Area = 42,344 sf, 70.88% Impervious, Inflow Depth > 5.64" for 50-Year event
Inflow = 5.82 cfs @ 12.08 hrs, Volume= 19,914 cf
Outflow = 5.77 cfs @ 12.08 hrs, Volume= 18,798 cf, Atten= 1%, Lag= 0.0 min
Primary = 5.77 cfs @ 12.08 hrs, Volume= 18,798 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 100.15' @ 12.08 hrs Surf.Area= 13 sf Storage= 15 cf

Plug-Flow detention time= 26.3 min calculated for 18,759 cf (94% of inflow)
Center-of-Mass det. time= (not calculated: outflow precedes inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	99.00'	39 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.00	13	0	0
100.00	13	13	13
102.00	13	26	39

Device	Routing	Invert	Outlet Devices
#1	Primary	98.20'	**15.0" Round Culvert** L= 95.3' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 98.20' / 97.65' S= 0.0058 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=5.39 cfs @ 12.08 hrs HW=100.02' (Free Discharge)
- **1=Culvert** (Barrel Controls 5.39 cfs @ 4.39 fps)

Summary for Pond C2: Culvert 1

Inflow Area = 12,200 sf, 0.00% Impervious, Inflow Depth > 2.52" for 50-Year event
Inflow = 0.83 cfs @ 12.10 hrs, Volume= 2,558 cf
Outflow = 0.83 cfs @ 12.10 hrs, Volume= 2,532 cf, Atten= 0%, Lag= 0.1 min
Primary = 0.83 cfs @ 12.10 hrs, Volume= 2,532 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 101.46' @ 12.10 hrs Surf.Area= 13 sf Storage= 32 cf

Plug-Flow detention time= 8.6 min calculated for 2,526 cf (99% of inflow)
Center-of-Mass det. time= 2.9 min (888.7 - 885.8)

Volume	Invert	Avail.Storage	Storage Description
#1	99.00'	39 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.00	13	0	0
100.00	13	13	13
102.00	13	26	39

Device	Routing	Invert	Outlet Devices
#1	Primary	101.00'	**12.0" Round Culvert** L= 135.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 101.00' / 98.33' S= 0.0198 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.82 cfs @ 12.10 hrs HW=101.46' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 0.82 cfs @ 2.31 fps)

Summary for Pond C3: Culvert 1

Inflow Area = 12,632 sf, 73.45% Impervious, Inflow Depth > 6.10" for 50-Year event
Inflow = 2.02 cfs @ 12.08 hrs, Volume= 6,417 cf
Outflow = 2.02 cfs @ 12.08 hrs, Volume= 6,392 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.02 cfs @ 12.08 hrs, Volume= 6,392 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 101.79' @ 12.08 hrs Surf.Area= 13 sf Storage= 36 cf

Plug-Flow detention time= 5.1 min calculated for 6,379 cf (99% of inflow)
Center-of-Mass det. time= 2.7 min (783.0 - 780.3)

Volume	Invert	Avail.Storage	Storage Description
#1	99.00'	39 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
99.00	13	0	0
100.00	13	13	13
102.00	13	26	39

Device	Routing	Invert	Outlet Devices
#1	Primary	101.00'	**12.0" Round Culvert** L= 62.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 101.00' / 98.69' S= 0.0373 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.88 cfs @ 12.08 hrs HW=101.76' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 1.88 cfs @ 2.96 fps)

Summary for Link 1L: AP1

Inflow Area = 52,925 sf, 3.95% Impervious, Inflow Depth > 4.06" for 50-Year event
Inflow = 4.52 cfs @ 12.18 hrs, Volume= 17,912 cf
Primary = 4.52 cfs @ 12.18 hrs, Volume= 17,912 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link 2L: AP2

Inflow Area = 131,752 sf, 38.12% Impervious, Inflow Depth > 4.14" for 50-Year event
Inflow = 6.49 cfs @ 12.13 hrs, Volume= 45,492 cf
Primary = 6.49 cfs @ 12.13 hrs, Volume= 45,492 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment10: Subcat 10 Runoff Area=1.215 ac 3.95% Impervious Runoff Depth>0.94"
Flow Length=395' Tc=10.5 min CN=73 Runoff=1.00 cfs 4,149 cf

Subcatchment20: Subcat 20 Runoff Area=0.290 ac 73.45% Impervious Runoff Depth>2.20"
Flow Length=230' Tc=1.8 min CN=91 Runoff=0.78 cfs 2,318 cf

Subcatchment30: Subcat 30 Runoff Area=0.496 ac 50.60% Impervious Runoff Depth>1.94"
Flow Length=90' Tc=0.7 min CN=88 Runoff=1.18 cfs 3,499 cf

Subcatchment40: Subcat 40 Runoff Area=0.692 ac 99.57% Impervious Runoff Depth>2.91"
Flow Length=367' Tc=2.0 min CN=98 Runoff=2.19 cfs 7,303 cf

Subcatchment50: Subcat 50 Runoff Area=12,200 sf 0.00% Impervious Runoff Depth>0.32"
Flow Length=284' Tc=3.5 min CN=58 Runoff=0.05 cfs 325 cf

Subcatchment60: Subcat 60 Runoff Area=55,170 sf 0.00% Impervious Runoff Depth>0.94"
Flow Length=367' Tc=5.1 min CN=73 Runoff=1.26 cfs 4,336 cf

Pond 1P: (new Pond) Peak Elev=97.30' Storage=5,079 cf Inflow=4.02 cfs 13,393 cf
Primary=0.24 cfs 12,637 cf Secondary=0.00 cfs 0 cf Outflow=0.24 cfs 12,637 cf

Pond C1: Culvert 1 Peak Elev=99.03' Storage=0 cf Inflow=2.19 cfs 7,602 cf
15.0" Round Culvert n=0.013 L=95.3' S=0.0058 '/' Outflow=2.19 cfs 7,602 cf

Pond C2: Culvert 1 Peak Elev=101.09' Storage=27 cf Inflow=0.05 cfs 325 cf
12.0" Round Culvert n=0.013 L=135.0' S=0.0198 '/' Outflow=0.03 cfs 299 cf

Pond C3: Culvert 1 Peak Elev=101.45' Storage=32 cf Inflow=0.78 cfs 2,318 cf
12.0" Round Culvert n=0.013 L=62.0' S=0.0373 '/' Outflow=0.78 cfs 2,293 cf

Link 1L: AP1 Inflow=1.00 cfs 4,149 cf
Primary=1.00 cfs 4,149 cf

Link 2L: AP2 Inflow=1.49 cfs 16,973 cf
Primary=1.49 cfs 16,973 cf

Total Runoff Area = 184,677 sf Runoff Volume = 21,929 cf Average Runoff Depth = 1.42"
71.67% Pervious = 132,362 sf 28.33% Impervious = 52,316 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment10: Subcat 10 Runoff Area=1.215 ac 3.95% Impervious Runoff Depth>2.07"
Flow Length=395' Tc=10.5 min CN=73 Runoff=2.30 cfs 9,135 cf

Subcatchment20: Subcat 20 Runoff Area=0.290 ac 73.45% Impervious Runoff Depth>3.73"
Flow Length=230' Tc=1.8 min CN=91 Runoff=1.28 cfs 3,926 cf

Subcatchment30: Subcat 30 Runoff Area=0.496 ac 50.60% Impervious Runoff Depth>3.42"
Flow Length=90' Tc=0.7 min CN=88 Runoff=2.02 cfs 6,162 cf

Subcatchment40: Subcat 40 Runoff Area=0.692 ac 99.57% Impervious Runoff Depth>4.50"
Flow Length=367' Tc=2.0 min CN=98 Runoff=3.33 cfs 11,311 cf

Subcatchment50: Subcat 50 Runoff Area=12,200 sf 0.00% Impervious Runoff Depth>1.03"
Flow Length=284' Tc=3.5 min CN=58 Runoff=0.30 cfs 1,045 cf

Subcatchment60: Subcat 60 Runoff Area=55,170 sf 0.00% Impervious Runoff Depth>2.08"
Flow Length=367' Tc=5.1 min CN=73 Runoff=2.89 cfs 9,543 cf

Pond 1P: (new Pond) Peak Elev=98.32' Storage=9,952 cf Inflow=6.66 cfs 22,040 cf
Primary=0.29 cfs 16,118 cf Secondary=0.00 cfs 0 cf Outflow=0.29 cfs 16,118 cf

Pond C1: Culvert 1 Peak Elev=99.32' Storage=4 cf Inflow=3.60 cfs 12,330 cf
15.0" Round Culvert n=0.013 L=95.3' S=0.0058 '/' Outflow=3.59 cfs 11,975 cf

Pond C2: Culvert 1 Peak Elev=101.27' Storage=29 cf Inflow=0.30 cfs 1,045 cf
12.0" Round Culvert n=0.013 L=135.0' S=0.0198 '/' Outflow=0.29 cfs 1,018 cf

Pond C3: Culvert 1 Peak Elev=101.60' Storage=34 cf Inflow=1.28 cfs 3,926 cf
12.0" Round Culvert n=0.013 L=62.0' S=0.0373 '/' Outflow=1.28 cfs 3,902 cf

Link 1L: AP1 Inflow=2.30 cfs 9,135 cf
Primary=2.30 cfs 9,135 cf

Link 2L: AP2 Inflow=3.15 cfs 25,660 cf
Primary=3.15 cfs 25,660 cf

Total Runoff Area = 184,677 sf Runoff Volume = 41,122 cf Average Runoff Depth = 2.67"
71.67% Pervious = 132,362 sf 28.33% Impervious = 52,316 sf

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment10: Subcat 10 Runoff Area=1.215 ac 3.95% Impervious Runoff Depth>3.07"
Flow Length=395' Tc=10.5 min CN=73 Runoff=3.43 cfs 13,542 cf

Subcatchment20: Subcat 20 Runoff Area=0.290 ac 73.45% Impervious Runoff Depth>4.95"
Flow Length=230' Tc=1.8 min CN=91 Runoff=1.67 cfs 5,208 cf

Subcatchment30: Subcat 30 Runoff Area=0.496 ac 50.60% Impervious Runoff Depth>4.62"
Flow Length=90' Tc=0.7 min CN=88 Runoff=2.68 cfs 8,311 cf

Subcatchment40: Subcat 40 Runoff Area=0.692 ac 99.57% Impervious Runoff Depth>5.75"
Flow Length=367' Tc=2.0 min CN=98 Runoff=4.21 cfs 14,447 cf

Subcatchment50: Subcat 50 Runoff Area=12,200 sf 0.00% Impervious Runoff Depth>1.75"
Flow Length=284' Tc=3.5 min CN=58 Runoff=0.56 cfs 1,778 cf

Subcatchment60: Subcat 60 Runoff Area=55,170 sf 0.00% Impervious Runoff Depth>3.08"
Flow Length=367' Tc=5.1 min CN=73 Runoff=4.29 cfs 14,144 cf

Pond 1P: (new Pond) Peak Elev=98.80' Storage=12,512 cf Inflow=8.74 cfs 29,588 cf
Primary=0.78 cfs 21,574 cf Secondary=0.00 cfs 0 cf Outflow=0.78 cfs 21,574 cf

Pond C1: Culvert 1 Peak Elev=99.60' Storage=8 cf Inflow=4.74 cfs 16,198 cf
15.0" Round Culvert n=0.013 L=95.3' S=0.0058 '/' Outflow=4.72 cfs 16,093 cf

Pond C2: Culvert 1 Peak Elev=101.37' Storage=31 cf Inflow=0.56 cfs 1,778 cf
12.0" Round Culvert n=0.013 L=135.0' S=0.0198 '/' Outflow=0.56 cfs 1,751 cf

Pond C3: Culvert 1 Peak Elev=101.70' Storage=35 cf Inflow=1.67 cfs 5,208 cf
12.0" Round Culvert n=0.013 L=62.0' S=0.0373 '/' Outflow=1.66 cfs 5,183 cf

Link 1L: AP1 Inflow=3.43 cfs 13,542 cf
Primary=3.43 cfs 13,542 cf

Link 2L: AP2 Inflow=4.58 cfs 35,718 cf
Primary=4.58 cfs 35,718 cf

Total Runoff Area = 184,677 sf Runoff Volume = 57,430 cf Average Runoff Depth = 3.73"
71.67% Pervious = 132,362 sf 28.33% Impervious = 52,316 sf

BMP CALCULATIONS

TABLE 1 - QUANTITY CALCULATIONS

		STORM EVENT			
		2	10	25	50
EXISTING	**AP 1**	1.00	2.33	3.48	4.6
	AP 2	1.74	4.17	6.29	8.37
DEVELOPED	**AP 1**	1	2.3	3.43	4.52
	AP 2	1.49	3.15	4.58	6.49
CHANGE	**AP 1**	0.00	-0.03	-0.05	-0.08
	AP 2	-0.25	-1.02	-1.71	-1.88
	TOTAL	-0.25	-1.05	-1.76	-1.96

2019-03-05 - Littleworth Rd NHDES Simple Method SW Calc Sheet test
OVERALL SUMMARY

Date (MM/DD/YYYY):	3/5/2019
Project Name:	Littleworth Road
Town/City:	Dover, NH
Impacted Surface Waters:	N/A
Applicant:	Peter Paul
DES File #:	?

TOTAL PRE -DEVELOPMENT (PRE-DEV) AREA (ACRES) =	0.00
TOTAL PRE-DEV EFFECTIVE IMPERVIOUS AREA (ACRES) =	0.00
TOTAL PRE-DEV PERCENT EFFECTIVE IMPERVIOUS (%) =	
TOTAL POST DEVELOPMENT (POST-DEV) AREA (ACRES) =	1.22
TOTAL POST-DEV EFFECTIVE IMPERVIOUS AREA (ACRES) =	0.28
TOTAL POST-DEV PERCENT EFFECTIVE IMPERVIOUS (%) =	23.0%
TOTAL POST-DEV AREA THAT IS FERTILIZED ANNUALLY (ACRES) =	0.00
TOTAL POST-DEV PERCENT OF AREA THAT IS FERTILIZED ANNUALLY (%) =	0.0%

	TSS (LBS/YR)	TP (LBS/YR)	TN (LBS/YR)
PRE DEVELOPMENT LOADS (NO BMPS)	0.0	0.0	0.0
PRE DEVELOPMENT LOADS (WITH BMPS)	0.0	0.0	0.0
PRE DEVELOPMENT LOAD REDUCTION DUE TO BMPS	0.0	0.0	0.0
PROPOSED PERCENT REDUCTION IN FERTILIZER APPLICATION RATE	NA	0.0%	0.0%
POST DEVELOPMENT LOADS (NO BMPS)	390.1	1.3	3.9
POST DEVELOPMENT LOADS (WITH BMPS)	39.0	0.4	1.4
POST DEVELOPMENT LOAD REDUCTION DUE TO BMPS	351.1	0.8	2.5
POST DEVELOPMENT - PRE DEVELOPMENT (SHOULD BE 0 OR NEGATIVE)	39.0	0.4	1.4
% DIFFERENCE FROM PRE DEVELOMENT LOADS (SHOULD BE 0 OR NEGATIVE)			
TOTAL REMOVAL EFFICIENCY NEEDED TO MEET PRE-DEVELOPMENT LOAD	100.0%	100.0%	100.0%

OPERATION AND MAINTENANCE PROGRAM

ALTAR
ENGINEERING, INC
CIVIL · STRUCTURAL · MARINE

29 LITTLEWORTH ROAD – OFFICE/WAREHOUSE
DOVER, NH

OPERATION AND MAINTENANCE PROGRAM
STORMWATER MANAGEMENT BMP's

This project contains specific Best Management Practices (BMP's) for the conveyance, storage, and treatment of stormwater and the prevention of erosion. These BMP's consist of swales, a bioretention cell, catchbasins and culverts. All components should be inspected quarterly, and after every significant rain event of 1" in any 24-hour period. Additional inspection intervals are specified for certain BMP's, specifically, underdrained soil filters.

The party responsible for implementing this Operation and Maintenance Program (O & M Program) shall be the property owner or owner's representative.

Swales
All swales should be inspected for accumulation of debris, which could adversely affect the function of this BMP. These areas should also be maintained to have gradual slopes, which prevent channeling of stormwater and erosion of the bottom and sides of the swales.

Catch Basins
All catch basin grates, sumps, and inlets/outlets should be inspected for accumulation of debris, which could adversely affect the function of this BMP. Additionally, the basin inverts shall be inspected for clogging and material soundness. Sumps shall always be clear to a depth of 1' below the outlet invert. Inlet structures shall be inspected and cleaned of debris at least twice annually, once in the spring following snow melt and once in the autumn after leaf fall.

Culverts
Culvert inlets and outlets should be inspected for debris, which could clog the BMP. Additionally, the placement of rip-rap should be inspected to ensure that all areas remain smooth and no areas exhibit erosion in the form of rills or gullies.

Snow Removal
Snow shall be stockpiled only in the approved snow storage areas. Plowing of snow into wetland areas, detention ponds, and/or bioretention cells is prohibited. Additionally, a mostly sand mix (reduced salt) shall be applied during winter months to prevent excessive salt from leaching into wetland areas. Excess sand shall be removed from the storage areas, all paved surfaces and adjacent areas each spring.

Bioretention Cell
The bioretention cell filter area is a very effective BMP, however, long term maintenance is essential to its operation. The cell should be inspected after every major storm event during the first year to ensure proper function and at least twice-annually, thereafter. The inspection should ensure that the filter drains within 24 - 48 hours. The top several inches of the filter layer should be replaced with fresh filter material, when water ponds for longer than 72 hours. Debris and sediment that builds up should be removed from

the pre-treatment structure at least annually. Outlet structures shall be inspected and cleaned of debris at least twice annually, once in the spring following snow melt and once in the autumn after leaf fall. The height of grass shall be maintained at a maximum of 12"; mowing shall be limited to no more than two times during the growing season.

Seeding, Fertilizing and Mulching
All exposed soil materials and stockpiles must be either temporarily or permanently seeded, fertilized and mulched in accordance with plan specifications. This is one of the most important features of the Erosion Control Plan, which will provide both temporary and permanent stabilization. Eroded or damaged lawn areas must be repaired until a 75% effective growth of vegetation is established and permanently maintained.

Record Keeping (During Construction)
The construction inspector shall maintain documentation of all inspections as well as maintenance or corrective actions that were taken in response to the inspection. This documentation shall be maintained for at least three years after the site is permanently stabilized.

The scope of construction inspections shall include, but not be limited to, the inspection of the sediment and erosion control measures as well as material storage areas and all points at which vehicles access the site.

Record Keeping (Post Construction)
Routine maintenance and inspections will be accomplished by the future property owners of Lots 1 and 2 or a third party contracted by the respective owner. The inspector shall have knowledge of erosion and stormwater control, including the standards and conditions of the permit. All inspections accomplished in accordance with this program shall be documented on the attached Inspection & Maintenance Log. Copies of the Log shall be kept by the property owner or owner's representative, and be made available to the Department (Maine Department of Environmental Protection) or Town of Kittery, upon request.

All post-construction documentation, such as catch basin inspection and cleaning logs and Bioretention cell inspection and maintenance records, shall be maintained for at least five years.

Additional responsibilities to include, on or by July 1 of each year, providing a completed and signed certification to the Code Enforcement Officer in a form provided by the Town, certifying that the person has inspected the stormwater management facilities and that they are adequately maintained and functioning as intended by the stormwater management plan, or that they require maintenance or repair, describing any required maintenance and any deficiencies found during inspection of the stormwater management facilities and, if the stormwater management facilities require maintenance or repair of deficiencies in order to function as intended by the approved stormwater management plan, the person must provide a record of the required maintenance or deficiency and corrective action(s) taken.

Re-certification (as noted in Appendix B. of Chapter 500 Stormwater Management)
Submit a certification of the following to the Department within three months of the expiration of each five-year interval from the date of issuance of the permit.

(a) **Identification and repair of erosion problems.** All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.

(b) **Inspection and repair of stormwater control system.** All aspects of the stormwater control system have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the system, or portions of the system.

(c) **Maintenance.** The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the Department, and the maintenance log is being maintained.

Municipalities with separate storm sewer systems regulated under the Maine Pollutant Discharge Elimination System (MPDES) Program may report on all regulated systems under their control as part of their required annual reporting in lieu of separate certification of each system. Municipalities not regulated by the MPDES Program, but that are responsible for maintenance of permitted stormwater systems, may report on multiple stormwater systems in one report.



INSPECTION & MAINTENANCE LOG
29 Littleworth Road – Dover, NH

Date	BMP[1]	Purpose[2]	Maintenance Done[3]	By

1. "BMP" refers to which site feature is being maintained. For example; Catch Basin, Culvert, Swale, Underdrained Soil Filter (Bioretention cell) etc.
2. "Purpose" is the reason for the inspection. For example; "quarterly' or "after a significant rain event."
3. "Maintenance Done" means any maintenance required as a result of the inspection, such as trash removal or re-seeding of areas.

GRASSED UNDERDRAINED SOIL FILTER INSPECTION FORM

For Inspector				For Maintenance Crew
Component No. Component Name	**Inspection Item and Inspection Item No.**		**Result**	**Preventative / Corrective Maintenance Actions**
Pretreatment (Forebay)	1	Scouring or erosion is present at inlet structure and/or riprap apron	Y__ N__	Check the flow diversion device before the inlet pipe and whether the bypass flow channel is clogged Work Order # _____
	2	Clogged pipes or excessive sediment in the forebay	Y__ N__	Remove sediment or debris
	3	Damaged outlet structure (e.g., cracking, subsidence, spalling, erosion, or deterioration)	Y__ N__	Repair or replace the outlet structure Work Order # _____

	For Inspector			For Maintenance Crew
Component No. Component Name		**Inspection Item and Inspection Item No.**	**Result**	**Preventative / Corrective Maintenance Actions**
Note:				
Filter Area	1	Standing water is present after the design drain time The observed drain time is approximately _____ hours.	Y__ N__	Recheck to determine if there is standing water after 72 hours If standing water is present longer than 5 days, report to mosquito commission. Remove any sediment buildup Replace the sand layer (volume of replacement sand is specified in the Basin Configuration Targets in the Basic Design Information Section of this Manual) Work Order # _____
	2	Excessive sediment, silt, or trash accumulation on basin bed	Y__ N__	Clean pretreatment system Remove silt, sediment, and trash

Component No. Component Name	For Inspector			For Maintenance Crew
	Inspection Item and Inspection Item No.		Result	Preventative / Corrective Maintenance Actions
	3	Erosion or channelization is present	Y__ N__	Check whether the flow bypass or diversion device is clogged Re-grade the infiltration bed Work Order # _____
	4	Animal burrows/rodents are present	Y__ N__	Pest control Work Order # _____
	5	Uneven bed	Y__ N__	Use light equipment to resurface the bed Work Order # _____
	6	Evidence of sinkholes or subsidence	Y__ N__	Monitor for sinkhole development
Note:				
Underdrain	1	Standing water is present after the design drain time	Y__ N__	Check whether the outlet is clogged Check whether the underdrain pipes are clogged or damaged Ventilate the underdrain pipes Work Order# _____
	2	Gravel present in the discharge pipe or outfall of the sand filter	Y__ N__	Check whether the filter fabric around the pipe is broken and repair if necessary Work Order# _____

	For Inspector			For Maintenance Crew
Component No. Component Name	**Inspection Item and Inspection Item No.**		**Result**	**Preventative / Corrective Maintenance Actions**
	3	Continuous discharge of water from the outfall when it has not rained within the past 72 hours and the bed is completely dry	Y__ N__	Check whether the seasonal high water table is above the bottom of the sand filter . A retrofit may be required if the system is intercepting groundwater Work Order# _____
Note:				
Vegetation	1	Large spot(s) showing bare soil	Y__ N__	Vegetative cover must be maintained at 85%. Revegetate the entire basin if 50% or more vegetation has been lost Check Landscaping plan for guidance (if available) Work Order # _____

	For Inspector			For Maintenance Crew
Component No. Component Name	**Inspection Item and Inspection Item No.**		**Result**	**Preventative / Corrective Maintenance Actions**
	2	Overgrown vegetation	Y__ N__	Mow/trim the vegetation Work Order # _____
	3	Tree growth in the basin	Y__ N__	Clear, trim, or prune the trees according to the original Vegetation or Landscaping Plan Inspect to determine if the tree roots caused any structural damage Work Order # _____
Note:				

Component No. Component Name	For Inspector			For Maintenance Crew
	Inspection Item and Inspection Item No.		Result	Preventative / Corrective Maintenance Actions
Basin Embankment and Side Slopes	1	Signs of erosion, soil slide or bulges, seeps and wet spots, loss of vegetation, or erosion on the basin slope	Y__ N__	Check for excessive overland runoff flow through the embankment. Check for any sink hole development Direct the overland runoff to the forebay or pretreatment area Restabilize the bank Work Order # _____
Outlet	1	Trash or debris accumulation more than 20%	Y__ N__	Clean and remove Determine source of trash and address to reduce future maintenance costs or basin failure
	2	Trash rack is damaged or rusted greater than 50% Trash rack is bent, loose, or missing parts	Y__ N__	Repair or replace trash rack Work Order #_____
	3	Outlet components (e.g., orifice plates or weir plate) skewed, misaligned, or missing	Y__ N__	Repair or replace component Work Order #_____
	4	Discharge pipe apron is eroded or scoured	Y__ N__	Restabilize the discharge riprap apron Work Order #_____
	5	Standing water is present in the outlet structure longer than 72 hours	Y__ N__	Pump out the standing water Work Order # _____

	For Inspector			For Maintenance Crew
Component No. Component Name	**Inspection Item and Inspection Item No.**		**Result**	**Preventative / Corrective Maintenance Actions**
Note:				
Emergency Spillway	1	Trees or excessive vegetation present	Y__ N__	Remove trees and roots, and restore berms if necessary Work Order #_____
	2	Damaged structure	Y__ N__	Repair Work Order #_____
Miscellaneous (if applicable)	1	Fence: broken or eroded parts	Y__ N__	Repair or replace Work Order #_____
	2	Gate: missing gate or lock	Y__ N__	Repair or replace Work Order #_____
	3	Sign/plate: tiled, missing, or faded	Y__ N__	Repair or replace Work Order #_____
	4	Excessive or overgrown vegetation blocking access to the basin	Y__ N__	Clear, trim, or prune the vegetation to allow access for inspection and maintenance Work Order #_____

	For Inspector		For Maintenance Crew
Component No. Component Name	**Inspection Item and Inspection Item No.**	**Result**	**Preventative / Corrective Maintenance Actions**
Note:			

Follow Up Items (Component No. / Inspection Item No.):

_____

_____	_____	_____
Inspector Name	Signature	Date

Inspector:_____ **Date:**_____

CATCH BASIN INSPECTION FORM

Catch Basin I.D.		**Final Discharge from Structure?** Yes ☐ No ☐ **If Yes, Discharge to Outfall No:**_	
Catch Basin Label:	**Stencil** ☐ **Ground Inset** ☐ **Sign** ☐ **None** ☐ **Other**_		
Basin Material:	Concrete ☐ Corrugated metal ☐ Stone ☐ Brick ☐ Other: ☐	**Catch Basin Condition:**	Good ☐ Poor ☐ Fair ☐ Crumbling ☐
Pipe Material:	Concrete ☐ HDPE ☐ PVC ☐ Clay Tile ☐ Other:	**Pipe Measurements:**	Inlet Dia. (in): d= _ Outlet Dia. (in): D= _

Required Maintenance/ Problems (check all that apply):

- ☐ Tree Work Required
- ☐ New Grate is Required
- ☐ Pipe is Blocked
- ☐ Frame Maintenance is Required
- ☐ Remove Accumulated Sediment
- ☐ Pipe Maintenance is Required
- ☐ Basin Undermined or Bypassed
- ☐ Cannot Remove Cover
- ☐ Ditch Work
- ☐ Corrosion at Structure
- ☐ Erosion Around Structure
- ☐ Remove Trash & Debris
- ☐ Need Cement Around Grate

Other: _ _

Catch Basin Grate Type :	**Sediment Buildup Depth :**	**Description of Flow:**	**Street Name/ Structure Location:**
Bar: ☐ Cascade: ☐ Other:_ Properly Aligned: Yes ☐ No ☐	0-6 (in): _ 6-12(in): _ 12-18 (in): _ 18-24 (in): _ 24 + (in): _	Heavy ☐ Moderate ☐ Slight ☐ Trickling ☐	

***If the outlet is submerged check yes and indicate approximate height of water above the outlet invert.** h above invert (in):_ Yes ☐ No ☐

☐ **Flow**
☐ **Standing Water**
(check one or both)

Observations:

Color:	
Odor:	

Weather Conditions : Dry > 24 hours ☐ Wet ☐

Sample of Screenings Collected for Analysis? Yes ☐ No ☐

Comments:

Circle those present:

Foam	Oil Sheen
Sanitary Waste	Bacterial Sheen
Orange Staining	Floatables
Excessive sediment	Pet Waste
Other:_	Optical Enhancers


Pool Stu


Pool Stu


Pool Stu


Pool Stu


Pool Stu


Pool Stu




Pool Stu

86% 6:37 AM
One of Pace's longest-ru...
https://paceind.com
PACE INDUSTRIES
1-888-DIE-CAST

67 Faulkner St.
North Billerica, MA 01862
United States
Phone: (978) 667-8400
Fax: (978) 670-2573

OVERVIEW

The Cambridge Division is one of Pace's longest-running facilities. Founded in 1945, Cambridge has been providing contract manufacturing die casting worldwide for more than 65 years. A 300,000-square-foot facility provides a large environment for

TOP
CATEGORIES

Attar Engineering, Inc

Ken@attarengineering.com

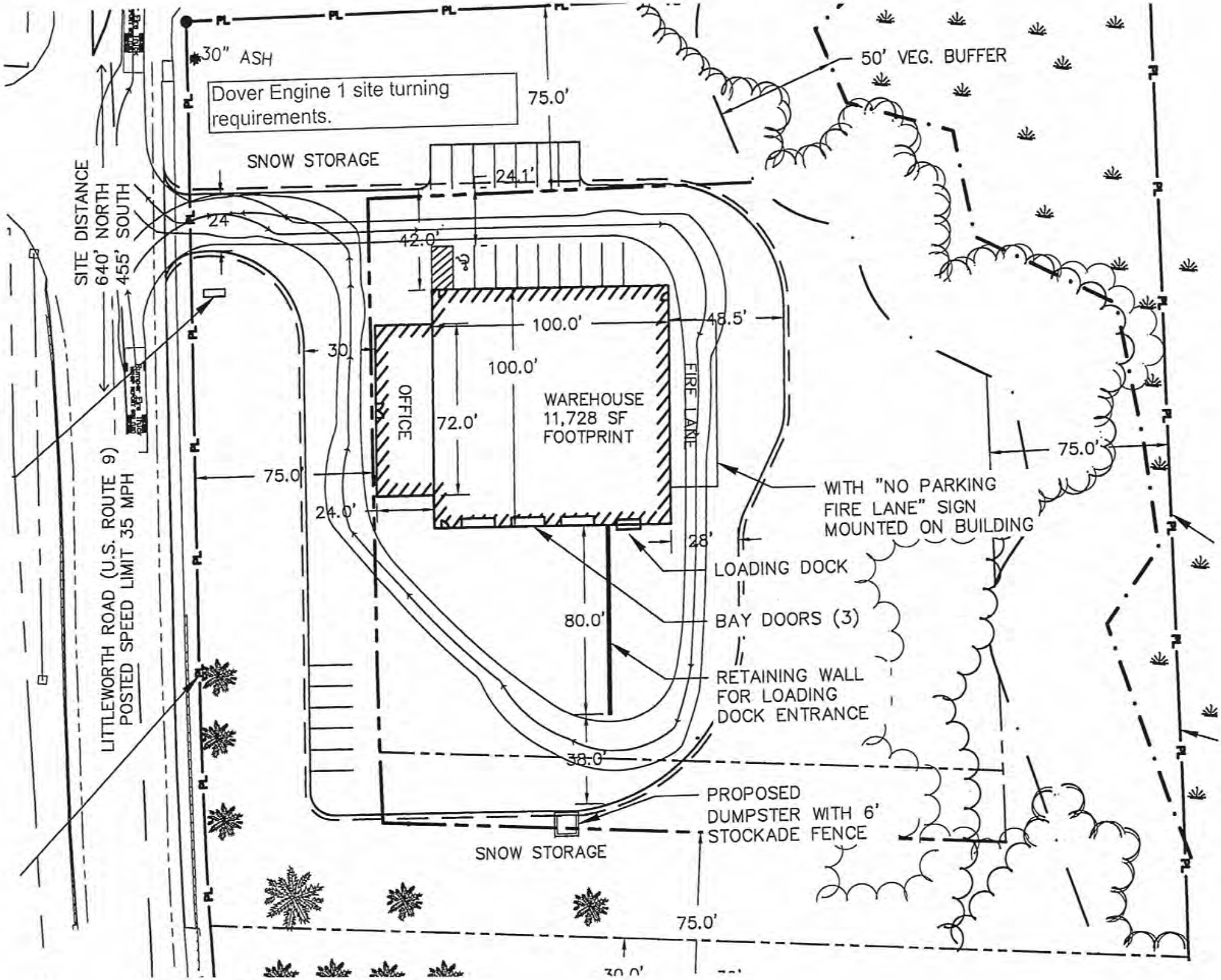
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Files must be less than 20 MB. Allowed file types: txt pdf docx doc stp igs zip.

Choose File No file chosen

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Good Morning - We are currently seeking approval for a pool and warehouse facility at 29 Littleworth Rd adjacent to your Dover NH facility. City staff have asked us to investigate combining our entrance with yours. I have also called and left this message with your facilities director. If you have any interest can you please contact me. Thank you for your consideration. Kenneth A. Wood, PE, Attar Engineering, Inc. 1284 State Rd, Eliot, ME


30" ASH
Dover Engine 1 site turning requirements.
50' VEG. BUFFER
75.0'
SNOW STORAGE
24.1'
SITE DISTANCE
640' NORTH
455' SOUTH
24'
42.0'
100.0'
48.5'
30'
100.0'
OFFICE
72.0'
WAREHOUSE
11,728 SF
FOOTPRINT
FIRE LANE
75.0'
75.0'
24.0'
WITH "NO PARKING
FIRE LANE" SIGN
MOUNTED ON BUILDING
28'
LOADING DOCK
BAY DOORS (3)
80.0'
RETAINING WALL
FOR LOADING
DOCK ENTRANCE
LITTLEWORTH ROAD (U.S. ROUTE 9)
POSTED SPEED LIMIT 35 MPH
38.0'
PROPOSED
DUMPSTER WITH 6'
STOCKADE FENCE
SNOW STORAGE
75.0'
30.0'

EVERSOURCE ENERGY

Electric Service Support Center PO Box 330
Manchester, NH 03105
1-800-362-7764

May 6, 2019

Brian Nielson
Attar Engineering
1284 State Rd
Eliot ME 03903

Re: 29 Littleworth Rd, Dover NH

Dear Mr Nielsen:

Eversource Energy agrees to provide electric service to the above site in accordance with the Tariff for Electric Service on file with the New Hampshire Public Utilities Commission (NHPUC), subject to the applicable NHPUC rules and regulations, as well as Eversource's "Requirements for Electric Service Connections".

Please keep in mind that all requirements for providing electric service, such as, but not limited to, contracts, licenses, fees, payments, easements and inspections must be provided to Eversource prior to the construction of the electric facilities.

Should you have any questions or concerns, please call us at 1-800-362-7764

Sincerely,

Andrea Hoben
Electric Service Support Center
PO Box 330
Manchester, NH 03105-9989

P19-28 **29 Littleworth Road**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
G0004-000000	14 16 INDUSTRIAL PARK RD	16 INDUSTRIAL PARK LLC		273 CORPORATE DR STE 150	PORTSMOUTH	NH	03801
G0004-A00001	1 INDUSTRIAL PARK RD	BEARINGS INC	C/O PT COUNSELORS	PO BOX 3075	MCKINNEY	TX	75070
G0005-000000	LITTLEWORTH RD	BOSTON & MAINE RR	IRON HORSE PARK	HIGH STREET	NORTH BILLERICA	MA	01862
G0006-C00000	29 1/2 LITTLEWORTH RD	STOREMASTER FUNDING III LLC	C/O PACE INDUSTRIES LLC	67 FAULKNER ST	NORTH BILLERICA	MA	01862
G0006-D00000	33 LITTLEWORTH RD	MOORES HADLEY S &	MOORES SHANE A	4 COTTAGE LN	ROLLINSFORD	NH	03869
H0028-000000	21 LITTLEWORTH RD	KAY RICHARD W		45 LITTLEWORTH ROAD	DOVER	NH	03820
H0031-000000	30 LITTLEWORTH RD	SOUSANE RUTH K &	QUINLAN NANCY K	30 LITTLEWORTH RD	DOVER	NH	03820
H0065-A00000	LITTLEWORTH RD	BOSTON & MAINE RR	IRON HORSE PARK	HIGH STREET	NORTH BILLERICA	MA	01862
		29 LITTLEWORTH ROAD	C/O NORTHERN POOL & SPA	291 HAROLD DOW HIGHWAY	ELLIOT	ME	03903
			CHRISTIAN WILBER	RIVER ROAD	ELLIOT	ME	03903
		ATTAR ENGINEERING, INC	KENNETH A. WOOD, P.E.	1284 STATE ROAD	ELLIOT	ME	03903

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – P19-26

Application Type:	Site Plan Review
Applicant(s):	Northern Pool & Spa
Owner(s):	29 Littleworth Road LLC
Location:	29 Littleworth Road (Tax Map G, Lot 6)
Date:	March 28, 2019

INTENT: To build a 11,728 s.f. office and warehouse with improved access, parking areas, and stormwater treatment.

LOTS/UNITS PROPOSED: 1 apartment, commercial/warehouse

AGENDA ITEM #: 1

ACREAGE: 4.5 acres

ZONING DISTRICT: I-4

EXISTING LAND USE: Vacant land

SURROUNDING LAND USE: Residential, commercial, industrial, and railroad

ZBA ACTION:
H67-18 Variance Granted
Z97-14: Variance granted on 6/19/9 7 to maintain used car sales places

PERMITS REQUIRED: -NHDOT Driveway

WAIVERS REQUESTED: None

ATTENDANCE:
Members:
Donna Benton, Planning
Dan Barufaldi, Economic Development
Frank Torr, Planning Board
Sgt. Marn Speidel, Police
Dave White, Engineering
Jim Maxfield, Inspection Services
Elena Piekut, Zoning
Others:
Peter Paul, Owner
Brian Nielsen, Engineer

Approval of 3/21/2019 Meeting Minutes
D.White moved to approve the minutes of March 21, 2019. D.Barufaldi seconded. Vote: UA

PLAN REVIEW:
Planning Comments:

- Impact fees (Retail is $1.58/s.f., Office is $0.92/s.f., Whse is $0.08/sf)
- Water Investment fees (Contact W/S Department)
- Combine plans, architecturals, and floor plans into one set
- Application indicates office and warehouse- should include residential apartment
- Please revise application to include:
  - Letter from Eversource regarding ability to provide service
  - Building materials on elevations for all sides of all buildings
  - Provide floor plans for each level
- Please revise plan set to:
  - Move garages so they are not seen from street
  - Add dumpster and screening
  - Indicate parking as a maximum not "required" in note 8 on sheet 1.2
  - Match streetscape and elevations
  - Add more screening
  - Add abutter across from railroad
  - Add planning file number throughout (P19-26)
  - Note private waste removal
  - Ensure that the landscaping was created using the revised landscape regulations from 2018.
  - Provide compliant neighborhood plan
  - Add common site plan notes: 9, 16, 17, 18, 22, 26, 38, 29, 30, 31, 34
  - Add width of egress
  - Add note about tying into Dover GIS
  - Where are the rest of the parking spaces?
    - Show rest of parking on plan including landscape and lighting sheets
  - Add topography 100' off site
  - Revise zoning dimensional requirements note to add provided column
  - Revise lighting plan to make entrance less dark
  - Provide neighborhood plan with aerial underlay
  - Provide landscaping operation and maintenance plan
  - Confirm landscaping meets the new requirements
  - Engineer, LLS, and Landscape Architect to sign and stamp final plan set
  - Add FFE
  - Add fire lanes
  - Add previous zoning variance information

DRAFT

- Add uniformity ratio to lighting plan
- Add owners signatures
- Note signage regarding visibility and noise will be installed and used during any earthwork, to the satisfaction of the City Engineer.

Police Department Comments:

- Expand the neighborhood plan to better show the surrounding area
- Sheet 1.2, note 8: states that 22 spaces are required, but only 9 shown on plan
- Sheet 1.2, note 24: regarding reference to NHDOT driveway permit…provide the issue date and permit number. Was it based on this plan?
- Why do the bay doors have to face Littleworth Road; can't the layout be flipped 180 degrees?
- Traffic Impact Assessment Report: Perform a traffic count in this area to determine design speed, not merely the posted speed limit. The design speed is presumed to be 45-50 mph. Compare AASHTO requirements to the available sight distance (450') to the south. The police department has a concern regarding available sight distance to the south.
- Investigate the possibility of bringing site driveway off the adjacent north parcel (access drive to Pace Industries) instead of Littleworth.

Fire/Inspections Comments:

- Provide a truck 1 turning template through the site.
- Provide fire hydrant on same side of Littleworth Road.
- Plan 2.1 Utility plan appears to indicate only 1 water line into the building.
- Indicate location of FDC
- Plans shall indicate building entrances and exits including sprinkler room location/access.
- Provide "No Parking Fire Lane" signage along rear of building
- Plan sheet 4.2 accessible parking detail shall indicate minimum accessible aisle width.
- Plan shall indicate how the accessible route will be free and clear of obstructions
- Site plans shall indicate design compliance with applicable accessible regulations and NH RSA 155-A:5.
- Plan sheet 1.2, note 22 shall indicate "Building Official" as opposed to Building Inspector

Engineering Comments:

- Match the landscaping plan to the grading plan

Economic Development Comments:

- Renderings should reflect colors, materials, and new building orientation

Planning Board Comments:

- Add landscaping along private road and railroad bed
- No city sewer nearby?
- Utilities underground?
- Screen transformer and dumpster

Next Steps:

- Revise the plan to address these TRC comments and come back for a second TRC.

Motion to adjourn TRC at 11:12am by J.Maxfield and seconded by D.Barufaldi. Vote: U/A

DRAFT

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – P19-26

Application Type:	Site Plan Review
Applicant(s):	Northern Pool & Spa
Owner(s):	29 Littleworth Road LLC
Location:	29 Littleworth Road (Tax Map G, Lot 6)
Date:	May 2, 2019

INTENT: To build a 11,728 s.f. office and warehouse with improved access, parking areas, and stormwater treatment.

LOTS/UNITS PROPOSED: 1 apartment, commercial/warehouse

AGENDA ITEM #: 1

ACREAGE: 4.5 acres

ZONING DISTRICT: I-4

EXISTING LAND USE: Vacant land

SURROUNDING LAND USE:
Residential, commercial, industrial, and railroad

ZBA ACTION:
H67-18 Variance Granted
Z97-14: Variance granted on 6/19/9 7 to maintain used car sales places

PERMITS REQUIRED: -NHDOT Driveway

WAIVERS REQUESTED: None

ATTENDANCE:
Members:
Donna Benton, Planning
Chris Parker, Economic Development
Sgt. Marn Speidel, Police
Jim Maxfield, Inspection Services
Elena Piekut, Zoning
Others:
Peter Paul, Owner
Brian Nielsen, Engineer
Ken Wood, Engineer

Approval of 4/18/2019 Meeting Minutes
C.Parker moved to approve the minutes of April 18, 2019. J.Maxfield seconded. Vote: UA

PLAN REVIEW:
Planning Comments:
- Impact fees (Retail is $1.58/s.f., Office is $0.92/s.f., Whse is $0.08/sf)
- Water Investment fees (Contact W/S Department)
- No residential unit anymore?
- Combine plans, architecturals, and floor plans into one set
- Please revise application to include:
  - Letter from Eversource regarding ability to provide service
- Please revise plan set to:
  - Match streetscape to the landscape plan
  - Add more screening along southern boundary and show existing trees from sheet 1.2 on landscaping sheet
  - Provide compliant neighborhood plan (with abutter info)
  - Add common site plan notes: 9, 17, 18, 22, 26, 28, 34
  - Revise note 8 to better match common site plan note 11, note 10 to common note 13, 17 to common note 29
  - Revise lighting plan to meet the regulations (darkest spot in parking lot should be between 0.3 & 0.5)
  - Engineer, LLS, and Landscape Architect to sign and stamp final plan set and owners to sign final plans (as a condition of approval)

Police Department Comments:
- Confirm that new DOT Driveway permit is based on the revised access shown at TRC meeting
- Amend traffic impact report and plan to show 15 mph
- Provide written documentation that you reached out to Pace Industries requesting shared driveway

Fire/Inspections Comment:
- Provide a truck 1 turning template through the site

Engineering Comments:
- If using the existing water service, don't need to go out into the roadway
- The drainage is good

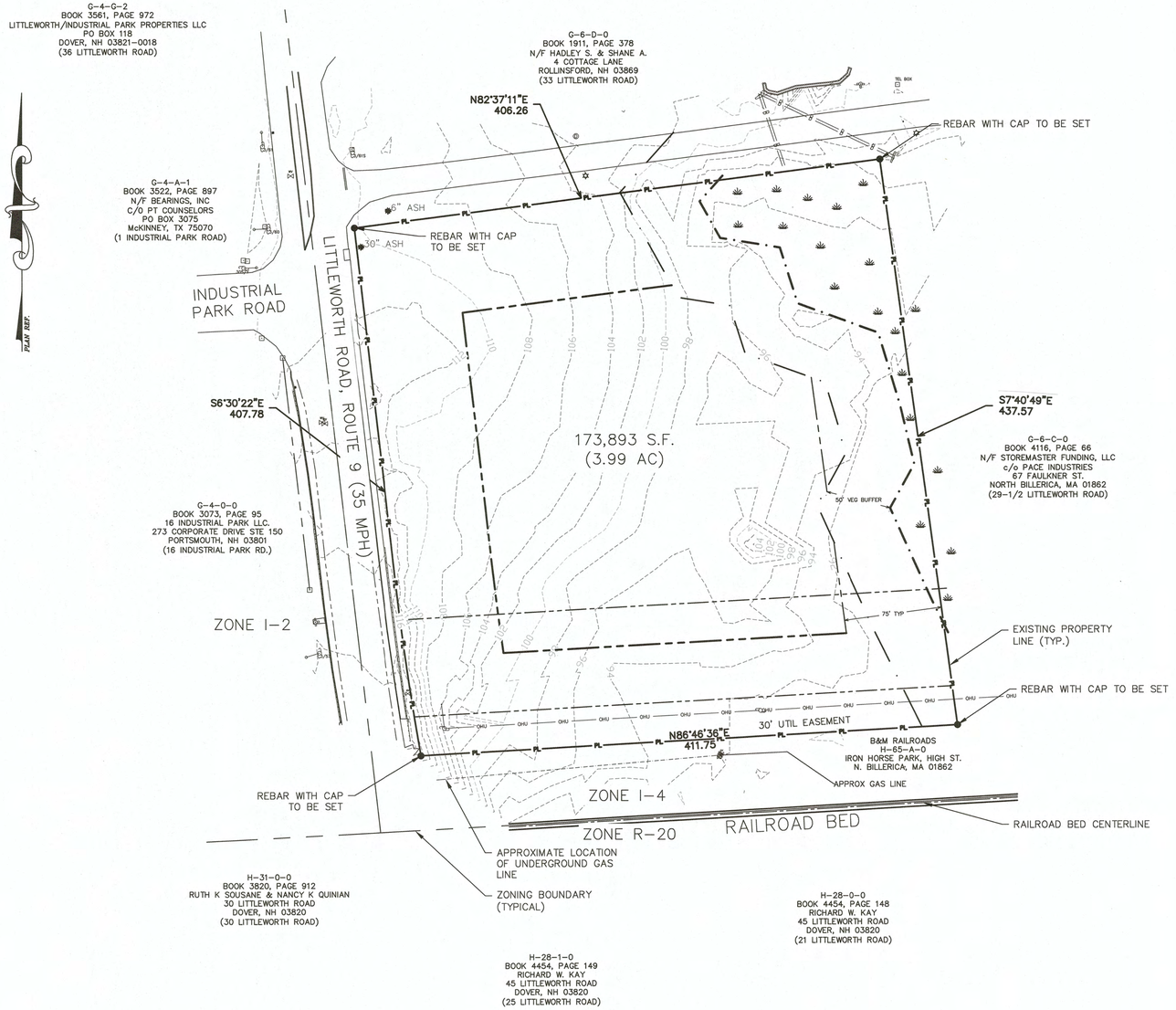
Economic Development Comments: None

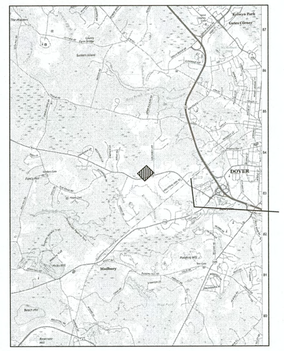
Planning Board Comments: None

Next Steps: Submit revised plans and narrative explaining how these comments were addressed to Planning Department on by Planning Board deadline.

TRC paused at: 10:50am.

DRAFT





LOCATION MAP NTS

GENERAL NOTES

1.) THIS PLAN PROPOSES A NEW OFFICE/WAREHOUSE FACILITY LOCATED AT 29 LITTLEWORTH RD, DOVER, NH.

2.) THE PARCEL IS 3.99 ACRES, AND IS LOCATED IN THE ASSEMBLY AND OFFICE (I-4) DISTRICT. IT IS IDENTIFIED AS TAX ASSESSOR LOT G-6-0-0. OWNED BY 29 LITTLEWORTH ROAD, LLC. PO BOX 694, DOVER, NH 03820. BK 4538 PG 447, SCRD.

3.) EXISTING CONDITIONS AND TOPOGRAPHY (ARBITRARY DATUM) WERE MAPPED BY ATTAR ENGINEERING, INC.

4.) WETLANDS WERE IDENTIFIED BY KENNETH A. WOOD, CWS, ATTAR ENGINEERING, INC., ON APRIL 26, 2018, AND MAPPED BY ATTAR ENGINEERING, INC. NO REPRESENTATIONS AS TO THE ACCURACY OR THE PRECISION OF SAID PLAN ARE MADE BY THIS OFFICE. ALL GRADES SUBJECT TO FIELD VERIFICATION PRIOR TO CONSTRUCTION.

5.) ACCORDING TO THE FEDERAL EMERGENCY FLOOD MAPS PANEL 33017C0310E, EFFECTIVE DATE 9/30/2015, THE PROPERTY DOES NOT LIE WITHIN A FLOOD ZONE.

6.) ZONING DISTRICT I-4

MIN. LOT AREA:	5 AC
MIN. STREET FRONTAGE:	400'
MIN. FRONT SETBACK:	75'
MIN. SIDE SETBACK:	75'
MIN. REAR SETBACK:	75'
MAX. BLDG. HEIGHT:	40'
MAX. COVERAGE:	33% = 57,355 S.F.
BUILDING MUST BE 150' FROM A RESIDENTIAL DISTRICT	
MINIMUM OPEN SPACE:	33%

7.) GROSS LOT AREA: 3.99- 0.35 (WETLANDS)= 3.63 AC

*UNSUITABLE SOILS ARE WETLANDS, POORLY DRAINED AND VERY POORLY DRAINED SOILS.

8.) ALL UNDERGROUND UTILITIES, AS SHOWN ON THIS PLAN OR AS MAY EXIST, ARE SUBJECT TO FIELD VERIFICATION, PRIOR TO CONSTRUCTION NH LAW REQUIRES THAT DIG SAFE (1-800-DIG-SAFE) BE NOTIFIED PRIOR TO ANY EXCAVATION.

LEGEND

PROPERTY LINE	PL PL
LOT BOUNDARY	
PRP. PAVEMENT	
ABUTTING PROP. LINE	
SETBACK	
SOIL TYPE BOUNDARY	
WETLAND BOUNDARY	
WETLAND SETBACK	

GRAPHIC SCALE

0 50 100 150 200 (FEET)

TAX MAP G-2, LOT 6-0-0

NO.	DESCRIPTION	DATE
	REVISIONS	

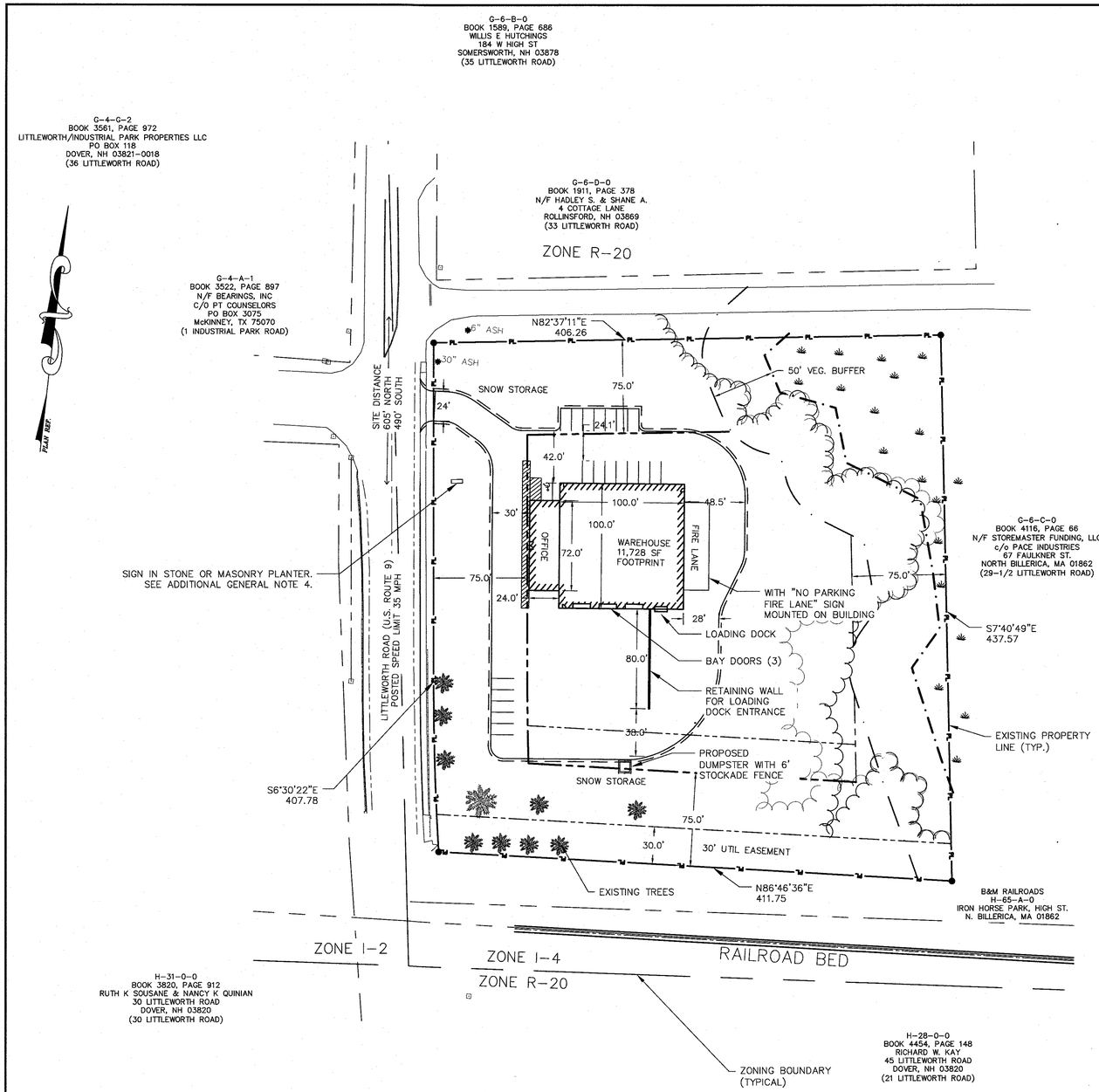
STATE OF NEW HAMPSHIRE — No. 647 — CHRISTEN B. WEBER — LICENSED LAND SURVEYOR — SIGNATURE

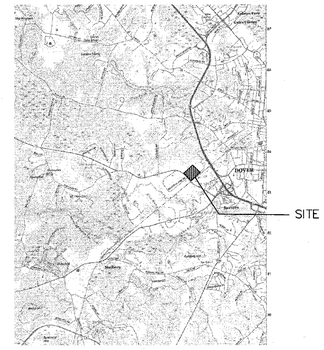
EXISTING CONDITIONS/BOUNDARY PLAN
29 LITTLEWORTH ROAD
DOVER, NH 03820

FOR: 29 LITTLEWORTH ROAD LLC
PO BOX 694
DOVER, NH 03820

ATTAR ENGINEERING, INC.
CIVIL ◆ STRUCTURAL ◆ MARINE
1284 STATE ROAD – ELIOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128

SCALE: 1" = 50'	APPROVED BY:	DRAWN BY: BRN
DATE: 3/5/2019		REVISION DATE: - : -
JOB NO: C147-19	FILE: LITTLEWORTH BASE.DWG	SHEET: 1





LOCATION MAP NTS

DOVER COMMON SITE PLAN NOTES

1. THE INTENT OF THIS SITE PLAN IS TO PROPOSE A NEW OFFICE AND WAREHOUSE FACILITY LOCATED AT 29 LITTLEWORTH ROAD IN DOVER, NH.

2. CURRENT OWNER: NAME AND ADDRESS
29 LITTLEWORTH ROAD LLC, C/O NORTHERN POOL & SPA. 291 HAROLD DOW HIGHWAY. ELIOT, ME 03903.

_____
AUTHORIZED SIGNATURE

3. THE PROJECT PARCEL(S) IS (ARE) SHOWN AS LOT NO. 0-0, MAP G-6 THE CITY OF DOVER TAX ASSESSOR'S MAPS.

4. THE PROJECT PARCEL(S) CONTAINS 3.99 ACRES OR 173,893 SQUARE FEET AREA OF LAND.

5. TITLE REFERENCE FOR THE PROJECT PARCEL(S) IS THE STRAFFORD COUNTY REGISTRY OF DEEDS, BOOK NO. 4537, PAGE NO. 151.

6. PROJECT PLAN REFERENCES: (SEE REFERENCE 1 BELOW)

7. ALL APPLICABLE RIGHT-OF-WAY, CONSERVATION, SLOPE, CONSTRUCTION, UTILITY, ACCESS, OR OTHER EASEMENTS SHALL BE REFERENCED IN A NOTE.

8. ZONING DIMENSIONAL AND DENSITY REQUIREMENTS ARE AS FOLLOWS:

A. ZONING DISTRICT I-4	PROVIDED
B. MINIMUM LOT SIZE: 5 ACRES (217,800 SQ. FT.)	3.99 ACRES
C. MINIMUM LOT FRONTAGE: 400 FT.	407 FT.
D. MINIMUM YARD SETBACKS:	
FRONT 75 FT.	75 FT.
SIDE 75 FT.	75 FT.
REAR 75 FT.	75 FT.
MAXIMUM LOT COVERAGE 33% (57,355 SQ. FT.)	30% (51,488 SQ. FT.)
MAXIMUM BLDG. HEIGHT 40 FT.	34 FT.

9. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY CHRISTEN WILBER, LLS ON (MARCH 4, 2019) WITH AN ERROR NOT GREATER THAN 1 IN 10,000 AND HAS BEEN OBTAINED FROM EXISTING CONDITIONS/BOUNDARY PLAN, PREPARED BY CHRISTEN B. WILBER.

10. SUBJECT PARCEL IS NOT LOCATED WITHIN A FEDERALLY DESIGNATED FLOOD HAZARD AREA (COMMUNITY PANEL NUMBER 33017C0310E, EFFECTIVE DATE: 9/30/2015

11. WETLANDS WERE DELINEATED BY KENNETH A. WOOD, CERTIFIED WETLANDS SCIENTIST, CERTIFICATION NUMBER N.H. 00187, IN ACCORDANCE WITH CHAPTER 170-27.1 OF THE ZONING ORDINANCE, ON APRIL 26, 2018.

12. PARKING SPACES REQUIRED BY THE PROPOSED USE (OR BY THE SQ. FT. INVOLVED) ARE 20. PARKING SPACES PROVIDED BY THIS PLAN ARE 20 (1 ADA).

PARKING MAXIMUM

UNIT TYPE	REQUIREMENT	SQUARE FEET	SPACES
RETAIL	1 SPACE/275 SF	1,728 SF	7
INDUSTRIAL	1 SPACE/800 SF	10,000 SF	13

TOTAL SPACES = 20 WITH 20 PROVIDED(1 ADA)

13. AS-BUILT PLANS OF THE SITE SHALL BE SUBMITTED ON A REPRODUCIBLE MYLAR MEDIUM AND IN A DIGITAL DXF FORMAT ON DISK TO THE CITY OF DOVER ENGINEER'S OFFICE UPON COMPLETION OF PROJECT. AS-BUILT PLANS SHALL BE PREPARED AND CERTIFIED CORRECT BY A L.L.S. OR P.E.

14. EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 149-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.

15. TOPOGRAPHY PROVIDED BY NEW HAMPSHIRE LIDAR (GRANIT). HORIZONTAL DATUM IS NAD83 NH STATEPLANE FEET.

16. ELEVATIONS ARE BASED ON U.S.G.S. DATUM.

17. THE PROPOSED STRUCTURE WILL NOT BE SERVED BY A SPRINKLER SYSTEM.

18. SPRINKLER CONNECTIONS ARE NOT REQUIRED FOR THIS PROJECT.

19. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13.

20. A SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 58, ARTICLE I, SECTION 58-2 OF THE CODE OF THE CITY OF DOVER. (IF A BUSINESS ESTABLISHMENT OR MULTI-FAMILY DWELLING CONTAINED IN A NEW, ALTERED OR REPAIRED STRUCTURE)

21. ALL ON-SITE UTILITIES SHALL BE INSTALLED UNDERGROUND.

22. THE SUBJECT PARCEL IS SERVED BY MUNICIPAL WATER AND A PRIVATE, ON-SITE WASTEWATER DISPOSAL SYSTEM.

23. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY AND STATE CODES.

24. BACKFLOW PREVENTORS SHALL BE PROVIDED FOR DOMESTIC WATER LINE.

25. ALL EROSION CONTROL NOTES SHALL INCLUDE PROVISIONS FOR CONSTRUCTION SEQUENCING, TEMPORARY EROSION CONTROL MEASURES, AND PERMANENT STANDARDS SUCH AS LOAM SPREAD RATE FOR DISTURBED AREAS, RATES OF LIME, TYPE AND RATES FOR FERTILIZER, AND SEED AND MULCH MIXTURE WITH RATES OF APPLICATION.

26. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN THE 50 FT. OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO THE COMMENCEMENT OF SITE WORK.

27. ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.

28. A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS.

29. A PRE-CONSTRUCTION CONFERENCE WITH THE DEVELOPER, THE DESIGN ENGINEER, THE EARTHWORK CONTRACTOR AND THE CITY ENGINEER SHALL OCCUR PRIOR TO ANY EARTH DISTURBING ACTIVITY.

30. BUILDING ADDRESSES SHALL BE ASSIGNED BY THE BUILDING INSPECTOR AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.

31. THE PROPOSED USE FOR THE SITE (STRUCTURE) IS OFFICE/WAREHOUSE.

32. THE FOLLOWING FEDERAL AND STATE PERMITS ARE REQUIRED FOR THE SUBJECT PROPERTY: NHDOT DRIVEWAY PERMIT, NHDES ISDS PERMIT.

33. NO VARIANCES OR SPECIAL EXCEPTIONS HAVE BEEN GRANTED AT THE TIME OF THIS PLAN SUBMISSION. PREVIOUS VARIANCES INCLUDE H67-18 AND Z97-14 (USED AUTOMOBILE SALES).

ADDITIONAL GENERAL NOTES

1. SIGNAGE WILL BE POSTED REGARDING NOISE AND VISIBILITY WILL BE INSTALLED AND USED DURING ANY EARTHWORK, TO THE SATISFACTION OF THE CITY ENGINEER.

2. WASTE REMOVAL TO BE PROVIDED BY DUMPSTER AND CONTRACTED HAULER.

3. ACCESSIBLE ROUTE FROM PARKING SPACE TO ENTRANCE TO REMAIN FREE AND CLEAR OF OBSTRUCTION. ROUTE IS IN COMPLIANCE WITH N.H. RSA 155-A.5

4. FREE STANDING SIGN SHALL NOT EXCEED 100 S.F., MAX HEIGHT OF 30' AND MEET SECTION 170-32, ARTICLE X OF ZONING, DOVER CODE.

REFERENCES

1.) "S.E.N.H. INDUSTRIAL PARK 1 ROGERS ROAD DOVER, N.H." OCTOBER 1966, PREPARED BY G.L. DAVIS AND ASSOCIATES.

LEGEND

- PROPERTY LINE
- PRP. PAVEMENT
- EXT. PAVEMENT
- PRP. GRAVEL
- ABUTTING PROP. LINE
- ZONING BOUNDARY
- SETBACK
- SOIL TYPE BOUNDARY
- WETLAND BOUNDARY
- WETLAND SETBACK
- PRP. BUILDING

INDEX OF SHEETS

1.1 EXISTING CONDITIONS PLAN
1.2 SITE PLAN
2.1 GRADING AND UTILITY PLAN
3.1 ROAD PLAN AND PROFILE
4.1 SITE DETAILS
4.2 SITE DETAILS
4.3 SITE DETAILS
4.4 SITE DETAILS
6.1 LANDSCAPING PLAN
8.1 LIGHTING PLAN
8.2 NEIGHBORHOOD PLAN
8.3 STREETSCAPE PLAN
8.4 ARCHITECTURAL PLAN

PROPERTY OWNER SIGNATURE/DATE

GRAPHIC SCALE
0 50 100 150 200 (FEET)

MAP BLOCK NO. G-6-0-0

NO.	DESCRIPTION	DATE
	REVISIONS	
B	PLANNING BOARD SUBMITTAL	5/07/2019
A	TECHNICAL REVIEW COMMENTS	4/18/2019

STATE OF NEW HAMPSHIRE — KENNETH A. WOOD No. 6917 LICENSED PROFESSIONAL ENGINEER

PLANNING FILE NO: P19-26

SITE PLAN
29 LITTLEWORTH RD
DOVER, NH 03820

FOR: 29 LITTLEWORTH ROAD LLC
PO BOX 694
DOVER, NH 03820

ATTAR ENGINEERING, INC.
CIVIL ◆ STRUCTURAL ◆ MARINE
1284 STATE ROAD - ELIOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128

SCALE:	APPROVED BY:	DRAWN BY:
1" = 50'		BRN
DATE: 3/5/2019		REVISION DATE: B: 5/07/2019
JOB NO: C147-19	FILE: LITTLEWORTH BASE.DWG	SHEET: 1.2

GENERAL NOTES

1. ALL PIPES, VALVES, FITTINGS, AND CONNECTIONS SHALL MEET CURRENT DOVER WATER DEPARTMENT STANDARDS.

2. ALL WATER SERVICES TO BE EQUIPPED WITH CURB STOPS.

3. ALL STORM DRAINS TO BE ADS N-12 (PE) OR APPROVED EQUAL.

4. A MINIMUM OF 5.0' OF COVER SHALL BE MAINTAINED OVER ALL WATER LINES.

5. THE ELECTRICAL POWER COMPANY WILL PREPARE THE ELECTRICAL PLAN FOR CONSTRUCTION. ALL ELECTRICAL, TELEPHONE, AND CABLE SERVICES WILL BE UNDERGROUND.

6. NEW WATER LINES SHALL BE TESTED IN ACCORDANCE WITH DISTRICT REQUIREMENTS.

7. EACH E & S CELL REPRESENTS A LIMITED AREA TO BE CONSTRUCTED WITH ALL EROSION & SEDIMENT CONTROL MEASURES IN PLACE. ALL "CELLS" SHALL BE PROTECTED BY EROSION & SEDIMENT CONTROL BEST MANAGEMENT PRACTICES AS REQUIRED BY THE E & S PLAN. EROSION & SEDIMENT CONTROL SHALL BE MAINTAINED FOR EACH CELL THROUGH-OUT THE COMPLETION OF THE ENTIRE PROJECT. THE CELLS SHALL BE ESTABLISHED IN THERE NUMERICAL ORDER.

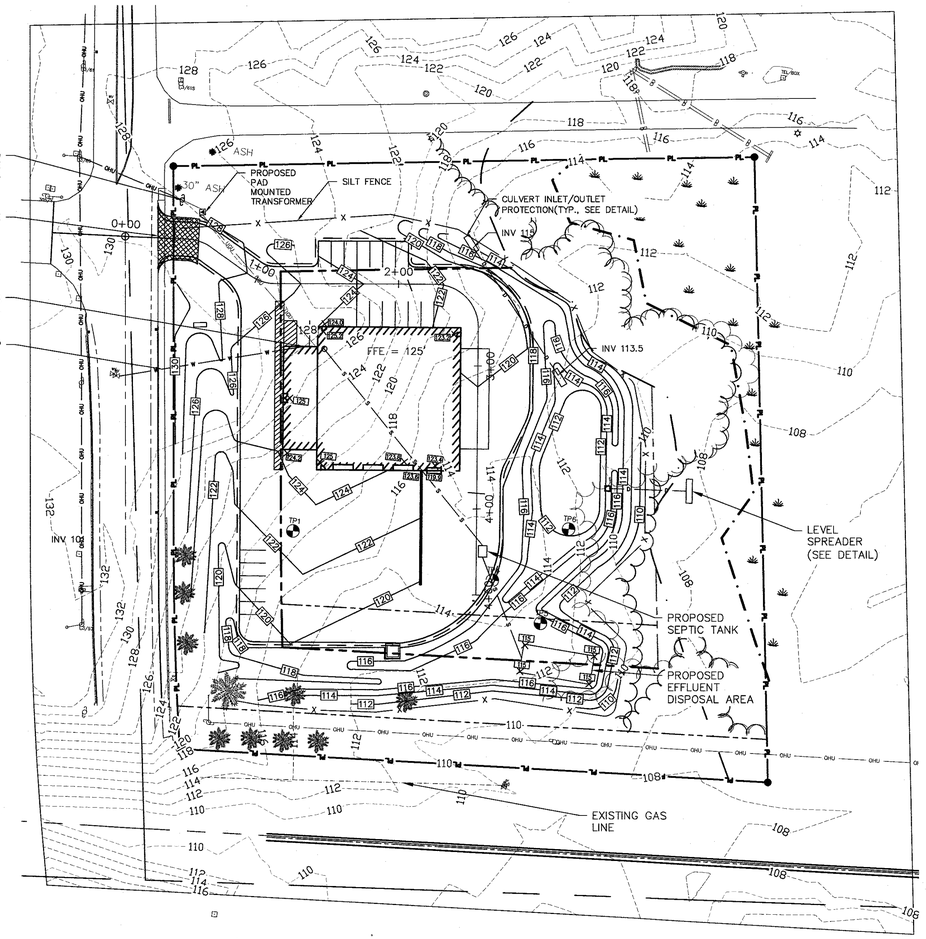
8. ELECTRICAL SERVICE TO BE COORDINATED WITH EVERSOURCE.

PROPOSED UTILITY POLE. CONNECT TO PAD MOUNTED TRANSFORMER. TRANSFORMER TO BE SCREENED WITH SHRUBS.

STABILIZED CONSTRUCTION ENTRANCE

WATER SERVICE ENTRANCE(SEE DETAIL) EXTEND EXISTING 1" WATER SERVICE.

PROVIDE CURB STOP



LEGEND

PROPERTY LINE	
LOT BOUNDARY	
PRP. PAVEMENT	
ABUTTING PROP. LINE	
SETBACK	
SOIL TYPE BOUNDARY	
WETLAND BOUNDARY	
WETLAND SETBACK	
EXT. ABUTTER LINE	
EXT. PAVEMENT	
PRP. GRAVEL	
EXT. OVERHEAD ELEC	OHU
EXT. POWER POLE	
PRP. OVERHEAD ELEC	OHU
PRP. CATCH BASIN	
PRP. WATER HYDRANT	
PRP. SILTATION FENCE	
PRP. BUILDING	

GRAPHIC SCALE
0 50 100 150 200 (FEET)

MAP BLOCK NO. G-6-0-0

NO.	DESCRIPTION	DATE
	REVISIONS	
B	PLANNING BOARD SUBMITTAL	5/07/2019
A	TECHNICAL REVIEW COMMENTS	4/18/2019

PLANNING FILE NO: P19-26

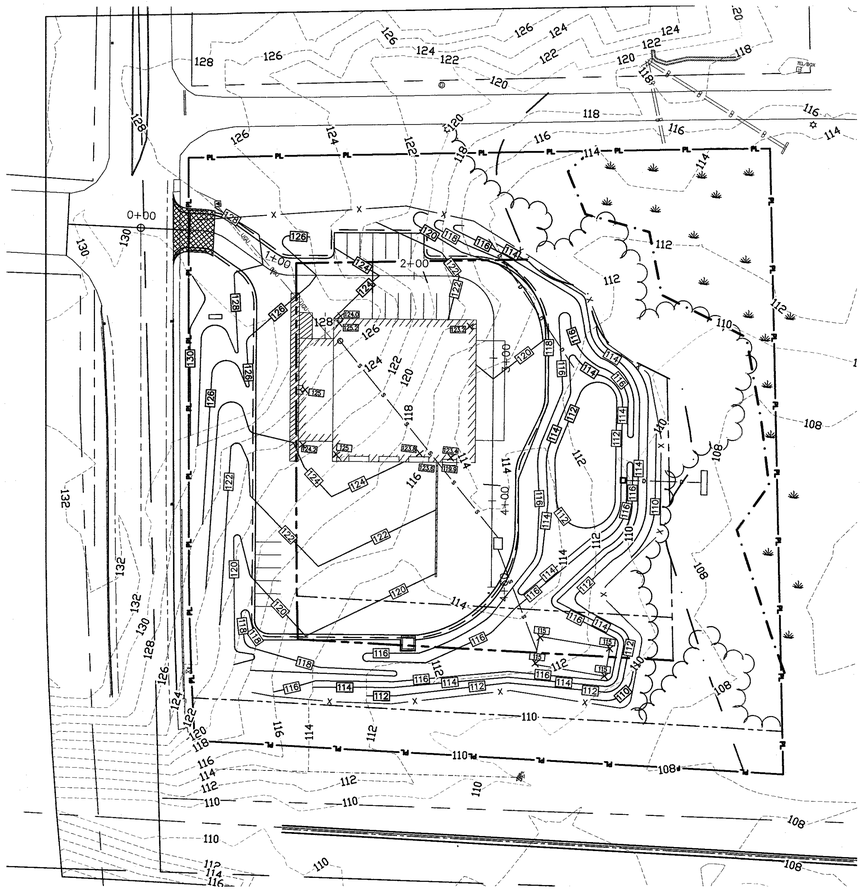
KENNETH A. WOOD No. 6917 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE

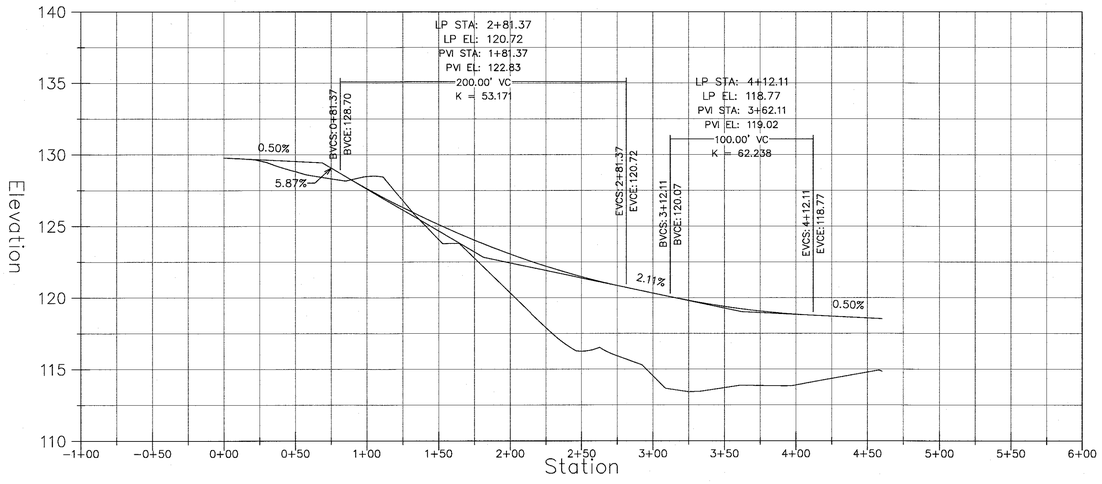
GRADING AND UTILITY PLAN
29 LITTLEWORTH RD
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JOB NO: C147-19	FILE: LITTLEWORTH BASE.DWG	SHEET: 2.1





GRAPHIC SCALE

0 50 100 150 200 (FEET)

GENERAL NOTES

1.) THE TOTAL LENGTH OF THE ENTRANCE IS 451 FEET.

LEGEND

- PROPERTY LINE
- LOT BOUNDARY
- PRP. PAVEMENT
- ABUTTING PROP. LINE
- SETBACK
- SOIL TYPE BOUNDARY
- WETLAND BOUNDARY
- WETLAND SETBACK
- EXT. ABUTTER LINE
- EXT. PAVEMENT
- PRP. GRAVEL
- EXT. OVERHEAD ELEC — OHU
- EXT. POWER POLE
- PRP. OVERHEAD ELEC — OHU
- PRP. CATCH BASIN
- PRP. WATER HYDRANT
- PRP. SILTATION FENCE
- PRP. BUILDING

MAP BLOCK NO. G-6-0-0

NO.	DESCRIPTION	DATE
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B	PLANNING BOARD SUBMITTAL	5/07/2019
A	TECHNICAL REVIEW COMMENTS	4/18/2019

PLANNING FILE NO: P19-26

STATE OF NEW HAMPSHIRE — KENNETH A. WOOD No. 6917 LICENSED PROFESSIONAL ENGINEER

ENTRANCE AND PROFILE
29 LITTLEWORTH RD
DOVER, NH 03820

FOR: 29 LITTLEWORTH ROAD LLC
PO BOX 694
DOVER, NH 03820

ATTAR ENGINEERING, INC.
CIVIL ◆ STRUCTURAL ◆ MARINE
1284 STATE ROAD – ELIOT, MAINE 03903
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EROSION & SEDIMENTATION CONTROL NOTES

1. SILTATION FENCE OR HAY BALE BARRIERS WILL BE INSTALLED DOWNSLOPE OF ALL STRIPPING OR CONSTRUCTION OPERATIONS. A DOUBLE SILT FENCE BARRIER SHALL BE INSTALLED DOWNSLOPE OF ANY SOIL MATERIAL STOCKPILES. SILT FENCES SHALL BE INSPECTED AFTER EACH RAIN EVENT AND DAILY DURING PROLONGED RAIN. SILT AND SOIL PARTICLES ACCUMULATING BEHIND THE FENCE SHALL BE REMOVED AFTER EACH SIGNIFICANT RAIN EVENT AND IN NO INSTANCE SHOULD ACCUMULATION EXCEED 1/2 THE HEIGHT OF THE FENCE. TORN OR DAMAGED AREAS SHALL BE REPAIRED.

2. TEMPORARY AND PERMANENT VEGETATION AND MULCHING IS AN INTEGRAL COMPONENT OF THE EROSION AND SEDIMENTATION CONTROL PLAN. ALL AREAS SHALL BE INSPECTED AND MAINTAINED UNTIL THE DESIRED VEGETATIVE COVER IS ESTABLISHED. THESE CONTROL MEASURES ARE ESSENTIAL TO EROSION PREVENTION AND ALSO REDUCE COSTLY REWORK OF GRADED AND SHAPED AREAS.

3. SEEDING, FERTILIZER AND LIME RATES AND TIME OF APPLICATION WILL BE DEPENDENT ON SOIL REQUIREMENTS. TEMPORARY VEGETATION SHALL BE MAINTAINED IN THESE AREAS UNTIL PERMANENT SEEDING IS APPLIED. ADDITIONALLY, EROSION AND SEDIMENTATION MEASURES SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED.

4. ALL LAWN AREA, OUTER POND SIDE SLOPES AND SWALES SHALL BE PERMANENTLY SEEDED WITH THE FOLLOWING MIXTURE: 20 LB/ACRE CREEPING RED FESCUE, 2 LB/ACRE REDTOP AND 20 LB/ACRE TALL FESCUE FOR A TOTAL OF 42 LB/ACRE. FERTILIZER AND LIME RATES SHALL BE DEPENDENT ON SOIL TESTING. IN THE ABSENCE OF SOIL TESTS, FERTILIZE WITH 10-20-20 (N-P205-K201) AT 800 LB/ACRE AND LIME AT 3 TONS/ACRE. MULCH WITH HAY AT 70-90 LB/1000 S.F. 4" OF LOAM SHALL BE APPLIED PRIOR TO SEEDING.

5. POND BOTTOMS AND INNER POND SIDESLOPES SHALL BE PERMANENTLY SEEDED WITH THE FOLLOWING MIXTURE: 20 LB/ACRE CREEPING RED FESCUE, 8 LB/ACRE BIRDSFOOT TREFOIL AND 20 LB/ACRE TALL FESCUE FOR A TOTAL OF 48 LB/ACRE. SEE THE ABOVE NOTE FOR FERTILIZER, LIME AND MULCHING RATES.

6. TEMPORARY VEGETATION OF ALL DISTURBED AREAS, MATERIAL STOCKPILES AND OTHER SUCH AREAS SHALL BE ESTABLISHED BY SEEDING WITH EITHER WINTER RYE AT A RATE OF 112 LB/ACRE OR ANNUAL RYEGRASS AT A RATE OF 40 LB/ACRE. WINTER RYE SHALL BE USED FOR FALL SEEDING AND ANNUAL RYEGRASS FOR SHORT DURATION SEEDING. SEEDING SHALL BE ACCOMPLISHED BEFORE OCTOBER 1.

7. TEMPORARY SEEDING OF DISTURBED AREAS SHALL BE ACCOMPLISHED BEFORE OCTOBER 1. PERMANENT SEEDING SHALL BE ACCOMPLISHED BEFORE SEPTEMBER 15.

8. ALL SEEDED AREAS SHALL BE MULCHED WITH HAY AT A RATE OF 2 BALES (70-90 LB) PER 1000 S.F. OF SEEDED AREA.

9. SLOPES 2:1 OR STEEPER SHALL BE TREATED WITH POLYJUTE OPEN WEAVE GEOTEXTILE (OR EQUIVALENT) AFTER SEEDING. JUTE MATS SHALL BE ANCHORED PER MANUFACTURER'S SPECIFICATIONS.

10. EXCESSIVE DUST CAUSED BY CONSTRUCTION OPERATIONS SHALL BE CONTROLLED BY APPLICATION OF WATER OR CALCIUM CHLORIDE.

11. THE CONTRACTOR MAY OPT TO USE EROSION CONTROL MIX BERM AS A SEDIMENT BARRIER IN LIEU OF SILTATION FENCE OR HAY BALE BARRIERS WITH APPROVAL FROM THE INSPECTING ENGINEER.

12. MINIMIZE DISTURBED AREAS AND PROTECT NATURAL DOWNGRADIENT BUFFER AREAS TO THE EXTENT PRACTICABLE. CONTROL STORMWATER VOLUME AND VELOCITY WITHIN THE SITE TO MINIMIZE SOIL EROSION. MINIMIZE THE DISTURBANCE OF STEEP SLOPES. CONTROL STORMWATER DISCHARGES, INCLUDING BOTH PEAK FLOW RATES AND VOLUME, TO MINIMIZE EROSION AT OUTLETS. THE DISCHARGE MAY NOT RESULT IN EROSION OF ANY OPEN DRAINAGE CHANNELS, SWALES, STREAM CHANNELS OR STREAM BANKS, UPLAND, OR COASTAL OR FRESHWATER WETLANDS OFF THE PROJECT SITE.

EROSION & SED. CONTROL NOTES (CONT.)

13. WHENEVER PRACTICABLE, NO DISTURBANCE ACTIVITIES SHOULD TAKE PLACE WITHIN 50 FEET OF ANY PROTECTED NATURAL RESOURCE. IF DISTURBANCE ACTIVITIES TAKE PLACE BETWEEN 30 FEET AND 50 FEET OF ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED. IF DISTURBANCE ACTIVITIES TAKE PLACE LESS THAN 30 FEET FROM ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED AND DISTURBED AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 7 DAYS.

14. PRIOR TO CONSTRUCTION, PROPERLY INSTALL SEDIMENT BARRIERS AT THE DOWNGRADIENT EDGE OF ANY AREA TO BE DISTURBED AND ADJACENT TO ANY DRAINAGE CHANNELS WITHIN THE DISTURBED AREA. SEDIMENT BARRIERS SHOULD BE INSTALLED DOWNGRADIENT OF SOIL OR SEDIMENT STOCKPILES AND STORMWATER PREVENTED FROM RUNNING ONTO THE STOCKPILE. MAINTAIN THE SEDIMENT BARRIERS BY REMOVING ACCUMULATED SEDIMENT, OR REMOVING AND REPLACING THE BARRIER, UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. WHERE A DISCHARGE TO A STORM DRAIN INLET OCCURS, IF THE STORM DRAIN CARRIES WATER DIRECTLY TO A SURFACE WATER AND YOU HAVE AUTHORITY TO ACCESS THE STORM DRAIN INLET, YOU MUST INSTALL AND MAINTAIN PROTECTION MEASURES THAT REMOVE SEDIMENT FROM THE DISCHARGE.

15. PRIOR TO CONSTRUCTION, PROPERLY INSTALL A STABILIZED CONSTRUCTION ENTRANCE (SCE) AT ALL POINTS OF EGRESS FROM THE SITE. THE SCE IS A STABILIZED PAD OF AGGREGATE, UNDERLAIN BY A GEOTEXTILE FILTER FABRIC, USED TO PREVENT TRAFFIC FROM TRACKING MATERIAL AWAY FROM THE SITE ONTO PUBLIC ROW'S. MAINTAIN THE SCE UNTIL ALL DISTURBED AREAS ARE STABILIZED.

16. WITHIN 7 DAYS OF THE CESSATION OF CONSTRUCTION ACTIVITIES IN AN AREA THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS, STABILIZE ANY EXPOSED SOIL WITH MULCH, OR OTHER NON-ERODIBLE COVER. STABILIZE AREAS WITHIN 75 FEET OF A WETLAND OR WATERBODY WITHIN 48 HOURS OF THE INITIAL DISTURBANCE OF THE SOIL OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST.

17. REMOVE ANY TEMPORARY CONTROL MEASURES, SUCH AS SILTATION FENCE, WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED. REMOVE ANY ACCUMULATED SEDIMENTS AND STABILIZE.

18. IF THE AREA WILL NOT BE WORKED FOR MORE THAN ONE YEAR OR HAS BEEN BROUGHT TO FINAL GRADE, THEN PERMANENTLY STABILIZE THE AREA WITHIN 7 DAYS BY PLANTING VEGETATION, SEEDING, SOD, OR THROUGH THE USE OF PERMANENT MULCH, OR RIPRAP, OR ROAD SUB-BASE. IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION FOR THE LIGHT, MOISTURE, AND SOIL CONDITIONS; AMEND AREAS OF DISTURBED SUBSOILS WITH TOPSOIL, COMPOST, OR FERTILIZERS; PROTECT SEEDED AREAS WITH MULCH OR, IF NECESSARY, EROSION CONTROL BLANKETS; AND SCHEDULE SODDING, PLANTING, AND SEEDING SO TO AVOID DIE-OFF FROM SUMMER DROUGHT AND FALL FROSTS. NEWLY SEEDED OR SODDED AREAS MUST BE PROTECTED FROM VEHICLE TRAFFIC, EXCESSIVE PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL-ESTABLISHED WITH 90% COVER BY HEALTHY VEGETATION. IF NECESSARY, AREAS MUST BE REWORKED AND RESTABILIZED IF GERMINATION IS SPARSE, PLANT COVERAGE IS SPOTTY, OR TOPSOIL EROSION IS EVIDENT. ONE OR MORE OF THE FOLLOWING MAY APPLY TO A PARTICULAR SITE.

19. FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS A 90% COVER OF THE DISTURBED AREA WITH MATURE, HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.

20. FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.

21. FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL. EROSION CONTROL MIX MAY BE USED AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO THE APPROVED APPLICATION RATES AND LIMITATIONS.

22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE HOUSEKEEPING PRACTICES DURING THE CONSTRUCTION OF THE PROJECT. THESE STANDARDS CAN BE FOUND IN THE FOLLOWING DOCUMENT: MDEP CHAPTER 500 (STORMWATER MANAGEMENT), APPENDIX C. HOUSEKEEPING. HOUSEKEEPING PRACTICES INCLUDE, BUT ARE NOT LIMITED TO, SPILL PREVENTION, GROUNDWATER PROTECTION, FUGITIVE SEDIMENT AND DUST, DEBRIS AND OTHER MATERIALS, EXCAVATION DEWATERING, AUTHORIZED NON-STORMWATER DISCHARGES AND UNAUTHORIZED NON-STORMWATER DISCHARGES.

WINTER CONSTRUCTION NOTES

NOVEMBER 1 – APRIL 15

1. AN AREA SHALL BE CONSIDERED STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH HAY AT A RATE OF 100 LB/1000 S.F. OR DORMANT SEEDED, MULCHED AND ADEQUATELY ANCHORED BY AN APPROVED ANCHORING TECHNIQUE. IN ALL CASES, MULCH SHALL BE APPLIED SO THAT THE SOIL SURFACE IS NOT VISIBLE THROUGH THE MULCH.

2. FROM OCTOBER 15 TO APRIL 1, LOAM AND SEED WILL NOT BE REQUIRED. DURING PERIODS OF TEMPERATURES ABOVE FREEZING, DISTURBED AREAS SHALL BE FINE GRADED AND PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL PERMANENT SEEDING CAN BE APPLIED. AFTER NOVEMBER 1, DISTURBED AREAS MAY BE LOAMED, FINE GRADED AND DORMANT SEEDED AT A RATE 200-300% HIGHER THAN THE SPECIFIED PERMANENT SEEDING RATE. IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, DISTURBED AREAS SHALL BE GRADED BEFORE FREEZING AND TEMPORARILY STABILIZED WITH MULCH. DISTURBED AREAS SHALL NOT BE LEFT OVER THE WINTER OR FOR ANY OTHER EXTENDED PERIOD OF TIME UNLESS STABILIZED WITH MULCH.

3. FROM NOVEMBER 1 TO APRIL 15 ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING, ASPHALT EMULSION CHEMICAL, TRACK OR WOOD CELLULOSE FIBER. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH SLOPES GREATER THAN 3%, SLOPES EXPOSED TO DIRECT WINDS AND FOR SLOPES GREATER THAN 8%. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15%. AFTER OCTOBER 1, THE SAME APPLIES TO ALL SLOPES GREATER THAN 8%.

4. SNOW SHALL BE REMOVED FROM AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.

5. FOR WINTER STABILIZATION, HAY MULCH SHALL BE APPLIED AT TWICE THE STANDARD TEMPORARY STABILIZATION RATE. AT THE END OF EACH CONSTRUCTION DAY, AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE SHALL BE STABILIZED. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW.

6. ALL AREAS WITHIN 75 FEET OF A PROTECTED NATURAL RESOURCE SHALL BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS.

7. ALL VEGETATED DITCH LINES THAT HAVE NOT BEEN STABILIZED BY NOVEMBER 1, OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD, SHALL BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE UNLESS SPECIFICALLY RELEASED FROM THIS STANDARD BY THE MDEP.

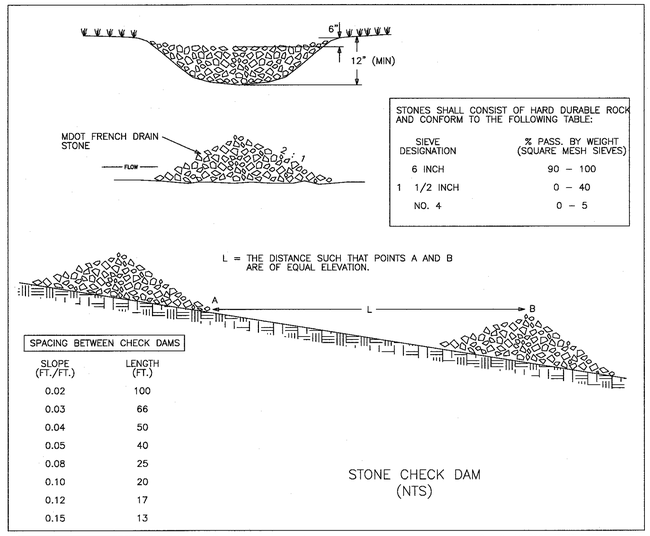
8. MULCH NETTING SHALL BE USED TO ANCHOR MULCH ON ALL SLOPES GREATER THAN 8% UNLESS EROSION CONTROL BLANKETS OR EROSION CONTROL MIX IS BEING USED ON SUCH SLOPES.

E&S INSPECTION/MAINTENANCE DURING CONSTRUCTION

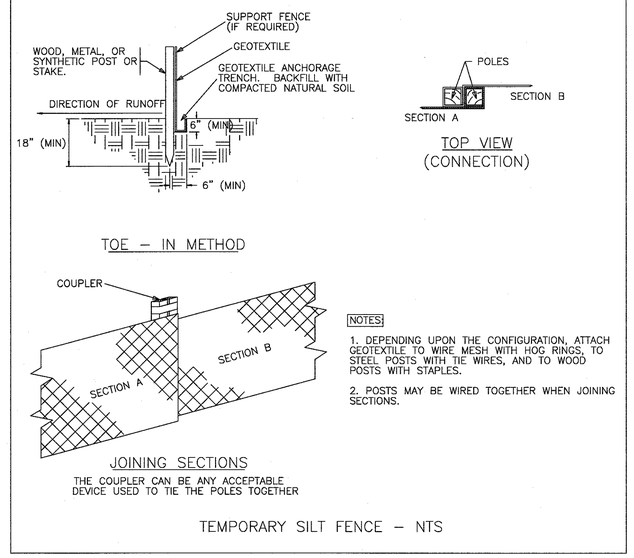
A. INSPECTION AND CORRECTIVE ACTION. INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION CONTROL MEASURES, MATERIALS STORAGE AREAS THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. INSPECT THESE AREAS AT LEAST ONCE A WEEK AS WELL AS BEFORE AND WITHIN 24 HOURS AFTER A STORM EVENT (RAINFALL), AND PRIOR TO COMPLETING PERMANENT STABILIZATION MEASURES. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT THE INSPECTIONS.

B. MAINTENANCE. IF BEST MANAGEMENT PRACTICES (BMPS) NEED TO BE REPAIRED, THE REPAIR WORK SHOULD BE INITIATED UPON DISCOVERY OF THE PROBLEM BUT NO LATER THAN THE END OF THE NEXT WORKDAY. IF ADDITIONAL BMPS OR SIGNIFICANT REPAIR OF BMPS ARE NECESSARY, IMPLEMENTATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.

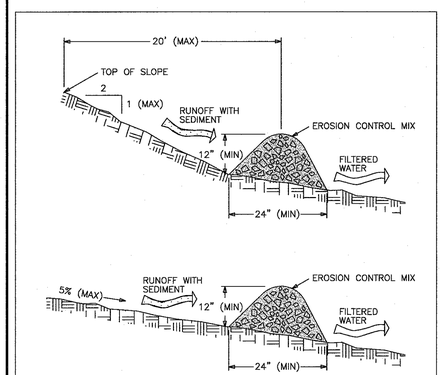
C. DOCUMENTATION. KEEP A LOG (REPORT) SUMMARIZING THE INSPECTIONS AND ANY CORRECTIVE ACTION TAKEN. THE LOG MUST INCLUDE THE NAME(S) AND QUALIFICATIONS OF THE PERSON MAKING THE INSPECTIONS, THE DATE(S) OF THE INSPECTIONS, AND MAJOR OBSERVATIONS ABOUT THE OPERATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS, MATERIALS STORAGE AREAS, AND VEHICLES ACCESS POINTS TO THE PARCEL. MAJOR OBSERVATIONS MUST INCLUDE BMPS THAT NEED MAINTENANCE, BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATION(S) WHERE ADDITIONAL BMPS ARE NEEDED. FOR EACH BMP REQUIRING MAINTENANCE, BMP NEEDING REPLACEMENT, AND LOCATION NEEDING ADDITIONAL BMPS, NOTE IN THE LOG THE CORRECTIVE ACTION TAKEN AND WHEN IT WAS TAKEN. THE LOG MUST BE MADE ACCESSIBLE TO DEPARTMENT STAFF AND A COPY MUST BE PROVIDED UPON REQUEST. THE PERMITTEE SHALL RETAIN A COPY OF THE LOG FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF PERMANENT STABILIZATION.



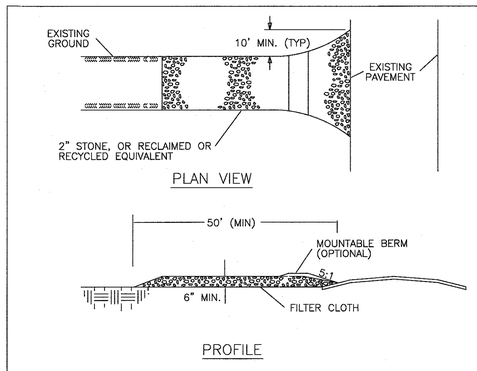
STONE CHECK DAM
(NTS)



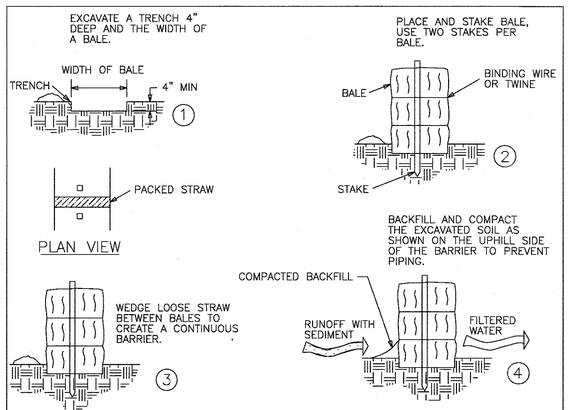
TEMPORARY SILT FENCE – NTS



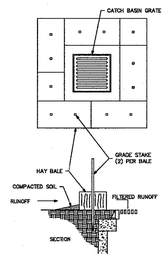
EROSION CONTROL MIX BERM
(NTS)



STABILIZED CONSTRUCTION ENTRANCE



HAY BALE BARRIER
(NTS)



HAY BALE FILTER FOR CATCH BASIN
(NTS)

NO.	DESCRIPTION	DATE
	REVISIONS	

KENNETH A. WOOD No. 6917 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

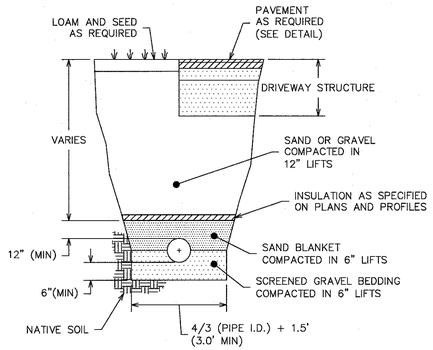
PLANNING FILE NO: P19-26

SITE DETAILS
29 LITTLEWORTH RD
DOVER, NH 03820

FOR: 29 LITTLEWORTH ROAD LLC
PO BOX 694
DOVER, NH 03820

ATTAR ENGINEERING, INC.
CIVIL ◆ STRUCTURAL ◆ MARINE
1284 STATE ROAD – ELIOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128

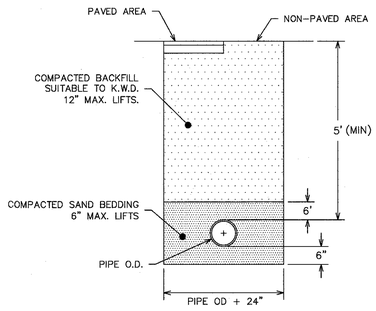
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DATE: 3/5/2019		REVISION DATE: – : –
JOB NO: C147-19	FILE: LITTLEWORTH DET.DWG	SHEET: 4.1



SEWER PIPE TRENCH DETAIL

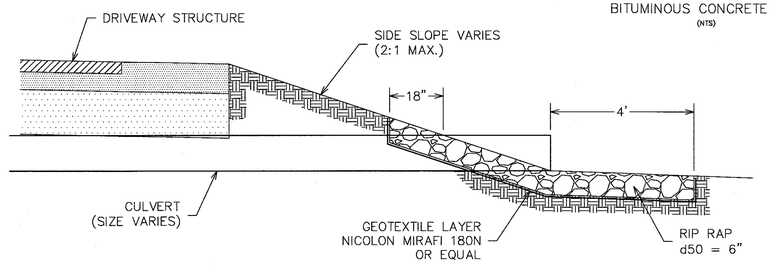
SCALE: NTS

TRENCH TO BE SUPPORTED BY SLOPING BACK AT 2:1 OR OTHER ACCEPTABLE METHOD.



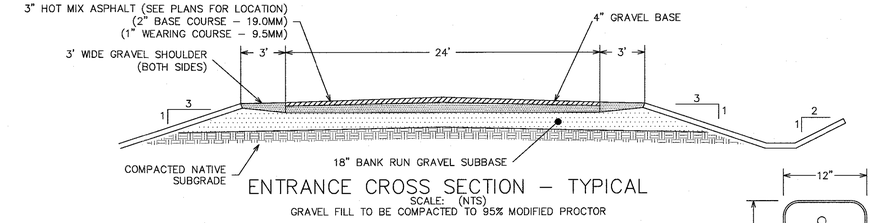
WATER LINE TRENCH DETAIL

(NTS)



CULVERT INLET/OUTLET PROTECTION DETAIL

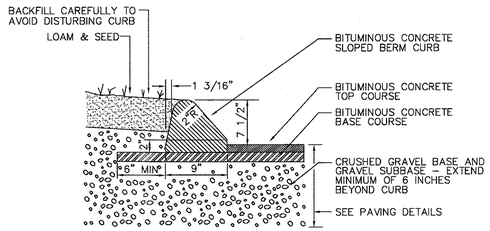
(NTS)



ENTRANCE CROSS SECTION – TYPICAL

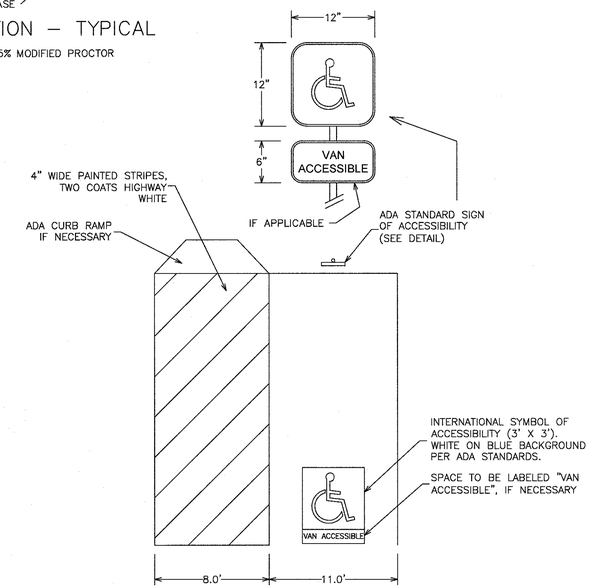
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GRAVEL FILL TO BE COMPACTED TO 95% MODIFIED PROCTOR

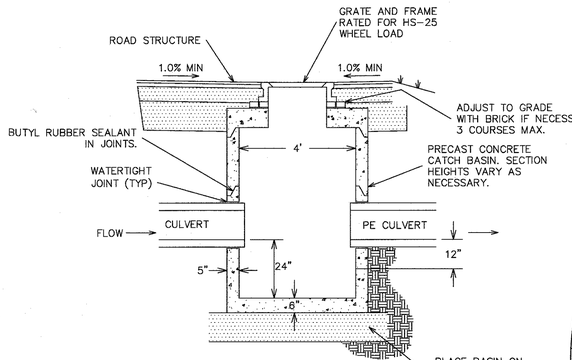


BITUMINOUS CONCRETE CURB

(NTS)

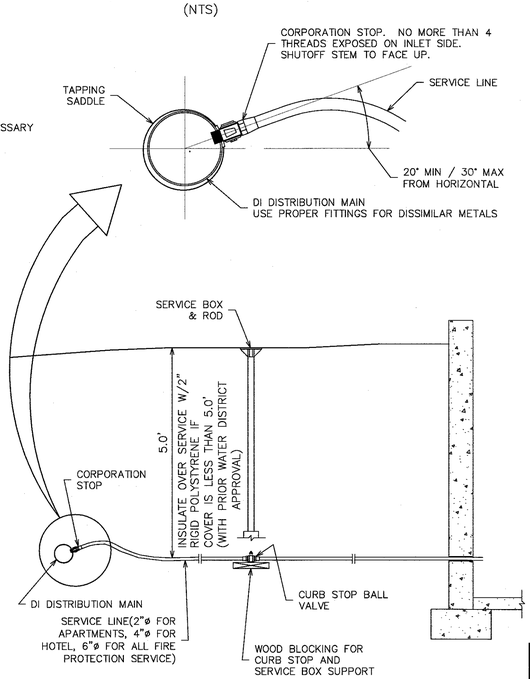


ACCESSIBLE PARKING SPACE DETAIL



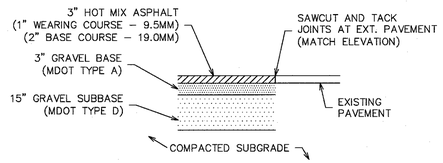
CATCH BASIN DETAIL

(NTS)



WATER SERVICE DETAIL

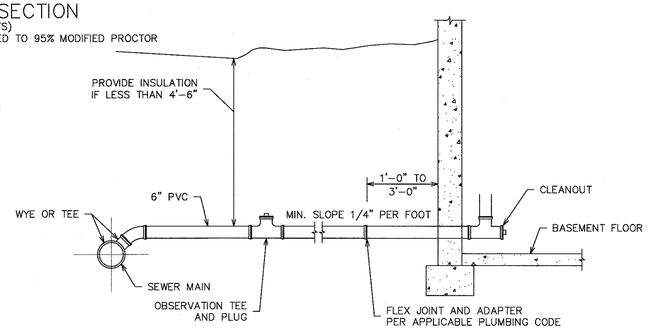
(NTS)



ASPHALT PARKING CROSS SECTION

(NTS)

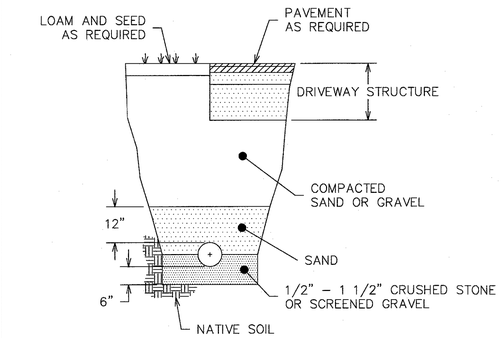
GRAVEL FILL TO BE COMPACTED TO 95% MODIFIED PROCTOR



TYPICAL SERVICE CONNECTION AND LATERAL DETAIL

SCALE: NTS

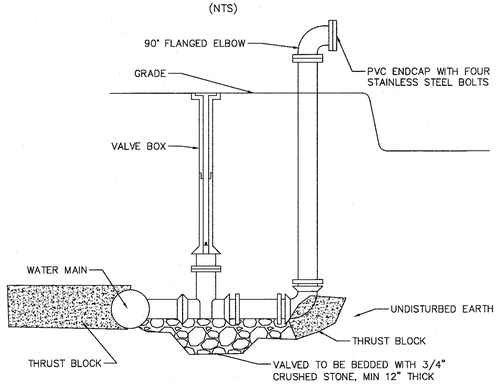
NOTE: SEWER MAY BE LOCATED BENEATH BASEMENT FLOOR



DRAINAGE PIPE TRENCH DETAIL

SCALE: NTS

TRENCH TO BE SUPPORTED BY SLOPING BACK AT 2:1 OR OTHER ACCEPTABLE METHOD.



WATER MAIN BLOW OFF ASSEMBLY

(NTS)

NO.	DESCRIPTION	DATE
A	TECHNICAL REVIEW COMMENTS	4/18/2019
	REVISIONS	

PLANNING FILE NO: P19-26

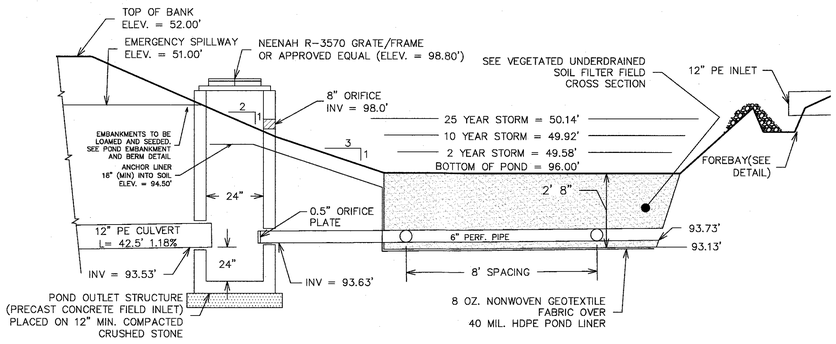
SITE DETAILS
29 LITTLEWORTH RD
DOVER, NH 03820

FOR: 29 LITTLEWORTH ROAD LLC
PO BOX 694
DOVER, NH 03820

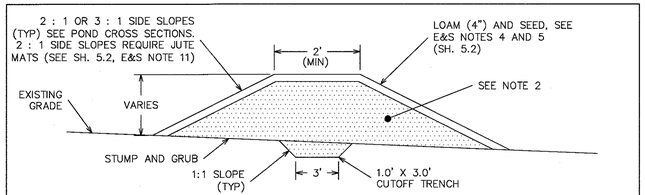
ATTAR ENGINEERING, INC.
CIVIL ◆ STRUCTURAL ◆ MARINE
1284 STATE ROAD – ELIOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128

KENNETH A. WOOD No. 6917 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

SCALE:	APPROVED BY:	DRAWN BY:
1" = 50'		BRN
DATE:		REVISION DATE:
3/5/2019	4-7-2019	A : 4/18/2019
JOB NO: C147-19	FILE: LITTLEWORTH DET.DWG	SHEET: 4.2



BIORETENTION(RAIN GARDEN) POND 1P



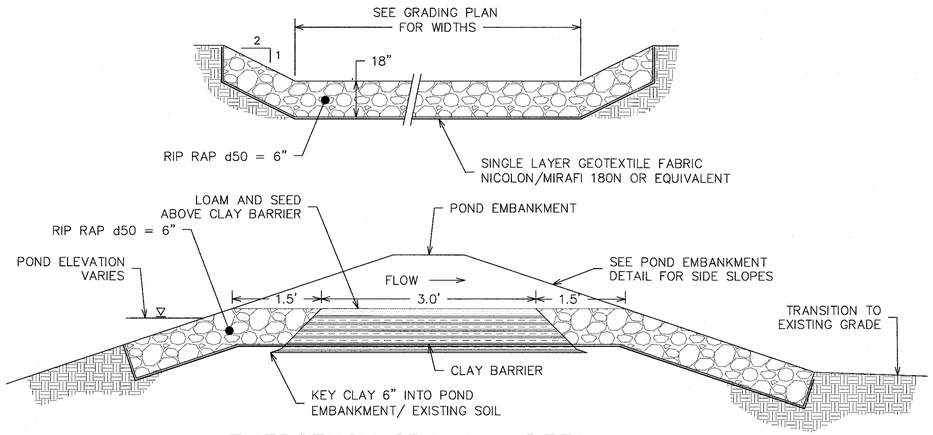
POND EMBANKMENT
AND BERM DETAIL
SCALE: 1" = 5'

EMBANKMENT CONSTRUCTION NOTES

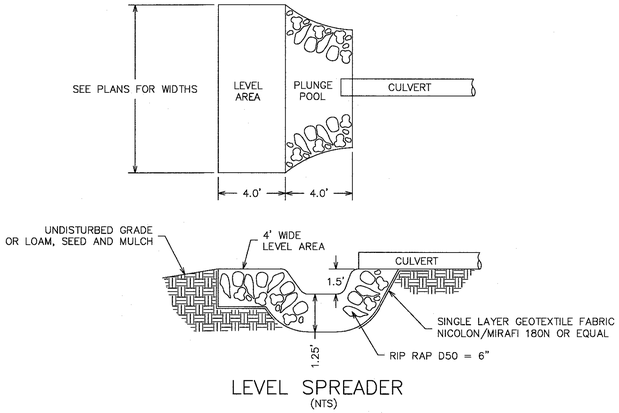
1. ALL ORGANIC MATERIAL, STUMPS, ROCKS AND BOULDERS SHALL BE REMOVED TO A MINIMUM DEPTH OF 24" BELOW SUBGRADE OF THE BASIN EMBANKMENT. ALL EXCAVATIONS BELOW THE BASIN EMBANKMENT SHALL HAVE A MINIMUM SLOPE OF 1H : 1V.

2. ALL BASIN EMBANKMENT FILL MATERIAL SHALL BE WELL GRADED BORROW WITH A MINIMUM OF 20% FINES CONTENT. EMBANKMENT FILL SHALL BE PLACED IN 12" (MAX.) LIFTS AND BE COMPACTED TO 95% MODIFIED PROCTOR. A CUTOFF TRENCH SHALL BE EXCAVATED AS SHOWN PRIOR TO CONSTRUCTION OF EMBANKMENT.

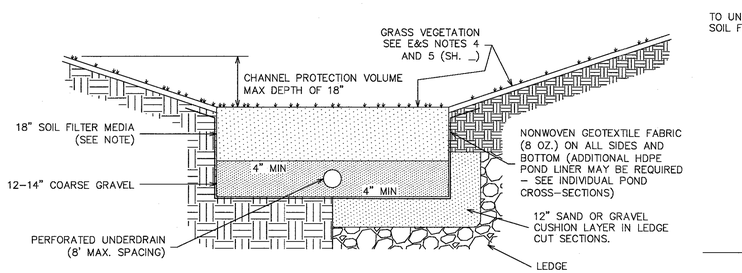
3. DETENTION BASIN AND ALL EXCAVATIONS SHALL BE KEPT FREE OF WATER DURING CONSTRUCTION.



EMERGENCY SPILLWAY DETAIL



LEVEL SPREADER
(NTS)



BIORETENTION CELL (RAIN GARDEN) CROSS SECTION

(NTS)

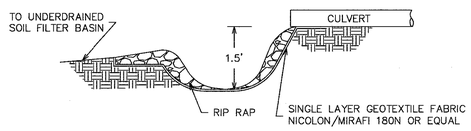
SOIL FILTER MEDIA NOTE:

THE SOIL FILTER MEDIA SHALL CONSIST OF A SILTY SAND OR SOIL MIXTURE COMBINED WITH 20% – 25% FINE SHREDDED BARK OR WOOD FIBER MULCH. THE MIXTURE MUST HAVE NO LESS THAN 8% PASSING THE 200 SIEVE, AND A CLAY CONTENT OF LESS THAN 2%. PRIOR TO CONSTRUCTION, THE CONTRACTOR MUST CHECK WITH THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES FOR UPDATED SOIL FILTER MEDIA SPECIFICATIONS.

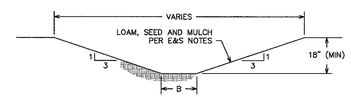
CONSTRUCTION OVERSIGHT REQUIRED:

INSPECTION OF THE FILTER BASIN SHALL BE PROVIDED FOR EACH PHASE OF CONSTRUCTION BY THE DESIGN ENGINEER WITH REQUIRED REPORTING TO THE DEP. AT A MINIMUM, INSPECTIONS WILL OCCUR:

- AFTER PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED;
- AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA;
- AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED;
- AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS; AND
- ALL MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN WILL BE APPROVED BY THE DESIGN ENGINEER AFTER TESTS BY A CERTIFIED LABORATORY SHOW THAT THEY ARE PASSING DEP SPECIFICATIONS.
- CONTRACTOR SHALL COORDINATE INSPECTION SCHEDULE WITH INSPECTING ENGINEER PRIOR TO CONSTRUCTION.
- HEAVY VEHICLES AND EQUIPMENT ARE PROHIBITED FROM DRIVING OVER ANY INFILTRATION BASIN.
- NO SNOW SHALL BE STORED WITHIN THE AREA OF ANY UNDERDRAINED SOIL FILTER.

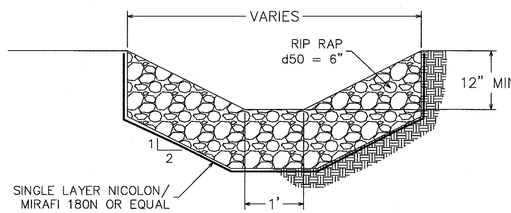


USF FOREBAY DETAIL
(NTS)

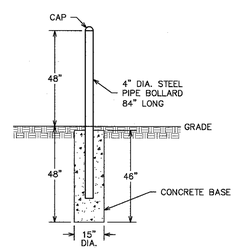


VEGETATED SWALE DETAIL
NTS

B (BOTTOM WIDTH) SHALL BE 2' FOR TYPE 1 SWALES AND 5' FOR TYPE 2 SWALES.



RIP RAP SWALE DETAIL
NTS



PROTECTIVE BOLLARD DETAIL
(NTS)

NO.	DESCRIPTION	DATE
	REVISIONS	

STATE OF NEW HAMPSHIRE – KENNETH A. WOOD No. 9617 – LICENSED PROFESSIONAL ENGINEER

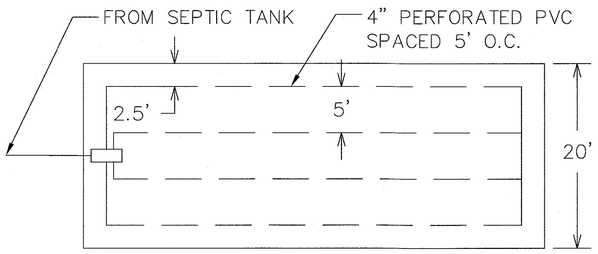
PLANNING FILE NO: P19-26

SITE DETAILS
29 LITTLEWORTH RD
DOVER, NH 03820

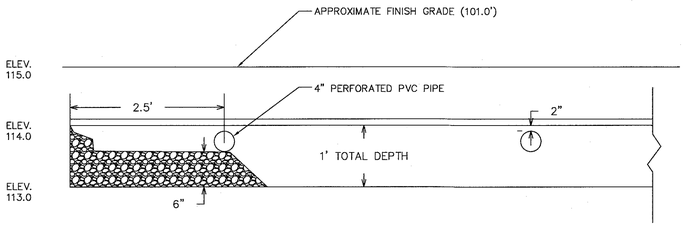
FOR: 29 LITTLEWORTH ROAD
PO BOX 694
DOVER, NH 03820

ATTAR ENGINEERING, INC.
CIVIL ◆ STRUCTURAL ◆ MARINE
1284 STATE ROAD – ELIOT, MAINE 03903
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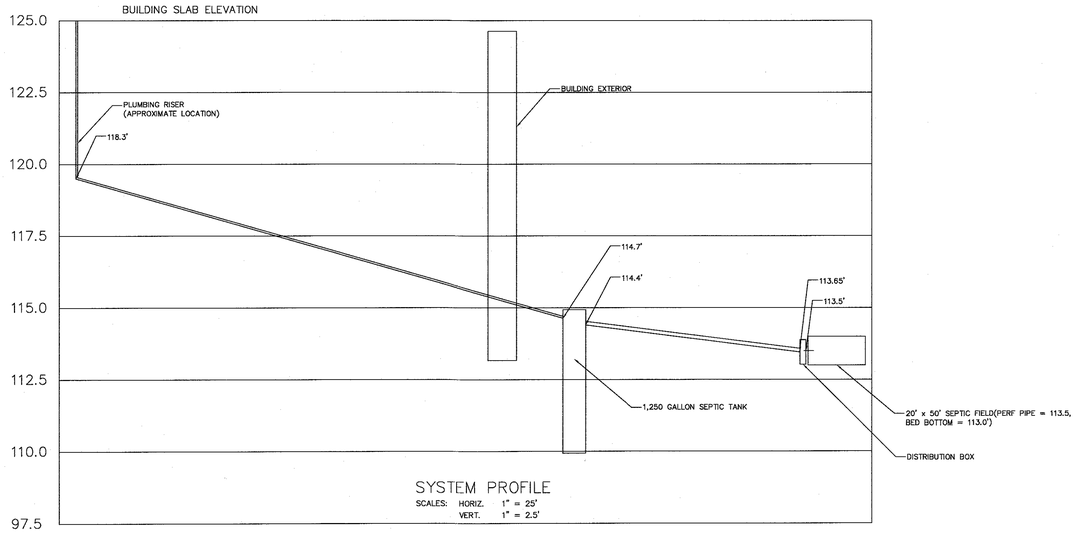
SCALE: 1" = 50'	APPROVED:	DRAWN BY: BRN
DATE: 3/5/2019		REVISION DATE: – : –
JOB NO: C147-19	FILE: LITTLEWORTH DET.DWG	SHEET: 4.3



20' X 50' EFFLUENT DISPOSAL AREA DETAIL
(NTS)

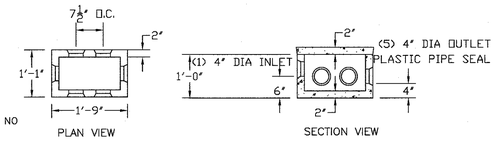


SEPTIC FIELD CROSS
SECTION DETAIL
(NTS)

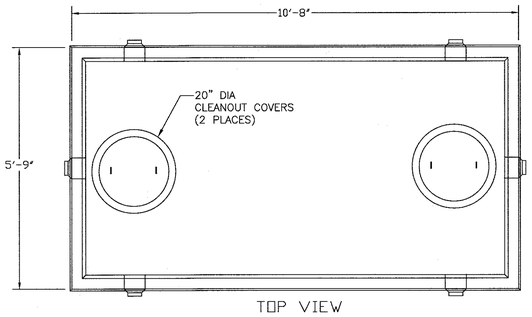


GENERAL NOTES

1. THE GENERAL CONTRACTOR IS TO BE RESPONSIBLE FOR HORIZONTAL AND VERTICAL CONTROL OF ALL SYSTEM COMPONENTS.
2. THIS PLAN IS TO SHOW THE DESIGN OF THE SUBSURFACE SEWAGE DISPOSAL SYSTEM ONLY.
3. SYSTEM IS DESIGNED ONLY TO ACCOMMODATE SANITARY SEWAGE ASSOCIATED WITH NORMAL COMMERCIAL/DOMESTIC USAGE.
4. THE SYSTEM IS NOT DESIGNED FOR GARBAGE GRINDERS / DISPOSALS.
5. THE SYSTEM SHALL BE VENTED THROUGH BUILDING PLUMBING AS REQUIRED BY BUILDING CODE AND AS SHOWN HEREON.
6. PROPERTY LINES AND BUILDING LOCATION ARE GRAPHIC ONLY, PROPERTY LINES HAVE NOT BEEN VERIFIED, AND NO REPRESENTATION OR CERTIFICATION AS TO THE ACCURACY OF THOSE SHOWN IS IMPLIED OR INTENDED.
7. APPLICABLE ZONING REGULATIONS SHALL BE CONFIRMED PRIOR TO CONSTRUCTION.
8. THE PLANS SHOWS ONLY THOSE FEATURES THAT WERE VISUALLY APPARENT ON DATE OF TOPOGRAPHY AND THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC. IS NOT INTENDED ARE IMPLIED.
9. THE INSTALLER OF THIS SYSTEM MUST BE LICENSED BY THE STATE OF NEW HAMPSHIRE.
10. THERE ARE NO KNOWN EXISTING WELLS WITHIN 75 FEET OF THE PROPOSED SEWAGE DISPOSAL SYSTEM.
11. THESE PLANS AND SPECIFICATIONS ARE INTENDED TO BE EXPLANATORY OF THE WORK TO BE DONE AND OF EACH OTHER, BUT SHOULD ANY OMISSION, ERRORS OR DISCREPANCIES APPEAR, THEY SHALL BE SUBJECT TO CORRECTION AND INTERPRETATION BY THE DESIGN ENGINEER THEREBY DEFINING AND FULFILLING THE INTENT OF THE PLANS.
12. FINISHED SURFACE OF THE LEACHING AREA SHALL BE GRADED TO ASSURE WATER RUNOFF (2% MINIMUM SLOPE). SPREAD LOAM TO 6" MINIMUM THICKNESS.
13. ALL DISTURBED AREAS TO BE LOAMED, SEEDED, AND MAINTAINED TO PREVENT EROSION. SPREAD LOAM TO A 6" THICKNESS, MINIMUM.
14. THIS DISPOSAL SYSTEM MUST BE INSTALLED IN COMPLIANCE WITH CURRENT NHDES RULES, MOST CURRENT NHDES APPROVED VERSION OF MANUFACTURE'S DESIGN MANUAL, AS APPLICABLE, AND SPECIFICATIONS OF THIS PLAN. IT IS THE RESPONSIBILITY OF THE INSTALLER TO BE FAMILIAR WITH THE RULES, AS THEY CAN NOT BE REPRODUCED IN THEIR ENTIRETY ON THIS PLAN.
15. INSTALLER IS RESPONSIBLE FOR CLEARING EXCAVATION WITH DIG-SAFE BEFORE CONSTRUCTION. CALL 811 OF 1-800-DIGSAFE.
16. AMENDED PLANS FROM THE DESIGNER WILL BE REQUIRED PRIOR TO NHDES INSPECTION IF CHANGES HAVE BEEN MADE TO THE LOCATION OF SYSTEM COMPONENTS (EXCLUDING THE BED) OR PROPOSED STRUCTURE. IF THE BED IS NAT INSTALLED AT THE LOCATION SHOWN AND ELEVATION SHOWN, A NEW APPROVAL WILL BE REQUIRED.
17. TANK, D-BOX AND ALL PIPE CONNECTIONS MUST BE SEALED AND WATER TIGHT. TANK TO BE SEALED WITH JOINT SEALANT MEETING ASTM C990-09. CONNECTIONS BETWEEN TANK AND PIPES TO BE SEALED WITH A WATERTIGHT, FLEXIBLE JOINT CONNECTOR.
18. SEPTIC TANK MUST HAVE ACCESSIBLE BAFFLES ON INLET, OUTLET, AND BETWEEN COMPARTMENTS IF MULTI-COMPARTMENT TANK IS SPECIFIED. ACCESS TO ALL COMPARTMENTS REQUIRED. RISERS TO BE PROVIDED WHEN COVER EXCEEDS 12". SECURE COVER AND RISER TO FINISH GRADE IS REQUIRED OVER ACCESS TO EFFLUENT FILTER, IF SPECIFIED. ACCESS TO THE INTERIOR OF THE TANK SHALL CONFORM TO ENV-WQ 1010.05.
19. 4 INCH GRAVITY SEWER TO BE SDR 35 OR SCHEDULE 40 PVC, UNLESS OTHERWISE NOTED. WHERE GRAVITY SEWER IS LESS THAN 75' TO WELL, 4" GRAVITY SEWER TO BE SDR 26. FORCE MAINS TO BE SDR 26, SCHEDULE 40 PVC, OR POLYETHYLENE PIPE (POLY PIPE), 100-150 RATING.
20. DISTRIBUTION BOX MUST BE SET ON LEVEL STABLE SOIL BASE OR CONCRETE PAD. DISTRIBUTION BOX SHALL HAVE FLOW EQUALIZER OUTLET FITTINGS, UNLESS SYSTEM UTILIZES A PUMP. IF EFFLUENT IS PUMPED, THE DISTRIBUTION BOX MUST HAVE VELOCITY REDUCING BAFFLE OR T. T SHALL NOT RESTRICT AIR FLOW.
21. ALL TOPSOIL, ROOTS AND ORGANIC MATTER SHALL BE REMOVED FROM THE AREA TO BE FILLED, INCLUDING THE AREA UNDER THE 3: 1 SLOPE. DO NOT COMPACT OR SMEAR SUBSOIL WITH MACHINERY. SCARIFY WITH TEETH OF EXCAVATOR BEFORE PLACING FILL. SCARIFY PARALLEL WITH CONTOURS, WORKING FROM THE CENTER OUTWARD. SOIL MUST BE DRY PRIOR TO PREPARATION.
22. IF DISPOSAL AREA IS RAISED, SEPTIC SAND FILL TO BE PUSHED ONTO PREPARED SURFACE FROM THE SIDE. DO NOT ALLOW EQUIPMENT ON THE SCARIFIED SOIL SURFACE. CONTINUOUS GRADING AND SHAPING SHALL BE CARRIED OUT TO ASSURE UNIFORM DENSITY.
23. MATERIAL SPECIFICATIONS:
- TOPSOIL: 6 INCH MINIMUM LOAM, SEEDED AND MULCHED TO PREVENT EROSION.
- BACKFILL: CLEAN, PERMEABLE SAND FILL WITH NO STONES GREATER THAN 3 INCHES OR IN ACCORDANCE WITH CURRENT NHDES APPROVED VERSION OR MANUFACTURER'S DESIGN MANUAL, AS APPLICABLE.
- CLEAN, WASHED SAND.
- FILL TO RAISE EDA: CLEAN BANK RUN SAND, FREE OF HUMUS, DREDGING OR STONES GREATER THAN 6 INCHES.
24. LEACH LINES AND BED BOTTOM SHALL BE LEVEL PER NHDES ENV-WQ 1017.05(G) AND LEACH LINES SHALL BE INSTALLED PER ENV-WQ 1017.01.
25. DISPOSAL SYSTEMS MUST BE INSPECTED BY NHDES PRIOR TO BACKFILL. CITIES AND TOWNS HAVE INDEPENDENT INSPECTION REQUIREMENTS.
26. DO NOT ALLOW HEAVY WHEELED MACHINERY, VEHICULAR TRAFFIC, LIVESTOCK OR OTHER HEAVY OBJECTS ON ANY COMPONENT OF SYSTEM UNLESS THAT STRUCTURE IS DESIGNED TO WITHSTAND AN H-20 WHEEL LOAD.
27. IT IS THE OWNERS RESPONSIBILITY TO PROPERLY MAINTAIN THIS SYSTEM THROUGH REGULAR PUMPING OF THE SEPTIC TANK. THE OWNER MUST NOT EXCEED DESIGN CAPACITY AND MUST NOT DISPOSE OF INAPPROPRIATE OR PROHIBITED LIQUIDS OR SOLIDS IN THE SYSTEM. KEEP A COPY OF THIS PLAN AND RECORD THE LOCATION OF THE SEPTIC TANK AND PUMP CHAMBER (IF ANY) CLEAN OUT COVERS.
28. EFFLUENT DISPOSAL AREA MAY BE REBUILT IN PLACE, WITH REGULATORY APPROVAL, SHOULD FAILURE OCCUR.

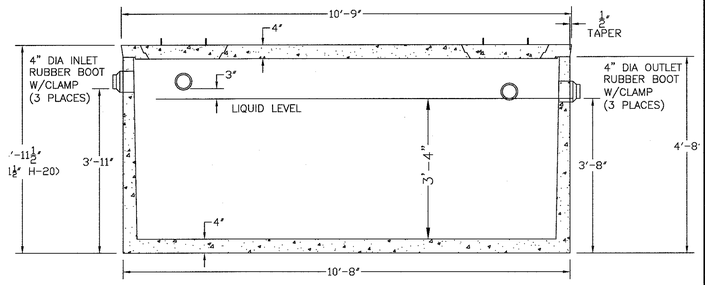


DISTRIBUTION BOX DETAIL
(NTS)



TOP VIEW

SEPTIC TANK NOTES:
1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
2. CONSTRUCTION OF SEPTIC TANK CONFORMS WITH NHDES ENV-WQ1000.
3. ALL REINFORCEMENT PER ASTM C1227.
4. TEES AND GAS BAFFLE SOLD SEPARATELY.
5. TONGUE & GROOVE JOINT SEALED WITH BUTYL RESIN.
6. IF COVER EXCEEDS 4 FEET, HEAVY DUTY TANK IS REQUIRED. ALSO AVAILABLE IN AASHTO HS-20 LOADING.



SECTION VIEW

SEPTIC TANK DETAIL
(NTS)

INVERT DATA

BUILDING SLAB	= 107.5'
SEPTIC TANK IN	= 100.5'
SEPTIC TANK OUT	= 100.25'
D-BOX IN	= 99.65'
D-BOX OUT	= 99.5'
STONE AND PIPE	= 99.5'
BOTTOM OF STONE AND PIPE EDA	= 99.0'
FINISH GRADE	= 101.0'

DESIGN DATA

LOT AREA = 173,805 S.F. (3.99 AC)

NOT TO SCALE

EMPLOYEES/BEDROOMS	= 20 EMPLOYEES/ 1 BEDROOM
DESIGN FLOW:	= 10 GPD/EMPLOYEE + 225GPD/BEDROOM
DAILY FLOW:	= 425 GPD
SEPTIC TANK REQ'D	= 1,250 GAL.
SEPTIC TANK USED	= 1,250 GAL.
EFFLUENT AREA REQ'D	= (SEE
EFFLUENT AREA USED	= DESIGN CALCS)

SOIL LOGS

DATE OF TESTS	= 1/3/2018
PRESENT AT TESTS:	= MICHAEL CUOMO, C.S.S.
DESIGN PERCOLATION RATE:	= 2 MINUTES PER INCH
SOIL TYPE	= ELMWOOD

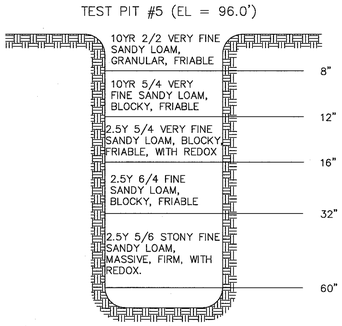
DESIGN CALCS

PER NHDES ENV-WQ-1000.(FOR NH),REQUIRED EFFLUENT DISPOSAL AREA (EDA) = 225SF/100 GPD = 956.20 SF WITH 1,000 SF PROVIDED.
FIELD SIZE EQUAL TO 20' X 50'

DESIGN INTENT

BOTTOM OF EFFLUENT DISPOSAL AREA (EDA) SHALL BE AT ELEV 99.0' ALONG THE BACK SIDE.
THIS PROVIDES A MINIMUM SEPARATION TO SHWT (EL = 95.0') OF 4'.

TEST PIT #5 (EL = 96.0')



SOIL TEST PIT PROFILE
(NTS)

NEW HAMPSHIRE
Designer
of
Subsurface Disposal
Systems
★ ★ ★
Michael R Cuomo
No. 788
Water Supply & Pollution Control

NO.	DESCRIPTION	DATE
	REVISIONS	
A	TECHNICAL REVIEW COMMENTS	4/18/2019

STATE OF NEW HAMPSHIRE
KENNETH A. WOOD
No. 6917
LICENSED
PROFESSIONAL ENGINEER

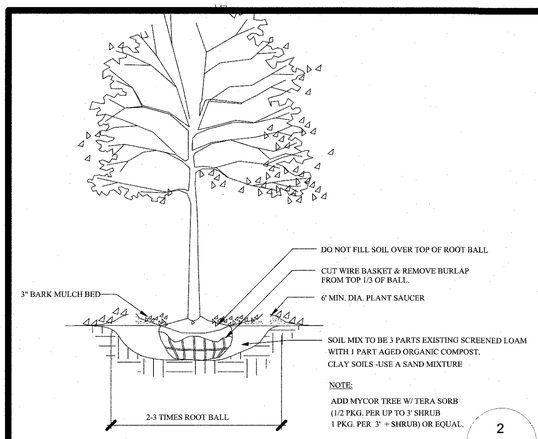
PLANNING FILE NO: P19-26

SEPTIC DESIGN DETAILS
29 LITTLEWORTH RD
DOVER, NH 03820

FOR: 29 LITTLEWORTH ROAD LLC
PO BOX 694
DOVER, NH 03820

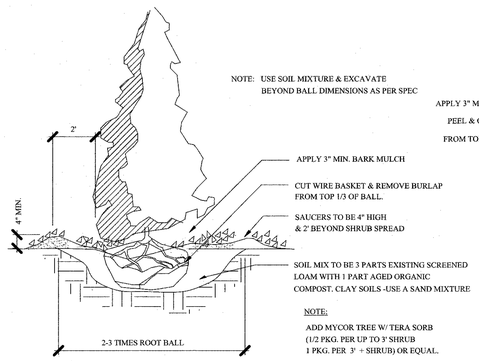
ATTAR ENGINEERING, INC.
CIVIL ◆ STRUCTURAL ◆ MARINE
1284 STATE ROAD - ELIOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128

SCALE: 1" = 50'	APPROVED BY:	DRAWN BY: BRN
DATE: 3/5/2019		REVISION DATE: A : 4/18/2019
JOB NO: C147-19	FILE: LITTLEWORTH DET.DWG	SHEET: 4.4



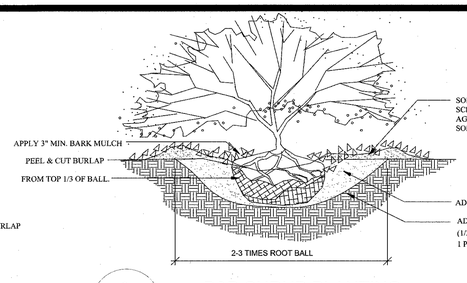
1 L-1

TREE PLANTING - 2"+ CAL.
SCALE: NTS



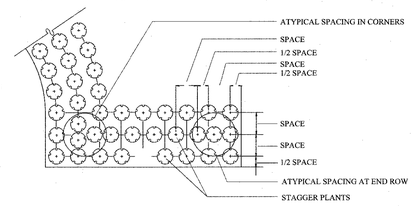
2 L-1

PYRAMIDAL EVERGREEN TREE PLANTING
SCALE: NTS



3 L-1

B&B SHRUB PLANTING
SCALE: NTS

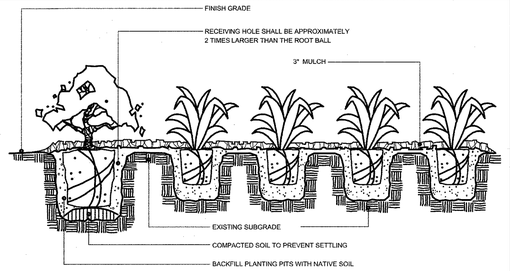


NOTES:

1. PLACE PLANTS IN BED AS SHOWN, SPACING AS SPECIFIED IN PLANT SCHEDULE.
2. GROUNDCOVER SHALL BE TRIANGULAR SPACED IN ROWS PARALLEL TO STRAIGHT EDGES AND SHALL BE EVENLY SPACED IN ROWS PARALLEL TO CURVE EDGES.

4 L-1

GROUND COVER SPACING DETAIL
SCALE: NTS



NOTE: SHRUBS SHALL BE PLANTED A MINIMUM OF 1" & NO MORE THAN 2" ABOVE FINISH GRADE, DEPENDING UPON SITE CONDITIONS.

5 L-1

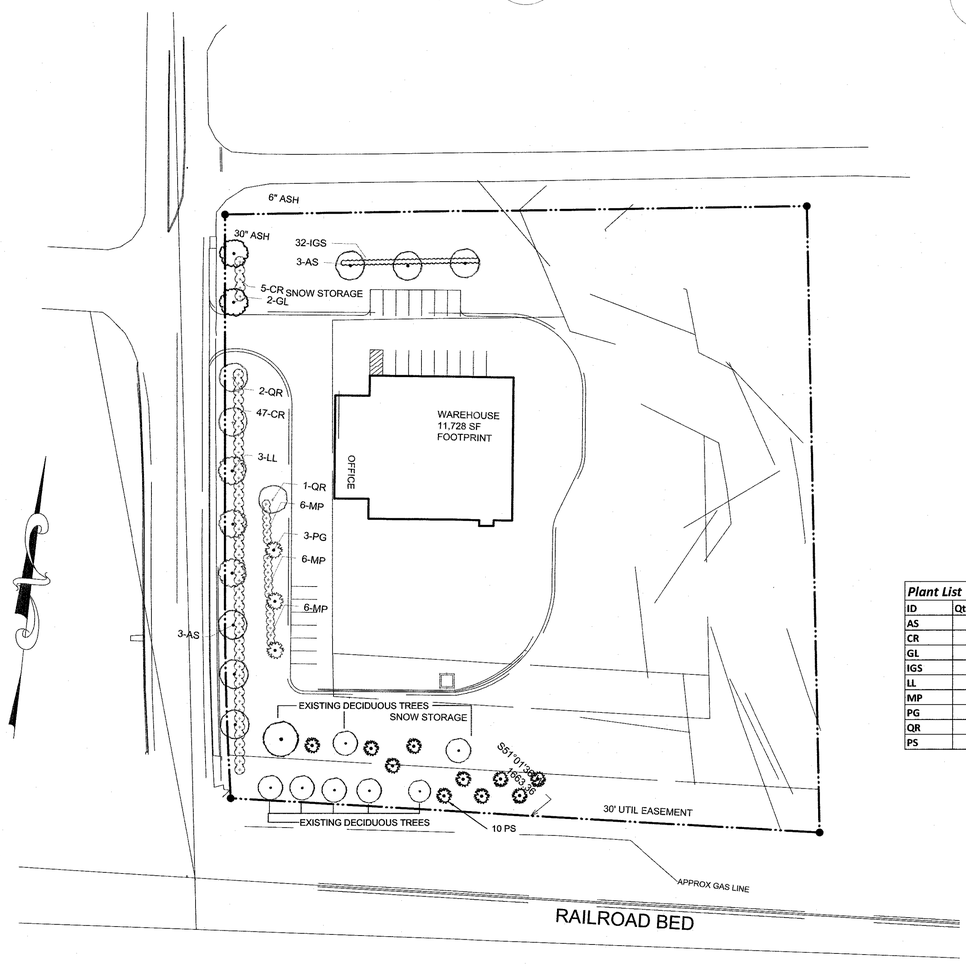
SHRUB/GROUND COVER PLANTING DETAIL
SCALE: NTS

LANDSCAPE NOTES:

1. THE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO STARTING WORK.
2. THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTINGS SHOWN ON THE DRAWINGS.
3. ALL MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
4. ALL PLANT SUBSTITUTIONS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT.
5. ALL PLANT MATERIALS SHALL BE EXACTLY AS SPECIFIED BY THE LANDSCAPE ARCHITECT. IF PLANT SPECIES CULTIVARS ARE FOUND TO VARY FROM THAT SPECIFIED AT ANY TIME DURING THE GUARANTEE PERIOD, THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO HAVE THE CONTRACTOR REPLACE THAT PLANT MATERIAL. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANT DELIVERED TO THE SITE FOR AESTHETIC REASONS BEFORE PLANTING. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR THE QUALITY FOR ALL THE PLANTS.
6. PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, UPON DELIVERY OR AT THE JOB SITE WHILE WORK IS ON-GOING TO CONFORMITY TO SPECIFIED QUALITY, SIZE AND VARIETY.
7. PLANTS FURNISHED IN CONTAINERS SHALL HAVE THE ROOTS WELL ESTABLISHED IN THE SOIL MASS AND SHALL HAVE AT LEAST ONE (1) GROWING SEASON. ROOT-BOUND PLANTS OR INADEQUATELY SIZED CONTAINERS TO SUPPORT THE PLANT MAY BE DEEMED UNACCEPTABLE.
8. NO PLANT SHALL BE PUT IN THE GROUND BEFORE GRADING HAS BEEN FINISHED AND APPROVED BY THE LANDSCAPE ARCHITECT.
9. ALL PLANTS SHALL BE INSTALLED AND DETAILED PER PROJECT SPECIFICATIONS.
10. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24-HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN IF NECESSARY, DURING THE FIRST GROWING SEASON.
11. ALL PLANTS SHALL BE GUARANTEED BY THE CONTRACTOR FOR NOT LESS THAN ONE FULL YEAR FROM THE TIME OF PROVISIONAL ACCEPTANCE. DURING THIS TIME, THE OWNER SHALL MAINTAIN ALL PLANT MATERIALS IN THE ABOVE MANNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE PLANTS TO ENSURE PROPER CARE. IF THE CONTRACTOR IS DISSATISFIED WITH THE CARE GIVEN, HE SHALL IMMEDIATELY, AND IN SUFFICIENT TIME TO PERMIT THE CONDITION TO BE RECTIFIED, NOTIFY THE LANDSCAPE ARCHITECT IN WRITING OR OTHERWISE FORFEIT HIS CLAIM. LANDSCAPE CONTRACTOR SHALL PRUNE PLANTINGS OF DEAD LIMBS OR TWIGS DURING THE FIRST YEAR OF GROWTH.
12. FINAL ACCEPTANCE BY THE LANDSCAPE ARCHITECT WILL BE MADE UPON THE CONTRACTOR'S REQUEST AFTER ALL CORRECTIVE WORK HAS BEEN COMPLETED.
13. LANDSCAPE CONTRACTOR SHOULD REPLACE DEAD PLANTINGS IMMEDIATELY UPON OWNER DIRECTION WITHIN THE WARRANTY PERIOD AND AGAIN AT THE END OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL HAVE REPLACED ANY PLANT MATERIAL THAT IS MISSING, NOT TRUE TO SIZE AS SPECIFIED, THAT HAVE DIED, THAT HAVE LOST THEIR NATURAL SHAPE DUE TO DEAD BRANCHES, EXCESSIVE PRUNING OR INADEQUATE OR IMPROPER CARE, OR THAT ARE, IN THE OPINION OF THE LANDSCAPE ARCHITECT, IN UNHEALTHY OR UNSIGHTLY CONDITION.
14. ALL LANDSCAPE AREAS TO BE GRASS COMMON TO REGION EXCEPT FOR INTERIOR LANDSCAPED ISLANDS OR WHERE OTHER PLANT MATERIAL IS CALLED FOR.
15. ALL TREES AND SHRUBS TO BE PLANTED IN MULCH BEDS WITH DEFINED AND CUT EDGES TO SEPARATE TURF GRASS AREAS.
16. FOR ANY LANDSCAPE AREA SO DESIGNATED TO REMAIN, WHETHER ON OR OFF-SITE, REMOVE WEEDS, ROCKS, CONSTRUCTION ITEMS, ETC., THEN APPLY GRASS SEED OR PINE BARK MULCH AS DEPICTED ON PLANS.
17. LANDSCAPE CONTRACTOR SHALL FEED AND PRUNE EX. TREES, ON OR JUST OFF SITE, THAT HAVE EXPERIENCED ROOT BASE INTRUSION OR DAMAGE DURING CONSTRUCTION IMMEDIATELY AND FOR THE DURATION OF THE WARRANTY PERIOD AT THE DIRECTION OF THE LANDSCAPE ARCHITECT.
18. EXISTING TREES TO REMAIN SHALL BE PROTECTED WITH TEMPORARY SNOW FENCING AT THE EDGE OF THE EX. TREE CANOPY THE CONTRACTOR SHALL NOT STORE VEHICLES OR MATERIALS WITHIN THE LANDSCAPED AREAS. ANY DAMAGE TO EXISTING TREES, SHRUBS OR LAWN SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
19. ALL MULCH AREAS SHALL RECEIVE A 2" LAYER OF SHREDDED PINE BARK MULCH.
20. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH PROJECT SPECIFICATIONS.

Littleworth Maintenance plan

Installation of all new plants or replacement plants shall be planted during the growing season from April to October.
Plants shall be planted in accordance with the Landscape Notes on the planting plan.
All plants shall be watered 2x per week during the first growing season. Watering shall saturate the soil around the root ball. The proper use and regular refilling of 'Gator' bags is acceptable.
Aged and organic compost mulch shall be used to a 2" depth shall be maintained around root ball. Do not stack mulch in mounds deeper than 2".
Planting beds shall be kept free of weeds on a biweekly schedule.
Bed edges shall be maintained to keep lawn mowers from damaging trees and shrubs.
Lawn areas shall be mowed on a weekly schedule.
Broken or dead limbs of all plant materials shall be removed close to trunk, but not damaging trunk of plant with clean sharp shears.
Severely injured, diseased, or dead plant material shall be replaced in kind in perpetuity.
Aged organic compost mulch is preferred, but an owner may use a low phosphorous and slow release nitrogen organic fertilizer as needed.
If ownership of a site is conveyed to a new property owner, the new owner shall be responsible for maintaining all landscaping in accordance with the approved final landscaping plan.



LEGEND	
PROPERTY LINE	
LOT BOUNDARY	
PRP. PAVEMENT	
ABUTTING PROP. LINE	
SETBACK	
SOIL TYPE BOUNDARY	
WETLAND BOUNDARY	
WETLAND SETBACK	

Plant List

ID	Qty	Latin Name	Common Name	Scheduled Size
AS	6	Acer saccharum 'Bonfire'	Bonfire Sugar Maple	2.5-3" CAL.
CR	52	Cornus racemosa	Gray Dogwood	24" MINIMUM HT
GL	2	Gleditsia triancanthos inermis 'Halka'	Halka Thornless Honelocust	2.5-3" CAL.
IGS	32	Ilex glabra 'Shamrock'	Inkberry	24" MINIMUM HT
LL	3	Larix laricina	American Larch	2.5-3" CAL.
MP	18	Myrica pensylvanica	Northern Bayberry	24" MINIMUM HT
PG	3	Picea glauca	White Spruce	8-10' HT
QR	3	Quercus rubra	Red Oak	2.5-3" CAL.
PS	10	Pinus Strobus	White Pine	6-7' HT

NOTE: ALL EX. TREES TO REMAIN SHALL BE PROTECTED DURING SITE CLEARING AND CONSTRUCTION THROUGH THE USE OF CONSTRUCTION FENCING.
No construction materials, equipment, vehicles, or temporary soil deposits shall be located within the dripline of existing trees. Before commencement of work, protective barriers shall be installed and maintained around each plant and/or groups of plants that are to remain on site until completion. Snow fence installed around the dripline of the tree canopy is an example of an acceptable barrier.

REGISTERED LANDSCAPE ARCHITECT — TERRENCE P. PARKER 041 — STATE OF NEW HAMPSHIRE

terra firma
landscape architecture
163.a court street • portsmouth, nh 03801
tel/fax 603.430.8588 [terrence@terrafirmalandarch.com

REFERENCES

1.) "S.E.N.H. INDUSTRIAL PARK 1 ROGERS ROAD DOVER, N.H." DONE OCTOBER 1966, PREPARED BY G.L. DAVIS AND ASSOCIATES.

MAP BLOCK NO. G-6-0-0

SIGNATURE	DATE
CHAIR	

GRAPHIC SCALE
0 50 100 150 200 (FEET)

NO.	DESCRIPTION	DATE
B	PLANNING BOARD SUBMITTAL	5/07/2019
A	TECHINAL REVIEW COMMENTS	4/18/2019

REVISIONS — PLANNING FILE NO: P19-26

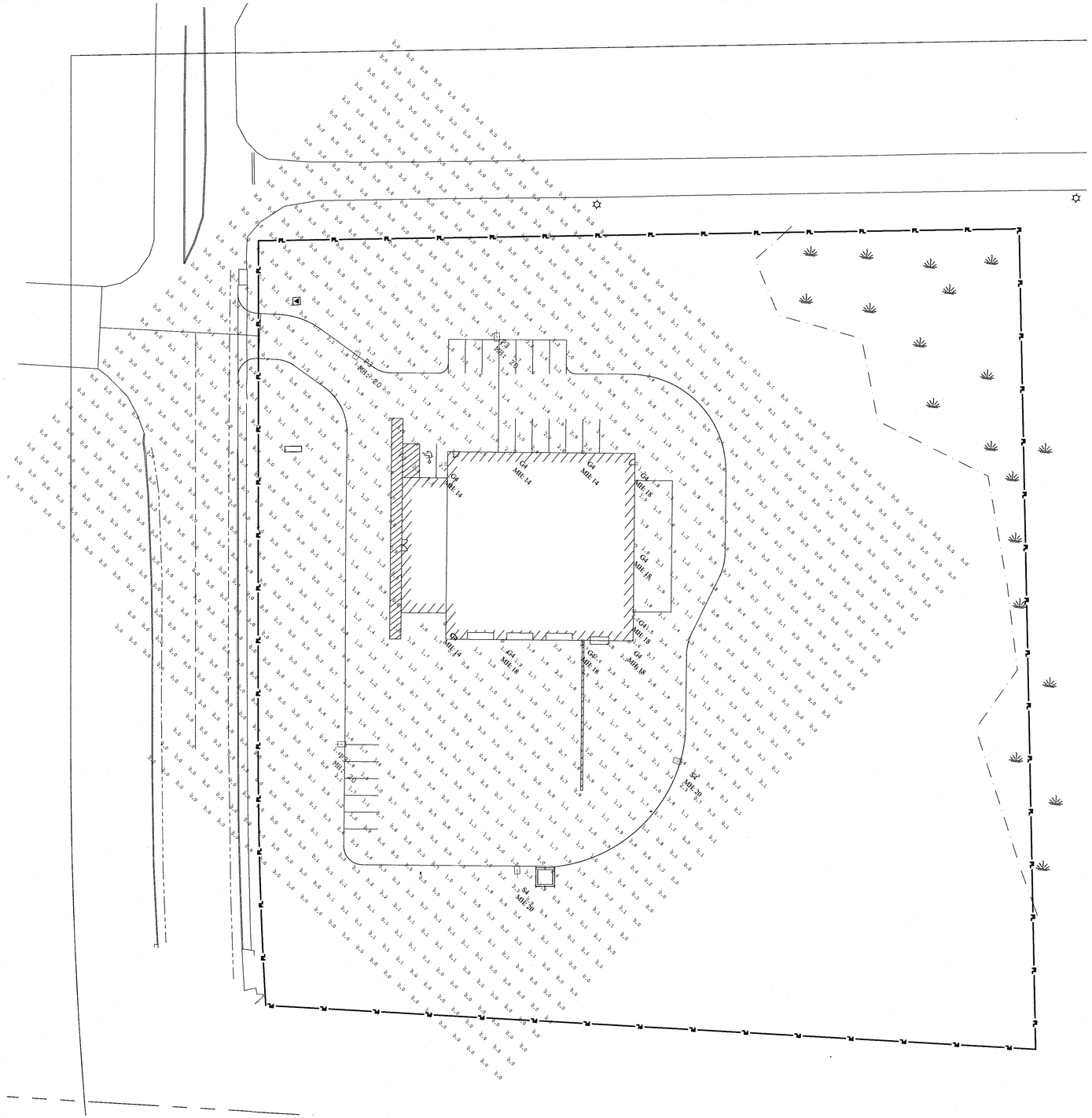
STATE OF NEW HAMPSHIRE — KENNETH A. WOOD No. 6917 LICENSED PROFESSIONAL ENGINEER

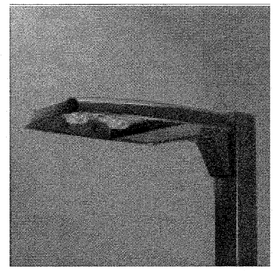
LANDSCAPE PLAN
29 LITTLEWORTH RD
DOVER, NH 03820

FOR: 29 LITTLEWORTH ROAD LLC
PO BOX 694
DOVER, NH 03820

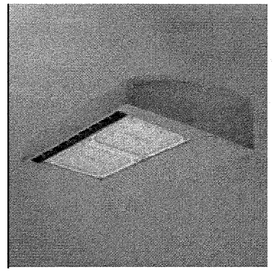
ATTAR ENGINEERING, INC.
CIVIL ◆ STRUCTURAL ◆ MARINE
1284 STATE ROAD - ELIOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128

SCALE: 1" = 50'
DATE: 3/5/2019
APPROVED BY: 5/7/2019
DRAWN BY: BRN
REVISION DATE: B : 5/07/2019
JOB NO: C:\ACAD\2019-04-17 - LITTLEWORTH_BASE.DWG SHEET: 6.1





TYPE PRV PREVAIL



TYPE GWC

Luminaire Schedule				
Qty	Symbol	Label	Manufacturer	Description
10		G4	EATON - McGRAW-EDISON (FORMER COOPER LIGHTING)	GWC-AF-D-LED-E1-T4FT-BZ-600
4		P3	EATON - LUMARK (FORMER COOPER LIGHTING)	PRV-A15-D-UNV-T4-BZ-4ISS@20' - 18' straight square steel pole 2' footing.
2		S4	EATON - LUMARK (FORMER COOPER LIGHTING)	PRV-A25-D-UNV-T4-BZ-@20' - 18' Straight Square Steel Pole 2' Footing.

DRIVE ENTRANCE TO BUILDING FRONT

Illuminance (Fc)
Average = 1.39
Maximum = 2.7
Minimum = 0.3
Avg/Min Ratio = 4.63
Max/Min Ratio = 9.00

PARKING LOT AREA ONLY

Illuminance (Fc)
Average = 1.55
Maximum = 3.0
Minimum = 0.5
Avg/Min Ratio = 3.10
Max/Min Ratio = 6.00

DRIVES AND DOCK AREA
INCLUDES 6 PARKING SPACES
Illuminance (Fc)
Average = 1.24
Maximum = 3.2
Minimum = 0.3
Avg/Min Ratio = 4.13
Max/Min Ratio = 10.67

GRAPHIC SCALE
0 30 60 90 120 (FEET)

MAP BLOCK NO. G-6-0-0

NO.	DESCRIPTION	DATE
	REVISIONS	
B	PLANNING BOARD SUBMITTAL	5/07/2019
A	TECHNICAL REVIEW COMMENTS	4/18/2019

STATE OF NEW HAMPSHIRE · KENNETH A. WOOD No. 6917 LICENSED PROFESSIONAL ENGINEER

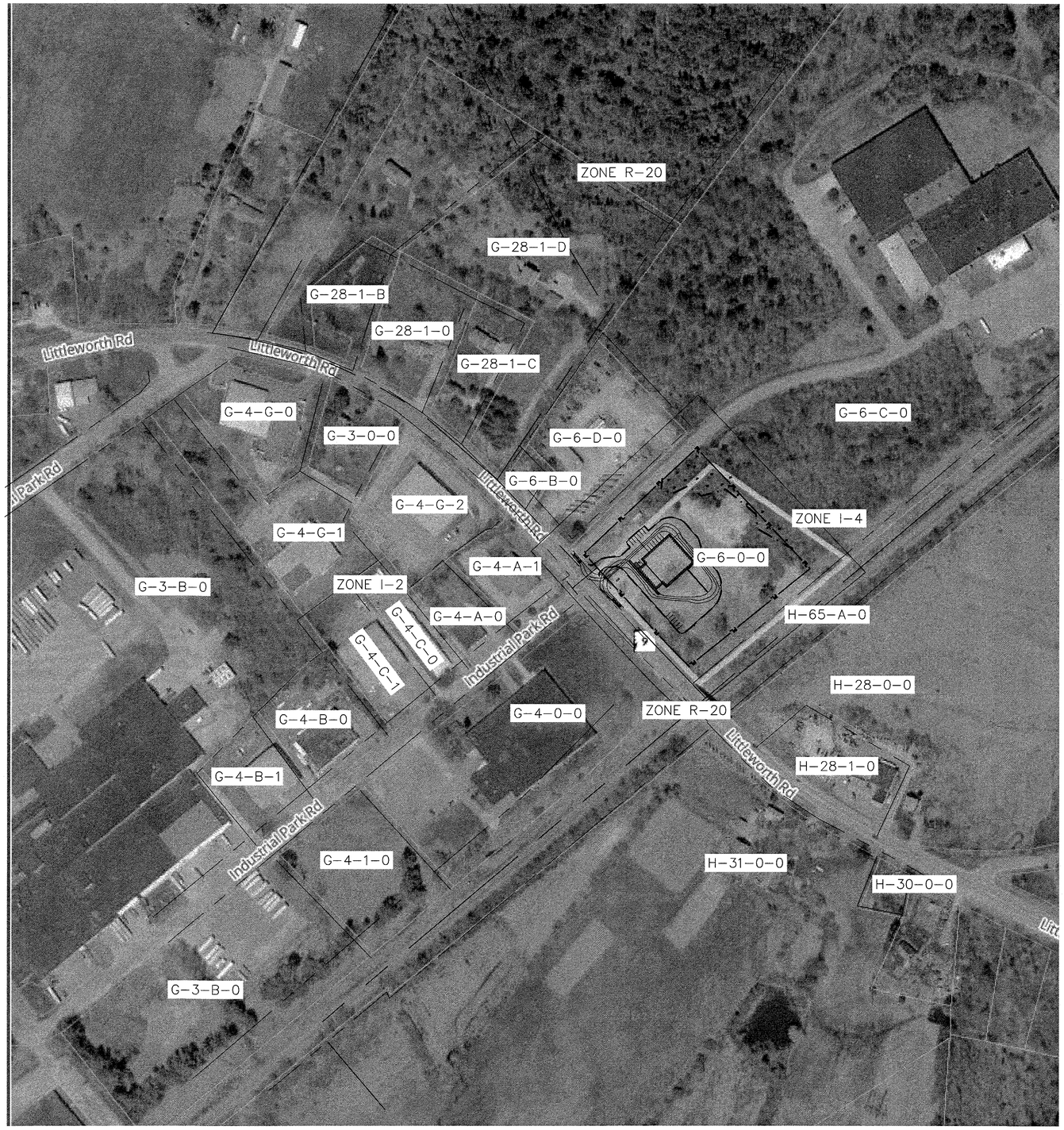
PLANNING FILE NO: P19-26

LIGHTING PLAN
29 LITTLEWORTH RD
DOVER, NH 03820

FOR: 29 LITTLEWORTH ROAD LLC
PO BOX 694
ELIOT, ME 03903

ATTAR ENGINEERING, INC.
CIVIL ◆ STRUCTURAL ◆ MARINE
1284 STATE ROAD – ELIOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128

SCALE: 1" = 30'	APPROVED BY: 5/7/2019	DRAWN BY: BRN
DATE: 3/5/2019		REVISION DATE: B: 5/07/2019
JOB NO: C147-19	FILE: LITTLEWORTH BASE.DWG	SHEET: 8.1



ABUTTER KEY

Map	Lot	Owner	Mailing Address
G-28	1-D	Raymond G & Jennifer C Thibodeau	37 Littleworth Road Dover, NH 03820
G-28	1-B	Xydias Vasilios P	43 Littleworth Road Dover, NH 03820
G-28	1-0	Bennett Veronica	41 Littleworth Road Dover NH 03820
G-28	1-C	David J & April M Kruspki	39 Littleworth Road Dover, NH 03820
G-4	G-0	Littleworth/Industrial Park Properties L	P.O. Box 118 Dover, NH 03821
G-3	0-0	Anne E Tucker Trustee, Revocable Trust	16 The Garrison Dover, NH 03820
G-6	D-0	Hadley S & Shane A Moores	4 Cottage Lane Rollinsford, NH 03869
G-6	B-0	Willis E Hutchings	184 W High Street Somersworth, NH 03878
G-4	G-2	Littleworth/Industrial Park Properties L	P.O. Box 118 Dover, NH 03821
G-6	C-0	Storemaster Funding Iii LLC	c/o Pace Industries LLC 67 Faulkner Street North Billerica, MA 01862
G-3	B-0	85 Industrial Park LLC	273 Corporate Drive Suite 150 Portsmouth, NH 03801
G-4	G-1	38 Littleworth Road Condominium	C/O 38 Littleworth Road LLC and Fish Lips P.O. Box 2232 Dover, NH 03821
G-4	G-2	Littleworth/Industrial Park Properties L	P.O. Box 118 Dover, NH 03821
G-4	A-1	Bearings Inc	C/O Pt Counselors P.O. Box 3075 Mckinney, TX 75070
G-4	A-0	Duane D & Mary M Kay	131 Columbus Ave Dover, NH 03820
H-65	A-0	Boston & Maine RR	Iron Horse Park High Street North Bilerica, MA 01862
G-4	C-1	R&R Bernstein Holding LLC	12 Tide Mill Road Hampton, NH 03842
G-4	C-0	Justright Awnings LLC	7 Industrial Drive Dover, NH 03820
G-4	B-0	Camh LLC	35 Industrial Park Road Dover, NH 03820
G-4	B-1	Bond Enterprises	174 Estes Road Rochester, NH 03867
G-4	0-0	16 Industrial Park LLC	273 Corporate Drive Suite 150 Portsmouth, NH 03801
H-28	0-0	Richard W Kay	45 Littleworth Road Dover, NH 03820
H-28	1-0	Richard W Kay	45 Littleworth Road Dover, NH 03820
G-4	1-0	16 Industrial Park LLC	273 Corporate Drive Suite 150 Portsmouth, NH 03801
H-31	0-0	Ruth K Sousane & Nancy K Quinlan	30 Littleworth Road Dover, NH 03820
H-30	0-0	Benjamin J Merrill & Steven J Blethen	26 Littleworth Road Dover, NH 03820

LEGEND

ZONING BOUNDARY

PROPERTY BOUNDARY

GRAPHIC SCALE

0 150 300 450 600 (FEET)

MAP BLOCK NO. G-6-0-0

NO.	DESCRIPTION	DATE
A	PLANNING BOARD SUBMITTAL	5/07/2019

REVISIONS

STATE OF NEW HAMPSHIRE — KENNETH A. WOOD No. 6917 LICENSED PROFESSIONAL ENGINEER

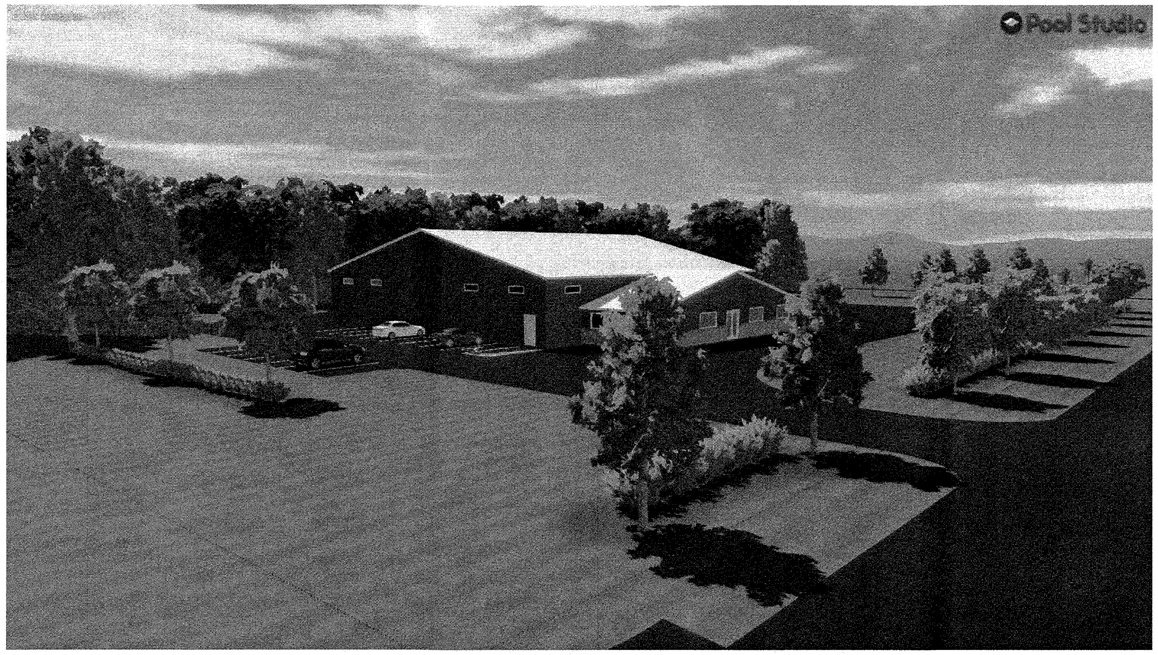
PLANNING FILE NO: P19-26

NEIGHBORHOOD PLAN
29 LITTLEWORTH RD
DOVER, NH 03820

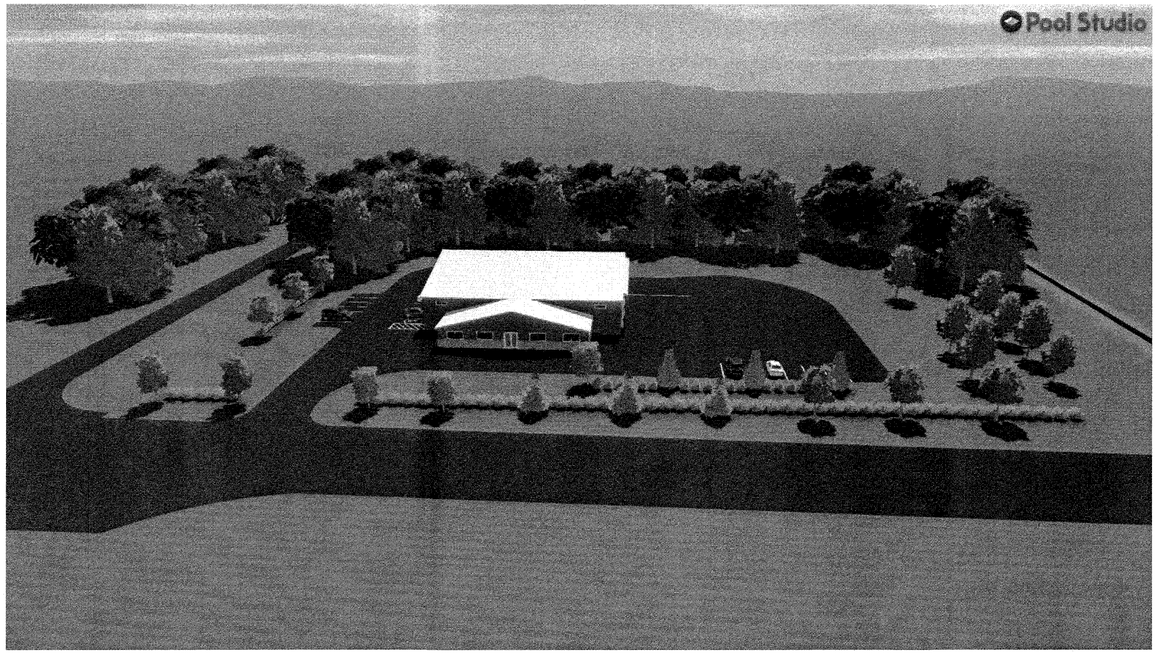
FOR: 29 LITTLEWORTH ROAD LLC
PO BOX 694
DOVER, NH 03820

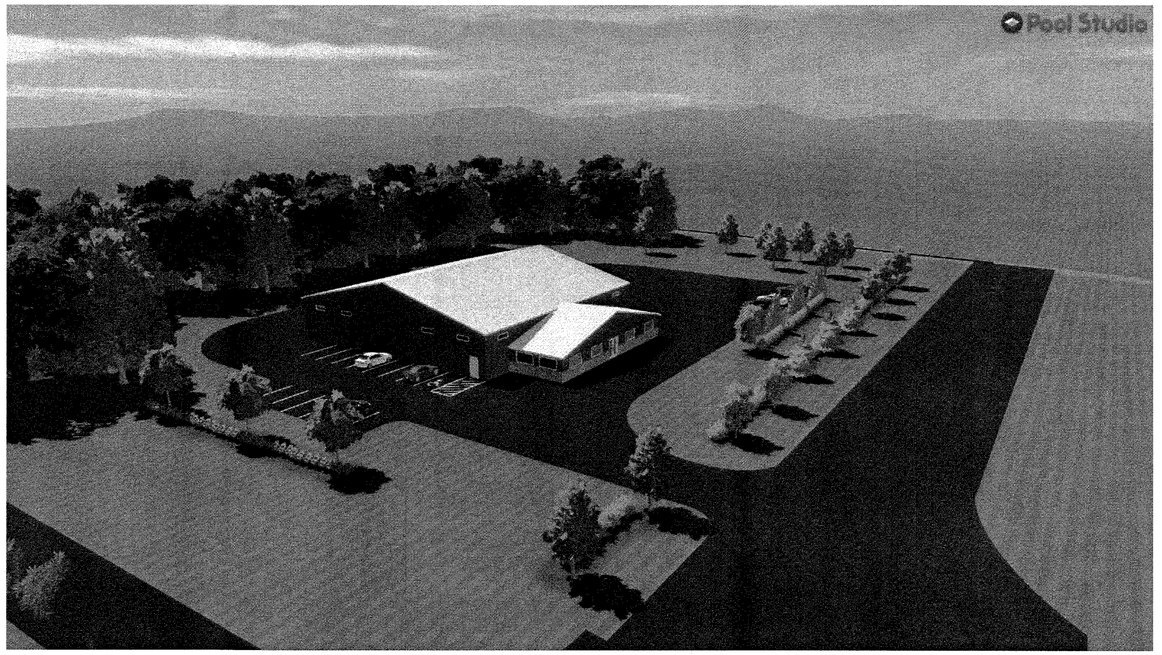
ATTAR ENGINEERING, INC.
CIVIL ◆ STRUCTURAL ◆ MARINE
1284 STATE ROAD – ELIOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128

SCALE: 1" = 150'	APPROVED BY:	DRAWN BY: BRN
DATE: 4/18/2019		REVISION DATE: A: 5/07/2019
JOB NO: C147-19	FILE: LITTLEWORTH BASE.DWG	SHEET: 8.2









MAP BLOCK NO. C-6-0-0

NO.	DESCRIPTION	DATE
	REVISIONS	

KENNETH A. WOOD No. 6917 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

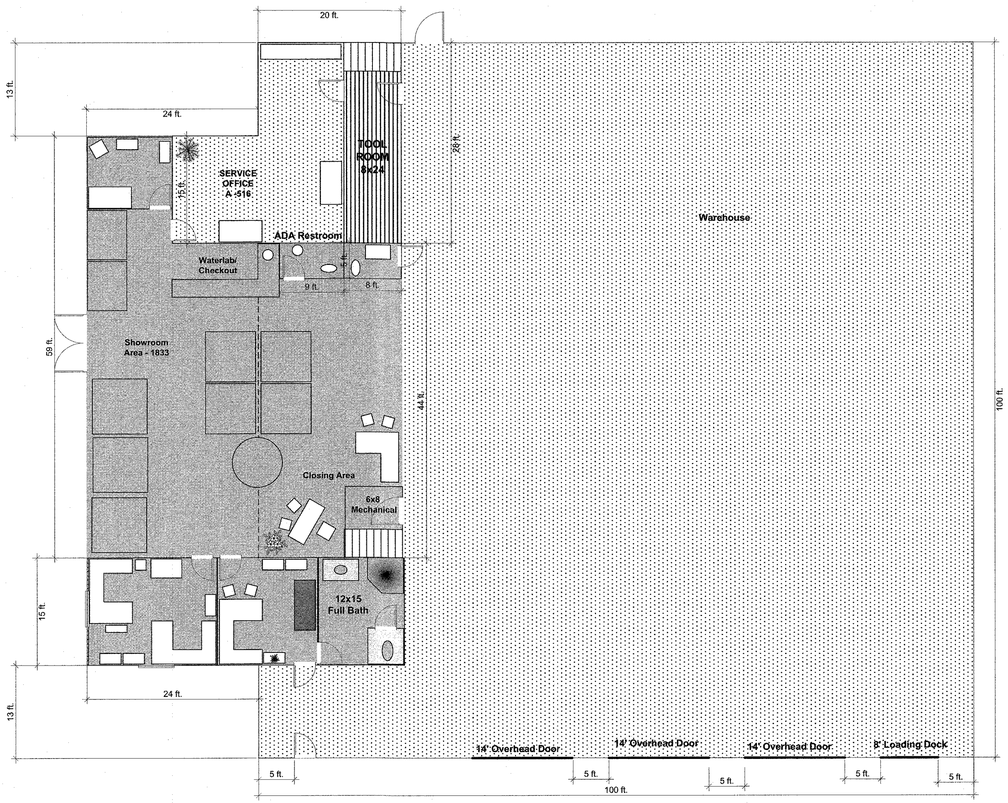
PLANNING FILE NO: P19-26

STREETSCAPE PLAN
29 LITTLEWORTH RD
DOVER, NH 03820

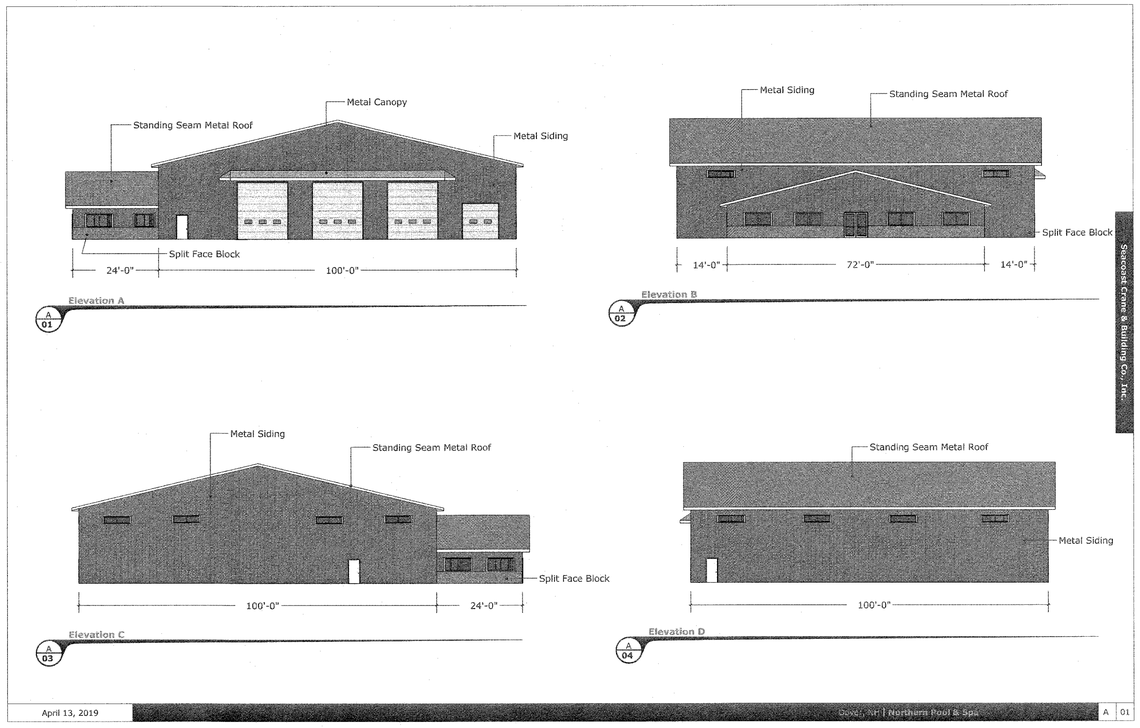
FOR: 29 LITTLEWORTH ROAD LLC
PO BOX 694
DOVER, NH 03820

ATTAR ENGINEERING, INC.
CIVIL ◆ STRUCTURAL ◆ MARINE
1284 STATE ROAD – ELIOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128

SCALE:	APPROVED BY:	DRAWN BY:
NO SCALE		BRN
DATE: 4/18/2019		REVISION DATE: – : –
JOB NO: C147-19	FILE: LITTLEWORTH BASE.DWG	SHEET: 8.3



FLOOR PLAN: 1" = 10'



ELEVATION PLANS: 1" = 20'

MAP BLOCK NO. G-6-0-0

NO.	DESCRIPTION	DATE
	REVISIONS	

KENNETH A. WOOD No. 6917 — STATE OF NEW HAMPSHIRE — PROFESSIONAL ENGINEER — LICENSED

PLANNING FILE NO: P19-26

ARCHITECTURAL PLAN
29 LITTLEWORTH RD
DOVER, NH 03820

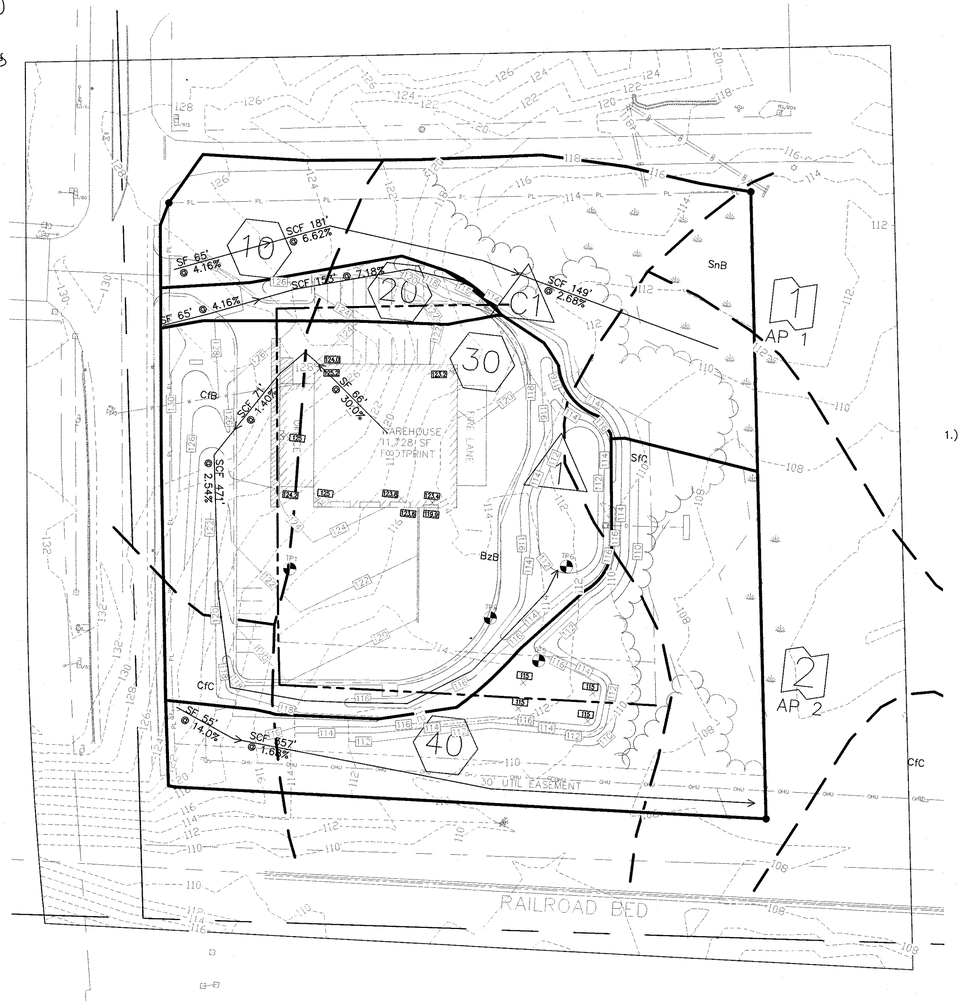
FOR: 29 LITTLEWORTH ROAD LLC
PO BOX 694
DOVER, NH 03820

ATTAR ENGINEERING, INC.
CIVIL ◆ STRUCTURAL ◆ MARINE
1284 STATE ROAD – ELIOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128

SCALE: AS NOTED	APPROVED BY:	DRAWN BY: BRN
DATE: 4/18/2019		REVISION DATE: – : –
JOB NO: C147-19	FILE: LITTLEWORTH BASE.DWG	SHEET: 8.4



EXISTING STORMWATER DRAINAGE PLAN



PROPOSED STORMWATER DRAINAGE PLAN

GENERAL NOTES

1.) ACCORDING TO THE TEST PITS(SHOWN ON PLAN) SOILS WITHIN THE DEVELOPED AREAS CONSISTS OF ELMWOOD, PAXTON AND WOODBRIDGE – ALL ARE HYDROLOGIC SOIL GROUP "C".

REFERENCES

1.) SOIL DATA APPROXIMATED FROM THE USDA NRCS WEB SOIL SURVEY.
2.) TEST PIT DATA PREPARED BY MICHAEL CUOMO FOR ATTAR ENGINEERING, INC. ON JANUARY 3, 2018.

LEGEND

PROPERTY LINE	
LOT BOUNDARY	
PRP. PAVEMENT	
ABUTTING PROP. LINE	
SETBACK	
SOIL TYPE BOUNDARY	
WETLAND BOUNDARY	
WETLAND SETBACK	
SUBCATCHMENT BNDY	
PRP SUBCATCH BNDY	

SYMBOL	SOIL SERIES	HYDROLOGIC SOIL GROUP
BzB	BUXTON SILT LOAM, 3% TO 8% SLOPE	C/D
CfB	CHARLTON FINE SANDY LOAM, 3% TO 8% SLOPE	B
CfC	CHARLTON FINE SANDY LOAM, 8% TO 15% SLOPE	B
HcC	HOLLIS–CHARLTON FINE SANDY LOAMS, 8% TO 15% SLOPE	D
SfC	SUFFIELD SILT LOAM, 8% TO 15% SLOPE	C
SnB	SUTTON FINE SANDY LOAM, 3% TO 8% SLOPE	B/D

GRAPHIC SCALE
0 50 100 150 200 (FEET)

MAP BLOCK NO. G-6-0-0

NO.	DESCRIPTION	DATE
A	TECHNICAL REVIEW COMMENTS	4/18/2019

REVISIONS

KENNETH A. WOOD No. 6917 – STATE OF NEW HAMPSHIRE – LICENSED PROFESSIONAL ENGINEER

PLANNING FILE NO: P19-26

STORMWATER RUNOFF PLAN
29 LITTLEWORTH RD
DOVER, NH 03820

FOR: 29 LITTLEWORTH ROAD LLC
PO BOX 694
ELIOT, ME 03903

ATTAR ENGINEERING, INC.
CIVIL ◆ STRUCTURAL ◆ MARINE
1284 STATE ROAD – ELIOT, MAINE 03903
PHONE: (207)439–6023 FAX: (207)439–2128

SCALE: 1" = 50'	APPROVED BY:	DRAWN BY: BRN
DATE: 3/5/2019		REVISION DATE: A : 4/18/2019
JOB NO: C147-19	FILE: LITTLEWORTH BASE.DWG	SHEET: 1 OF 1

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P19-17

Application Type:	Conditional Use Permit for Review
Applicant(s):	One First Dover, LLC
Owner(s):	One First Dover, LLC
Location:	1 First Street (Assessor's Map 6, Lot 20)
Meeting Date:	May 28, 2019

INTENT: Requesting a Conditional Use Permit to allow a six story building where only five stories are allowed

LOTS/UNITS PROPOSED: 71 residential, 6,159 sq. ft. commercial

AGENDA ITEM #: 4-F

ACREAGE: 0.53 acres

ZONING DISTRICT: CBD-General

EXISTING LAND USE: Vacant commercial, parking lot

PROPOSED LAND USE: Mixed commercial and residential

SURROUNDING LAND USE: Residential, commercial, mixed use

ZBA ACTION: None

ATTACHMENTS: Application materials, TRC minutes, and plans

APPLICATION IS COMPLETE: Yes

NOTICES SENT: Abutter notices were sent by certified mail to all abutters for this meeting

PERMITS REQUIRED: - Conditional Use Permit (6th story)

WAIVERS REQUESTED: None

Summary of Request and Background

The applicant is requesting to demolish the existing building and construct a new mixed use building between First and Second Streets. With the elevation change there would be a sixth story on First Street and 5 stories on Second Street.

This application was reviewed by the Technical Review Committee on March 7 and April 18, 2019 (minutes attached).

Consistency with Land Use Regulations

Chapter 170-20.D(2) of the City Code allows for approval for the building height to exceed 5 stories, by an additional story, provided that the additional story shall be setback from the allowed height to create a terrace, and additional units resulting from this CUP are restricted so that the rent of said units conforms to the HUD Fair Market Rent rates, for Dover, published annually by the New Hampshire Housing Finance Authority.

Chapter 170-20-B(1) of the City Code states for a Conditional Use Permit to be issued, the proposed project shall comply with the following standards:

(a) That both public and private BUILDINGs and landscaping shall contribute to the physical definition of RIGHTs OF WAY as CIVIC SPACEs.
(b) That development shall adequately accommodate automobiles, while respecting the pedestrian and the spatial form of public areas.
(c) That the design of STREETs and BUILDINGs shall reinforce safe environments, but not at the expense of accessibility.
(d) That architecture and landscape design shall grow from local climate, topography, history, and BUILDING practice.
(e) That BUILDINGs shall provide their inhabitants with a clear sense of geography and climate through energy efficient methods.
(f) That CIVIC BUILDINGs and public gathering places shall be provided as locations that reinforce community identity and activity.
(g) That CIVIC BUILDINGs shall be distinctive and appropriate to a role more important than the other BUILDINGs that constitute the fabric of the city.
(h) That the preservation and renewal of historic BUILDINGs shall be facilitated.
(i) That the harmonious and orderly evolution of urban areas shall be advanced by the proposed BUILDING and/or use.

This plan is consistent with the criteria as described in the applicant's memo dated February 8, 2019, and as noted on the plan. The applicant and its architect have noted that the portion of the building upon First Street is 6 stories. If that portion of the building was removed, 6 of the 12 units on the top floor would be removed.

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P19-17

Application Type:	Conditional Use Permit for Review
Applicant(s):	One First Dover, LLC
Owner(s):	One First Dover, LLC
Location:	1 First Street (Assessor's Map 6, Lot 20)
Meeting Date:	May 28, 2019

STAFF RECOMMENDATION:
The Planning Department recommends the Planning Board accept the application for review, hold a public hearing and vote to approve the Conditional Use Permit with the following condition:

Condition to Be Met Prior to the Issuance of a Conditional Use Permit:

1. Site Plan (P19-16) is approved.
2. The applicant shall be subject to a formal agreement between the Planning Board and the applicant. Said agreement shall be recorded at the Strafford County Registry of Deeds per Chapter 170-20-B(3), and include:
    a. A notation that six of the units within the building must be restricted so that the rent of said units conforms to the HUD Fair Market Rent rates, for Dover, published annually by the New Hampshire Housing Finance Authority.
    b. A recitation of note 25 on sheet 1 of the site plan.

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P19-16

Application Type:	Site Review for Review
Applicant(s):	One First Dover, LLC
Owner(s):	One First Dover, LLC
Location:	1 First Street (Assessor's Map 6, Lot 20)
Meeting Date:	May 28, 2019

INTENT: To demolish the existing building and construct one new building with 71 dwelling units (11 two-bedroom, 60 studio or one-bedroom) and 6,159 sq. ft. of commercial space and 29 on-site garage parking spaces. A CUP application for a sixth story will also appear before the Planning Board.

LOTS/UNITS PROPOSED: 71 residential, 6,159 sq. ft. commercial

AGENDA ITEM #: 4-G

ACREAGE: 0.53 acres

ZONING DISTRICT: CBD-General

EXISTING LAND USE: Vacant commercial, parking lot

PROPOSED LAND USE: Mixed commercial and residential

SURROUNDING LAND USE: Residential, commercial, mixed use

ZBA ACTION: None

ATTACHMENTS: Application materials, TRC minutes, and Site Plan

APPLICATION IS COMPLETE: Yes

NOTICES SENT: Abutter notices were sent by certified mail to all abutters for this meeting

PERMITS REQUIRED: - Conditional Use Permit (6th story)

WAIVERS REQUESTED: None

Summary of Request and Background
The applicant is requesting to demolish the existing building and construct a new mixed use building including 71 dwelling units and commercial space with garage spaces. This project is proposing to be serviced by municipal water and sewer.

This application was reviewed by the Technical Review Committee on March 7 & April 18, 2019 (minutes attached). May 21st, the Parking Commission endorsed a long term parking lease until 2041. The City Council will review in June.

Consistency with Land Use Regulations
Chapter 149-4 of the Site Review Regulations of the City Code provides for site review by the Planning Board of new construction of various types. This plan is consistent with those regulations.

STAFF RECOMMENDATION:
The Planning Department recommends the Planning Board to accept the application, open the public hearing, and vote to approve the Site Plan with the following conditions:

Conditions to Be Met Prior to the Signing of Plans:

1. The applicant shall provide a digital version of plan set
2. The applicant must revise final plan set to:
   a. Add the owner's signatures to the final plat submitted for signature to be recorded at the Strafford County Registry of Deeds
   b. Add LLS, PE, Architect, and LA signatures and stamps to final plan
   c. Relocate sewer line to not interfere with transformer pad unless Eversource allows it to remain
   d. Revise view from the Riverwalk to show building, not the outline
   e. Confirm 4' fence will properly screen dumpster
   f. Correct the spelling of Cochecho River on all sheets
3. The City Council shall approve the parking lease

Conditions to Be Met Prior to any Construction Activity:

4. A site construction sign with the contact information for the general contractor must be located and approved by the City Engineer or Assistant City Manager.
5. Applicant shall complete Land Use Development Tracking Form, most recently revised version, utilizing the online Pollution Tracking and Accounting Pilot Project (PTAPP) portal. https://www.unh.edu/unhsc/ptapp
6. Install signage noting visibility and noise during any earthwork, to the satisfaction of the City Engineer.

Conditions to Be Met Prior to Issuance of a Building Permit:

7. The new building shall be assessed and pay the current water and sewer investment fees in place at the time of application for service.

Conditions to Be Met Prior to Occupancy:

8. Issuance of a certificate of occupancy.
9. Impact fees shall be paid per the invoice included with the Notice of Decision.
10. The applicant shall provide a letter of credit or other form of security acceptable to the City for any unfinished work.



Property Information

Property ID	06020-000000
Location	1 FIRST ST
Owner	ONE FIRST DOVER LLC
Land Use	340

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Dover, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 5/3/2019
Data updated Daily

City of Dover, New Hampshire
SITE REVIEW APPLICATION

[Revision Date: April 02, 2018]

Office Use Only	Project #: P19-16	Date Received: RECEIVED Planning Office
	Amount Paid:	Time Received: MAY 23 2019 Dover, New Hampshire

APPLICANT AND OWNER INFORMATION

Name of Applicant: One First Dover, LLC Telephone # 603-402-1446

Address of Applicant: 157 Main Dunstable Road, Suite 102 Nashua, NH 03060

E-Mail Address: tommy@optiline.co

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

Address of Property Owner:

PROPERTY INFORMATION

Address of Property: 1 First Street

Assessor's Map # 6 Lot(s) # 20

Zoning District(s) CDBG Overlay District(s) None

Size of Parcel: 23,095 sq. ft. 0.530 ac. Property Deed: Book 4510 Page: 565

Existing Use of Property: Unoccupied, former court house

SITE PLAN INFORMATION

Describe Proposed Use: Multi-family residential with street-level commercial

Area of Parcel to be Developed: 23,095 sq. ft.

If Multi-family Residential, Specify Number of Units & Buildings Proposed: 71 Units, One Bldg

Number of Parking Spaces: Existing 25 Proposed 29 (parking garage)

Highway Access (check where applicable): X City Street ____ State Highway

Number of Employees Total: Unknown In Maximum Shift: Unknown

Disposition of Parcel:

Building Footprint 16,867 sq. ft.

Total Building Area 82,648 sq. ft.

Paved Area 3,803 sq. ft.

Building Setbacks:

Front Yard 14.92 (1st St) 5.00 (2nd St) ft.

Rear Yard None ft.

Side Yard: Right 5.93 ft. Left 11.74 ft.

City Water? X Yes ___ No How far is city water from the property? Along Frontage

City Sewer? X Yes ___ No How far is city sewer from the property? Along Frontage

BUILDING INFORMATION

Type of Building to be Built: Residential/Commercial

Height of Building: 6 Stories (First St) Finished Floor Elevation: First St 47.5 Second Street 65.5

Number of Seats (where applicable) Unknown

Estimated value of construction: Unknown Refuse removal: Public (Private) (circle one)

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: None

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

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) Michael Dalberg, Keach-Nordstrom Assoc.

Address 10 Commerce Park N, Suite 3 Bedford, NH 03110 Telephone #: 603-627-2881

Professional License #: 714 E-mail address: mdalberg@keachnordstrom.com

ENGINEER INFORMATION

Name of Engineer and Company (Licensed in N.H.) Brenton Cole, Keach-Nordstrom Assoc.

Address 10 Commerce Park N, Suite 3 Bedford, NH 03110 Telephone #: 603-627-2881

Professional License #: 14744 E-mail address: bcole@keachnordstrom.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: 2-7-19

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

Signature of Agent: _____ Date: 2-7-19

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: 2-7-19

AUTHORIZATION TO COMPLETE THE PROJECT ON SUBJECT PROPERTY

I, and my successors, hereby the City of Dover or 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: 2-7-19

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: 2-7-19

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

City of Dover, New Hampshire
CONDITIONAL USE PERMIT APPLICATION

[Revision Date: May 18, 2017]

Office Use Only	Project #: P19-17	Date Received:
	Amount Paid:	Time Received:

APPLICANT AND OWNER INFORMATION

Name of Applicant: One First Dover, LLC Telephone # 603-402-1446

Address of Applicant: 157 Main Dunstable Road, Suite 102 Nashua, NH 03060

E-Mail Address: tommy@optiline.co

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

Address of Property Owner:

PROPERTY INFORMATION

Assessor's Map # 6 Lot(s) # 20

Address of Property: 1 First Street

Zoning District(s) CDB-G Overlay District(s) None

Existing Use of Property: Unoccupied, former court house

CONDITIONAL USE PERMIT INFORMATION

Type of Conditional Use Permit (Check All That Apply):

☐ Conservation District ☐ RCM Use Overlay District ☐ I-1 District Uses

☐ Groundwater Protection ☐ Off-Street Parking and Loading ☐ Alternative Treatment Center

☐ Wetland Protection District ☒ Central Business District ☐ Heritage Residential District

Describe Proposed Use or Activity That Requires Conditional Use Permit and Describe Any Impacts:

Based on Section 170-20(D) of the Zoning Ordinance, the Applicant is seeking a CUP for the number of stories of the proposed building. There will be five (5) floors of residential/commercial space and a parking garage. Due to grade differences and the location of the entrance, the parking garage is below grade on Second Street but visible from First Street. Therefore, the parking level creates an additional (6th story) of building height which requires a CUP.

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: NHDES Sewer Connection Permit - Pending

Name of Professional That Prepared Plans: Brenton Cole, Keach-Nordstrom Assoc.

Address 10 Commerce Park N, Suite 3 Bedford, NH 03110 Telephone #: 603-627-2881

Professional License #: 14744 E-mail address: bcole@keachnordstrom.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. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner: _____ Date: 2-7-19

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

Signature of Agent: _____ Date: 2/7/19

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: 2-7-19

CHRISTOPHER A. SWINIARSKI
Admitted in NH and MA

McLane Middleton, Professional Association
900 Elm Street
Manchester, NH 03105

Direct Dial: 603.628.1322
Email: christopher.swiniarski@mclane.com

MCLANE
MIDDLETON

February 8, 2018

Christopher G. Parker AICP – Director of Planning
City of Dover
288 Central Avenue
Dover, NH 03820

Re: Redevelopment of 1 First Street, Dover, NH (the "Project") – Narrative Addressing Conditional Use Permit Criteria under Section 170-20 (B) of the Dover Code

Introduction.

The purpose of this correspondence is to demonstrate the Project's compliance with the Conditional Use Permit criteria set forth in Section 170-20 (B) of the Dover Code. Specifically, the Project consists of redeveloping the parcel with a structure that will be 5 stories in height on Second Street, and 6 stories in height on First Street. This is due to the relatively steep grade transition on the parcel, whereby the First Street frontage grade is approximately one full story below the Second Street frontage grade.

Pursuant to Section 170-20 (D), the Table of Dimensional Regulations for the CBD General Sub-District allows for 5 story building heights, and further allows for the building height and other standards to be adjusted by Conditional Use Permit pursuant to the criteria set forth in Section 170-20 (B). We address each of these criteria in turn below.

Analysis.

An exact reproduction of the text of Section 170-20 (B) is set forth below in italics. The applicant's analysis follows each in bold.

(a) That both public and private BUILDINGs and landscaping shall contribute to the physical definition of RIGHTs OF WAY as CIVIC SPACEs. **The Project provides for RIGHTs of WAY that are CIVIC SPACES on both of its street frontages, i.e., First Street and Second Street. On First Street, the frontage consists of a CIVIC SPACE that is an 8' wide stamped concrete sidewalk, accessible to the mobility impaired. This sidewalk connects to an open CIVIC SPACE at the building's entrance that includes a granite bench and bicycle rack, along with walkways and garden plantings. On Second Street, the Project provides a**

CIVIC SPACE consisting of an 8' wide brick walkway that is accessible to the mobility impaired.

(b) That development shall adequately accommodate automobiles, while respecting the pedestrian and the spatial form of public areas. **The Project provides separate access for automobiles to underground parking via the garage entrance and exit on First Street. In doing so, the Project maintains the spatial form of the public areas and CIVIC SPACES by minimizing interference between the two.**

(c) That the design of STREETs and BUILDINGs shall reinforce safe environments, but not at the expense of accessibility. **The Project's design creates open CIVIC SPACES that are accessible to bicycles and pedestrians, including the mobility impaired. An appropriate safety barrier between vehicular traffic of both streets and the garage entrance at First Street is maintained by a vertical granite curb.**

(d) That architecture and landscape design shall grow from local climate, topography, history, and BUILDING practice. **The Project has been designed to accommodate the parcel's natural topography and the neighborhood's character. Specifically, the BUILDING will be finished in brick in keeping with the majority of the Sub-District, but will use modern interior construction methods and materials to maintain climate and energy efficiency. Even though the parcel grade transitions a full story between First Street and Second Street, the BUILDING design maintains a "building front" appearance on both streets.**

(e) That BUILDINGs shall provide their inhabitants with a clear sense of geography and climate through energy efficient methods. **The Project's BUILDING maintains the sense of geography and climate offered by the historic use of brick construction. However, the BUILDING's design will use modern interior construction materials and methods, along with energy efficient appliances, to achieve modern energy efficiency standards.**

(f) That CIVIC BUILDINGs and public gathering places shall be provided as locations that reinforce community identity and activity. **This criteria is not applicable because a CIVIC BUILDING is not proposed.**

(g) That CIVIC BUILDINGs shall be distinctive and appropriate to a role more important than the other BUILDINGs that constitute the fabric of the city. **This criteria is not applicable because a CIVIC BUILDING is not proposed.**

(h) That the harmonious and orderly evolution of urban areas shall be advanced by the proposed BUILDING and/or use. **The Project's BUILDING honors the historic character of brick facades and walkable mixed use communities. It provides commercial and retail opportunities on ground floors, with residential opportunities above. While maintaining the locations valuable heritage, the proposed BUILDING creates a harmonious evolution by incorporating underground parking without disturbing pedestrian access, and furthers the expansion of this architectural style beyond Main Street.**

Summary.

The proposed Project at 1 First Street in Dover, NH was specifically designed to fully address the criteria of the Conditional Use Permit sought herein. When a proposed project, as a whole, meets the foregoing criteria of 170-20 (B), the Dover Code allows for adjustment of the standards of 170-20 (D), which standards impose a maximum building height of 5 stories.

In the case at hand, the proposed building is uniquely situated on a parcel that spans a full city block, having frontage on two prominent streets (First Street and Second Street). The difference in elevation between those two streets constitutes a full story of height, making the building six stories on First Street, and 5 stories on Second Street. As designed, the Project very aptly meets the criteria and objectives of 170-20 (B). A Conditional Use Permit adjusting the height regulation as pertaining to First Street is necessary and warranted, in order to turn this excellent proposal into reality.

Sincerely,

Christopher Swiniarski

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 = $ N/A
   - LOT LINE ADJUSTMENT $200.00 (if more than two lots involved, add $100.00 per lot) =
   - SITE REVIEW – TRANSFER OF DEVELOPMENT RIGHTS Application fee $150.00 = $ N/A
   - SITE REVIEW - RESIDENTIAL $100.00 x # 71 per dwelling unit = 7,100.00 $ 7,100.00
   - SITE REVIEW – NON-RESIDENTIAL (not to exceed $10,000)
     New construction $.15 sq. ft. x # 6,199 sq. ft. = 929.85 $ 929.85
     Additions (new floor space) $.10 per sq. ft. x # _____sq. ft. = $ N/A
   - IMPERVIOUS PAVED AREA (for new development) OR IMPERVIOUS PARKING LOT ADDITIONS (not to exceed $10,000) $.07 sq. ft. x # _____ = $ N/A
   - MOTEL/HOTEL $35.00 x # ___ per lodging unit = $ N/A
   - CHANGE OF USE (not to exceed $5,000)
     Existing floor space $.10 per sq. ft. x # ____ sq. ft. = $ N/A
   - CONDITIONAL USE PERMIT $150.00 x # 1 per application = 150.00 $ 150.00
   - GRAVEL PIT/ EXCAVATIONS - Application fee $50.00 & Permit fee $75.00 = $ N/A
   - EXTENSIONS OF/AMENDMENTS TO/WAIVERS FOR AN APPROVED PLAN ($150.00 minimum) $50.00 x # ____ per hour of review $ N/A
   - REQUEST FOR REZONING $150.00 = $ N/A
   - DRIVEWAY WAIVER – $100.00 application fee =
     Letter of rejection from Engineering Department, diagram & letter from owner $ N/A

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 # 4 of x $8.00 = 32.00
2. Certified letters fee: # of abutters 21 X $8.00 = 168.00 $ 200.00
3. First Class Mail fee (for individual owner of units within a condominium or other collective form of ownership): # of abutters _____ X $1.00 = $ N/A
4. Creating/Printing Abutter Labels in triplicate per sheet _____ x $10.00 = $ N/A

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

(Revised October 2, 2018)

TOTAL FEE $ 8,459.85

City of Dover, New Hampshire
SITE PLAN REVIEW SUBMISSION CHECKLIST

[Revision Date: June 25, 2018]

This site plan review checklist, as required by Chapter 149-6-B(2), should be completed by the applicant. It is intended to assist the applicant in the planning process of preparing a Site Plan Review 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 site plan review requirements. Please refer to the Site Plan Review Regulations for full details.

APPLICANT: One First Dover, LLC File Number: _____

PROJECT TITLE: One First Dover, LLC

PROPERTY LOCATION: 1 First Street Tax Map: 6 Lot: 20

	Explain How Provided	Reviewed
1. Completed and signed Application form	✓ Hard Copy & CD	
2. Electronic copy of the engineered/surveyed plan layout	✓ CD	
3. Electronic copy of supplementary materials and application	✓ CD	
4. Traffic Impact Assessment and Analysis (Standard or Advanced)	✓ Provided by GPI	
5. Waiver requests to the Site Plan Review Regulations, with written justification	X N/A	
6. Conditional Use Permit applications	✓ Hard Copy & CD	
7. A colored rendering of the streetscape that will be created along the existing public right-of-way	✓ Hard Copy & CD	
8. A colored architectural plan showing all sides of buildings	✓ Provided by DA	
9. List of all professional agents to be notified for Planning Board	✓ Abutters List	
10. Letter to Serve from Public and Private Utilities	✓ Hard Copy & CD	
11. Eight folded copies of site plan w/scale of not less than 1"=50' or 1"=100' for larger site plans, for TRC. Plans shall contain the following items as appropriate:	✓ Hard Copy & CD	
Location map at appropriate scale	✓ Cover + Sheets 1,2	
Proposed Project name and title and Planning File #	✓ Application & Plan	
Date, north arrow and scale	✓ All Plan Sheets	
Names of all abutting property owners	✓ Abutters List & Cover	
Name and address of owners and/or applicants	✓ Application & Plan	
Signature & stamp of NH licensed land surveyor and/or engineer	✓ Plans	
Zoning District boundaries, including any special or overlay districts	✓ Sheet #1,Note #5	
Location of Conservation District areas	X N/A	
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks	✓ Plans	
Location and widths of existing & proposed easements & right of ways	✓ Plans	
Depict pedestrian walkways and accessible access	✓ Plans	
Location and width of existing and proposed access/egress ways	✓ Plans	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	✓ Plans	
	Explain How Provided	**Reviewed**

Existing and proposed topographic information at two foot intervals	✓ Plans	
Existing and proposed buildings and structure locations	✓ Plans	
Minimum building setbacks or build to lines on all lots	✓ Sheet #1,Note #5	
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities	✓ Plans	
Existing and proposed water lines and fire hydrants, including materials and capacity needed	✓ Plans	
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load	✓ Plans	
Existing and proposed stormwater lines and facilities	✓ Plans, Drain Report	
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots	✓ Sheet #9	
Location of Flood Hazard Zone	✓ Sheet #2,Note #7	
Location of all bodies of water and watercourses	✓ Sheet #1	
Location of wetlands and buffers	X N/A	
Neighborhood plan with aerial underlay showing how project relates to abutting uses within the plan set	✓ Cover	
Existing natural features and/or significant vegetation on property	✓ Sheet #2	
Depict existing contours up to 100 ft. beyond project limits	✓ Plans	
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect	✓ Sheet #8	
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces	✓ Plans	
Location, material and size of existing and proposed pavement area	✓ Plans	
Location of proposed fire lanes	X N/A	
Specify finished floor elevations of buildings	✓ Plans	
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening	✓ Plans	
Depict all service, storage, loading bays and utility areas	✓ Plans	
All applicable Dover Common Site Plan notes	✓ Sheet #1	
12. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis	✓ Drain Report	
Stormwater Management System Operation and Maintenance Plan	✓ Drain Report	
Erosion and Sedimentation Control Plan	✓ Sheet #6	
Landscape Operation and Maintenance Plan	✓ Sheet #8	
Proposed restrictive covenants or homeowners association documents	Provided Upon Final Approval	
Dates and permit numbers of all required state and federal permits	✓ Sheet #1,Note #14	
If wetland buffer, indicate placards locations, as applicable	X N/A	
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs	X N/A	
Location of proposed drive-in facilities	X N/A	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required	X N/A	

REVIEWED BY: _____ DATE_____ TRC DATE_____

KNA KEACH-NORDSTROM ASSOCIATES, INC.

February 5, 2019

Subject: **Dover Heights**
Tax Map 6; Lot 20
1 First Street, Dover, New Hampshire
KNA Project No. 17-1219-1

Project Narrative

The subject property, located between First Street & Second Street in Dover, New Hampshire, is referenced on Tax Map 6 as Lot 20. The parcel, approximately 0.53 acres in area, is located entirely within the Central Business District-General (CBDG). It is currently developed with a three-story brick building, that was previously utilized as a County Court House, a parking lot used for the public, and all associated site appurtenances. The property is serviced by municipal sewer and water, gas, and overhead electric. The site is surrounded by commercial and multi-family residential uses.

The project proposes to raze the existing building and construct a five to six-story building. Due to the elevation change between First and Second Street, the building will be 6-stories at First Street and 5-stories at Second Street. A Conditional Use Permit has been requested for relief from the 5-story maximum. The new building will contain seventy-one (71) residential units varying in bedroom count with four (4) street-level commercial spaces totaling 6,199 square feet. A lower level parking garage will be accessed off First Street with two garage doors. The garage doors are there as the preference is to 'hide the cars' as much as possible. We find in new urban design, this is something that is most advantageous to the pedestrian experience. The garage door chosen looks more like a storefront to blend with the overall street façade. Garage doors placed on the side of the building does not work with the small parcel and required setbacks. The garage will contain 29 parking spaces and the remaining spaces will be leased from the City. The development will only require 1.5 spaces per unit according to other developments we have designed in New Hampshire. Multi-family developments of this size and bedroom count do not require the maximum that Dover states in their regulations.

Stormwater management provisions, comprised of closed structures (catch basins, drain manholes & area drains) and drainage piping are proposed to collect runoff generated from the site and convey it into the existing closed system within the First Street right-of-way. Almost the entire site is paved or building today but we designed a system to mitigate all design stormwater events. Other site improvements include subsurface utility connections (sewer, water, gas, electric, cable, telephone, etc.), landscaping, and lighting. We continue to work with Eversource to resolve the overhead wiring conflicts that exist on site and are assured by Eversource that they are responsible for the relocation of these utilities.

10 Commerce Park North, Suite 3B Bedford, NH 03110 Phone (603) 627-2881 Fax (603) 627-2915

Owner Affidavit

I, Ryan Filion, authorized representative of One First Dover, LLC and owner of the property referenced on Tax Map 6 as Lot 20 located at 1 First Street, Dover, New Hampshire, hereby verify that I have authorized Keach-Nordstrom Associates, Inc. to submit on my behalf, any and all applicable State and local permit applications as they pertain to improvements on said properties required by or otherwise associated with Dover Heights.

Additionally, I authorize Keach-Nordstrom Associates, Inc. to aid in the representation of these applications throughout the approval process.

Signature of Owner: _____

Address of Owner: 157 Main Dunstable Road, Suite 102
Nashua, New Hampshire 03060

Date: 2-6-19



Photo #1 – Aerial image of the subject property.



Photo #2 – Looking south, from Second Street, at the existing Court House.



Photo #3 – Looking northeast, from First Street, at the existing Court House.



Photo #4 – Looking south, toward First Street, at the existing paved parking lot.

KNA KEACH-NORDSTROM ASSOCIATES, INC.

May 6, 2019

Christopher G. Parker AICP – Director of Planning
City of Dover
288 Central Avenue
Dover, NH 03820

Re: Dover Heights (P-19-15)
Redevelopment of 1 First Street, Dover, NH
Technical Review Committee Minutes, Site Plan Review, April 18, 2019
KNA Project No. 17-1219-1

Dear Mr. Parker,

This office is in receipt of various comments from the April 18, 2019 TRC meeting. Attached to this cover please find the following items, which we believe appropriately address the various review comments:

1. (3) full-size copies of the revised Residential Site Plan set;
2. (12) 11x17 set of the revised Residential Site Plans;
3. (3) full-size copies of revised Architectural Plans;
4. (12) 11x17 set of the revised Architectural Plans;
5. (1) copies of the revised Stormwater Management Report;
6. (15) copies of the revised TIAS summary;
7. (15) copies of the Landscape Maintenance Plan; and
8. (1) CD with PDF copies of all submittal documents.

Under each of the comments listed below, we offer a brief explanation of our efforts to address the concern, to ease in your review of the same.

Planning Comments

1. Impact Fees (no credit for existing building)

   Impact Fee calculation chart has been included on the Master Plan, Sheet 1. Credit has been removed from Sheet 7 for the existing building.

2. Water and Sewer Investment fees

   Fee calculation has been included on Utility Plan, Sheet 7.

3. Will Eversource permit landscaping around transformer?

Yes, they have specified clearances around their transformers which are being met. Additionally, plantings around the transformer are small shrubs and shouldn't impact access.

4. Mechanicals should be fully screened; how are gas meters screened?

   The gas meters will not be screened; however, they will not be very visible from First Street as they are set back from the street. Exterior gas meters are typical in City settings and are difficult to screen with landscaping in paved areas.

5. Please revise plan set to:

   a. Combine architecturals/renderings into plan set.

      The architecturals/renderings have been incorporated into the plan set.

   b. Note tenants are responsible for bringing trash to dumpster.

      Note 26 has been added to Sheet 1.

   c. Add dumpster screening facing First Street.

      Two 4' PVC swing gates have been provided to screen the dumpster from First Street.

   d. Add planning file number throughout, including cover sheet (P19-16).

      Planning file number has been added to all sheets including the cover sheet.

   e. Neighborhood plan may require better aerial image.

      The neighborhood plan has been updated with a better aerial image.

   f. Provide landscaping maintenance plan.

      A landscape maintenance plan and watering guide provided by the landscape architect have been included.

   g. Update rendering or landscape plan so that tree locations are consistent.

      The architectural renderings have been updated to show plantings consistent with the landscape plan.

   h. Correct parking on 2nd Street rendering.

      The pavement striping for parking spaces on Second Street have been shown on the rendering.

i. Revise note regarding no Saturday or Sunday site work hours.

Note 24 on Sheet 1 has been updated to specify that no site work shall occur on weekends.

j. Engineer, LLS and Landscape Architect to sign and stamp final plan set.

The final plans will be stamped by all design professionals.

k. Note signage regarding visibility and noise will be installed and used during any earthwork, to the satisfaction of the City Engineer.

Note 21 in Removals/Demolition Notes has been added to Sheet 3 stating this note.

l. Identify a historic marker.

Historic markers have been identified on the site plans as well as the architectural plans.

m. Upgrade vinyl doors

The vinyl doors have been upgraded.

n. Eliminate crosswalk

The crosswalk has been eliminated from the proposed plans.

o. Add note that annually owner will let Planning Department know which units are designated to be affordable.

Note 25 has been added to Sheet 1 regarding this note.

Police Department Comments

1. Clarify discrepancy between 3/28/2019 Supplemental Traffic Letter page 4 "Proposed Parking Supply" and 3/29/2019 Response to Police comment #7. One states that employees for commercial spaces will be granted access to garage, the other states that employees will not have access and garage will be residential only.

   The Supplemental Traffic Letter has been revised. It is intended that a few spaces will be allotted within the garage for employees of the commercial spaces so that spaces are not underutilized during daytime hours.

2. Revised plans do not address the Parking Commission's March 19, 2019 failed motion for long term lease of 78 spaces in the Transportation Center Lot. Has the applicant considered any other alternatives?

The applicant has worked diligently with City Staff regarding an agreement for leasing spaces at the Transportation Center Lot and will be back in front of the Commission on May 21st.

Fire/Inspections Comments

1. Plan sheet 1 clarify the building setbacks.

   Building setback dimensions have been provided in plan view.

2. Discuss sheet 4 and interior/exterior utility locations.

   The gas services will be provided with meters external of the building and the water service will be metered internally.

3. Indicate location of water meter locations, sprinkler riser, PIV.

   Sheet 7 has been updated to indicate that meters will be located internal of the building, the fire department connection has been shifted to the eastern corner of the building off First Street so as not to be located in close proximity to the transformer pad, and the PIV has been removed as it was indicated that it is not required by the City.

4. Discuss bollard location and spacing at gas meters – coordinate w/ building plan.

   Additional bollards have been added in coordination with the proposed gas meters.

5. Indicate dumpster screening on detail sheet.

   The dumpster screening will match the detail shown labeled "PVC Dumpster Enclosure Fence" on Sheet 14.

6. Sheet 7 indicates a transformer pad adjacent to the front of the building on First Street. Provide the size and type of transformer and service. Indicate if transformer is utility of customer owned.

   Eversource provided guidance on sizing the transformer pad for the intended use of the building, which was incorporated in the design. Size and type of the service are not known at this time. Typically the utility company owns the equipment however this will be determined when the developer contacts the utility company to install the service.

7. Discuss the removal of the OHE lines in along east boundary line.

   The removal on the overhead lines has been indicated on Sheet 3 and note 20 has been added.

8. Plan sheet 5 construction sequence does not appear to indicate removal scope of OHE.

   Note 5 has been added to the Demolition Sequence on Sheet 3.

9. Plan sheet 11 detail shall indicate design widths for access aisle – remove "varies".

   The detail has been revised to indicate actual widths of the access aisles.

10. Plan sheet 11 indicate height of accessible signage.

    The height of the accessible signs has been indicated on the Van Accessible Handicap Parking Sign detail.

11. Plan sheet 4 – discuss alternative location for accessible parking space(s).

    It has been confirmed that the door that accesses the stair case next to the accessible parking stall opens inward, so there will be no interference with the accessible aisle. Although it is not ideal for accessible parking to be located across a drive aisle, this is typical in many sites with or without garages. In order to maintain the number of parking spaces under the garage, it is desired to keep the layout how it is.

12. Site plan shall indicate design compliance w/ applicable regulations and NH RSA 155-A-5.

    Note 11 on Sheet 1 states the design shall follow the above-mentioned NH RSA and the international building code.

13. Provide a note on plan the project will require pre-baiting and an integrated pest management plan.

    See note 18 in the Removals/Demolition Notes and note 12 in the Demolition Sequence notes on Sheet 3.

14. Indicate the type of siding for the proposed structure.

    Please see architectural Sheets A2-A5 for types of siding and all building materials.

15. Is the use/classification category known of the commercial tenancies (i.e. A, B, M etc.).

    The types of tenants are not known at this time.

16. Clarify fire department access to the parking garage.

    The Fire Department will be provided an access key to the garage.

17. Indicate mechanical ventilation locations for parking garage.

    Locations will be determined once a MEP engineer has been brought onto the project team following approvals.

18. Indicate location of generator.

    The generator will be located on the roof of the building with other mechanicals and will be properly screened.

Engineering Comments

1. Crosswalk should be eliminated.

   The crosswalk has been removed at the direction of the Police and Engineering department at the April 18, 2019 TRC meeting.

2. Extend the sidewalk/curb and close up the alley driveway by the loading zone (striping per the City).

   The brick sidewalk and curbing has been extended to match the edge of the proposed building.

3. Benches and trees need to meet standards.

   The 30" pipe acted as storage to match flows to the existing catch basin. Since the City has indicated a small increase in flow will be allowed, the pipe has been reduced to 15".

   This was discussed and acknowledged as acceptable at the April 18, 2019 TRC meeting.

Planning Board Comments

1. Please work with Eversource to re-route the Overhead Lines out of the alleyway.

   The owner and contractor will work with Eversource on the removal of the overhead lines over the alleyway.

2. Use brick for landing on Second Street (plan shows concrete).

   The landings on Second Street have been specified as stamped concrete to match the landings on First Street. It is necessary to have solid concrete walkways up against the building to prevent settling and separation from the doorways.

3. Work with Woodman on any historical significance.

   A plan has been provided in the architectural drawings indicating locations for signage regarding historical significance. The applicant will continue to work with the City regarding any historical significance of the building and site.

We trust the content of this response to the comments and its attachments will serve to address concerns as noted. Should you or anyone else have any questions or require further information, please do not hesitate to contact our office.

Respectfully,

Tucker McCarthy
Project Manager

GPI Greenman-Pedersen, Inc.
Engineering and Construction Services

REF.: MAX-2018021

April 26, 2019

Mr. Thomas Bolduc
One First Dover, LLC
157 Main Dunstable Road, Suite 102
Nashua, New Hampshire 03060

SUBJECT: **Supplemental Traffic Letter**
Proposed Dover Heights Development
1 First Street, Dover, New Hampshire

Dear Mr. Bolduc:

Greenman-Pedersen, Inc. (GPI) previously prepared a *Traffic Impact, Access, and Parking Study*[1] (TIAS) for the proposed mixed-use development to be located at 1 First Street in Dover, New Hampshire. At the March 7, 2019 Technical Review Committee (TRC) meeting with City of Dover Officials, Officer Marn Speidel of the Dover Police Department provided three comments on the TIAS related to collision patterns at the study area intersections and the parking demand evaluation. The intent of this letter is to respond to those comments. Each comment is summarized below with a response.

Collision History

Officer Speidel noted that the collision data evaluated within the TIAS was based on New Hampshire Department of Transportation (NHDOT) records, which do not provide sufficient information to draw conclusions about the particular collision patterns at the intersections. A request was made to utilize local police records to provide a more robust summary of trend patterns. GPI obtained collision information for the study area intersections from the Dover Police Department for the most recent three years on file (2016 to 2018). An updated summary of the collision patterns is provided below and is summarized in Table 1.

The intersection of Central Avenue (NH Route 9/108) at First Street experienced an average of 7.3 collisions per year over the three-year study period. Approximately 55 percent (12 of 22) of the collisions were rear-ends. The collisions were a mixture of vehicles stopping in traffic, stopping for a pedestrian in a crosswalk, and striking a vehicle as they attempted to reverse out of a parking space. Approximately one-quarter (5 of 22) of the collisions occurred during commuter peak hours.

[1] Greenman-Pedersen, Inc. (GPI), *Traffic Impact, Access, and Parking Study, Proposed Dover Heights Development, Dover, New Hampshire.* January 31, 2019.

The intersection of Central Avenue (NH Route 9/108) at Second Street / Franklin Plaza Drive experienced an average of 12 collisions per year over the three-year study period. Approximately 28 percent (10 of 36) of the collisions involved striking parked vehicles. The close proximity of on-street parking to the signalized intersection could be a factor. In addition, approximately 22 percent (8 of 36) of the collisions were either rear-end or angled collisions which could be related to issues with clearance intervals and/or signal phasing.

The intersection of Chestnut Street at First Street experienced an average of 3 collisions per year over the three-year study period. Approximately 44 percent (4 of 9) of the collisions were rear-ends which could be related to issues with clearance intervals and/or signal phasing. The roadway striping along Chestnut Street was modified July 2016 to address issues of sideswipe collisions. The traffic signal currently provides one phase per approach. Approximately one-third (3 of 9) of the collisions occurred during commuter peak hours.

The intersection of Chestnut Street at Second Street experienced an average of 3 collisions per year over the three-year study period. Sixty percent (6 of 10) of the collisions were recorded as angled. However, 80 percent (8 of 10) of the collisions involved a vehicle attempting a left-turn from Second Street onto Chestnut Street. In addition, 40 percent of the collisions occurred during commuter peak hours.

Table 1
COLLISION SUMMARY

Location	Number of Collisions		Severity [a]				Collision Type [b]						Percent During	
	Total	Average per Year	PD	PI	F	NR	SS	RE	CM	Bike/ Ped	SV	PV	Commuter Peak [c]	Wet/Icy Conditions [d]
Central Avenue (NH Route 9/108) at First Street	22	7.3	21	1	--	--	4	12	3	-	--	3	23%	9%
Central Avenue (NH Route 9/108) at Second Street / Franklin Plaza Drive	36	12.0	32	4	--	--	8	8	7	3	--	10	11%	14%
Chestnut Street at First Street	9	3.0	7	2	--	--	1	4	2	1	1	--	33%	0%
Chestnut Street at Second Street	10	3.3	9	1	--	--	1	2	6	1	--	--	40%	10%
Chestnut Street at Dover Transportation Center north driveway	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Source: City of Dover Police Department (2016-2018).
[a] PD = property damage only; PI = personal injury; F = fatality, NR = not reported.
[b] SS = sideswipe; RE = rear end; CM = cross movement/angle; SV = single vehicle; PV = Parked Vehicle
[c] Percent of vehicle incidents that occurred during the weekday AM (7:00 AM-9:00 AM) and weekday PM (4:00 PM -6:00 PM) commuter peak periods.
[d] Represents the percentage of only "known" collisions occurring during inclement weather conditions.

Proposed Parking Supply

Officer Speidel noted that page 41 of the TIAS indicates that unoccupied resident parking spaces can be shared by retail uses during the day and questioned how this would be possible with overhead doors controlling access to the garage parking. To clarify this issue, retail patrons will not be able to park within the garaged parking spaces on-site. However, a portion of the garage parking spaces will be available for retail employees, as it is anticipated that some spaces will be underutilized during the work day when residents are away at work. A prior site plan proposal considered sharing of parking spaces on-site and this statement was inadvertently left in the report from a prior proposal. All retail parking was assumed to occur in on-street parking spaces along the surrounding area roadways. All calculations and analyses contained within the TIAS were based on resident-only parking on-site and retail parking occurring within on-street parking spaces.

Existing Parking Supply

Officer Speidel also noted that page 42 of the TIAS indicates that the "Third Street Lot" contains 68 parking spaces, while only 29 parking spaces are provided in this lot. As shown in the figure below, the "Third Street Lot" to which Officer Speidel is referring is a municipal parking lot located on the easterly side of Chestnut Street between Third and Fourth Streets, with access provided to Chestnut Street. The lot that was counted is a privately-owned parking lot containing 68 spaces and located on Third Street south of the railroad tracks, with access on Third Street. However, based on the findings of the existing parking demand survey, all of the anticipated residential parking overflow (beyond the spaces provided on-site) can be accommodated within the Dover Transportation Center parking lot without utilizing the Third Street lot. The calculations and analyses contained within the TIAS assume that all residential overflow parking will utilize the DTC parking lot, and no traffic will utilize the Third Street Lot.



Should you have any questions, or require additional information, please contact me at (978) 570-2946.

Sincerely,

GREENMAN – PEDERSEN, INC.

Rebecca L. Brown, P.E., PTOE
Senior Project Manager

Attachment(s)

CRASH DATA - Dover Police Department
selected intersections

January 2016 - December 2018

	Date	DPD case#	Hour	DOW	Crash Type	# Veh	Severity	Towed?	Weather / Surface	Summary (ex: EB = Eastbound, FTY = Failure to Yield)
	Location: Central Avenue at Second Street									
1	1/16/2016	16001355	2000	Saturday	Parked Veh	2	Property	No	Snow/Icy	SB makes right turn onto Second, slides into parked veh
2	2/5/2016	16003339	0900	Friday	Parked Veh	2	Property	No	Snow/Wet	WB Franklin Plaza thru on Second, avoids pedestrian, hits parked veh
3	2/6/2016	16003192	1000	Saturday	Rear End	2	Property	No	Clear/Snow	Central SB slides on slushy road, rear ends veh stopped in traffic
4	3/11/2016	16005970	1100	Friday	Sideswipe	2	Property	No	Clear/Dry	WB left turn from Franklin Plaza v. WB left turn, improper lane use
5	4/7/2016	16008239	1000	Thursday	Pedestrian	1	Injury	No	Clear/Dry	WB left turn from Franklin Plaza v. pedestrian EB in crosswalk
6	6/10/2016	16013520	2000	Friday	Parked Veh	2	Property	No	Clear/Dry	Central SB makes right turn onto Second, strikes parked veh
7	6/22/2016	16014674	2000	Wednesday	Parked Veh	2	Property	No	Clear/Dry	Car backs out of Central Av pkg space hits adjacent parked car
8	10/2/2016	16023870	1100	Sunday	Rear End	2	Property	No	Clear/Dry	Central Av SB v. SB stopped in traffic
9	12/5/2016	16029060	0900	Monday	Sideswipe	2	Property	No	Clear/Dry	WB Franklin Plaza to go thru on Second, v. WB, improper lane use
10	12/6/2016	16029139	1300	Tuesday	Rear End	2	Property	No	Clear/Dry	Central SB stops abruptly for pedestrian at crosswalk, rear ended
11	12/29/2016	16030732	1500	Thursday	Parked Veh	2	Property	No	Snow/Icy	SB makes right turn onto Second, slides into parked veh
12	2/4/2017	17002860	1900	Saturday	Parked Veh	3	Property	Yes	Clear/Dry	Central SB strikes 2 parked cars W side (arrested DWI)
13	4/11/2017	17007858	1900	Tuesday	Parked Veh	2	Property	No	Clear/Dry	WB veh makes U-turn at mouth of Second St, strikes parked veh
14	4/21/2017	17008812	1200	Friday	Parked Veh	2	Property	No	Clear/Dry	TT unit making right turn onto Second St v. parked veh
15	4/29/2017	17009476	1600	Saturday	Rear End	2	Property	No	Clear/Dry	WB left turn from Franklin Plaza v. SB veh stopped for ped at crosswalk
16	6/13/2017	17013249	2200	Tuesday	Angle	2	Injury	Yes	Clear/Dry	WB left turn from Franklin Plaza FTY to SB motorcycle
17	7/27/2017	17017027	1100	Thursday	Rear End	2	Property	No	Clear/Dry	Central SB stops abruptly for veh backing out of space, rear ended
18	10/9/2017	17023238	1600	Monday	Rear End	2	Property	No	Clear/Dry	Central Av SB v. SB stopped in traffic
19	10/11/2017	17023385	1600	Wednesday	Angle	2	Property	No	Clear/Dry	WB left turn from Franklin Plaza FTY to Central SB
20	12/2/2017	17027248	1800	Saturday	Bicycle	2	Injury	No	Clear/Dry	Central Av SB pulling into angle parking space, into path of bicyclist SB
21	1/9/2018	18000496	0600	Tuesday	Angle	3	Property	No	Cloudy/Slush	WB left turn from Franklin Plaza FTY to Central SB, which hits parked
22	1/20/2018	18001371	1700	Saturday	Sideswipe	2	Property	No	Clear/Dry	Central SB sideswiped by truck in adjacent lane
23	1/24/2018	18001615	1200	Wednesday	Sideswipe	2	Property	No	Clear/Dry	WB left turn from Franklin Plaza v. WB left turn, improper lane use
24	1/25/2018	18001695	1200	Thursday	Sideswipe	2	Property	No	Clear/Dry	WB left turn from Franklin Plaza v. WB left turn, improper lane use
25	3/6/2018	18004511	1700	Tuesday	Angle	2	Property	No	Clear/Dry	Car backs out of Central Av pkg space FTY to Central SB
26	3/8/2018	18004620	0900	Thursday	Angle	2	Property	No	Clear/Dry	WB Franklin Plaza to go thru on Second, FTY to Central SB
27	5/9/2018	18009674	1300	Wednesday	Sideswipe	2	Property	No	Clear/Dry	WB left turn from Franklin Plaza v. WB left turn, improper lane use
28	5/17/2018	18010238	1800	Thursday	Angle	2	Property	No	Clear/Dry	WB left turn from Franklin Plaza FTY to Central SB
29	6/14/2018	18012680	1700	Thursday	Rear End	2	Property	No	Clear/Dry	Central Av SB v. SB stopped in traffic
30	7/14/2018	18015487	1200	Saturday	Bicycle	1	Injury	No	Clear/Dry	Central Av SB pulling into angle parking space, into path of bicyclist SB
31	8/15/2018	18018184	1300	Wednesday	Parked Veh	2	Property	No	Clear/Dry	Trying to parallel park E side near Second, strikes parked veh
32	8/17/2018	18018375	1400	Friday	Angle	2	Property	No	Clear/Dry	Car backs out of Central Av pkg space FTY to Central SB
33	9/11/2018	18020542	0600	Tuesday	Sideswipe	2	Property	No	Clear/Dry	Central SB passes veh on right which slowed to pull into W pkg space
34	9/22/2018	18021600	0900	Saturday	Sideswipe	2	Property	No	Clear/Dry	WB Franklin Plaza to go thru on Second, v. WB, improper lane use
35	9/27/2018	18022037	1900	Thursday	Parked Veh	2	Property	No	Clear/Dry	Transit bus Central SB turns right onto Second, strikes parked veh
36	12/29/2018	18029246	1900	Saturday	Rear End	2	Property	No	Clear/Dry	Central SB stops abruptly for pedestrian at crosswalk, rear ended

Prepared by: Sgt. Marn Speidel

CRASH DATA - Dover Police Department
selected intersections

January 2016 - December 2018

	Date	DPD case#	Hour	DOW	Crash Type	# Veh	Severity	Towed?	Weather / Surface	Summary (ex: EB = Eastbound, FTY = Failure to Yield)
Location: Central Avenue at First Street										
1	1/20/2016	16001663	1800	Wednesday	Rear End	2	Property	No	Clear/Dry	Central SB rear ends Central SB stopped in traffic
2	5/14/2016	16011224	1500	Saturday	Rear End	3	Minor injury	No	Clear/Dry	Central SB rear ends Central SB stopped at crosswalk
3	8/28/2016	16020926	1300	Sunday	Sideswipe	2	Property	No	Clear/Dry	Central SB changes lanes, FTY to Central SB
4	9/9/2016	16022018	1600	Friday	Angle	2	Property	No	Clear/Dry	Veh backs out of pkg space on Central, strikes SB stopped in traffic
5	9/24/2016	16023272	0900	Saturday	Parked Veh	2	Property	No	Clear/Dry	Veh strikes parked car on Central west while backing out of pkg space
6	3/31/2017	17007010	1800	Friday	Rear End	3	Property	No	Snow/Wet	Central SB rear ends Central SB stopped in traffic
7	6/2/2017	17012248	0900	Friday	Sideswipe	2	Property	No	Clear/Dry	Construction zone, Central SB changes lanes, FTY to Central SB
8	7/3/2017	17014951	1500	Monday	Parked Veh	2	Property	No	Clear/Dry	Veh strikes parked car on Central west while backing out of pkg space
9	8/1/2017	17017451	1000	Tuesday	Parked Veh	2	Property	No	Clear/Dry	Construction zone, box truck strikes parked box truck in loading zone
10	8/19/2017	17019048	0900	Saturday	Rear End	2	Property	No	Clear/Dry	Central SB rear ends Central SB which stopped abruptly (road rage)
11	9/2/2017	17020063	1500	Saturday	Angle	2	Property	No	Clear/Dry	Veh turning from Central onto First v. veh backing out of First St space
12	10/10/2017	17023323	1700	Tuesday	Rear End	2	Property	No	Clear/Dry	Central SB rear ends Central SB stopped in traffic
13	12/22/2017	17028425	1000	Friday	Rear End	2	Property	No	Snow/Wet	Central SB rear ends Central SB stopped in traffic
14	2/5/2018	18002490	1200	Monday	Rear End	2	Property	No	Clear/Dry	Central SB rear ends Central SB stopped in traffic
15	4/21/2018	18008111	1200	Saturday	Rear End	3	Property	No	Clear/Dry	Central SB rear ends Central SB stopped in traffic
16	8/18/2018	18018486	1900	Saturday	Rear End	2	Property	No	Clear/Dry	Central SB rear ends Central SB stopped at crosswalk
17	8/24/2018	18018954	1300	Friday	Angle	2	Property	No	Clear/Dry	Car backs out of Central Av pkg space FTY to Central SB
18	12/3/2018	18027219	1700	Monday	Rear End	2	Property	No	Clear/Dry	Central SB rear ends Central SB stopped at crosswalk
19	12/7/2018	18027522	1100	Friday	Rear End	2	Property	No	Clear/Dry	Central SB misjudges while overtaking veh pulling into angle space
20	12/11/2018	18027871	1700	Tuesday	Rear End	2	Property	No	Clear/Dry	Veh pulling into angle space struck by adjacent veh backing out
21	12/12/2018	18027916	0800	Wednesday	Sideswipe	2	Property	No	Clear/Dry	Central SB passes veh on right which slowed to pull into W pkg space
22	12/14/2018	18028129	1700	Friday	Sideswipe	2	Property	No	Clear/Dry	Car backs out of Central Av pkg space FTY to Central SB
Location: Chestnut Street @ Second Street										
1	2/3/2016	16002959	1700	Wednesday	Pedestrian	1	Minor injury	No	Rain/Wet	WB left turn from Second St v. pedestrian crossing Chestnut W to E
2	3/24/2016	16007069	1300	Thursday	Angle	3	Property	Yes	Clear/Dry	Left turn from Second FTY to Chestnut NB
3	5/27/2016	16012303	1300	Friday	Angle	3	Property	Yes	Clear/Dry	Left turn from Second FTY to Chestnut NB
4	10/3/2016	16023951	1700	Monday	Angle	2	Property	No	Clear/Dry	WB making left turn from Second St FTY to NB
5	12/19/2016	16030064	1400	Monday	Sideswipe	2	Property	No	Clear/Dry	WB TT unit sideswipes WB at Second St stop sign
6	12/27/2016	16030585	1700	Tuesday	Rear End	2	Property	No	Clear/Dry	SB rear ends SB that was stopped in traffic from red light
7	1/27/2017	17002273	1600	Friday	Angle	2	Property	No	Clear/Dry	Left turn from Second FTY to Chestnut NB
8	4/25/2018	18008430	0900	Wednesday	Angle	2	Property	No	Clear/Dry	WB making left turn from Second St FTY to SB
9	9/28/2018	18022132	2000	Friday	Angle	2	Property	No	Clear/Dry	WB making left turn from Second St FTY to NB in center turn lane
10	10/23/2018	18024125	1000	Tuesday	Rear End	2	Property	No	Clear/Dry	NB rear ends NB stopped in traffic for RR crossing

CRASH DATA - Dover Police Department
selected intersections

January 2016 - December 2018

	Date	DPD case#	Hour	DOW	Crash Type	# Veh	Severity	Towed?	Weather / Surface	Summary (ex: EB = Eastbound, FTY = Failure to Yield)
	Location: Chestnut Street at First Street									
1	4/1/2016	16007716	1000	Friday	Rear End	2	Property	No	Clear/Dry	NB rear ends NB stopped at red light
2	4/30/2016	16010097	1600	Saturday	Sideswipe	2	Property	No	Clear/Dry	SB attempts right turn to #47 and sideswipes SB on Chestnut
3	5/30/2016	16012576	1500	Monday	Fixed Object	1	Property	No	Clear/Dry	TT unit making right turn from SB into #47 strikes utility pole
4	2/2/2017	17002691	1000	Thursday	Rear End	2	Injury	Yes	Clear/Dry	Chestnut SB rear ends veh at red light
5	3/17/2017	17005899	1700	Friday	Rear End	2	Property	No	Clear/Dry	Chestnut SB rear ends veh at red light (DWI)
6	10/25/2018	18024382	1500	Thursday	Angle	2	Property	No	Clear/Dry	Left on red from #47 v. right on red from First St (signals frozen)
7	10/26/2018	18024469	1600	Friday	Angle	2	Property	No	Clear/Dry	Left turn from First (green light) v. right turn from #47 (red light)
8	11/25/2018	18026605	1200	Sunday	Pedestrian	1	Minor injury	No	Clear/Dry	Right turn from First (red light) v. pedestrian SB crossing against signal
9	12/18/2018	18028459	1600	Tuesday	Rear End	2	Property	No	Clear/Dry	Both turning left from #47, lead veh stops in traffic and is rear-ended

terrain
planning & design llc

Planting Bed Maintenance:

1. General Service Level:
   a. Weeds - Beds and ground cover shall be maintained weed-free to the fullest extent possible. Weeds are removed manually, except in cases where growth form or extent of infestation render manual control impractical
   b. Dead Plants - Severely injured, diseased, or dead plant material shall be replaced in kind in perpetuity. All dead plants will be removed immediately and replaced during the next planting season (spring or fall). For plants considered a fall planting risk, replacements will be installed during the next spring planting season.
   c. Edging and Mulching - Beds should be evaluated annually to assess need for edging and mulching. Typically, beds will be edged and mulched on a 2-year rotation. Mulch should be 2 - 4" in depth, and a 1" buffer should be maintained around trunks of trees or shrubs.
   d. Leaf Removal - Leaves will be fully removed from beds, if weather allows. At the very latest, leaves will be fully removed from beds by the end of the winter season.

2. Woody Shrub Pruning:
   a. All woody shrubs will be evaluated annually to assess need for pruning. Pruning should be undertaken to maintain design intent and promote optimal plant growth and health. Cutback shrubs, roses, and shrub dogwoods will typically be pruned annually. Most other shrubs and trees will be pruned for structure and vigor on a 2-3 year rotation. Some plants may need to be pruned multiple times during the growing season. Most pruning will be accomplished during the winter and early spring.
   b. Plants should be pruned in a manner that preserves access to sidewalks, ramps, entrances, signs and lights.
   c. Dead wood should be removed as soon as it becomes apparent.
   d. Hedges will be evaluated annually for pruning needs.

3. Perennial Plant Maintenance:
   Perennial plants, including broadleaf perennials, grasses, bulbs, and groundcovers, will be maintained to promote optimal health, vigor, and display value. Deciduous broadleaf perennials will usually be cut back to the ground in late autumn or early winter, though some may be left standing until late winter to provide seasonal interest. Ornamental grasses will usually be cut back in late winter. Evergreen perennials and groundcovers will typically be cut back in late winter or early spring. To promote bulb naturalization, perennial bulb foliage will retained after flowering and will be cut back only after yellowing has become evident.

4. Pest and Disease Management:
   The application of insecticides, fungicides, and other control products may be pursued if a population of, or damage caused by, a pest or disease. If chemical control is indicated, care will be taken to select the shortest-residual product that best controls the target pest/disease without

affecting other organisms. Finally, care will be taken to ensure that application is completed at the optimal time to control the target pest/disease. For annually recurrent problems (e.g., viburnum crown borer) a prescription will be developed each year prior to pest emergence, and treatment will be applied at optimal time following regular scouting.

5. Herbicides:

In general, herbicides will be used as a means of last resort in woody and perennial plant beds, and will typically be applied only in cases where noxious weeds have become established and cannot be controlled or eradicated via manual removal. If chemical control is indicated, care will be taken to select the shortest-residual product that best controls the target species without affecting other organisms. Finally, care will be taken to ensure that application is completed at the optimal time to control the target species.

6. Irrigation:

Woody and perennial plant beds will be evaluated individually for irrigation requirements. Irrigation volume and frequency will be determined by rainfall, temperature, season length, demands of plant material, and event schedules; and to water in fertilizers, herbicides, or other products.

Tree Care:

1. Pruning Schedule:

   Trees adjacent to roadways, walkways, signs, and streetlights should be inspected annually for safety and clearance issues, and maintenance-pruned if necessary.

2. Pruning Practices:
   - **a.** General:
     - **i.** Pruning shall not be conducted without a clear objective or outcome.
     - **ii.** Pruning should support human safety, optimize tree health, and support aesthetics and design intent.
     - **iii.** When removing branches, the pruning cut shall not damage the branch bark ridge and branch collar.
     - **iv.** Heading cuts should not be used except in storm response and crown restoration procedures.
     - **v.** Branch reduction or thinning should be used to achieve pruning objectives rather than making large (>8" diameter) branch removal cuts.
   - **b.** Cleaning:
     - **i.** Thinning shall be performed to remove dead, diseased, dying, and defective branches, which reduces hazards, promotes, health, and improves appearance.
     - **ii.** Large branches should be removed with the aid of ropes and rigging equipment to minimize the risk of tree injury from falling debris.
   - **c.** Thinning:
     - **i.** Thinning shall be performed to reduce the density of branches, which increases light penetration, improves visibility, and decreases wind load.
     - **ii.** Assess how a tree will be pruned from the top down.
     - **iii.** Favor branches with strong, U- shaped angles of attachment. Remove branches with weak, V-shaped angles of attachment and/or included bark.
     - **iv.** Ideally, lateral branches should be evenly spaced on the main stem of young trees.
     - **v.** Remove any branches that rub or cross another branch.
     - **vi.** Make sure that lateral branches are no more than one-half to three-quarters of the diameter of the main stem to discourage the development of co-dominant stems.

vii. Do not remove more than one-quarter of the living crown of a tree at one time. If it is necessary to remove more, do so over successive years.

d. Raising:

i. Raising shall be performed to provide vertical clearance from thoroughfares, signs, street lights, structures and surveillance cameras.

ii. Always maintain live branches on at least two-thirds of a tree's total height. Removing too many lower branches will hinder the development of a strong main stem.

iii. Remove basal sprouts and vigorous water sprouts.

e. Reduction:

i. Reduction shall be performed to decrease the overall height of a tree or to decrease the length of an individual branch.

ii. Use reduction pruning only when absolutely necessary. Make the pruning cut at a lateral branch that is a least one-third the diameter of the stem to be removed.

iii. If it is necessary to remove more than half of the foliage from a branch, remove the entire branch.

f. Dead Plants:

Severely injured, diseased, or dead plant material shall be replaced in kind in perpetuity. All dead plants will be removed immediately and replaced during the next planting season (spring or fall). For plants considered a fall planting risk, replacements will be installed during the next spring planting season.

Fertilizer Application:

Newly planted trees and shrubs lack the ability to absorb nutrients until they grow an adequate root system. Fertilizing at planting with quickly available nutrient sources is not recommended and may actually inhibit root growth. However, a soil test is useful to determine the need for adjusting pH before planting. If the soil test indicates a need for phosphorus or potassium, incorporate these nutrients into the bed or backfill at planting time as directed.

For established plants, apply fertilizer in spring before growth starts, or wait until mid-summer after shoot growth ceases, as root growth and maximum nutrient uptake occurs during these periods. Plants generally take in few nutrients during periods of active shoot growth or flowering. Avoid fertilizing with high nitrogen sources during late summer (late August to mid-September), because it may cause certain plants to put out a new flush of leaves that could be susceptible to early frost damage. Fall fertilization (mid-September through mid-October) can be beneficial, however, providing plants with nutrients that are stored in roots and stems, ready to use for the next spring's growth.

Do not fertilize plants showing symptoms of drought stress. Do not fertilize a tree or shrub *during* a drought unless plants are irrigated regularly. Plants cannot use the fertilizer without adequate water. Some fertilizers may damage the roots and scorch the leaves if water is lacking.

Do not apply fertilizer indiscriminately. Lawn and landscape fertilizers, if not managed properly, are a contributing source of nutrients associated with water quality degradation. Excess nitrogen can leach through soil and pollute ground water; it is also of high concern in estuarine systems. Phosphorus carried by runoff water into freshwater lakes, ponds, rivers or streams can result in algae blooms and have other biological effects. In addition, the effects of diseases, insects or environmental stresses may be more severe on heavily-fertilized plants.

Managing soil pH:

Incorporating 5-10 lbs. of ground limestone per 100 square feet of area will generally raise pH one-half to one unit on the pH scale, but a more precise recommendation can be determined by a soil test. It is best to incorporate lime into the soil to a depth of 6 inches before planting, since surface applications are slow to change pH levels. If applying lime to established plantings, broadcast it on the soil surface and rake it in lightly.

If necessary, pH can be lowered by applying elemental sulfur to the soil. Apply 1- 1 ½ lbs. per 100 square feet and repeat after 3-4 weeks if necessary. Incorporate it before planting if possible. Do not apply more than 1 lb. per application if plants are present, as it may burn the roots.

What fertilizers to use:

Choose a slow-release fertilizer that contains at least 30 - 50 percent slow-release or "water insoluble nitrogen," if possible. Slow-release fertilizers will provide a consistent supply of nitrogen to the plant throughout the growing season. Chances of overdosing or burning plants with slow-release fertilizer are very low. Slow-release fertilizers are also considered environmentally-friendly since only small amounts of nitrogen are released at a time. Common slow-release synthetic nitrogen sources include sulfur-coated urea (SCU), isobutizidene diurea (IBDU) and plastic- or resin-coated prills.

Organic materials such as compost and manures are natural slow release sources of nutrients. Because they contain a low percentage of nitrogen, they must be used in relatively large quantities to supply the desired levels of nutrients. Animal manure varies in its nutrient content but typically contains less than one percent of each nutrient.

How much to apply:

For individual trees, fertilize an area up to one and one half times the canopy diameter. If the tree is bordered by a recently fertilized lawn, to avoid overfeeding the lawn, do not apply fertilizer to the grass; instead, measure and fertilize only the mulched or bare area under the tree. After several years of growth in the landscape, trees will not need fertilizer unless symptoms of nutrient deficiencies develop.

Apply one to three pounds of actual nitrogen (see explanation below) per 1000 square feet of surface area to be fertilized. Plants that tend to put on excessive growth such as forsythia, honeysuckle, privet, willow, Siberian elm and silver maple require little or no nitrogen fertilization. To promote moderate growth of other established trees and shrubs use two pounds. Use rates higher than two pounds, from slow-release nitrogen sources only, when rapid growth rates are desirable. To calculate the amount of a particular fertilizer that will provide one pound of actual nitrogen, divide the percent nitrogen listed on the bag into 100. For example, a 15-5-10 fertilizer contains 15% nitrogen. Fifteen into 100 equals 6.6, therefore, apply 6.6 (rounded off to 6.5) pounds of this fertilizer per 1000 square feet. Twice as much, or 13 pounds, would be required to provide two pounds of nitrogen per 1000 square feet.

How to apply fertilizer

The simplest and fastest way to fertilize trees and shrubs is to broadcast granular fertilizer evenly over the bed or root zone. Subsurface applications of dry or liquid fertilizers are no more effective than broadcast methods in most circumstances, but can help prevent fertilizer runoff from a steep slope. Fertilizer stakes or spikes are expensive and inefficient ways to fertilize. Deep-root feeding is not generally advantageous.

Minor element deficiencies may also be corrected by spraying liquid fertilizer on the leaves, a practice called foliar feeding. This is not an effective practice for nitrogen or phosphorus fertilization, but can be used to provide iron, manganese or other minor nutrients directly to the leaves. A long-term solution to the problem requires correction of underlying site problems, soil pH adjustment and/or soil applications of the deficient nutrients

P19-16 & P19-17 1 First Street

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
03064-000000	451 457 CENTRAL AV	PILLAR INVESTMENT CORP		340 CENTRAL AVE #202	DOVER	NH	03820
03066-000000	427 CENTRAL AV	COCHECO MILLS HOLDINGS LLC		3 PENSTOCK WAY	NEWMARKET	NH	03857-4416
03067-000000	421 CENTRAL AV	421 CENTRAL AVENUE LLC		113 BUNKER HILL AVENUE	STRATHAM	NH	03885
06001-000000	432 CENTRAL AV	FISCHER BRIAN &	FISCHER STEPHANIE	46 NORTH RIVER ROAD	LEE	NH	03824
06003-000000	100 FIRST ST	RIPARIA - ONE HUNDRED FIRST STREET LLC		466 CENTRAL AVE STE 12	DOVER	NH	03820
06015-000000	23 25 FIRST ST	KAB REALTY MANAGEMENT LLC		35 THIRD ST	DOVER	NH	03820-3316
06016-000000	21 FIRST ST	CONNORS COLLEEN F &	CONNORS AILLINN	21 FIRST ST	DOVER	NH	03820
06017-000000	19 FIRST ST	HOLGATE LIMITED PARTNERSHIP		130 CENTRAL AVE	DOVER	NH	03820
06018-000000	17 FIRST ST	SOUDAKIM LLC		750 LAFAYETTE RD STE 201	PORTSMOUTH	NH	03801
06019-000000	13 15 FIRST ST	DILLOW TROY S &	DILLOW ROXANE E	PO BOX 1464	ROCHESTER	NH	03866
06021-001000	436 CENTRAL AV	BUILD UPON LLC		56 SUMMER ST	DOVER	NH	03820
06021-002000	442 CENTRAL AV	MARKER 21 HOLDINGS LLC		130 CENTRAL AVE	DOVER	NH	03820
06021-003000	446 448 CENTRAL AV	CARTELLI'S LLC		356 TOLEND RD	DOVER	NH	03820-5604
06021-A00000	450 CENTRAL AV	HENRY PETER T &	HENRY JOAN	454 CENTRAL AVE	DOVER	NH	03820
06022-000000	14 16 SECOND ST	WEST CONCORD INVESTMENTS LLC		222 CASS ST	PORTSMOUTH	NH	03801-4945
06024-000000	18 20 SECOND ST	CAMIRE DAVID R &	CAMIRE STACEY L	281 WASHINGTON ST	DOVER	NH	03820-3608
06025-000000	22 SECOND ST	CAMIRE DAVID R &	CAMIRE STACEY L	281 WASHINGTON ST	DOVER	NH	03820-3608
06026-000000	24 26 SECOND ST	FIELD JEAN		24 SECOND ST	DOVER	NH	03820
06033-000000	23 SECOND ST	ROSS FURNITURE COMPANY INC		38 THIRD STREET	DOVER	NH	03820
06034-000000	17 19 SECOND ST	WOODS PHYLLIS L TRUSTEE	WOODS PHYLLIS L REV TRUST	1 BARRY STREET	DOVER	NH	03820
06035-000000	11 13 SECOND ST	SOUDAKIM LLC	C/O ARTHUR THOMAS PROPERTIES	278 WASHINGTON ST	DOVER	NH	03820
06035-A00000	SECOND ST	BAMFORD INVESTMENT CO LLC		466 CENTRAL AVE SUITE 12	DOVER	NH	03820
06036-000000	456 478 CENTRAL AV	BAMFORD INVESTMENT CO LLC		466 CENTRAL AVE SUITE 12	DOVER	NH	03820
06036-A00000	4 THIRD ST	BAMFORD INVESTMENT CO LLC		466 CENTRAL AVE SUITE 12	DOVER	NH	03820
06037-000000	18 THIRD ST	ANBELWOLD LLC		334 ROUTE 108	MADBURY	NH	03823
06038-000000	22 THIRD ST	ROSS FURNITURE COMPANY INC		38 THIRD STREET	DOVER	NH	03820
06039-000000	30 THIRD ST	ROSS FURNITURE COMPANY INC		38 THIRD STREET	DOVER	NH	03820
06020-000000	1 FIRST ST	ONE FIRST DOVER LLC		157 MAIN DUNSTABLE ROAD STE 102	NASHUA	NH	03060
		KEACH-NORDSTROM ASSOCIATES INC		10 COMMERCE PARK NORTH, SUITE 3B	BEDFORD	NH	03110
		GREENMAN-PEDERSEN, INC		181 BALLARDVALE STREET, SUITE 202	WILMINGTON	MA	01887
		DESTEFANO ARCHITECTS		22 LADD STREET	PORTSMOUTH	NH	03801

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – P19-16

Application Type:	Site Plan Review
Applicant(s):	One First Dover, LLC
Owner(s):	One First Dover, LLC
Location:	1 First Street (Tax Map 6, Lot 20)
Date:	March 7, 2019

INTENT: To demolish the existing building and construct one new building with 71 dwelling units (11 two-bedroom, 60 studio or one-bedroom) and 6,159 sq. ft. of commercial space and 29 on-site garage parking spaces. A CUP application for a sixth story will also appear before the Planning Board.

LOTS/UNITS PROPOSED: 71 residential, 6,159 sq. ft. commercial

AGENDA ITEM #: 1

ACREAGE: 0.53 acre

ZONING DISTRICT: CBD - General

EXISTING LAND USE: Vacant commercial, parking lot

SURROUNDING LAND USE: Residential, commercial, mixed use

ZBA ACTION: None

PERMITS REQUIRED: Conditional Use Permit (sixth story)

WAIVERS REQUESTED: None

ATTENDANCE:
Members:
Bill Simons, Parking Bureau
Marn Speidel, Police
Dave White, City Engineer
Elena Piekut, Planning/Zoning
Dan Barufaldi, Economic Development
Christopher Parker, Economic Development

Others:
Britni Rotunda, DeStefano Architects
Brent Cole, Keach-Nordstrom
Chris Swiniarski, McLane Middleton

Approval of 2/28/2019 Meeting Minutes
D.White moved to approve the minutes of February 28, 2019. M.Speidel seconded. Vote: UA

PLAN REVIEW:
Planning Comments:

- Impact fees (no credit for existing building)
- Water and Sewer Investment fees
- Condo documents will be required as a condition of approval if condominium
- Will Eversource permit landscaping around transformer?
- Please send PDF of traffic assessment
- Please revise application to include:
  - Letter from Eversource regarding ability to provide service
  - Building materials on elevations for all sides of all buildings
  - Provide draft lease language regarding street parking prohibited for residential tenants
- Please revise plan set to:
  - Note tenants are responsible for bringing trash to dumpster
  - Add dumpster screening facing First Street
  - Add planning file number throughout (P19-16)
  - Ensure that the landscaping was created using the revised landscape regulations from 2018.
  - Provide compliant neighborhood plan
  - Add common site plan notes 6, 7, 11, 22, 23, 24, 26, 33
  - Add a note that this plan supersedes the previously approved plan (P16-15) for this site
  - Clarify bench locations/materials (provide detail if not granite)
  - Indicate trees will meet minimum 3.5" caliper
  - Provide landscaping maintenance plan
  - Update rendering or landscape plan so that tree locations are consistent
  - Correct floor numbers on floor plan
  - Indicate materials on building elevations
  - Correct parking on 2nd Street rendering
  - Revise note regarding no Saturday or Sunday site work hours
  - Engineer, LLS, and Landscape Architect to sign and stamp final plan set
  - Note signage regarding visibility and noise will be installed and used during any earthwork, to the satisfaction of the City Engineer.
  - Identify a historic marker

DRAFT

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – P19-16

Application Type:	Site Plan Review
Applicant(s):	One First Dover, LLC
Owner(s):	One First Dover, LLC
Location:	1 First Street (Tax Map 6, Lot 20)
Date:	March 7, 2019

Police Department Comments:

- Note dumpster pad is not intended to accommodate a truck
- Provide signage for paved alley to facilitate (or restrict) temporary resident parking for loading/unloading
- Provide detail of side walls on base floor, including mechanical ventilation
- Sheet 1 of 15, note 7: "Applicant shall require that street parking is prohibited for residents." How will that be accomplished?
- Applicant will source nearly all resident parking permits from the Dover Transportation Center lot. Provide contribution toward Chestnut/First pedestrian signal infrastructure upgrades. (Traffic Impact, Access and Parking Study p. 5 indicates that none of the curb ramps are ADA compliant)
- TIAS p. 11: Local collision data would provide more robust summary for trend patterns than NHDOT data. 3-year DPD data (2014-2016): Chestnut/First = 10, Chestnut/Second = 8, Central/First = 5, Central/Second = 15. Update TIAS with local data.
- TIAS p. 41 states that unoccupied resident parking can be shared by retail uses during the day. How will this be possible with overhead doors controlling access to the garage parking?
- TIAS p. 42: Parking Supply Summary assumes 68 spaces in Third St Lot. Actual number is 29.

Fire/Inspections Comments:

- Plan sheet 4, clarify which utilities are exterior/interior.
- If gas is to be mounted on the exterior indicate the number and size of gas meters in the dumpster truck path to dumpster pad.
- Indicate dumpster screening on detail sheet.
- Plans sheet 4 indicates overhead lines to be relocated. Sheet 7 does not appear to indicate underground electric distribution, please clarify.
- Plan sheet 4 accessible space to be relocated closer to elevator in accordance w/ accessibility.
- Plan sheet 7, FDCs may be required on each street at the front
- Plan Sheet 11 note 3: indicate a building permit is required for retaining walls 4' or greater
- Plan Sheet 11 detail indicate design widths for access aisle
- Site plans shall indicate design compliance with the applicable accessibility regulations. (i.e. '09, IBC Chapter 11 w/ NH Amendments and ANSI)) as well as compliance with NH RSA 155-A: 5.
- Project will require pre baiting and an integrated pest management plan
- Indicate the type of siding for the first and second story
- Is the use/classification category known of the commercial tenancies (i.e. A,B,M etc)
- Clarify fire department access to parking garage

Engineering Comments:

- Crosswalk location needs to be adjusted/removed
- The loading zone on the sidewalk needs to be removed
- Extend the sidewalk/curb and close up the alley driveway by the loading zone
- Why a 30-inch drain?
- Look at including some type of infiltration for the drainage
- How is the roof drainage and foundation drain addressed?
- Push back the tree wells on First Street to make it more pedestrian friendly.
- Consider a public access easement over First Street entrance

Economic Development Comments:

- Agrees with many of the aspects raised by others

Planning Board Comments:

- Please work with Eversource to re-route the Overhead Lines out of the alleyway
- Use brick for landing on Second Street (plan shows concrete)
- Use black wrought iron fence for whole site, not chain link
- What is material #3 on the elevations?

DRAFT

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – P19-16

Application Type:	Site Plan Review
Applicant(s):	One First Dover, LLC
Owner(s):	One First Dover, LLC
Location:	1 First Street (Tax Map 6, Lot 20)
Date:	March 7, 2019

Next Steps:

- Parking Commission March 19. Plan will be revised and a follow up TRC scheduled, with Planning Board in April.

Motion to adjourn TRC at 11:11 by D.White and seconded by E.Piekut. Vote: U/A

DRAFT

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – P19-16

Application Type:	Site Plan Review
Applicant(s):	One First Dover, LLC
Owner(s):	One First Dover, LLC
Location:	1 First Street (Tax Map 6, Lot 20)
Date:	April 18, 2019

INTENT: To demolish the existing building and construct one new building with 71 dwelling units (11 two-bedroom, 60 studio or one-bedroom) and 6,159 sq. ft. of commercial space and 29 on-site garage parking spaces. A CUP application for a sixth story will also appear before the Planning Board.

LOTS/UNITS PROPOSED: 71 residential, 6,159 sq. ft. commercial

AGENDA ITEM #: 1

ACREAGE: 0.53 acre

ZONING DISTRICT: CBD - General

EXISTING LAND USE: Vacant commercial, parking lot

SURROUNDING LAND USE: Residential, commercial, mixed use

ZBA ACTION: None

PERMITS REQUIRED: Conditional Use Permit (sixth story)

WAIVERS REQUESTED: None

ATTENDANCE:
Members:
Donna Benton, Planning
Jim Maxfield, Inspection Services
Marn Speidel, Police
Dave White, City Engineer
Elena Piekut, Planning/Zoning
Dan Barufaldi, Economic Development
Frank Torr, Planning Board

Others:
Britni Rotunda, DeStefano Architects
Tucker McCarthy, Keach-Nordstrom
Chris Swiniarski, McLane Middleton
Ryan Filion, Applicant
Christopher Parker, Planning

Approval of 4/11/2019 Meeting Minutes
D.White moved to approve the minutes of April 11, 2019. Sgt. Speidel seconded. Vote: UA

PLAN REVIEW:
Planning Comments:

- Impact fees (no credit for existing building)
- Water and Sewer Investment fees
- Will Eversource permit landscaping around transformer?
- Mechanicals should be fully screened; how are gas meters screened?
- Parking Commission to consider allotting spaces May 21st
- Please revise plan set to:
  - Combine architecturals/renderings into plan set
  - Note tenants are responsible for bringing trash to dumpster
  - Add dumpster screening facing First Street
  - Add planning file number throughout, including cover sheet (P19-16)
  - Neighborhood plan may require better aerial image
  - Provide landscaping maintenance plan
  - Update rendering or landscape plan so that tree locations are consistent
  - Correct parking on 2nd Street rendering
  - Revise note regarding no Saturday or Sunday site work hours
  - Engineer, LLS, and Landscape Architect to sign and stamp final plan set
  - Note signage regarding visibility and noise will be installed and used during any earthwork, to the satisfaction of the City Engineer.
  - Identify a historic marker
  - Upgrade vinyl doors
  - Eliminate crosswalk
  - Add note that annually owner will let Planning Department know which units are designated to be affordable

Police Department Comments:

- Clarify discrepancy between 3/28/2019 Supplemental Traffic Letter page 4 "Proposed Parking Supply" and 3/29/2019 Response to Police comment #7. One states that employees for commercial spaces will be granted access to garage, the other states that employees will not have access and garage will be residential only.
- Revised plans do not address the Parking Commission's March 19, 2019 failed motion for long term lease of 78 spaces in the

DRAFT

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – P19-16

Application Type:	Site Plan Review
Applicant(s):	One First Dover, LLC
Owner(s):	One First Dover, LLC
Location:	1 First Street (Tax Map 6, Lot 20)
Date:	April 18, 2019

Transportation Center Lot. Has the applicant considered any other alternatives?

Fire/Inspections Comments:

- Plan sheet 1 clarify the building setbacks
- Discuss sheet 4 and interior/exterior utility locations.
- Indicate location of water meter locations, sprinkler riser, PIV
- Discuss bollard location and spacing at gas meters- coordinate w/ building plan.
- Indicate dumpster screening on detail sheet
- Sheet 7 indicates a transformer pad adjacent to the front of the building on First Street. Provide the size and type of transformer and service. Indicate if transformer is utility or customer owned.
- Discuss the removal of the OHE lines in along east boundary line.
- Plan sheet 5 construction sequence does not appear to indicate removal scope of OHE
- Plan sheet 11 detail shall indicate design widths for access aisle- remove "varies"
- Plan Sheet 11 indicate height of accessible signage.
- Plan sheet 4-discuss alternative location for accessible parking space(s)
- Site plan shall indicate design compliance w/ applicable accessible regulations and NH RSA 155-A 5
- Provide a note on plan the project will require pre-baiting and an integrated pest management plan.
- Indicate the type of siding for the proposed structure
- Is the use/classification category known of the commercial tenancies (i.e. A, B, M etc.)
- Clarify fire department access to the parking garage
- Indicate mechanical ventilation locations for parking garage
- Indicate location of generator

Engineering Comments:

- Crosswalk should be eliminated
- Extend the sidewalk/curb and close up the alley driveway by the loading zone (striping per the city)
- Benches and trees need to meet standards

Economic Development Comments:

- Concerns have been addressed.

Planning Board Comments:

- Please work with Eversource to re-route the Overhead Lines out of the alleyway
- Use brick for landing on Second Street (plan shows concrete)
- Work with Woodman on any historical signifance

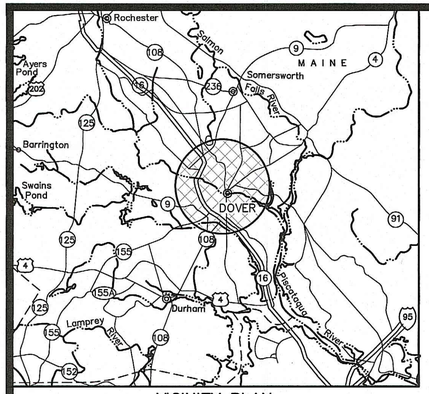
Next Steps:

- Parking Commission May 21.
- Planning to be on the May 28, 2019 PB agenda

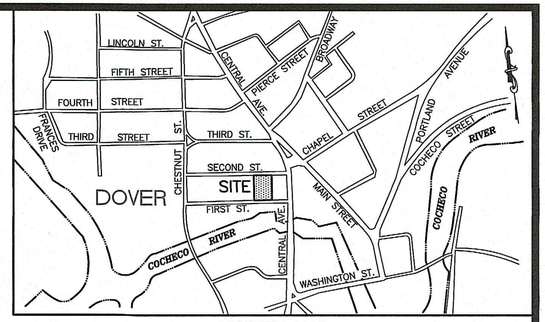
Motion to adjourn TRC at 11:36am by D.White and seconded by F.Torr. Vote: U/A

DRAFT

RESIDENTIAL SITE PLAN
DOVER HEIGHTS
MAP 6 LOT 20
1 FIRST STREET
DOVER, NEW HAMPSHIRE



VICINITY PLAN
NOT TO SCALE



VICINITY MAP
SCALE: 1"=500'±

DIG SAFE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
811 CALL BEFORE YOU DIG TOLL FREE

ABUTTERS:

3-64 PILLAR INVESTMENT CORP
340 CENTRAL AVENUE #202, DOVER, NH 03820

3-66 COCHECO MILLS HOLDINGS LLC
3 PENSTOCK WAY, NEWMARKET, NH 03857-4416

3-67 421 CENTRAL AVENUE LLC
113 BUNKER HILL AVENUE, STRATHAM, NH 03885

6-1 BRIAN & STEPHANIE FISCHER
46 NORTH RIVER ROAD, LEE, NH 03824

6-3 RIPARIA-ONE HUNDRED FIRST STREET, LLC
446 CENTRAL AVENUE, STE 12 DOVER, NH 03820

6-15 KAB REALTY MANAGEMENT LLC
35 THIRD STREET, DOVER, NH 03820-3316

6-16 CONNORS COLLEEN F & CONNORS AILLINN
21 FIRST STREET, DOVER, NH 03820

6-17 HOLGATE LIMITED PARTNERSHIP
130 CENTRAL AVENUE, DOVER, NH 03820

6-18 SOUDAKIM LLC
310 DOVER POINT ROAD, DOVER, NH 03820

6-19 TROY S. & ROXANE E. DILLOW
P.O. BOX 1464, ROCHESTER, NH 03866

6-21-1 BUILD UPON, LLC
56 SUMMER STREET, DOVER, NH 03820

6-21-2 MARKER 21 HOLDINGS, LLC
130 CENTRAL AVENUE, DOVER, NH 03820

6-21-3 CARTELLI'S, LLC
356 TOLEND ROAD, DOVER, NH 03820

6-21A PETER T. & JOAN HENRY
454 CENTRAL AVENUE, DOVER, NH 03820

6-22 WEST CONCORD INVESTMENTS, LLC
222 CASS STREET, PORTSMOUTH, NH 03801-4945

6-24, 25 DAVID R. & STACEY L. CAMIRE
281 WASHINGTON STREET, DOVER, NH 03820

6-26 JEAN FIELD
24 SECOND STREET, DOVER, NH 03820

6-33, 38 & 39 ROSS FURNITURE COMPANY INC.
38 THIRD STREET, DOVER, NH 03820

6-34 WOODS PHYLLIS L TRUSTEE WOODS PHYLLIS L REV TRUST
1 BARRY STREET, DOVER, NH 03820

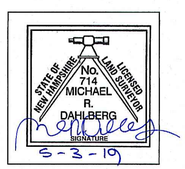
6-35 SOUDAKIM, LLC
P.O. BOX 1813, DOVER, 03821-1813

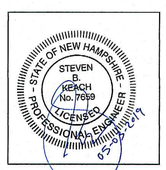
6-35A, 36 & 36A BAMFORD INVESTMENT CO., LLC
466 CENTRAL AVENUE, SUITE 12, DOVER, NH 03820

6-37 ANBELWOLD LLC
334 ROUTE 108, MADBURY, NH 03823



TAX MAP SKETCH & NEIGHBORHOOD MAP
SCALE: 1" = 200'±





KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

OWNER/APPLICANT:
ONE FIRST DOVER, LLC
157 MAIN DUNSTABLE ROAD
SUITE 102
NASHUA, NH 03060

ARCHITECT:
DESTEFANO ARCHITECTS
22 LADD STREET
PORTSMOUTH, NH 03801

PREPARED BY:
KEACH-NORDSTROM ASSOCIATES, INC.
10 COMMERCE PARK NORTH, SUITE 3B
BEDFORD, NEW HAMPSHIRE 03110
(603) 627-2881

PLANNING FILE # P19-16
JANUARY 22, 2019
REVISED: APRIL 22, 2019
PROJECT NO. 17-1219-1

SHEET TITLE	SHEET No.
MASTER PLAN	1
EXISTING CONDITIONS PLAN	2
REMOVALS / DEMOLITION PLAN	3
SITE LAYOUT PLAN	4
GRADING & DRAINAGE PLAN	5
EROSION CONTROL PLAN	6
UTILITY PLAN	7
LANDSCAPE PLAN	8
LIGHTING PLAN	9
PROFILES	10
CONSTRUCTION DETAILS	11 - 15
ARCHITECTURAL RENDERINGS & PLANS (BY DESTEFANO ARCHITECTS)	A1 - A9

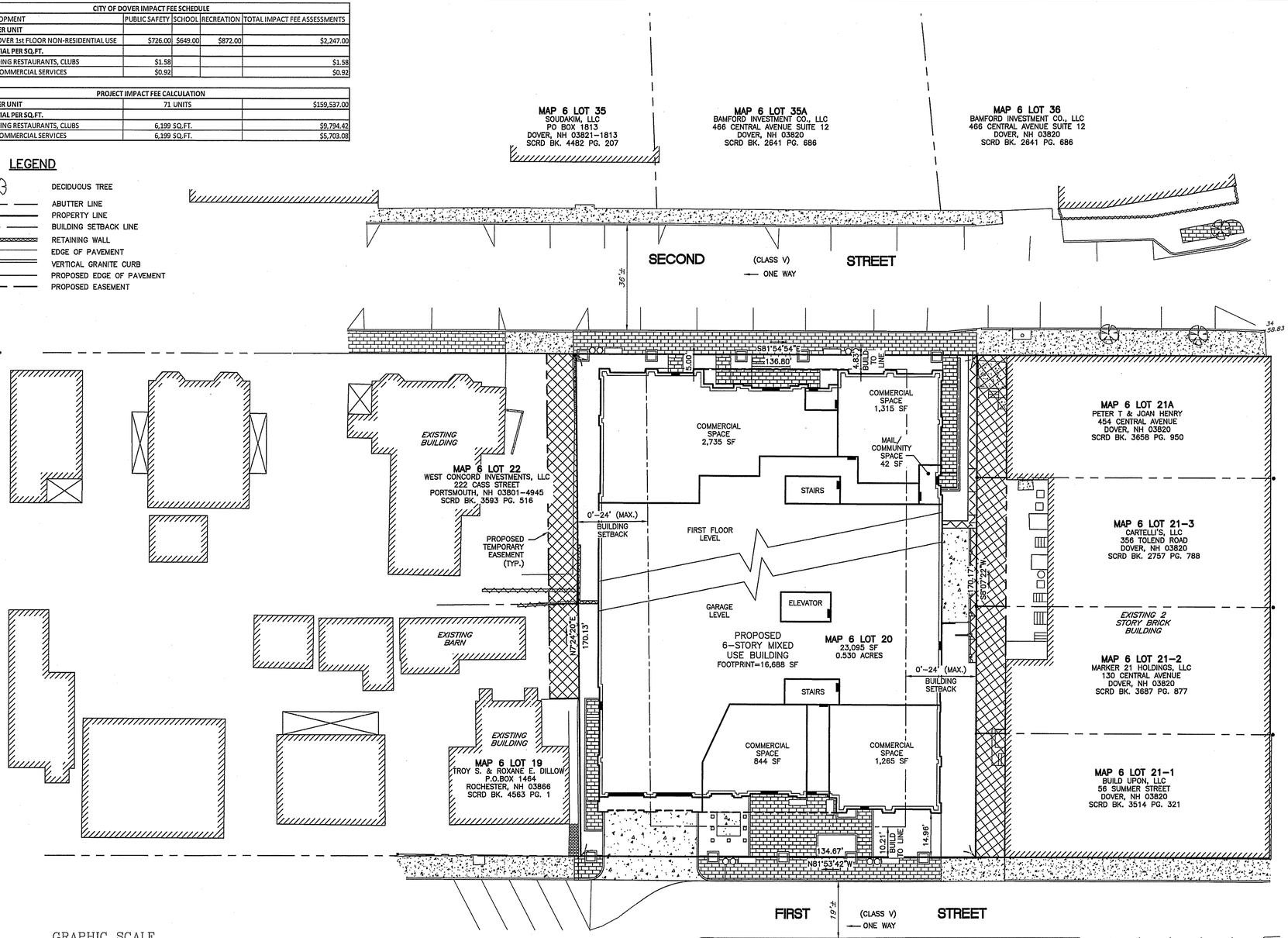
F:_project\171219\dwg\Production Drawings\171219-DETAILS.dwg, Cover-Details, 5/2/2019 5:05:52 PM, tmccarthy, \\kna-newserver\HP Designjet T1500 PS HPGL2, D (landscape), 1:1

CITY OF DOVER IMPACT FEE SCHEDULE				
TYPE OF DEVELOPMENT	PUBLIC SAFETY	SCHOOL	RECREATION	TOTAL IMPACT FEE ASSESSMENTS
RESIDENTIAL PER UNIT				
APARTMENTS OVER 1st FLOOR NON-RESIDENTIAL USE	$726.00	$649.00	$872.00	$2,247.00
NON-RESIDENTIAL PER SQ.FT.				
RETAIL, INCLUDING RESTAURANTS, CLUBS	$1.58			$1.58
OFFICES AND COMMERCIAL SERVICES	$0.92			$0.92

PROJECT IMPACT FEE CALCULATION		
RESIDENTIAL PER UNIT	71 UNITS	$159,537.00
NON-RESIDENTIAL PER SQ.FT.		
RETAIL, INCLUDING RESTAURANTS, CLUBS	6,199 SQ.FT.	$9,794.42
OFFICES AND COMMERCIAL SERVICES	6,199 SQ.FT.	$5,703.08

LEGEND

- DECIDUOUS TREE
- ABUTTER LINE
- PROPERTY LINE
- BUILDING SETBACK LINE
- RETAINING WALL
- EDGE OF PAVEMENT
- VERTICAL GRANITE CURB
- PROPOSED EDGE OF PAVEMENT
- PROPOSED EASEMENT



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

OWNER OF MAP 6 LOT 20
SIGNATURE:
DATE: 7-7-19

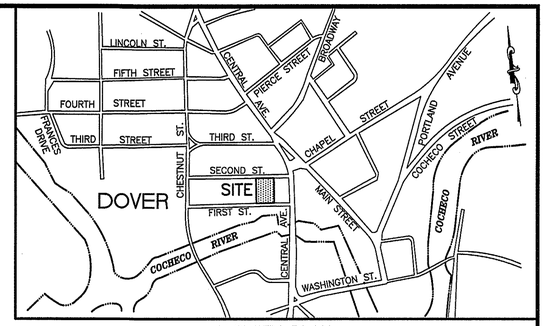
SURVEYOR'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION. FURTHER, THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY MADE ON THE GROUND BY THIS OFFICE DURING FEBRUARY OF 2018. SAID SURVEY HAS AN ERROR OF CLOSURE BETTER THAN ONE PART IN TEN THOUSAND (1:10,000).

LICENSED LAND SURVEYOR — DATE: 5-3-19

STATE OF NEW HAMPSHIRE — No. 714 — MICHAEL R. DAHLBERG — LICENSED LAND SURVEYOR — SIGNATURE

DIG SAFE — CALL TOLL FREE 811 — UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM



VICINITY PLAN
SCALE: 1"=500'±

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW A PROPOSED SIX-STORY 71-UNIT RESIDENTIAL BUILDING WITH STREET LEVEL COMMERCIAL SPACE AND A LOWER LEVEL PARKING GARAGE OFF FIRST STREET ON MAP 6 LOT 20.
2. OWNER OF RECORD:
   ONE FIRST DOVER, LLC
   157 MAIN DUNSTABLE ROAD, STE. 102
   NASHUA, NH 03060
   S.C.R.D. BK. 4510 PG. 565
3. REFERENCE SUBJECT PARCEL AS MAP 6 LOT 20 OF THE CITY OF DOVER TAX ASSESSOR'S MAPS.
4. AREA OF PARCEL = 0.5301 ACRES OR 23,095 SQUARE FEET.
5. CURRENT ZONING: CENTRAL BUSINESS DISTRICT (CBD) GENERAL SUB-DISTRICT

MINIMUM LOT REQUIREMENTS:	MINIMUM	PROPOSED
LOT SIZE:	N/A	23,095 SF
LOT COVERAGE:	75%	75.3%
FRONTAGE BUILD OUT:	70% MINIMUM	87% (FIRST ST.), 84% (SECOND ST.)
MINIMUM BUILDING SETBACKS:		
FRONT BUILD TO LINE	10.21 FT (FIRST ST.)	14.92 FT (FIRST ST.)
	4.83 FT (SECOND ST.)	5.00 FT (SECOND ST.)
SIDE	0 FT - 24 FT (MAXIMUM)	5.93 FT (WEST), 11.74 FT (EAST)
REAR	N/A	
MAXIMUM BUILDING HEIGHT:	5 STORIES	6 STORIES *

   * CONDITIONAL USE PERMIT REQUIRED
6. PARKING:
   MAXIMUM ALLOWED:
   RESIDENTIAL (CBD-G):
   1.25 SPACES/UNIT x 71 UNITS + 0.4 VISITOR SPACES/UNIT x 71 UNITS = 117.15 SPACES
   RETAIL/SERVICE:
   6,199 SF @ 1 SPACE/275 SF = 22.54 SPACES
   MAXIMUM TOTAL SPACES ALLOWED: = 117 SPACES **
   TOTAL SPACES PROVIDED:
   1.1 SPACE/UNIT x 71 UNITS + 0.4 VISITOR SPACE/UNIT x 71 UNITS = 106.5 SPACES ~ 107 SPACES
   29 SPACES PROVIDED IN GARAGE (INCLUDES 2 HANDICAP SPACES)
   78 SPACES LEASED FROM CITY WITH 5 YEAR AGREEMENT
   ** WHERE COMMERCIAL AND RESIDENTIAL USES ARE CO-LOCATED ONLY THE RESIDENTIAL PARKING SHALL BE PERMITTED.
7. THE APPLICANT SHALL REQUIRE THROUGH LEASE DOCUMENTS THAT STREET PARKING IS PROHIBITED FOR RESIDENTIAL TENANTS, GUESTS AND COMMERCIAL SPACE EMPLOYEES. STREET PARKING IS INTENDED FOR COMMERCIAL CUSTOMERS ONLY.
8. ANY MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE RESET BY A NH LICENSED LAND SURVEYOR AFTER ALL CONSTRUCTION ACTIVITY WHICH COULD FURTHER DISTURB THEM HAS BEEN COMPLETED.
9. THE SITE IS SERVICED BY MUNICIPAL WATER AND SEWER.
10. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM WITH DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
11. THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS AS WELL AS COMPLIANCE WITH NH RSA 155-A:5, AS WELL AS 2009 INTERNATIONAL BUILDING CODE CHAPTER 11 WITH NH AMENDMENTS. THE PROPOSED STRUCTURE WILL ALSO BE DESIGNED IN ACCORDANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS.
12. AS-BUILT PLANS OF THE SITE SHALL BE SUBMITTED TO THE CITY OF DOVER ENGINEER'S OFFICE UPON COMPLETION OF THE PROJECT AS SPECIFIED IN THE REGULATIONS.
13. A CONDITIONAL USE PERMIT IS REQUESTED FOR SECTION 170-20.D BUILDING HEIGHT.
14. REQUIRED PERMITS

PERMIT	STATUS	PERMIT EXPIRES
NHDES SEWER CONNECTION PERMIT		
FAA NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION (FORM 7460-1)		

15. SHOULD THE VOLUME OF SNOW EXCEED THE CAPACITY OF THE ON-SITE STORAGE AS SHOWN, THE EXCESS SNOW SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH STATE, LOCAL AND FEDERAL LAWS
16. THE PROJECTED DISTURBANCE IS LESS THAN 1 ACRE, THEREFORE A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT IS NOT REQUIRED.
17. TEMPORARY CONSTRUCTION EASEMENTS LISTED ON PLANS HAVE BEEN DISCUSSED WITH ABUTTERS, FORMAL AGREEMENTS WILL BE FINALIZED PRIOR TO FINAL APPROVAL.
18. DUMPSTERS TO BE SIZED TO MEET ADA REACH REGULATION.
19. CONTRACTOR AND OWNER SHALL COORDINATE METHOD OF FIRE DEPARTMENT ACCESS TO PARKING GARAGE PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
20. BUILDING ADDRESSES SHALL BE DETERMINED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
21. THIS PLAN SUPERCEDES THE PREVIOUSLY APPROVED PLAN (P16-15) FOR THIS SITE.

NOTES: (CONTINUED)

22. THERE ARE NO WETLANDS ON-SITE BASED ON A SITE EVALUATION DONE ON MARCH 18, 2019 BY JOSHUA BRIEN, CERTIFIED WETLAND SCIENTIST #255 OF KEACH-NORDSTROM ASSOCIATES, INC.
23. THE OWNER OF RECORD SHALL RECORD AT THE REGISTRY OF DEEDS DOCUMENTATION SUFFICIENT TO PROVIDE NOTICE TO ALL PERSONS THAT MAY ACQUIRE ANY PROPERTY SUBJECT TO THE REQUIREMENTS AND RESPONSIBILITIES DESCRIBED IN THE APPROVE STORMWATER MANAGEMENT PLAN. THE NOTICE SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS FOR RECORDING CONTAINED IN RSA 477 AND 478. THE NOTICE NEED NOT SET FORTH THE REQUIREMENTS AT LENGTH, SO LONG AS IT IS SUFFICIENT TO PROVIDE NOTICE TO PROSPECTIVE PURCHASERS TO THE REQUIREMENTS FOR MAINTENANCE AND REPORTING.
24. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7 AM-6 PM. NO CONSTRUCTION SHALL OCCUR ON WEEKENDS OR CITY DESIGNATED HOLIDAYS.
25. OWNER SHALL NOTIFY PLANNING DEPARTMENT ANNUALLY IN WRITING REGARDING WHICH UNITS HAVE BEEN DESIGNATED AS AFFORDABLE IN ACCORDANCE WITH THE CONDITIONAL USE PERMIT.
26. TENANTS ARE RESPONSIBLE FOR BRINGING TRASH TO DUMPSTER.

MASTER PLAN
DOVER HEIGHTS
MAP 6 LOT 20
1 FIRST STREET
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
PLANNING FILE # P19-16

OWNER OF RECORD & APPLICANT:
ONE FIRST DOVER, LLC
157 MAIN DUNSTABLE RD, SUITE 102
NASHUA, NH 03060
S.C.R.D. BK. 4510 PG. 565

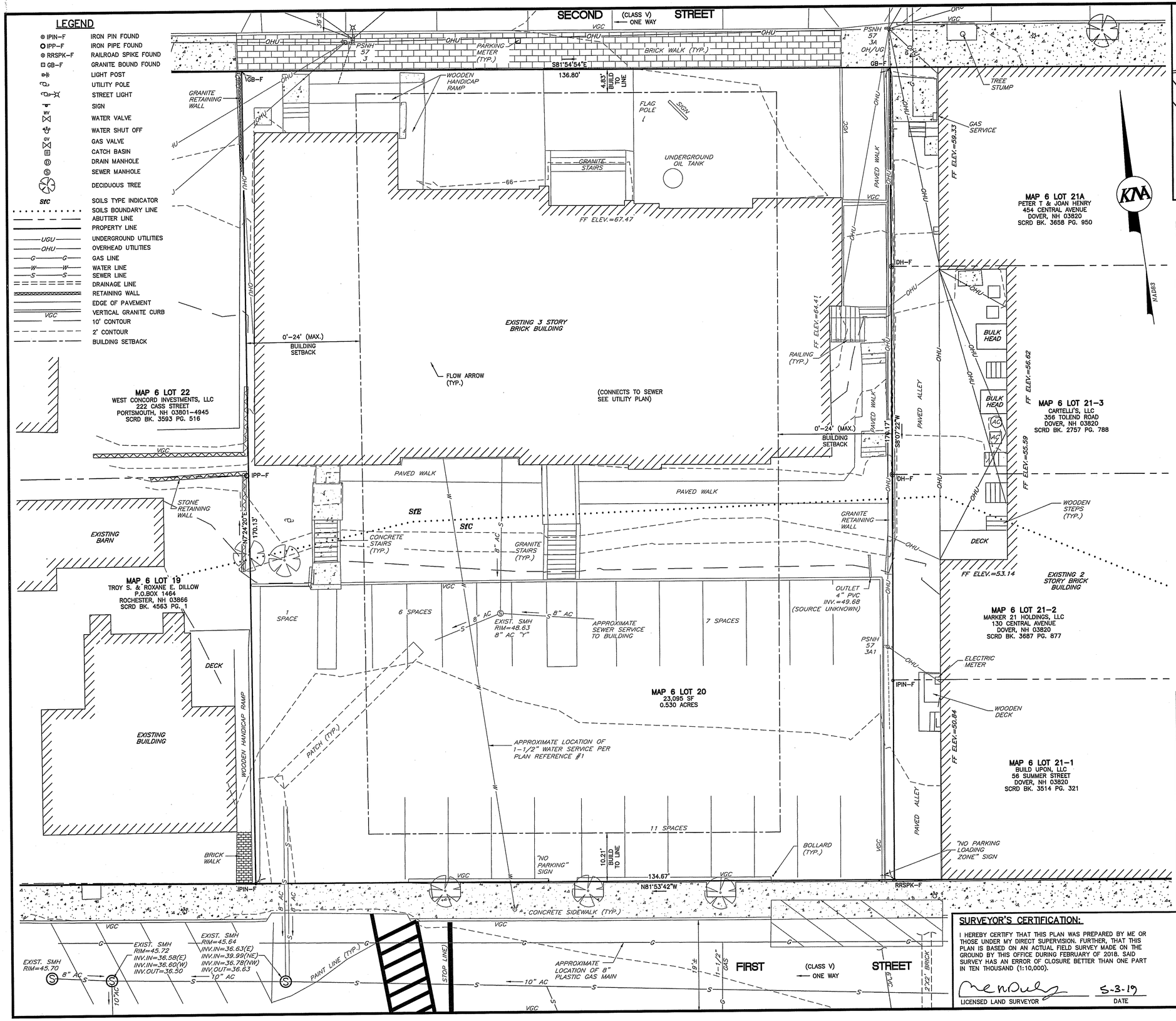
KNA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STEVEN R. KEACH No. 7859 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE

REVISIONS			
No.	DATE	DESCRIPTION	BY
1	03/22/19	REV. PER CITY TRC COMMENTS	MC
2	04/22/19	REV. PER CITY TRC COMMENTS	MC

DATE: JANUARY 22, 2019	SCALE: 1" = 20'
PROJECT NO: 17-1219-1	SHEET 1 OF 15

T:_projec\1712191\dwg\Production Drawings\1712191-SITEPLAN.dwg, MASTER, 5/3/2019 11:04:17 AM, tmccarthy, \\kna-newserver\SAWN MP W6700 PS, 22" x 34", 1:1



VICINITY PLAN

SCALE: 1"=500'±

REFERENCE PLANS:

1. STANDARD PROPERTY / EXISTING CONDITIONS SURVEY, LAND OF FREEBOARD PROPERTIES. FIRST STREET, MAP 6, LOT 20, DOVER, N.H. SCALE: 1"=10'. DATED: SEPTEMBER 22, 2016. PREPARED BY CIVIL CONSULTANTS OF SOUTH BERWICK, MAINE. UNRECORDED.
2. SUBDIVISION PLAN PREPARED FOR: ROGERS LIVING TRUST "NATIONAL BLOCK", 436–446 CENTRAL AVENUE, DOVER, NEW HAMPSHIRE. SCALE: 1"=10'. DATED: OCTOBER 3, 1996. PREPARED BY MCENEANEY SURVEY ASSOCIATES, INC. SCRD PLAN 49–19.

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING CONDITIONS FOR ASSESSOR'S MAP 6 LOT 20 IN DOVER, NEW HAMPSHIRE AND NO OTHER PURPOSE.
2. AREA OF PARCEL = 23,095 SF, OR 0.5301 ACRES
3. OWNER OF RECORD:
   ONE FIRST DOVER, LLC
   157 MAIN DUNSTABLE ROAD, STE. 102
   NASHUA, NH 03060
   S.C.R.D. BK. 4510 PG. 565
4. CURRENT ZONING: CENTRAL BUSINESS DISTRICT (CBD) GENERAL SUB–DISTRICT
   MINIMUM LOT REQUIREMENTS:
   LOT SIZE: N/A
   LOT COVERAGE: 75%
   FRONTAGE BUILD OUT: 70% MINIMUM
   MINIMUM BUILDING SETBACKS:
   FRONT BUILD TO LINE 10.21 FT (FIRST ST.), 4.83 FT (SECOND ST.)
   SIDE 0 FT – 24 FT (MAXIMUM)
   REAR N/A
   MAXIMUM BUILDING HEIGHT: 5 STORIES
5. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN HEREON IS THE RESULT OF AN ACTUAL FIELD SURVEY PERFORMED BY THIS OFFICE IN FEBRUARY OF 2018.
6. HORIZONTAL DATUM IS NAD83. NORTH ORIENTATION IS NAD83. VERTICAL DATUM IS NAVD88.
7. EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAPS (FIRM) FOR THE CITY OF DOVER NEW HAMPSHIRE, STRAFFORD COUNTY, COMMUNITY PANEL NUMBERS 330145 0310E PANEL NUMBER 310 OF 405. EFFECTIVE DATE: SEPTEMBER 30, 2015 AND 330145 0330E PANEL NUMBER 330 OF 405 INDICATE THAT A PORTION OF THE SUBJECT PREMISES IS LOCATED WITHIN ZONE X WITH A 0.2% ANNUAL CHANCE OF FLOOD.
8. THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. KEACH–NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE AT 811.
9. EASEMENTS, RIGHTS AND RESTRICTIONS SHOWN OR IDENTIFIED HEREON ARE THOSE FOUND DURING RESEARCH AT THE STRAFFORD COUNTY REGISTRY OF DEEDS. OTHER EASEMENTS, RIGHTS AND RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF THE SUBJECT PREMISES MAY DETERMINE.

DIG SAFE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
NEW HAMPSHIRE 811 DIAL TOLL FREE

SCS SOILS LEGEND

StC SUFFIELD SILT LOAM, 8 TO 15% SLOPES
StE SUFFIELD SILT LOAM, 15 TO 35% SLOPES
SOURCE: USDA–SCS WEB SOIL SURVEY STRAFFORD COUNTY

GRAPHIC SCALE

10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.

EXISTING CONDITIONS PLAN
DOVER HEIGHTS
MAP 6 LOT 20
1 FIRST STREET
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
PLANNING FILE # P19–16

OWNER OF RECORD & APPLICANT:
ONE FIRST DOVER, LLC
157 MAIN DUNSTABLE RD, SUITE 102
NASHUA, NH 03060
S.C.R.D. BK. 4510 PG. 565

KEACH–NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627–2881

SURVEYOR'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION. FURTHER, THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY MADE ON THE GROUND BY THIS OFFICE DURING FEBRUARY OF 2018. SAID SURVEY HAS AN ERROR OF CLOSURE BETTER THAN ONE PART IN TEN THOUSAND (1:10,000).

LICENSED LAND SURVEYOR — DATE 5-3-19

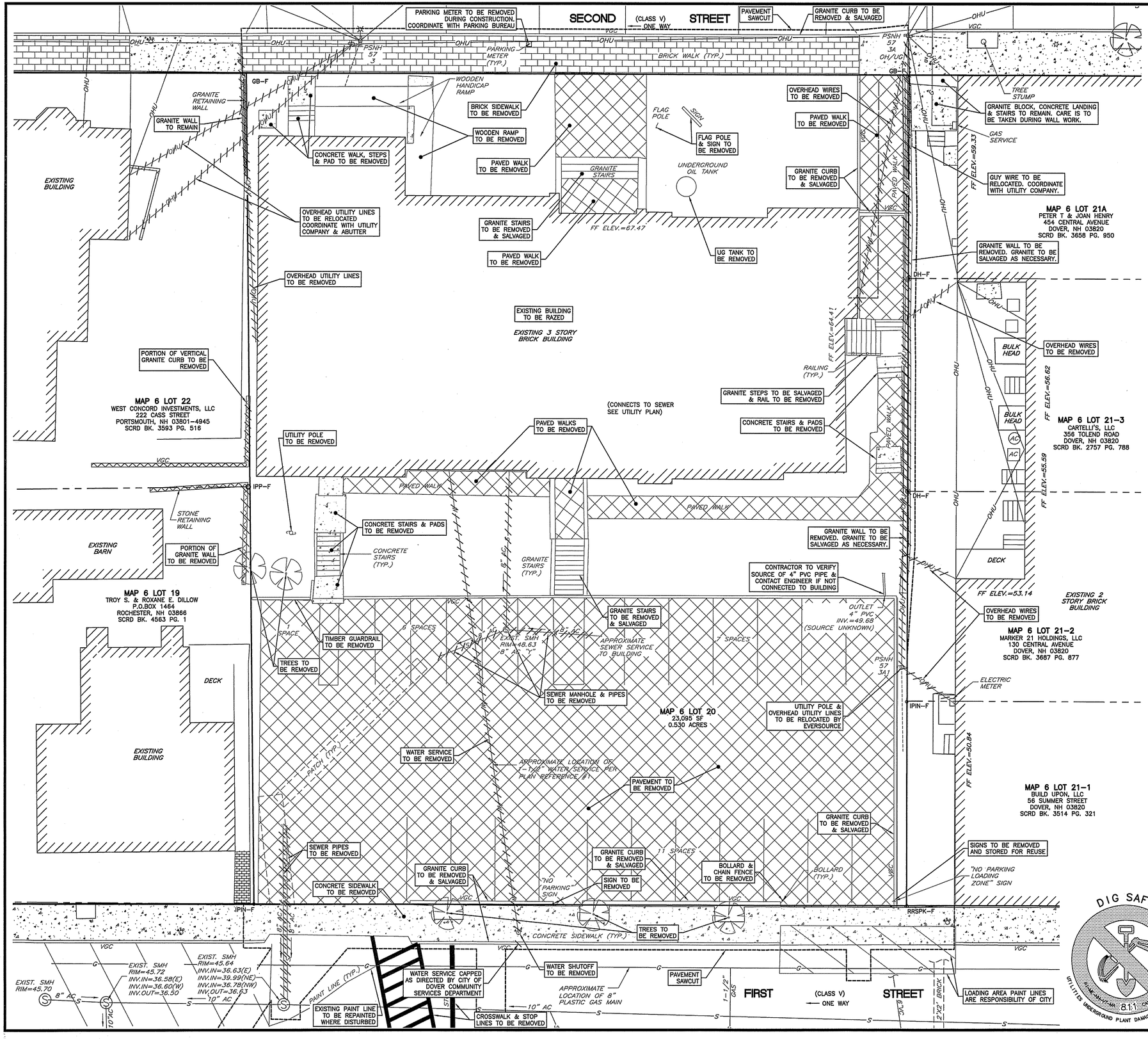
STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 714 MICHAEL R. DAHLBERG SIGNATURE

REVISIONS

No.	DATE	DESCRIPTION	BY
1	03/22/19	REV. PER CITY TRC COMMENTS	MC
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DATE: JANUARY 22, 2019 — SCALE: 1" = 10'
PROJECT NO: 17–1219–1 — SHEET 2 OF 15

T:_project\171219\dwg\Production Drawings\171219-SITEPLAN.dwg, EXIST, 5/3/2019 11:04:35 AM, tmccarthy, \\vno-newserver\SAVIN MP W6700 PS, 22" x 34", 1:1



REMOVALS/DEMOLITION NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW EXISTING FEATURES ON SITE TO BE REMOVED, SALVAGED OR REPLACED.
2. ALL STUMPS, ROOTS, BRANCHES, BRUSH, WOODS AND OTHER PERISHABLE MATERIAL RESULTING FROM THE CLEARING AND GRUBBING OPERATIONS SHALL BE DISPOSED OF BY AN APPROVED METHOD.
3. ITEMS TO BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH THE CITY OF DOVER REQUIREMENTS, UNLESS OTHERWISE SHOWN HEREON OR DIRECTED BY OWNER.
4. ALL EXISTING PAVEMENT AND GRAVEL WITHIN THE CROSS HATCHED AREA IS TO BE REMOVED DURING THE DEMOLITION PHASE OF THE PROJECT. EXCESS MATERIAL FROM THESE AREAS SHALL BE APPROPRIATELY DISPOSED OF OFFSITE BY AN APPROVED METHOD.
5. THE CONTRACTOR SHALL CONTROL ALL DUST GENERATED DURING THE REMOVAL PHASE AND CONSTRUCTION PHASE SO THAT NO DUST LEAVES THE SITE.
6. ANY MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE RESET BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR AT THE SITE CONTRACTOR'S EXPENSE.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.
8. DEBRIS REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
9. GRANITE STEPS, CURBING AND WALL ELEMENTS TO BE SALVAGED AND STORED FOR REUSE IN PROPOSED HARDSCAPE.
10. REMOVAL AND DISPOSAL OF EXISTING OIL TANK TO BE DONE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
11. A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE AND APPROVED CONSTRUCTION SIGN SHALL BE IN PLACE PRIOR TO ANY EARTH DISTURBING ACTIVITY.
12. A PRE-CONSTRUCTION CONFERENCE WITH THE DEVELOPER, THE DESIGN ENGINEER, THE EARTHWORK CONTRACTOR AND THE CITY ENGINEER SHALL OCCUR PRIOR TO ANY EARTH DISTURBING ACTIVITY.
13. AN EXCAVATION PERMIT IS REQUIRED TO GRADE, FILL, DISTURB, EXCAVATE OR OPEN THE GROUND OR PAVEMENT IN ANY PUBLIC ROAD, SIDEWALK, OR ON CITY PROPERTY OR CITY RIGHT-OF-WAY.
14. AN OBSTRUCTION PERMIT IS REQUIRED PRIOR TO OBSTRUCTING A PUBLIC ROAD, CITY RIGHT-OF WAY, OR SIDEWALK.
15. ACCESS TO ABUTTING PROPERTIES AND SHARED LOADING AREA TO BE MAINTAINED. WHEN OBSTRUCTION IS UNAVOIDABLE, CONTRACTOR SHALL NOTIFY EFFECTED ABUTTERS AT LEAST 24 HOURS IN ADVANCE.
16. NO EXCAVATION IS ALLOWED IN CITY OWNED STREETS OR SIDEWALKS ON FRIDAYS WITHOUT WRITTEN PERMISSION FROM THE COMMUNITY SERVICES DEPARTMENT. NO EXCAVATION IS ALLOWED IN CITY OWNED STREETS OR RIGHTS-OF-WAY ON WEEKENDS OR CITY DESIGNATED HOLIDAYS WITHOUT WRITTEN PERMISSION FROM THE COMMUNITY SERVICES DEPARTMENT
17. SIGNAGE REGARDING VISIBILITY AND NOISE WILL BE INSTALLED AND USED DURING EXCAVATION, TO THE SATISFACTION OF THE CITY ENGINEER.
18. PROJECT WILL REQUIRE PRE-BAITING AND AN INTEGRATED PEST MANAGEMENT PLAN.
19. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN 50 FT. OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURRING.
20. THE CONTRACTOR SHALL COORDINATE REMOVAL OF OVERHEAD LINES WITH UTILITY COMPANY.
21. SIGNAGE REGARDING VISIBILITY AND NOISE SHALL BE INSTALLED AND MAINTAINED ON SITE DURING CONSTRUCTION, TO THE SATISFACTION OF THE CITY ENGINEER.

DEMOLITION SEQUENCE:

1. OBTAIN OBSTRUCTION AND EXCAVATION PERMITS FROM THE CITY OF DOVER.
2. PRE-CONSTRUCTION CONFERENCE WITH THE DEVELOPER, THE DESIGN ENGINEER, THE EARTHWORK CONTRACTOR AND THE CITY ENGINEER.
3. CONTACT DIGSAFE AT 811.
4. CONTINUE COORDINATION WITH EVERSOURCE TO REMOVE POLE PSNH 57/3A1 AND RELOCATE THE LINES.
5. CONTACT UTILITY COMPANIES TO ARRANGE REMOVAL OF OVERHEAD LINES TO BUILDING AND RELOCATION OF LINES TO 14 SECOND STREET.
6. INSTALL DANDY BAGS CATCH BASIN INLET PROTECTION (5 CATCH BASINS ON FIRST STREET, 5 CATCH BASINS ON SECOND STREET).
7. REMOVE PARKING METER AND COORDINATE WITH DOVER POLICE DEPARTMENT PARKING BUREAU FOR DISPOSITION.
8. REMOVE AND DISPOSE OF 3 STREET TREES ON FIRST STREET, 2 TREES ALONG THE SECOND STREET SIDE, AND 2 TREE CLUSTERS ALONG THE WEST SIDE. REMOVE SHRUBS. ALL TREES AND SHRUBS SHALL BE PROPERLY DISPOSED OF OFF SITE BY THE CONTRACTOR. THIS PROJECT IS MANAGED TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
9. REMOVE BRICK SIDEWALK ON SECOND STREET, SALVAGE, AND STOCKPILE VERTICAL GRANITE CURB.
10. REMOVE PAVED WALKS, SALVAGE AND STOCKPILE GRANITE STEPS.
11. OVERHEAD LINES SHALL BE REMOVED OR RELOCATED AS SHOWN ON PLAN.
12. PEST ANALYSIS TO BE COMPLETED PRIOR TO OBTAINING DEMOLITION PERMIT.
13. OBTAIN TRAFFIC CONTROL PLAN IS NECESSARY TO IMPEDE TRAFFIC ON SECOND OR FIRST STREETS.
14. CONTACT DOVER BUILDING DEPARTMENT TO OBTAIN DEMOLITION PERMIT.
15. DEMOLISH BUILDING. MAINTAIN SUPPORT FOR ABUTTING PROPERTIES AND SECOND STREET WHEN REMOVING FOUNDATION.
16. CONTACT DOVER COMMUNITY SERVICES REGARDING REMOVAL OF THE EXISTING WATER AND SEWER SERVICES.
17. REMOVE PAVED PARKING AREA AND CONCRETE SIDEWALK ALONG FIRST STREET, SALVAGE AND STOCKPILE VERTICAL GRANITE CURBING.
18. INSTALL SILTATION CONTROL MEASURES WHERE NECESSARY FOR SEDIMENT CONTROL. SEE EROSION CONTROL PLAN.
19. DUST SHALL BE CONTROLLED THROUGHOUT THE DEMOLITION PHASE, IN ACCORDANCE WITH Env-A 1002.
20. PERIODICALLY SWEEP FIRST & SECOND STREETS AND ALLEY TO LIMIT SEDIMENT MIGRATION.

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

REMOVALS/DEMOLITION PLAN
DOVER HEIGHTS
MAP 6 LOT 20
1 FIRST STREET
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
PLANNING FILE # P19-16

OWNER OF RECORD & APPLICANT:
ONE FIRST DOVER, LLC
157 MAIN DUNSTABLE RD, SUITE 102
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STATE OF NEW HAMPSHIRE — STEVEN B. KEACH (NH 7959) — LICENSED PROFESSIONAL ENGINEER — 05.09.19

REVISIONS

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2	04/22/19	REV. PER CITY TRC COMMENTS	MC

DATE: JANUARY 22, 2019 | **SCALE:** 1" = 10'
PROJECT NO: 17-1219-1 | **SHEET** 3 OF 15

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LEGEND

- IPIN–F — IRON PIN FOUND
- IPP–F — IRON PIPE FOUND
- RRSPK–F — RAILROAD SPIKE FOUND
- GB–F — GRANITE BOUND FOUND
- LIGHT POST
- UTILITY POLE
- STREET LIGHT
- LIGHT POST
- SIGN
- WATER VALVE
- WATER SHUT OFF
- GAS VALVE
- HYDRANT
- CATCH BASIN
- DRAIN MANHOLE
- SEWER MANHOLE
- DECIDUOUS TREE
- ABUTTER LINE
- PROPERTY LINE
- OHU — OVERHEAD UTILITIES
- RETAINING WALL
- EDGE OF PAVEMENT
- VGC — VERTICAL GRANITE CURB
- PROPOSED EDGE OF PAVEMENT

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW SITE IMPROVEMENTS AND THE PARKING GARAGE LAYOUT.
2. A DRIVEWAY PERMIT IS REQUIRED TO MODIFY DRIVEWAY.
3. TEMPORARY EASEMENTS ON ABUTTER PROPERTIES HAVE BEEN DISCUSSED WITH EACH ABUTTER. FINAL AGREEMENT TO BE SIGNED PRIOR TO FINAL APPROVAL. THE FOLLOWING SHALL BE INCLUDED:
   - NO DISRUPTION TO ONGOING BUSINESSES OR USE OF ALLEY DURING WORKING HOURS;
   - NOTIFY INDIVIDUALS PRIOR TO USE OF TEMPORARY EASEMENT;
   - USE OF TEMPORARY EASEMENT IS FOR INCIDENTAL CONSTRUCTION ACTIVITIES ONLY;
   - MEASURES TO BE IN PLACE TO PREVENT DUST;
   - MEASURES TO BE TAKEN TO DOCUMENT CURRENT ABUTTING PROPERTY CONDITIONS AND ANY ACCIDENTAL DAMAGE WILL BE UPON THE OWNER/APPLICANT AND CONTRACTOR TO FIX.
4. THE PROPOSED BENCHES ARE INTENDED TO BE GRANITE BLOCKS SALVAGED FROM THE SITE. IF APPROPRIATE GRANITE BLOCKS CANNOT BE SALVAGED, AN ALTERNATE BENCH MAY BE USED (SEE DETAILS),

DIG SAFE — UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM — 811

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

SITE LAYOUT PLAN
DOVER HEIGHTS
MAP 6 LOT 20
1 FIRST STREET
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
PLANNING FILE # P19–16

OWNER OF RECORD & APPLICANT:
ONE FIRST DOVER, LLC
157 MAIN DUNSTABLE RD, SUITE 102
NASHUA, NH 03060
S.C.R.D. BK. 4510 PG. 565

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10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627–2881

STATE OF NEW HAMPSHIRE — STEVEN B. KEACH No. 7629 — LICENSED PROFESSIONAL ENGINEER

REVISIONS

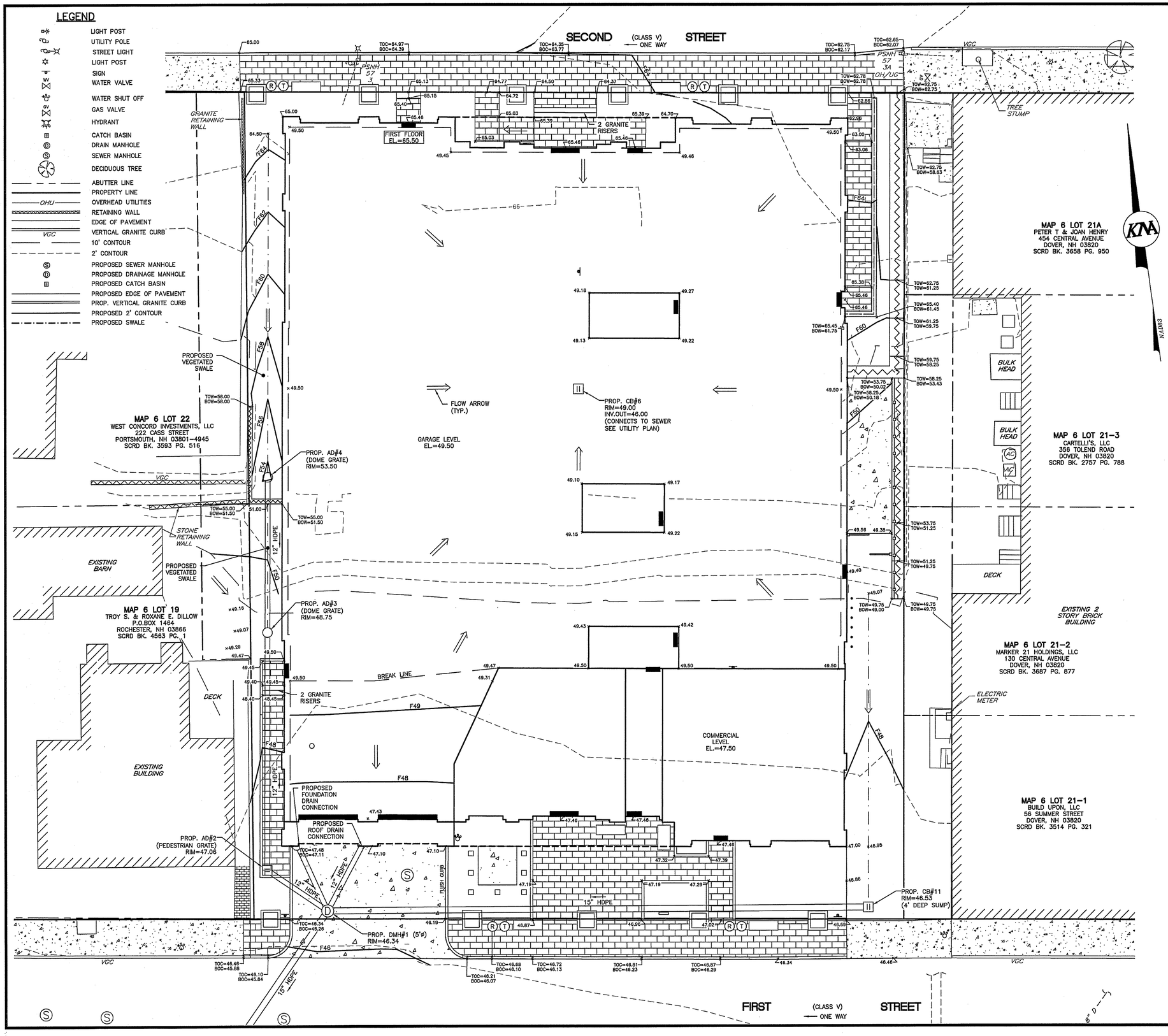
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PROJECT NO: 17–1219–1 — SHEET 4 OF 15

T:_project\1712191\dwg\Production Drawings\1712191–SITEPLAN.dwg, SITE, 5/3/2019 11:05:02 AM, tmccarthy, \\kna–newserver\SAWN MP W6700 PS, 22" x 34", 1:1

LEGEND

- LIGHT POST
- UTILITY POLE
- STREET LIGHT
- LIGHT POST
- SIGN
- WATER VALVE
- WATER SHUT OFF
- GAS VALVE
- HYDRANT
- CATCH BASIN
- DRAIN MANHOLE
- SEWER MANHOLE
- DECIDUOUS TREE
- ABUTTER LINE
- PROPERTY LINE
- OHU — OVERHEAD UTILITIES
- RETAINING WALL
- EDGE OF PAVEMENT
- VGC — VERTICAL GRANITE CURB
- 10' CONTOUR
- 2' CONTOUR
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED EDGE OF PAVEMENT
- PROP. VERTICAL GRANITE CURB
- PROPOSED 2' CONTOUR
- PROPOSED SWALE



MAP 6 LOT 22
WEST CONCORD INVESTMENTS, LLC
222 CASS STREET
PORTSMOUTH, NH 03801–4945
SCRD BK. 3593 PG. 516

MAP 6 LOT 19
TROY S. & ROXANE E. DILLOW
P.O.BOX 1464
ROCHESTER, NH 03866
SCRD BK. 4563 PG. 1

MAP 6 LOT 21A
PETER T & JOAN HENRY
454 CENTRAL AVENUE
DOVER, NH 03820
SCRD BK. 3658 PG. 950

MAP 6 LOT 21–3
CARTELLI'S, LLC
356 TOLEND ROAD
DOVER, NH 03820
SCRD BK. 2757 PG. 788

MAP 6 LOT 21–2
MARKER 21 HOLDINGS, LLC
130 CENTRAL AVENUE
DOVER, NH 03820
SCRD BK. 3687 PG. 877

MAP 6 LOT 21–1
BUILD UPON, LLC
56 SUMMER STREET
DOVER, NH 03820
SCRD BK. 3514 PG. 321

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED SITE GRADING AND PARKING GARAGE GRADING.
2. ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND WITH THE CITY OF DOVER COMMUNITY SERVICES REGULATIONS AND STANDARD SPECIFICATIONS FOR CONSTRUCTION. THE MORE STRINGENT SPECIFICATION SHALL APPLY.
3. ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.

CONSTRUCTION SEQUENCE:

1. PERFORM EARTHWORK TO PREPARE FOR BUILDING FOUNDATION AND RETAINING WALLS.
2. BEGIN BUILDING FOUNDATION AND RETAINING WALL CONSTRUCTION.
3. ONCE BUILDING FOUNDATION WORK IS UNDERWAY, CONTINUE EARTHMOVING OPERATIONS UNTIL DESIGN SUBGRADE IS ACHIEVED.
4. INSTALL DRAINAGE SWALE SYSTEMS AND OTHER UTILITIES WORKING FROM LOW TO HIGH. INCOMPLETE WORK SHALL BE PROTECTED FROM SILTATION BY THE USE OF SILTATION BARRIERS AROUND SWALES UNTIL THE SITE HAS BECOME FULLY STABILIZED.
5. CONSTRUCT BUILDING.
6. PLACE GRAVEL AND CRUSHED GRAVEL OVER PROPOSED DRIVEWAY, WALKS AND PARKING AREAS AND COMPACT IN SPECIFIED LIFT THICKNESSES.
7. COMPLETE EXCAVATION/STABILIZATION GRADING ACTIVITIES. WHEN COMPLETE, IMMEDIATELY BEGIN TOPSOILING PROPOSED TURF AREAS USING STOCKPILED LOAM SUPPLEMENTED WITH BORROW LOAM, IF NECESSARY, TO LEAVE A THICKNESS OF 4 INCHES OF FRIABLE LOAM.
8. FINE GRADE ALL FUTURE TURF AREAS AND HYDROSEED WITH THE SPECIFIED SEED MIXTURE IMMEDIATELY AFTER FINE GRADING IS COMPLETED. ALL AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
9. INSTALL CONCRETE WALKS AND PADS, BRICK WALKS AND CURBING.
10. INSTALL THE BINDER COURSE OF PAVEMENT OVER ALL DESIGNATED AREAS.
11. CONTINUE TO MONITOR AND RECTIFY MINOR SITE AND SLOPE EROSION UNTIL ENTIRE SITE APPEARS TO BE COMPLETELY STABILIZED AND VEGETATED WITH A HEALTHY STAND OF TURF OR GROUND COVER. MAINTAIN SPECIFIED SILTATION/EROSION CONTROL MEASURES THROUGH ONE WINTER.
12. INSTALL THE SPECIFIED WEARING COURSE OF PAVEMENT OVER THE BINDER COURSE.
15. COMPLETE INSTALLATION OF LANDSCAPING, SIGNAGE AND OTHER SITE AMENITIES
16. INSTALL SILTATION CONTROL MEASURES WHERE NECESSARY FOR SEDIMENT CONTROL.
17. DUST SHALL BE CONTROLLED THROUGHOUT THE DEMOLITION PHASE, IN ACCORDANCE WITH ENV–A 1002.
18. PERIODICALLY SWEEP FIRST & SECOND STREETS AND ALLEY TO LIMIT SEDIMENT MIGRATION.

SEE SHEET 6 FOR GARAGE DRAIN SEWER TIE–IN

DIG SAFE
811
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.

GRADING & DRAINAGE PLAN
DOVER HEIGHTS
MAP 6 LOT 20
1 FIRST STREET
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
PLANNING FILE # P19–16

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ONE FIRST DOVER, LLC
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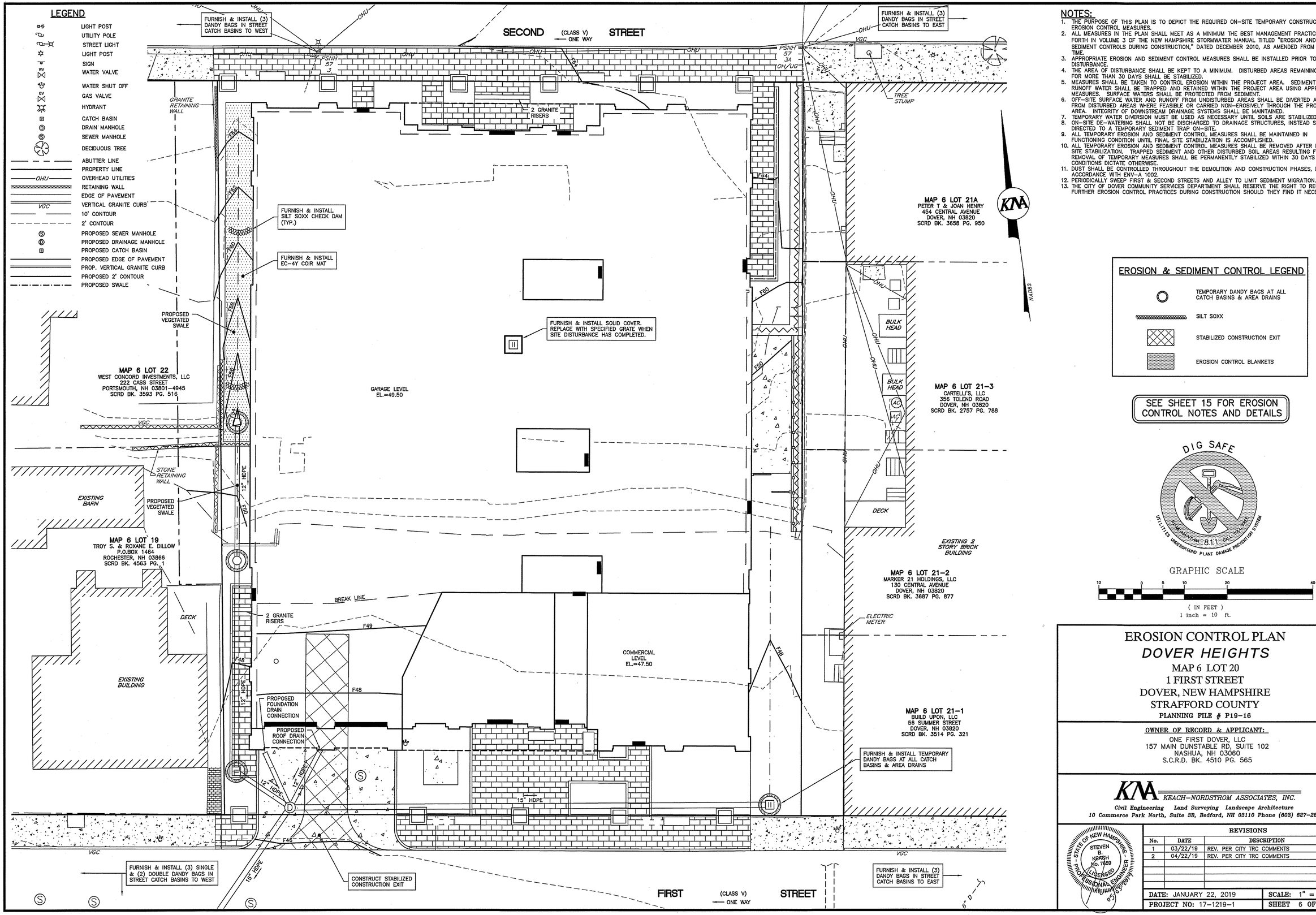
STEVEN B. KEACH No. 7659 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE

REVISIONS

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1	03/22/19	REV. PER CITY TRC COMMENTS	MC
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DATE: JANUARY 22, 2019 | SCALE: 1" = 10'
PROJECT NO: 17–1219–1 | SHEET 5 OF 15

T:__project\1712191\dwg\Production Drawings\1712191–SITEPLAN.dwg, GRADING, 5/3/2019 11:05:13 AM, tmccarthy, \\kna–neweserver\SAVIN MP W6700 PS, 22" x 34", 1:1



NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE REQUIRED ON-SITE TEMPORARY CONSTRUCTION EROSION CONTROL MEASURES.
2. ALL MEASURES IN THE PLAN SHALL MEET AS A MINIMUM THE BEST MANAGEMENT PRACTICES SET FORTH IN VOLUME 3 OF THE NEW HAMPSHIRE STORMWATER MANUAL TITLED "EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION," DATED DECEMBER 2010, AS AMENDED FROM TIME TO TIME.
3. APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO LAND DISTURBANCE.
4. THE AREA OF DISTURBANCE SHALL BE KEPT TO A MINIMUM. DISTURBED AREAS REMAINING IDLE FOR MORE THAN 30 DAYS SHALL BE STABILIZED.
5. MEASURES SHALL BE TAKEN TO CONTROL EROSION WITHIN THE PROJECT AREA. SEDIMENT IN RUNOFF WATER SHALL BE TRAPPED AND RETAINED WITHIN THE PROJECT AREA USING APPROVED MEASURES. SURFACE WATERS SHALL BE PROTECTED FROM SEDIMENT.
6. OFF-SITE SURFACE WATER AND RUNOFF FROM UNDISTURBED AREAS SHALL BE DIVERTED AWAY FROM DISTURBED AREAS WHERE FEASIBLE OR CARRIED NON-EROSIVELY THROUGH THE PROJECT AREA. INTEGRITY OF DOWNSTREAM DRAINAGE SYSTEMS SHALL BE MAINTAINED.
7. TEMPORARY WATER DIVERSION MUST BE USED AS NECESSARY UNTIL SOILS ARE STABILIZED.
8. ON-SITE DE-WATERING SHALL NOT BE DISCHARGED TO DRAINAGE STRUCTURES, INSTEAD SHALL BE DIRECTED TO A TEMPORARY SEDIMENT TRAP ON-SITE.
9. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN FUNCTIONING CONDITION UNTIL FINAL SITE STABILIZATION IS ACCOMPLISHED.
10. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. TRAPPED SEDIMENT AND OTHER DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN 30 DAYS UNLESS CONDITIONS DICTATE OTHERWISE.
11. DUST SHALL BE CONTROLLED THROUGHOUT THE DEMOLITION AND CONSTRUCTION PHASES, IN ACCORDANCE WITH ENV-A 1002.
12. PERIODICALLY SWEEP FIRST & SECOND STREETS AND ALLEY TO LIMIT SEDIMENT MIGRATION.
13. THE CITY OF DOVER COMMUNITY SERVICES DEPARTMENT SHALL RESERVE THE RIGHT TO REQUIRE FURTHER EROSION CONTROL PRACTICES DURING CONSTRUCTION SHOULD THEY FIND IT NECESSARY.

EROSION & SEDIMENT CONTROL LEGEND

- TEMPORARY DANDY BAGS AT ALL CATCH BASINS & AREA DRAINS
- SILT SOXX
- STABILIZED CONSTRUCTION EXIT
- EROSION CONTROL BLANKETS

SEE SHEET 15 FOR EROSION CONTROL NOTES AND DETAILS

DIG SAFE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
DIAL 811 OR 1-888-DIG-SAFE

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.

EROSION CONTROL PLAN
DOVER HEIGHTS
MAP 6 LOT 20
1 FIRST STREET
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
PLANNING FILE # P19-16

OWNER OF RECORD & APPLICANT:
ONE FIRST DOVER, LLC
157 MAIN DUNSTABLE RD, SUITE 102
NASHUA, NH 03060
S.C.R.D. BK. 4510 PG. 565

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

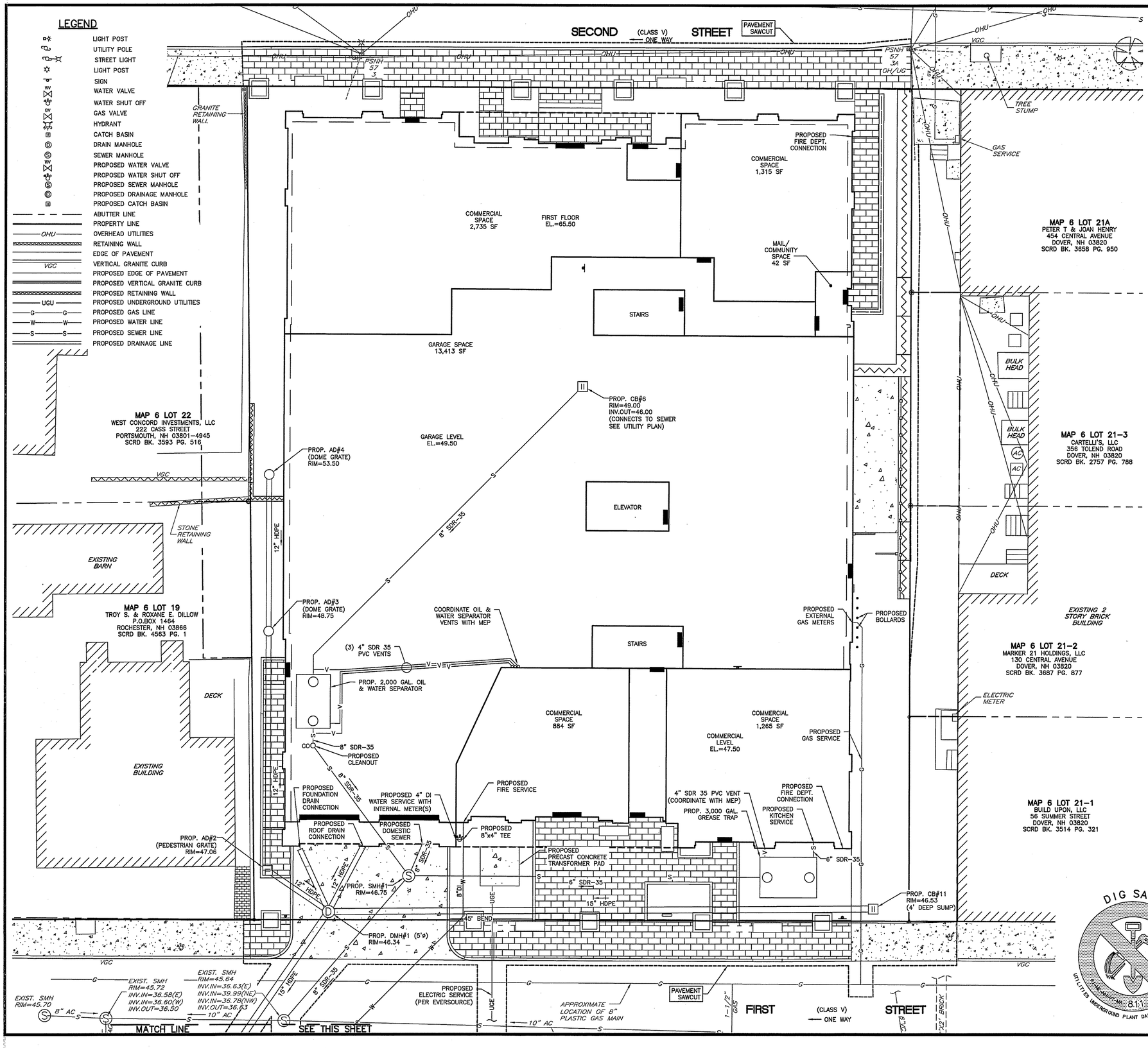
STATE OF NEW HAMPSHIRE
STEVEN B. KEARSE No. 7659 LICENSED PROFESSIONAL ENGINEER

REVISIONS

No.	DATE	DESCRIPTION	BY
1	03/22/19	REV. PER CITY TRC COMMENTS	MC
2	04/22/19	REV. PER CITY TRC COMMENTS	MC

DATE: JANUARY 22, 2019 **SCALE:** 1" = 10'
PROJECT NO: 17-1219-1 **SHEET** 6 **OF** 15

T:_projects\171219\dwg\Production Drawings\171219-SITEPLAN.dwg, EROSION, 5/3/2019 11:06:15 AM, tmccarthy, \\kna-newserver\SAVIN MP W6700 PS, 22" x 34", 1:1



NOTES:

1. ALL WORK SHALL CONFORM TO THE CITY OF DOVER, LATEST EDITION, CONSTRUCTION STANDARDS AND DETAILS. IN THE ABSENCE OF A CITY STANDARD/SPECIFICATION, WORK SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AS PUBLISHED BY THE STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, ARE HEREBY INCORPORATED BY REFERENCE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.
3. ALL DRAINAGE PIPE SHALL BE INSTALLED FOLLOWING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. CONTRACTOR TO VERIFY SIZE OF WATER AND GAS SERVICE LINES WITH MECHANICAL CONTRACTOR/FIRE SUPPRESSION ENGINEER PRIOR TO THE START OF CONSTRUCTION.
5. PRIOR TO THE START OF CONSTRUCTION AND PRIOR TO ORDERING ANY WATER SYSTEM/SERVICE PARTS, THE PROPOSED SIZE OF THE VARIOUS WATER SERVICES SHALL BE CONFIRMED BY THE PROJECT FIRE SUPPRESSION ENGINEER. ANY ADJUSTMENTS TO THE DESIGN MUST BE APPROVED BY THE CITY OF DOVER.
6. APPROVED BACKFLOW PREVENTERS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
7. THE PROPOSED STRUCTURE SHALL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED UNDER CHAPTER 109-30 OF THE CODE OF THE CITY OF DOVER AND THE 2015 STATE BUILDING CODES.
8. SPRINKLER CONNECTIONS MUST BE FLUSHED IN ACCORDANCE WITH NFPA 24 AND A CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM MUST BE COMPLETED.
9. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13.
10. A SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 58, ARTICLE I, SECTION 58-2 OF THE CODE OF THE CITY OF DOVER.
11. CB #11 TO RECEIVE A SNOUT OIL AND DEBRIS STOP.
12. UNDERGROUND UTILITIES TO BE PROPOSED BY EVERSOURCE. COORDINATION TO CONTINUE. FINAL LOCATION TO BE APPROVED BY THE CITY PRIOR TO FINAL APPROVAL.

WATER & SEWER INVESTMENT FEES:

1. FLOW RATE DETERMINED BASED ON NHDES EnvWq 1000 TABLE 1008-1 PER DOVER UTILITIES COMMISSION RULES.
2. EXISTING USE DATA FROM CITY OF DOVER COMMERCIAL PROPERTY RECORD CARD.
3. FLOW CALCULATION:
   - PROPOSED COMMERCIAL:
     - UNSPECIFIED OFFICE SPACE = 5 GPD/100 SF
     - 6,199 SF x 5 GPD/100 SF = 310 GPD
   - PROPOSED RESIDENTIAL:
     - APARTMENT – (STUDIO OR ONE BR) = 225 GPD
     - 38 UNITS (1 STUDIO & 37 1 BR) x 225 GPD/UNIT = 8,550 GPD
     - APARTMENT – (TWO OR MORE BRS) = 150 GPD/BR
     - 33 UNITS (24 1+ BR & 9 2 BR) x 300 GPD/UNIT = 9,900 GPD
   - TOTAL PROPOSED FLOW = 18,760 GPD
4. INVESTMENT FEE CALCULATION:
   - WATER $5.05/GPD x 18,760 GPD = $94,738.00
   - SEWER $8.65/GPD x 18,760 GPD = $162,274.00

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

UTILITY PLAN
DOVER HEIGHTS
MAP 6 LOT 20
1 FIRST STREET
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
PLANNING FILE # P19-16

OWNER OF RECORD & APPLICANT:
ONE FIRST DOVER, LLC
157 MAIN DUNSTABLE RD, SUITE 102
NASHUA, NH 03060
S.C.R.D. BK. 4510 PG. 565

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DIG SAFE 811 UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

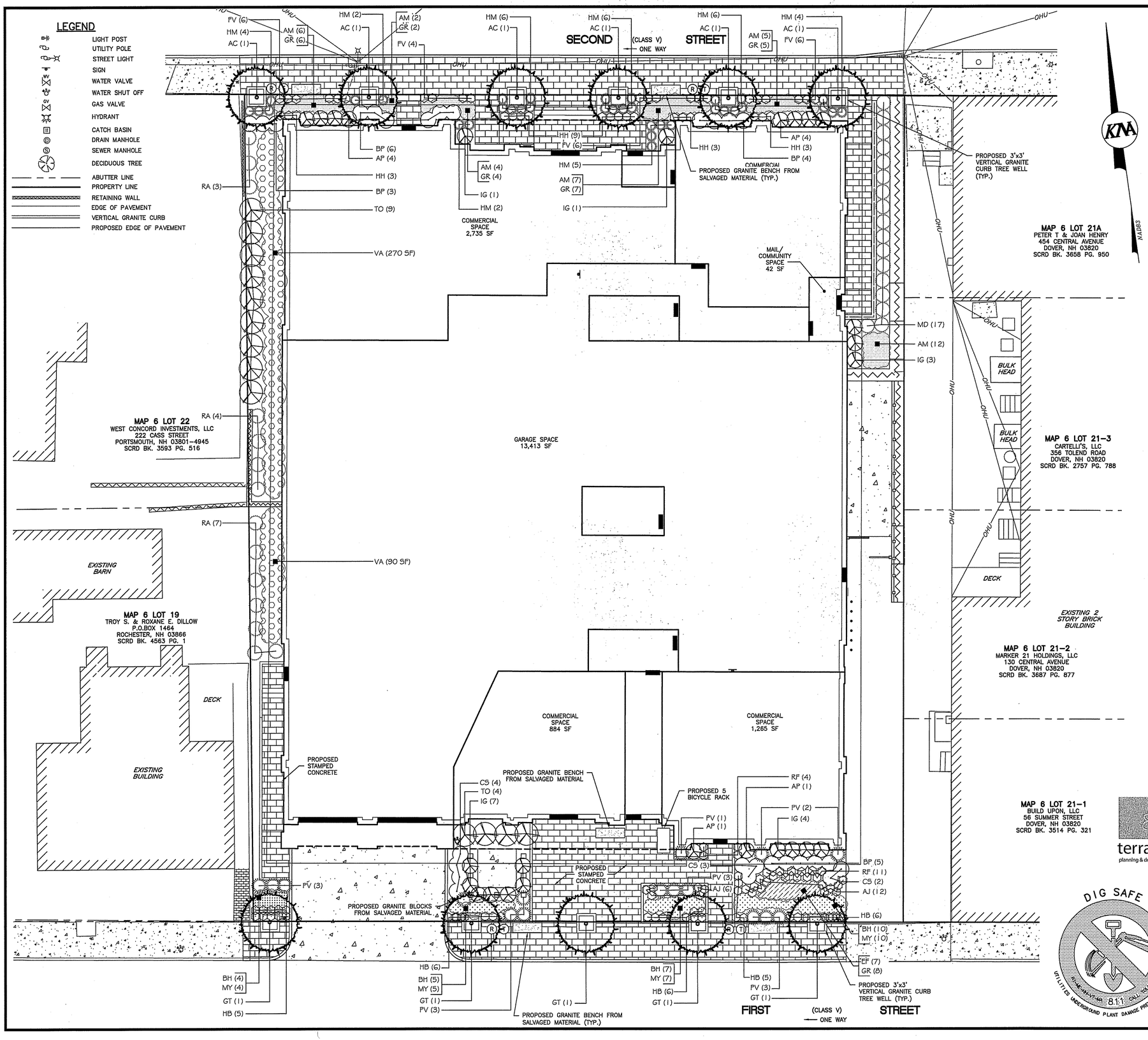
STATE OF NEW HAMPSHIRE – STEVEN B. KEACH No. 7859 – LICENSED PROFESSIONAL ENGINEER

REVISIONS

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1	03/22/19	REV. PER CITY TRC COMMENTS	MC
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DATE: JANUARY 22, 2019 | **SCALE:** 1" = 10'
PROJECT NO: 17-1219-1 | **SHEET** 7 OF 15

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LANDSCAPE NOTES:

1. ALL PLANT MATERIALS USED SHALL BE NURSERY STOCK AND SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF INSTALLATION. ANY MATERIAL WHICH DIES OR DOES NOT SHOW HEALTHY APPEARANCE WITHIN THIS TIME SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE; WITH SAME WARRANTY REQUIREMENTS AS THE ORIGINAL. WARRANTIES TYPICALLY DO NOT COVER LOSS DUE TO INSECT INFESTATION OR MECHANICAL DAMAGE (I.E. SNOW STORAGE).
2. IF THE SOIL CONDITIONS ARE EXTREMELY SANDY, ALL TREES SHALL HAVE A 6" LAYER OF COMPACTED TOPSOIL PLACED IN THE BASE OF THE PLANT PIT AS A MOISTURE RETENTION LAYER. THE PLANT PIT SIDEWALLS SHALL BE OVER EXCAVATED BY AN ADDITIONAL 12" BEYOND THE NORMAL OUTSIDE RADIUS OF THE HOLE. A TOPSOIL MIXTURE SHALL BE USED TO BACKFILL THE HOLE AS FOLLOWED; ORGANIC TOPSOIL, AMENDED WITH 10% WOOD ASH, 10% MANURE, 30% COMPOST AND A GRANULAR HYDROGEL TO ABSORB AND RETAIN WATER.
3. PLANTING BEDS AND SAUCERS SHALL RECEIVE A FOUR INCH (4") MINIMUM THICKNESS OF PINE/HEMLOCK BARK MULCH OVER A 5 OZ. POLYPROPYLENE WEED CONTROL FABRIC.
4. PAVEMENT AND ROAD BASE MATERIAL ENCOUNTERED IN ANY LAWN OR PLANTING BED SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SUITABLE AMENDED SOIL INSTALLED AS SPECIFIED ABOVE.
5. NOT LESS THAN SIX INCHES (6") OF LOAM SHALL BE RESTORED TO ALL DISTURBED AREAS INTENDED FOR LAWNS, PLANTING BEDS OR FOR NATURAL RE-GROWTH.
6. LANDSCAPING PLAN TO MEET ALL APPLICABLE CITY REGULATIONS IN SECTION 149-14.2.B(7) OF THE CITY OF DOVER SITE REVIEW REGULATIONS.
7. ONLY LOW PHOSPHATE, SLOW RELEASE NITROGEN FERTILIZERS SHALL BE USED ON LAWN AREAS.

PLANTING NOTES:

1. CONTRACTOR SHALL OBTAIN APPROVAL FROM LANDSCAPE ARCHITECT PRIOR TO PURCHASING AND/OR INSTALLING SUBSTITUTE PLANT MATERIAL PRIOR TO PURCHASE OF ANY SUBSTITUTE MATERIALS.
2. LAYOUT OF ALL PLANTING BEDS AND LOCATION OF PLANTS TO BE APPROVED BY LANDSCAPE ARCHITECT ON SITE PRIOR TO CONSTRUCTION AND INSTALLATION.
3. CONTRACTOR TO REMOVE ALL DEBRIS GENERATED BY PLANT INSTALLATION. DEBRIS TO BE DISPOSED OF IN A LEGAL MANNER.
4. ALL PLANT MATERIAL SHALL BE GUARANTEED TO BE IN GOOD, HEALTHY AND FLOURISHING CONDITION FOR ONE (1) YEAR FROM THE DATE OF FINAL INSTALLATION APPROVAL BY LANDSCAPE ARCHITECT. CONTRACTOR SHALL REPLACE, WITHOUT COST TO OWNER, AND AS SOON AS WEATHER CONDITIONS PERMIT, ALL DEAD AND NON-FLOURISHING PLANTS AS DETERMINED BY THE LANDSCAPE ARCHITECT. REPLACEMENT PLANTS SHALL BE BE GUARANTEED IDENTICALLY TO ORIGINAL PLANTS, TIME PERIOD COMMENCING FROM DATE OF REPLACEMENT PLANTING APPROVAL BY LANDSCAPE ARCHITECT.
5. ALL BEDS TO BE MULCHED WITH 4" DEPTH SHREDDED BARK MULCH UNLESS NOTED OTHERWISE.
6. CONTRACTOR TO PROVIDE NECESSARY TEMPORARY IRRIGATION IF NEEDED BASED ON TIME OF YEAR THE PROJECT IS IMPLEMENTED.

PLANTING SCHEDULE

Botanical Name/ Common Name	Size	Label	Quantity	Mature Height
Trees				
Amelanchier canadensis / Serviceberry	3.5" CAL.	AC	6	20-30'
Gleditsia t.i. 'Skyline' / Skyline Honeylocust	3.5" CAL.	GT	5	30-40'
Shrubs				
Azalea poukhanensis 'Compacta' / Compact Korean Azalea	2-2.5'	AP	10	2-3'
Cornus sericea 'Kelseyi' / Kelseyi Red-Osier Dogwood	2-2.5'	CS	9	2-3'
Hydrangea paniculata 'Bobo' / Bobo Panicle Hydrangea	2-2.5'	BP	18	2-3'
Ilex glabra 'Shamrock' / Shamrock Inkberry	3-3.5' B&B	IG	16	4-5'
Thuja occidentalis 'Smaragd' / Emerald Green Arborvitae	5-6' B&B	TO	13	15'
Perennials				
Achillea 'Moonshine' / Moonshine Yarrow	#1	MY	26	18-24"
Alchemilla mollis / Lady's Mantle	#1	AM	36	18"
Echinacea 'Flamenco Orange' / Flamenco Orange Coneflower	#1	EF	7	22-24"
Geranium 'Rozanne' / Rozanne Cranesbill	#1	GR	32	18-24"
Hemerocallis 'Big Time Happy'/ Big Time Happy Daylily	#1	HB	28	18-24"
Heuchera 'Frosted Violet' / Frosted Violet Coral Bells	#1	FV	22	12-18"
Hosta 'Halcyon'/ Halcyon Plantain Lily	#1	HH	18	24"
Rudbeckia flugida 'Goldsturm' / Goldsturm Black-Eyed Susan	#1	RF	15	24"
Salvia 'Blue Hill' / Blue Hill Sage	#1	BH	26	18"
Sedum spectabile 'Autumn Joy' / Autumn Joy Stonecrop	#1	AJ	18	18-24"
Grasses				
Hakonechloa macra 'All Gold' / All Gold Japanese Forest Grass	#2	HM	35	12-18"
Panicum virgatum 'Shenandoah' / Shenandoah Switch Grass	#2	PV	15	3-4'
Ground Cover				
Microbiota decussata / Russian Cypress	#3	MD	17	18-24"
Rhus aromatica 'Grow Low' / Grow Low Sumac	#3	RA	14	18-24"
Vaccinium angustifolium / Lowbush Blueberry	Sod	VA	360 SF	12"

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

LANDSCAPE PLAN
DOVER HEIGHTS
MAP 6 LOT 20
1 FIRST STREET
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
PLANNING FILE # P19-16

OWNER OF RECORD & APPLICANT:
ONE FIRST DOVER, LLC
157 MAIN DUNSTABLE RD, SUITE 102
NASHUA, NH 03060
S.C.R.D. BK. 4510 PG. 565

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

terrain planning & design llc

DIG SAFE
811
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
CALL TOLL FREE

REVISIONS

No.	DATE	DESCRIPTION	BY
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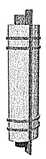
DATE: JANUARY 22, 2019	**SCALE:** 1" = 10'
PROJECT NO: 17-1219-1	**SHEET** 8 OF 15

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Luminaire Schedule					
Symbol	Qty	Label	Lamp	Arrangement	Description
	8	C	LED-19W	SINGLE	LD4B15D010 EU4B10208035 4LBDW1LI/ CANOPY MOUNTED
	17	S	LED-14W	SINGLE	674-31-WP-L3-835-UNV-ALP/ WALL MTD 7' CENTER OF FIXTURE AFG
	3	W	LED-4.6W	SINGLE	MERU-LED-AC-DB/ WALL MTD 12' AFG
	3	W1	LED-17W	SINGLE	33579-4K / WALL MTD 10' AFG

LIGHTING NOTES:

1. ALL LIGHTS/FIXTURES SHALL BE AS SPECIFIED BY CHARRON LLC.
2. EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 149-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.



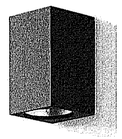
SHAPER 674-WP WALL SCONCE
NOT TO SCALE



PORTFOLIO RECESSED DOWNLIGHT
NOT TO SCALE



MULE MERU-LED WALL LIGHT
NOT TO SCALE



BEGA 33579 WALL LUMINAIRE
NOT TO SCALE

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

IN ASSOCIATION WITH:

CHARRON BRIGHTER.

P.O. BOX 4550
MANCHESTER, NH 03108
(603) 624-4827
FAX (603) 624-9764
SALES@CHARRONINC.COM

LIGHTING PLAN
DOVER HEIGHTS
MAP 6 LOT 20
1 FIRST STREET
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
PLANNING FILE # P19-16

OWNER OF RECORD & APPLICANT:
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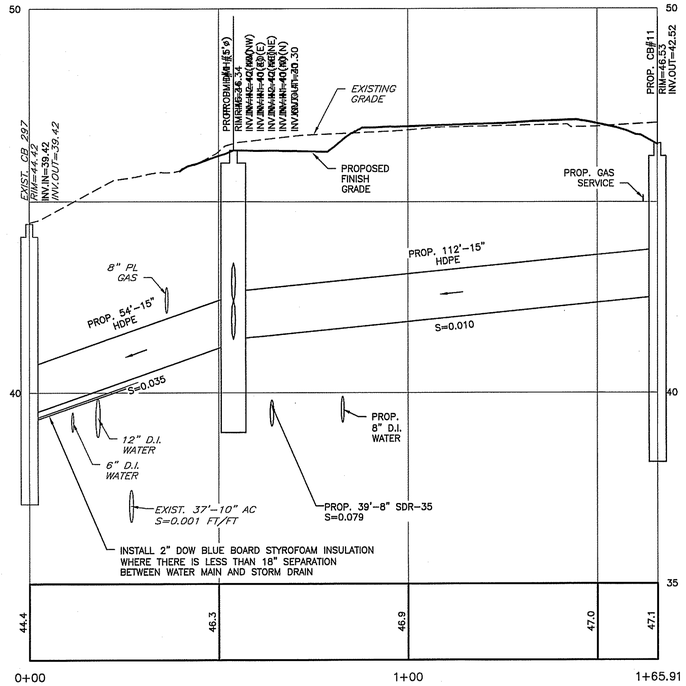
STEVEN B. KEACH NO. 7859 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE - 05.02.2019

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PROJECT NO: 17-1219-1 | SHEET 9 OF 15

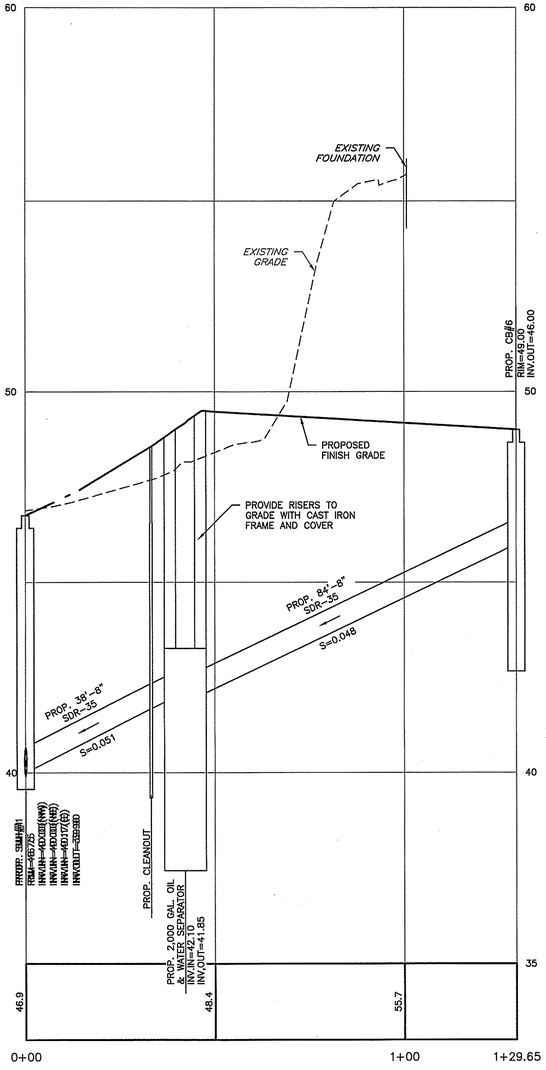
DIG SAFE — UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM — 811 — IT'S THE LAW

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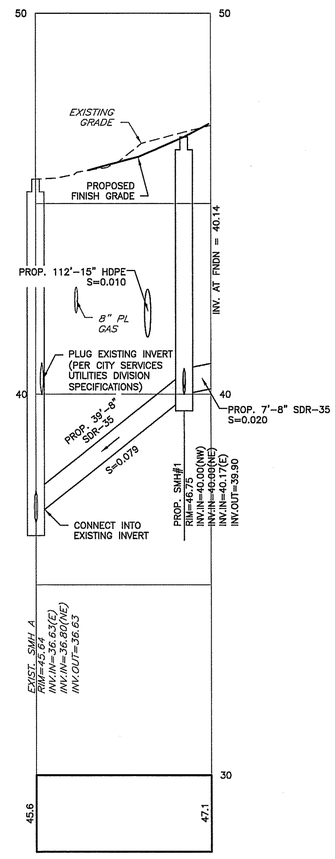
DRAINAGE PROFILE (EXIST. CB TO PROP. CB#11)

SCALE: 1" = 20' (HORIZ.)
1" = 2' (VERT.)



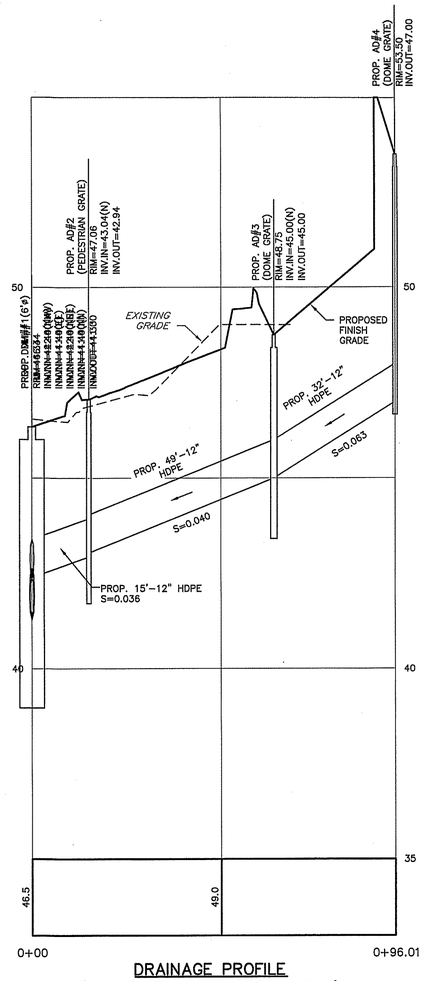
SEWER / DRAINAGE PROFILE (PROP. SMH#1 TO PROP. CB#6)

SCALE: 1" = 20' (HORIZ.)
1" = 2' (VERT.)



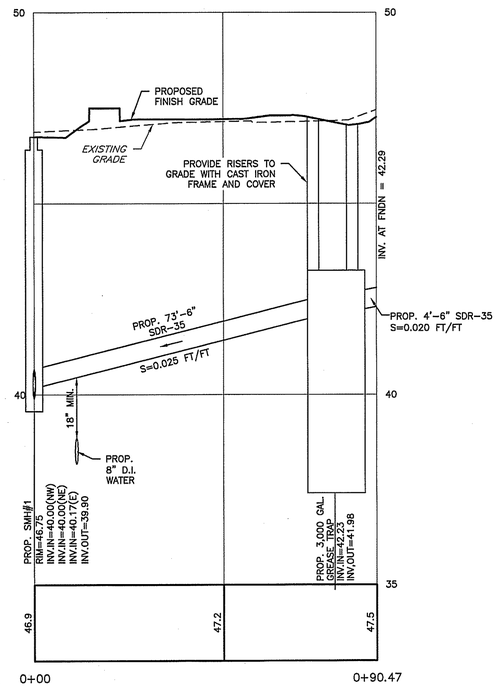
SEWER PROFILE (EXIST. SMH TO PROP. BUILDING)

SCALE: 1" = 20' (HORIZ.)
1" = 2' (VERT.)



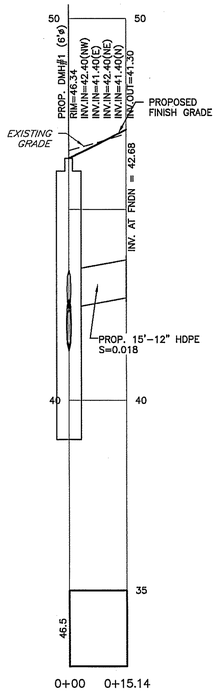
DRAINAGE PROFILE (PROP. DMH#1 TO PROP. AD#3)

SCALE: 1" = 20' (HORIZ.)
1" = 2' (VERT.)



SEWER PROFILE (PROP. SMH#1 TO KITCHEN SERVICE)

SCALE: 1" = 20' (HORIZ.)
1" = 2' (VERT.)



DRAINAGE PROFILE (PROP. DMH#1 TO ROOF DRAIN)

SCALE: 1" = 20' (HORIZ.)
1" = 2' (VERT.)

DIG SAFE
811
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

GRAPHIC SCALE

20 0 10 20 40 60
(IN FEET)
1 inch = 20 ft.

PROFILES
DOVER HEIGHTS

MAP 6 LOT 20
1 FIRST STREET
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
PLANNING FILE # P19-16

OWNER OF RECORD & APPLICANT:
ONE FIRST DOVER, LLC
157 MAIN DUNSTABLE RD, SUITE 102
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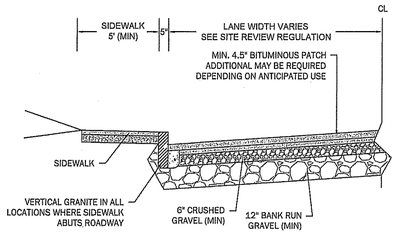
STATE OF NEW HAMPSHIRE - STEVEN B. KEACH No. 7659 LICENSED PROFESSIONAL ENGINEER

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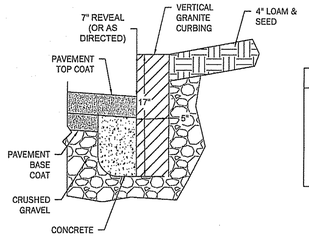
DATE: JANUARY 22, 2019 | **SCALE:** 1" = 20'
PROJECT NO: 17-1219-1 | **SHEET** 10 OF 15

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PUBLIC ROADWAY CROSS SECTION

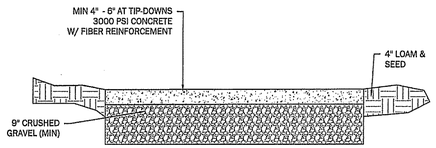
CITY OF DOVER
NOT TO SCALE



RADIUS	MAX LENGTH
< 21'	USE CURVED CURB
12'	3'
22' - 28'	4'
29' - 35'	5'
36' - 42'	6'
43' - 49'	7'
50' - 56'	8'
57' - 60'	9'
OVER 60'	10'

VERTICAL GRANITE CURB

CITY OF DOVER
NOT TO SCALE



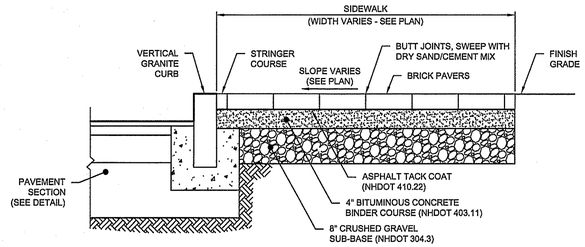
CONCRETE SIDEWALK

NOTES:

1. MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF DOVER STANDARDS SPECIFICATIONS.
2. SIDEWALK AND DRIVEWAY WIDTHS SHALL BE EQUAL TO EXISTING WIDTHS OR AS APPROVED AND SHALL SLOPE TO MATCH EXISTING ELEVATIONS.
3. BASE FOR THE SIDEWALKS AND DRIVEWAYS SHALL BE 9-INCHES OF CRUSHED GRAVEL.
4. DETECTABLE WARNING STRIPS SHALL BE CAST IRON.

STANDARD CONCRETE SIDEWALK

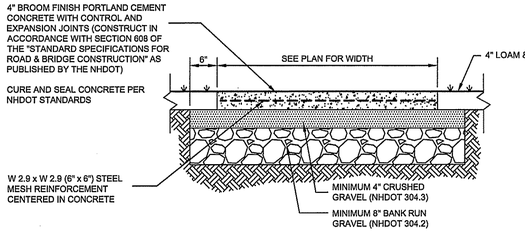
CITY OF DOVER
NOT TO SCALE



NOTE:
BRICK TO BE PLACED ONLY AFTER CURB IS SET.

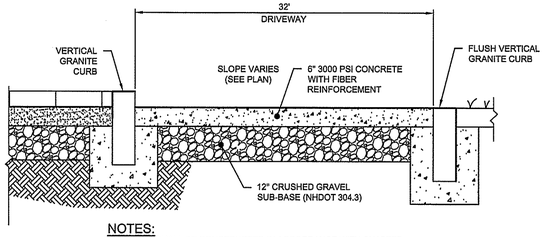
BRICK SIDEWALK

NOT TO SCALE



CONCRETE PAD DETAIL

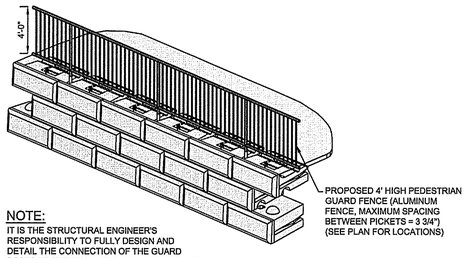
NOT TO SCALE
(MARCH 2008)



NOTES:
DRIVEWAY SHALL BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 92 OF THE CITY OF DOVER, NH ORDINANCES. DRIVEWAY SHALL MEET THE DRIVEWAY REQUIREMENTS OUTLINED IN CHAPTERS 149 AND 155 OF THE CITY OF DOVER, NH ORDINANCES.

CONCRETE DRIVEWAY

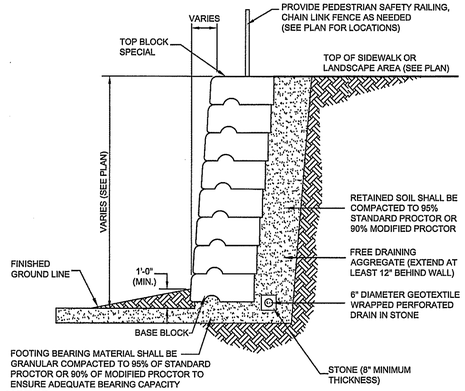
NOT TO SCALE



NOTE:
IT IS THE STRUCTURAL ENGINEER'S RESPONSIBILITY TO FULLY DESIGN AND DETAIL THE CONNECTION OF THE GUARD POSTS TO THE RETAINING WALL BLOCKS AND ASSURE ACCEPTABLE RESISTANCE TO THE APPLIED FORCES.

FENCE OR PEDESTRIAN RAILING

NOT TO SCALE

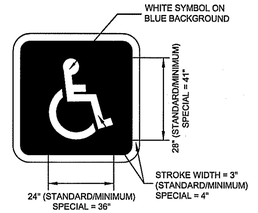


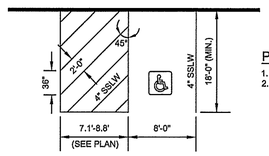
NOTES:

1. AS PERMISSIBLE, THE STRUCTURAL ENGINEER CHARGED WITH RETAINING WALL DESIGN SHALL SPECIFY SALT RESISTANT BLOCK CONSTRUCTION WHERE WALLS ARE TO BE CONSTRUCTED NEAR ROADWAYS OR PARKING AREAS.
2. RETAINING WALL DRAIN TO "DAYLIGHT" AT LOW POINT OR TIE TO DRAIN STRUCTURE AS SHOWN IN PLAN VIEW.
3. THE STAMPED SHOP DRAWINGS AND CALCULATIONS FOR THE ACTUAL RETAINING WALL MUST BE PROVIDED FOR REVIEW AND APPROVAL AT OR PRIOR TO THE PROJECT'S REQUIRED PRE CONSTRUCTION MEETING.
4. THE PROVIDED PLANS AND SUPPORTING CALCULATIONS MUST ADDRESS THE FOLLOWING CRITERIA:
   - 4.a. DESIGN CALCULATIONS STAMPED BY QUALIFIED PE LICENSE IN NH
   - 4.b. STABILITY CALCULATIONS (INCLUDING BEARING CAPACITY, GLOBAL STABILITY, OVERTURNING & SLIDING, IMPACT)
   - 4.c. GEOGRID PULLOUT AND OTHER PERTINENT DATA & ELEVATIONS
   - 4.d. CONSTRUCTION INSTALLATION SPECIFICATION
   - 4.e. LATERAL EARTH PRESSURE COEFFICIENT
   - 4.f. SURCHARGE LOAD, EMBEDMENT DEPTH
   - 4.g. BOTH A PLAN AND PROFILE OF EACH WALL SECTION
5. A BUILDING PERMIT IS REQUIRED FOR RETAINING WALLS 4' OR GREATER IN HEIGHT.

REDI-ROCK RETAINING WALL

(TO BE DESIGNED BY A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN NEW HAMPSHIRE)
NOT TO SCALE



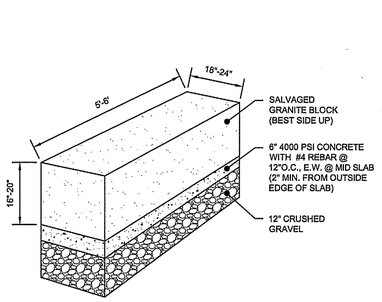


HANDICAP STRIPING DETAIL

NOT TO SCALE
(MARCH 2012)

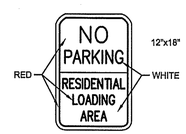
PARKING STRIPING NOTES:

1. STANDARD SPACES - 9' x 18'.
2. ACCESS AISLE WIDTHS
   A. ONE WAY - 12'
   B. 90° PARKING - 24'



GRANITE BENCH DETAIL

NOT TO SCALE



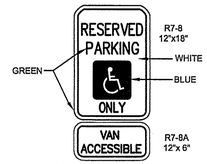
RESIDENTIAL LOADING AREA SIGN

NOT TO SCALE



STOP SIGN DETAIL

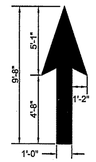
NOT TO SCALE
(MARCH 2008)



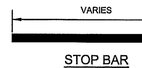
MINIMUM MOUNTING HEIGHT 60"
TO BOTTOM EDGE OF SIGN.

VAN ACCESSIBLE HANDICAP PARKING SIGN DETAIL

NOT TO SCALE
(MARCH 2008)



THROUGH (STRAIGHT) ARROW



STOP BAR

STRIPING NOTES:

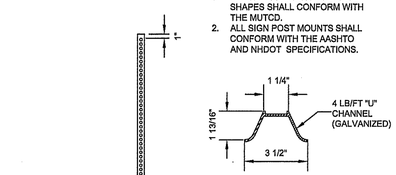
1. ALL PAVEMENT MARKINGS SHALL BE IN CONFORMANCE WITH THESE STANDARDS AND THE CURRENT EDITION OF MUTCD.
2. WIDTH OF LINES SHALL VARY NO MORE THAN ± 1/4 INCH FROM THAT SPECIFIED.
3. THE WET FILM THICKNESS OF A PAINTED LINE SHALL BE A MINIMUM OF 15 MILS THROUGHOUT THE ENTIRE WIDTH AND LENGTH OF LINE SPECIFIED.
4. OVERSPRAY SHALL BE KEPT TO AN ABSOLUTE MINIMUM.

PAVEMENT MARKINGS

NOT TO SCALE

TRAFFIC SIGN NOTES:

1. ALL TRAFFIC SIGN FACES AND SHAPES SHALL CONFORM WITH THE MUTCD.
2. ALL SIGN POST MOUNTS SHALL CONFORM WITH THE AASHTO AND NHDOT SPECIFICATIONS.



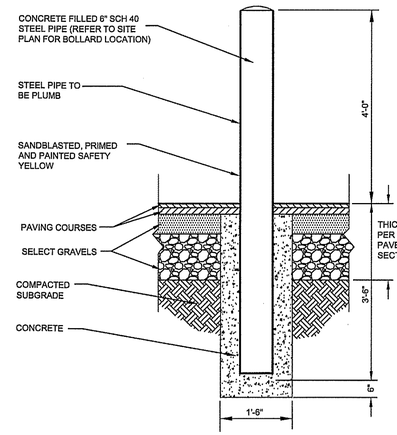
POST SECTION

POST MOUNTING

NOTE:
POST SHALL CONFORM TO NHDOT 615.2.5.3

STEEL SIGN POST DETAIL

NOT TO SCALE
(MARCH 2008)



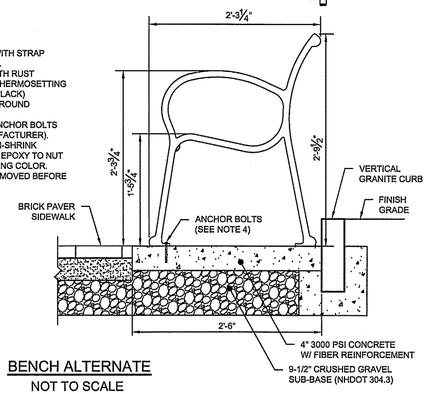
BOLLARD DETAIL

NOT TO SCALE
(MARCH 2008)



NOTES:

1. SCARBOROUGH SERIES BENCH WITH STRAP SUPPORTS OR APPROVED EQUAL.
2. ALL STEEL MEMBERS COATED WITH RUST INHIBITOR THEN FINISHED WITH THERMOSETTING POLYESTER POWDER COATING (BLACK)
3. ALL WELDS CONTINUOUS THEN GROUND SMOOTH.
4. (4) 3/8" Ø x 3" STAINLESS STEEL ANCHOR BOLTS (NOT SUPPLIED BY BENCH MANUFACTURER). ANCHOR HOLES FILLED WITH NON-SHRINK EPOXY GROUT. APPLY DROPS OF EPOXY TO NUT TO LOCK. PAINT TO MATCH EXISTING COLOR.
5. FREESTANDING GLIDES TO BE REMOVED BEFORE MOUNTING ANCHORING BENCH.



BENCH ALTERNATE

NOT TO SCALE

CONSTRUCTION DETAILS

DOVER HEIGHTS

MAP 6 LOT 20
1 FIRST STREET
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
PLANNING FILE # P19-16

OWNER OF RECORD & APPLICANT:
ONE FIRST DOVER, LLC
157 MAIN DUNSTABLE RD, SUITE 102
NASHUA, NH 03060
S.C.R.D. BK. 4510 PG. 565

KEACH–NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

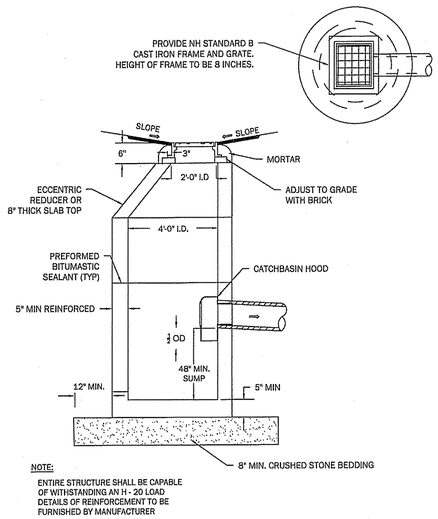
STEVEN B. KEACH No. 7859 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE

REVISIONS

No.	DATE	DESCRIPTION	BY
1	03/22/19	REV. PER CITY TRC COMMENTS	MC
2	04/22/19	REV. PER CITY TRC COMMENTS	MC

DATE: JANUARY 22, 2019 | **SCALE:** AS SHOWN
PROJECT NO: 17-1219-1 | **SHEET** 11 **OF** 15

T:_project\1712191\dwg\Production Drawings\1712191-DETAILS.dwg, Cover-Details, 5/3/2019 11:06:54 AM, lmccarthy, \\kna-newserver\SAVIN MP W6700 PS, 22" x 34", 1:1

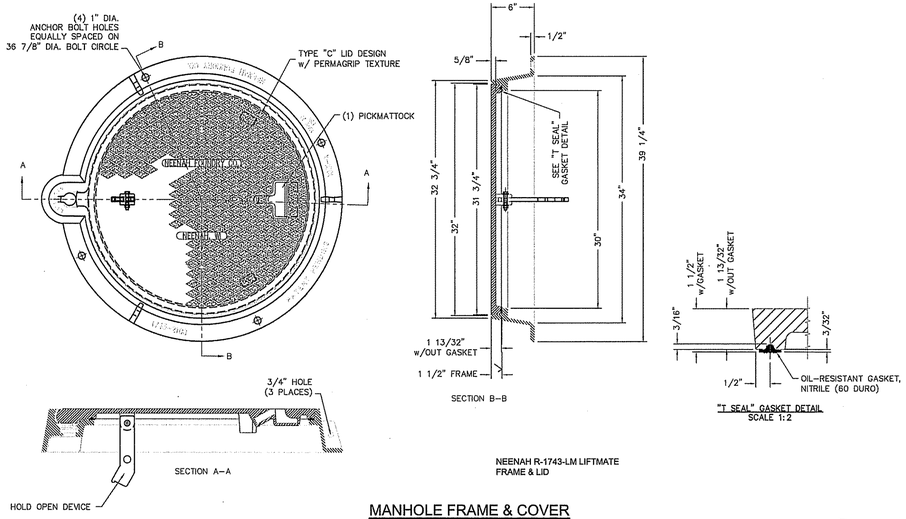


NOTE:

ENTIRE STRUCTURE SHALL BE CAPABLE OF WITHSTANDING AN H - 20 LOAD DETAILS OF REINFORCEMENT TO BE FURNISHED BY MANUFACTURER

TYPICAL CATCH BASIN

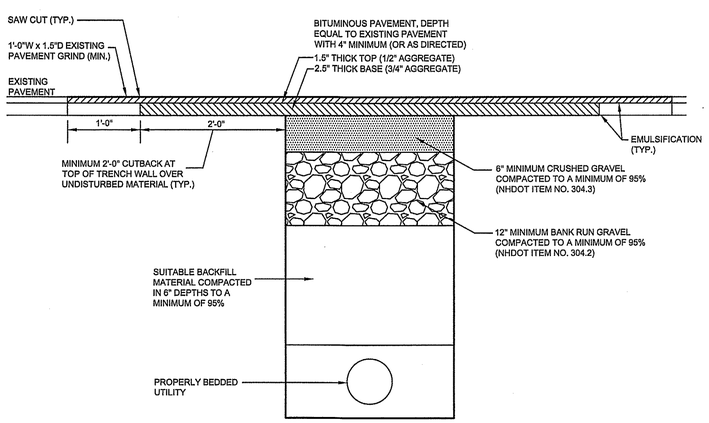
CITY OF DOVER
NOT TO SCALE

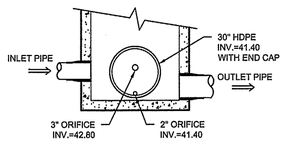


NEENAH R-1743-LM LIFTMATE FRAME & LID

MANHOLE FRAME & COVER

CITY OF DOVER
NOT TO SCALE



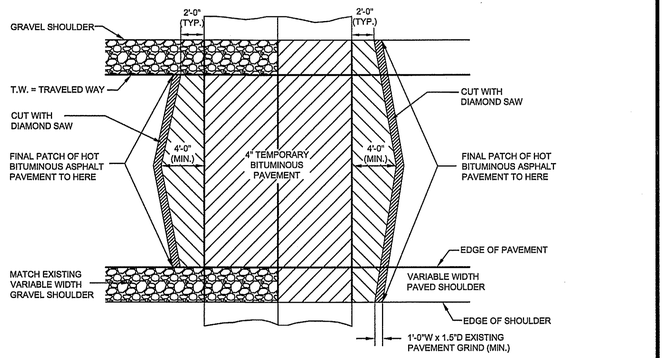


NOTES:

1. ORIFICES TO BE CORED INTO END CAP.
2. END CAP TO BE SECURED TO PIPE.

DMH #1 STORAGE DETAIL

NOT TO SCALE



PERMANENT PAVEMENT REPAIR

NOT TO SCALE
(MARCH 2008)

TYPICAL DRAIN MANHOLE

CITY OF DOVER
NOT TO SCALE

APPROXIMATE DRAIN AREA = 50.60 SQ. IN.
APPROXIMATE WEIGHT WITH FRAME = 35.04 LBS.

NYLOPLAST 12" GRATES/COVERS

NOT TO SCALE

12" DRAIN BASIN

NOT TO SCALE
(MARCH 2008)

TYPE B FRAME & GRATE DETAIL

NOT TO SCALE
(MARCH 2008)

TYPICAL SEWER/DRAINLINE TRENCH

CITY OF DOVER
NOT TO SCALE

NOTE:

POSITION HOOD SO THAT BOTTOM FLANGE OF SNOUT IS 1/2 THE PIPE DIAMETER BELOW THE BOTTOM OF THE PIPE FOR PIPES >12" I.D. FOR PIPES <10" I.D., PLACE SNOUT 6" (MIN.) BELOW BOTTOM OF PIPE.

SNOUT OIL AND DEBRIS STOP DETAIL (OR EQUAL)

NOT TO SCALE
(MARCH 2008)

CONSTRUCTION DETAILS

DOVER HEIGHTS

MAP 6 LOT 20
1 FIRST STREET
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
PLANNING FILE # P19–16

OWNER OF RECORD & APPLICANT:

ONE FIRST DOVER, LLC
157 MAIN DUNSTABLE RD, SUITE 102
NASHUA, NH 03060
S.C.R.D. BK. 4510 PG. 565

KNA KEACH–NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627–2881

STATE OF NEW HAMPSHIRE – STEVEN B. KEACH NO. 7659 LICENSED PROFESSIONAL ENGINEER – 25 APPROVED

REVISIONS

No.	DATE	DESCRIPTION	BY
1	03/22/19	REV. PER CITY TRC COMMENTS	MC
2	04/22/19	REV. PER CITY TRC COMMENTS	MC

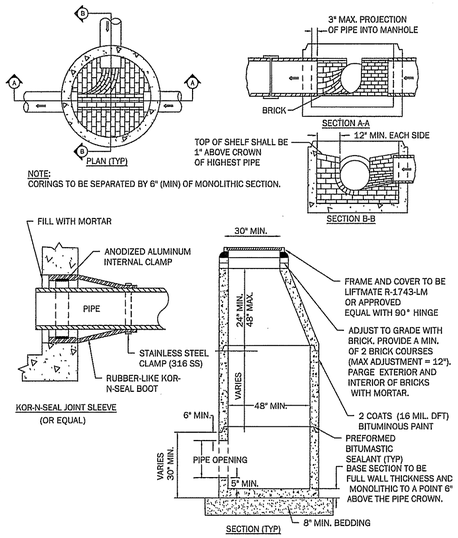
DATE: JANUARY 22, 2019 | **SCALE:** AS SHOWN
PROJECT NO: 17–1219–1 | **SHEET** 12 OF 15

T:_project\1712191\dwg\Production Drawings\1712191-DETAILS.dwg, Cover-Details, 5/3/2019 12:00:33 PM, tmccarthy, \\kna-newserver\SAVIN MP W6700 PS, 22" x 34", 1:1

NOTES: (NHDES ENV WQ700 - 2015)

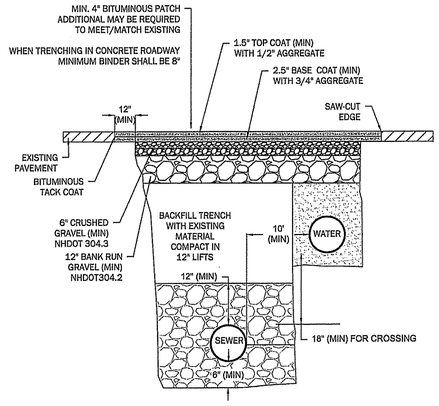
1. ALL COMPONENT PARTS OF MANHOLE STRUCTURES SHALL HAVE THE STRENGTH, LEAK RESISTANCE AND SPACE NECESSARY FOR THE INTENDED SERVICE.
2. MANHOLE STRUCTURES SHALL HAVE A LIFE EXPECTANCY IN EXCESS OF 25 YEARS.
3. MANHOLE STRUCTURES SHALL BE DESIGNED TO WITHSTAND H-20 LOADING AND SHALL NOT LEAK IN EXCESS OF ONE GPD PER VERTICAL FOOT OF MANHOLE FOR THE LIFE OF THE STRUCTURE.
4. BARRELS, CONCRETE GRADE RINGS AND CONE SECTIONS SHALL BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE AND SHALL CONFORM TO ASTM C478.
5. BEDDING: CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33
   - 100% PASSING 1 INCH SCREEN
   - 90% PASSING 3/4 INCH SCREEN
   - 20-55% PASSING 3/8 INCH SCREEN
   - 0-10% PASSING #4 SIEVE
   - 0-5% PASSING #8 SIEVE

   WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, CRUSHED STONE 1/2 INCH TO 1-1/2 INCH SHALL BE USED.
6. BASE SECTIONS SHALL BE OF MONOLITHIC CONSTRUCTION TO A POINT AT LEAST 6 INCHES ABOVE THE CROWN OF THE INCOMING PIPE.
7. HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF AN OVERLAPPING TYPE, SEALED FOR WATER-TIGHTNESS USING A DOUBLE ROW OF AN ELASTOMERIC OR MASTIC-LIKE SEALANT.
8. PIPE TO MANHOLE JOINTS SHALL BE AS FOLLOWS:
   - A. ELASTOMERIC, RUBBER SLEEVE WITH WATERTIGHT JOINTS AT THE MANHOLE OPENING AND PIPE SURFACES;
   - B. CAST INTO THE WALL OR SECURED WITH STAINLESS STEEL CLAMPS;
   - C. ELASTOMERIC SEALING RING CAST IN THE MANHOLE OPENING WITH SEAL FORMED ON THE SURFACE OF THE PIPE BY COMPRESSION OF THE RING; AND
   - D. NON-SHRINK GROUTED JOINTS WHERE WATERTIGHT BONDING TO THE MANHOLE AND PIPE CAN BE OBTAINED.
9. MANHOLE CONE SECTIONS SHALL BE ECCENTRIC IN SHAPE.
10. ALL PRECAST SECTIONS AND BASES SHALL HAVE THE DATE OF MANUFACTURE AND THE NAME OR TRADEMARK OF THE MANUFACTURER IMPRESSED OR INDELIBLY MARKED ON THE INSIDE WALL.
11. ALL PRECAST SECTIONS AND BASES SHALL BE COATED ON THE EXTERIOR WITH A BITUMINOUS DAMP-PROOFING COATING.
12. MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF CONCRETE, GRANULAR MATERIAL OR BRICK SHALL BE PLACED AFTER TESTING.
13. MATERIALS OF CONSTRUCTION FOR MANHOLES SHALL BE AS FOLLOWS.
   - A. CONCRETE FOR PRECAST BASES OR GRADE RINGS SHALL CONFORM TO THE REQUIREMENTS FOR CLASS AA CONCRETE IN THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION";
   - B. REINFORCING FOR PRECAST CONCRETE SHALL BE STEEL OR STRUCTURAL FIBERS THAT CONFORM TO THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION";
   - C. PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORM TO ASTM C478;
   - D. THE MANHOLE FRAME AND COVER SHALL PROVIDE A 30-INCH DIAMETER CLEAR OPENING;
   - E. THE MANHOLE COVER SHALL HAVE THE WORD "SEWER" IN 3-INCH LETTERS CAST INTO THE TOP SURFACE;
   - F. THE CASTINGS SHALL BE OF EVEN-GRAINED CAST IRON, SMOOTH AND FREE FROM SCALE, LUMPS, BLISTERS, SAND HOLES AND DEFECTS;
   - G. CONTACT SURFACES OF COVERS AND FRAMES SHALL BE MACHINED AT THE FOUNDRY TO PREVENT ROCKING OF COVERS IN ANY ORIENTATION;
   - H. CASTINGS SHALL BE EQUAL TO CLASS 30, BE CERTIFIED BY THEIR MANUFACTURE(S) AS CONFORMING TO ASTM A48/48M;
   - I. BRICK MASONRY FOR SHELF, INVERT AND GRADE ADJUSTMENT SHALL BE CERTIFIED BY THEIR MANUFACTURE(S) AS CONFORMING TO ASTM C32, CLAY OR SHALE, FOR GRADE SS HARD BRICK;
   - J. MORTAR SHALL BE COMPOSED OF TYPE II PORTLAND CEMENT AND SAND WITH OR WITHOUT HYDRATED LIME ADDITION;
   - K. PROPORTIONS IN MORTAR OF PARTS BY VOLUMES SHALL BE:
     1. 4.5 PARTS SAND AND 1.5 PARTS CEMENT; OR
     2. 4.5 PARTS SAND, ONE PART CEMENT AND 0.5 PARTS HYDRATED LIME;
   - L. CEMENT SHALL BE TYPE II PORTLAND CEMENT CONFORMING TO ASTM C150/C150M;
   - M. HYDRATED LIME SHALL BE TYPE S CONFORMING TO THE ASTM C207 "STANDARD SPECIFICATIONS FOR HYDRATED LIME FOR MASONRY PURPOSES";
   - N. SAND SHALL CONSIST OF INERT NATURAL SAND CONFORMING TO THE ASTM C33 "STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES";
   - O. CONCRETE FOR DROP SUPPORTS SHALL CONFORM TO THE REQUIREMENT FOR CLASS AAA CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION";
   - P. SUBJECT TO (Q) BELOW, A FLEXIBLE PIPE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES FROM ANY MANHOLE CONNECTION:
     1. WITHIN 48-INCHES FOR REINFORCED CONCRETE (RC) PIPE; AND
     2. WITHIN 60-INCHES FOR PVC PIPE LARGER THAN 15-INCH DIAMETER;
   - Q. NO FLEXIBLE JOINT SHALL BE REQUIRED FOR D.I. PIPE OR FOR PVC PIPE UP THROUGH 15-INCH DIAMETER; AND
   - R. WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED IN LIEU OF A CONE SECTION, PROVIDED THE SLAB HAS AN ECCENTRIC ENTRANCE OPENING AND IS CAPABLE OF SUPPORTING H-20 LOADS.
14. MANHOLE STEPS SHALL:
   - A. BE PERMITTED ONLY AT THE REQUEST OF THE SYSTEM OWNER;
   - B. BE MANUFACTURED OF STAINLESS, PLASTIC-COVERED STEEL OR PLASTIC;
   - C. BE SHAPED SO THAT THEY CANNOT BE PULLED OUT OF THE CONCRETE WALL INTO WHICH THEY ARE SECURED;
   - D. BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORMING TO ASTM C478 FOR LOAD CARRYING CAPACITY AND PULL-OUT RESISTANCE;
   - E. NOT BE SECURED WITH MORTAR;
   - F. BE APPROXIMATELY 14-INCHES BY 10-INCHES IN DIMENSION;
   - G. HAVE A DROP SECTION OR RAISED ABUTMENTS TO PREVENT SIDEWAYS SLIPPAGE OFF THE STEP; AND
   - H. HAVE NON-SKID SAFETY SERRATIONS ON THE FOOT CONTACT SURFACES.
15. MANHOLE TESTING:
   - A. MANHOLES SHALL BE TESTED FOR LEAKAGE USING A VACUUM TEST.
   - B. THE MANHOLE VACUUM TEST SHALL CONFORM TO THE FOLLOWING:
     1. THE INITIAL VACUUM GAUGE TEST PRESSURE SHALL BE 10 INCHES Hg; AND
     2. THE MINIMUM ACCEPTABLE TEST HOLD TIME FOR A 1-INCH Hg PRESSURE DROP TO 9 INCH Hg SHALL BE:
        - a. NOT LESS THAN 2 MINUTES FOR MANHOLES LESS THAN 10 FEET DEEP IN DEPTH;
        - b. NOT LESS THAN 2.5 MINUTES FOR MANHOLES 10 TO 15 FEET DEEP; AND
        - c. NOT LESS THAN 3 MINUTES FOR MANHOLES MORE THAN 15 FEET DEEP.
   - C. THE MANHOLE SHALL BE REPAIRED AND RETESTED IF THE TEST HOLD TIMES FAIL TO ACHIEVE THE ACCEPTANCE LIMITS SPECIFIED IN (B) ABOVE.
   - D. FOLLOWING COMPLETION OF THE LEAKAGE TEST, THE FRAME AND COVER SHALL BE PLACED ON THE TOP OF THE MANHOLE OR SOME OTHER MEANS USED TO PREVENT ACCIDENTAL ENTRY BY UNAUTHORIZED PERSONS, CHILDREN OR ANIMALS UNTIL THE CONTRACTOR IS READY TO MAKE FINAL ADJUSTMENTS TO GRADE.



TYPICAL SEWER MANHOLE
CITY OF DOVER
NOT TO SCALE

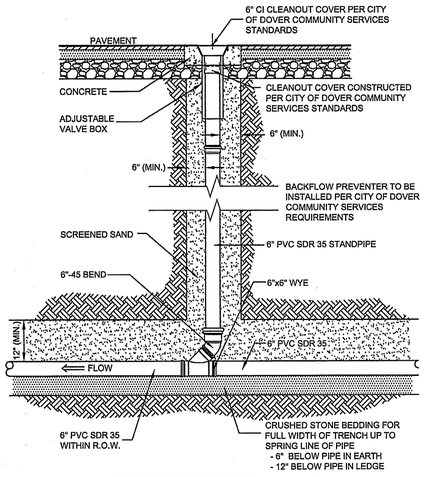
SEE SHEET 11 FOR MANHOLE FRAME & COVER DETAIL



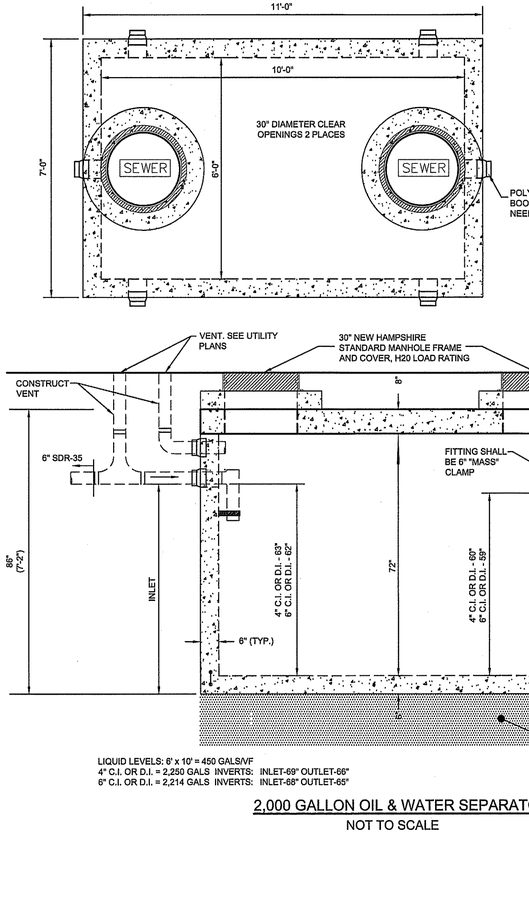
NOTES:

1. TRENCH SHALL BE COMPACTED TO 95% OPTIMUM DENSITY.
2. ALL WORK SHALL COMPLY WITH THE CITY OF DOVER CONSTRUCTION GUIDELINES AND PROCEDURES

TYPICAL TRENCH DETAIL
CITY OF DOVER
NOT TO SCALE



SEWER SERVICE CLEANOUT
NOT TO SCALE

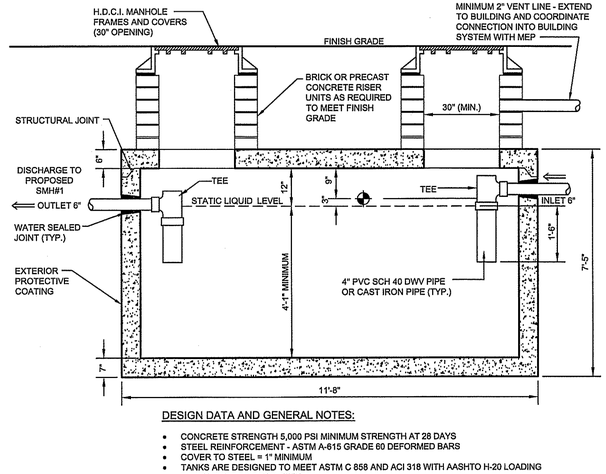


LIQUID LEVELS: 6' x 10' = 450 GALS/VF
4" C.I. OR D.I. = 2,250 GALS INVERTS: INLET-69" OUTLET-66"
6" C.I. OR D.I. = 2,214 GALS INVERTS: INLET-68" OUTLET-65"

2,000 GALLON OIL & WATER SEPARATOR
NOT TO SCALE

OIL & WATER SEPARATOR NOTES:

1. STEEL REINFORCEMENT CONFORMS TO LATEST ASTM. SPECIFICATIONS: ASTM-A615 GRADE 60 REBAR.
2. CONCRETE: FC = 5,000 PSI @ 28 DAYS MINIMUM.
3. FLEXIBLE SLEEVES PROVIDED ON ALL PIPE CONNECTIONS.
4. BUTYL RUBBER JOINT SEALANT PROVIDED.
5. INTERNAL PVC BAFFLES AVAILABLE UPON REQUEST.
   INLET: SHALL PENETRATE AT LEAST 9" BELOW THE LIQUID LEVEL, BUT NOT DEEPER THAN THE OUTLET BAFFLE.
   OUTLET: SHALL EXTEND BELOW THE SURFACE OF THE LIQUID TO 6" FROM THE FLOOR. (ENV_WQ 1012.02)
6. DESIGN LOADING: AASHTO-HS20-44, ASTM C-890-06.
7. DESIGN SPECIFIED AS: ASTM C-1227-08, ASTM C-913-08.
8. STEPS ARE NOT ALLOWED.
9. TWO INLINE VENTS MAY BE MERGED INTO SINGLE RISER



DESIGN DATA AND GENERAL NOTES:

- CONCRETE STRENGTH 5,000 PSI MINIMUM STRENGTH AT 28 DAYS
- STEEL REINFORCEMENT - ASTM A-615 GRADE 60 DEFORMED BARS
- COVER TO STEEL = 1" MINIMUM
- TANKS ARE DESIGNED TO MEET ASTM C 858 AND ACI 318 WITH AASHTO H-20 LOADING
- EARTH COVER = 0 TO 4 FEET
- CONSTRUCT JOINT - SEALED WITH 1" DIAMETER BUTYL RUBBER, OR EQUIVALENT

3,000 GALLON GREASE TRAP (H-20)
NOT TO SCALE

NOTES:

1. MINIMUM SIZE PIPE FOR HOUSE SERVICE SHALL BE 4 INCHES. MINIMUM SIZE FOR STREET SEWER LINES SHALL BE 8 INCHES.
2. PIPE AND JOINT MATERIALS:
   - A. DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA):
     1. AWWA C151/A21.51-02 - FOR DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL OR SAND-LINED MOLDS, FOR WATER OR OTHER LIQUIDS;
     2. AWWA C150/A21.50-02 - FOR THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A536-84 (2004) DUCTILE IRON CASTINGS;
     3. JOINTS SHALL BE MECHANICAL, PUSH-ON OR BALL-AND-SOCKET TYPE.
   - B. PLASTIC GRAVITY SEWER PIPE AND FITTINGS SHALL COMPLY WITH THE FOLLOWING STANDARDS:
     1. ASTM D3034-04A - PVC, SOLID WALL:
     2. AT LEAST 46 PSI AT 5% PIPE DIAMETER DEFLECTION, AS MEASURED IN ACCORDANCE WITH ASTM D2414-02 DURING MANUFACTURING; AND
     3. JOINT SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D3212-96A(2003)E1 AND SHALL BE PUSH-ON OR BELL-AND-SPIGOT TYPE.
3. DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.
4. JOINTS SHALL BE DEPENDENT UPON PROPER MATERIALS (SEE NOTE #2) FOR WATER TIGHTNESS, AND ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.
5. SERVICE CONNECTIONS SHALL USE SANITARY TEE OR WYE FITTINGS FOR ALL NEW CONSTRUCTION. THE CENTERLINE OF ALL BUILDING CONNECTIONS SHALL ENTER THE TOP HALF OF THE SEWER. ANY SERVICE CONNECTION WITH A VERTICAL RISE UP TO 4 FEET MAY HAVE THE SEWER FITTING SET VERTICALLY. ANY SERVICE CONNECTION WITH A VERTICAL RISE UP TO 12 FEET SHALL EMPLOY NON-ENCASED RISERS THAT PROTECT AGAINST PIPE PENETRATION OR FAILURE AT THE FITTING BY THE USE OF BELL-ON-BELL CONNECTIONS. FOR EXISTING SEWER WHERE FITTINGS CANNOT BE INSTALLED, SADDLE CONNECTIONS SHALL BE USED. PRESSURE SEWERAGE SHALL HAVE AN ISOLATION VALVE OR CURB STOP VALVE INSTALLED AT THE PROPERTY LINE. IF A CHECK VALVE IS USED AT THE PROPERTY LINE, THE VALVE SHALL BE INSTALLED WITHIN A VAULT TO FACILITATE MAINTENANCE. ROOF DOWNSPOUTS, EXTERIOR OR INTERIOR FOUNDATION DRAINS, SUMP PUMPS OR OTHER SOURCE OF SURFACE WATER RUN-OFF OR GROUND WATER SHALL NOT BE DIRECTLY OR INDIRECTLY CONNECTED TO A PUBLIC SEWER.
6. PIPE INSTALLATION:
   - A. THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER.
   - B. PIPES SHALL BE CAREFULLY BEDDED ON A 4 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL.
   - C. BEDDING AND RE-FILL, FOR A DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE, SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH THE APPROPRIATE MECHANICAL DEVICES.
   - D. THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET SEWER CONNECTION TO THE HOUSE FOUNDATION AT A GRADE OF NOT LESS THAN 1/8 INCH PER FOOT.
   - E. PIPE JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.
7. TESTING: THE COMPLETED HOUSE SEWER SHALL BE SUBJECTED TO A LEAKAGE TEST IN ANY OF THE FOLLOWING MANNERS: (PRIOR TO BACKFILLING)
   - A. AN OBSERVATION TEE SHALL BE INSTALLED AS SHOWN AND WHEN READY FOR TESTING, AN INFLATABLE BLADDER OR PLUG SHALL BE INSERTED JUST UPSTREAM FROM THE OPENING IN THE TEE. AFTER INFLATION, WATER SHALL BE INTRODUCED INTO THE SYSTEM ABOVE THE PLUG TO A HEIGHT OF 5 FEET ABOVE THE LEVEL OF THE PLUG.
   - B. THE PIPE SHALL BE LEFT EXPOSED AND LIBERALLY HOSED WITH WATER TO SIMULATE, AS NEARLY AS POSSIBLE, WET TRENCH CONDITIONS OR, IF THE TRENCH IS WET, THE GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. INSPECTIONS FOR LEAKS SHALL BE MADE THROUGH THE CLEAN OUT WITH A FLASHLIGHT.
   - C. DRY FLUORESCENCE DYE SHALL BE SPRINKLED INTO THE TRENCH OVER THE PIPE. IF THE TRENCH IS DRY, THE PIPE SHALL BE LIBERALLY HOSED WITH WATER, OR IF THE TRENCH IS WET, GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. OBSERVATION FOR LEAKS SHALL BE MADE IN THE FIRST DOWNSTREAM MANHOLE.
   - D. LEAKAGE OBSERVED IN ANY OF THE ABOVE TESTS SHALL BE CAUSE FOR NON-ACCEPTANCE AND THE PIPE SHALL BE DUG-UP, IF NECESSARY, AND RE-LAID SO AS TO ASSURE WATER-TIGHTNESS.
8. ILLEGAL CONNECTIONS: NOTHING BUT SANITARY WASTE FLOW FROM TOILETS, SINKS, LAUNDRY, ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS, SUMP PUMPS OR ANY OTHER SIMILAR CONNECTION CARRYING RAIN WATER, DRAINAGE OR GROUND WATER, SHALL NOT BE PERMITTED.
9. WATER SERVICE SHALL NOT BE LAID IN THE SAME TRENCH AS THE SEWER SERVICE, UNLESS NECESSARY AND APPROVED BY THE AHJ. WHEN NECESSARY, THE WATER SERVICE SHALL BE PLACED ABOVE AND TO ONE SIDE OF THE SEWER SERVICE, AS SHOWN.
10. LOCATION: THE LOCATION OF THE WYE SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS MATERIAL ROD OR PIPE SHALL BE PLACED OVER THE WYE TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PIPE FINDER.
11. CHIMNEY CONNECTIONS ARE ONLY PERMITTED IF ALLOWED BY THE AHJ. ANY VERTICAL RISE GREATER THAN 4 FEET SHALL BE PROVIDED WITH ADDED SUPPORT BY ENCASING THE FITTING AND RISER IN A PRECAST CONCRETE CHIMNEY. UP TO 12 FEET OF VERTICAL RISE CAN ALSO BE SECURED BY PROPER MEANS AS LONG AS IT CONSISTS OF A BELL-ON-BELL CONNECTION PROPERLY PROTECTED AGAINST PIPE PENETRATION AND IF IT IS ALLOWED BY THE AHJ.
12. UNLESS OTHERWISE NOTED, ALL GRANULAR MATERIAL SHALL BE PLACED IN 12" MAXIMUM LIFTS AND COMPACTED TO 95% OF THE MODIFIED PROCTOR TEST DENSITY.

CONSTRUCTION DETAILS
DOVER HEIGHTS
MAP 6 LOT 20
1 FIRST STREET
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
PLANNING FILE # P19-16

OWNER OF RECORD & APPLICANT:
ONE FIRST DOVER, LLC
157 MAIN DUNSTABLE RD, SUITE 102
NASHUA, NH 03060
S.C.R.D. BK. 4510 PG. 565

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

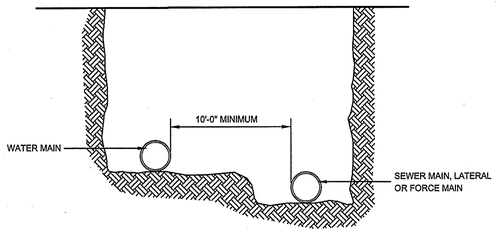
STATE OF NEW HAMPSHIRE — STEVEN B KEACH No. 7859 LICENSED PROFESSIONAL ENGINEER

REVISIONS

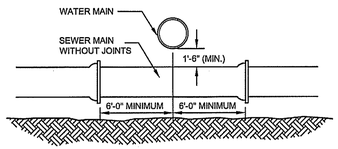
No.	DATE	DESCRIPTION	BY
1	03/22/19	REV. PER CITY TRC COMMENTS	MC
2	04/22/19	REV. PER CITY TRC COMMENTS	MC

DATE: JANUARY 22, 2019	**SCALE:** AS SHOWN
PROJECT NO: 17-1219-1	**SHEET** 13 **OF** 15

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PARALLEL INSTALLATION

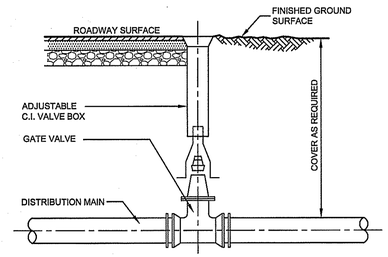


MAIN CROSSINGS

WATER PIPE/SEWER PIPE SEPARATION

NOT TO SCALE

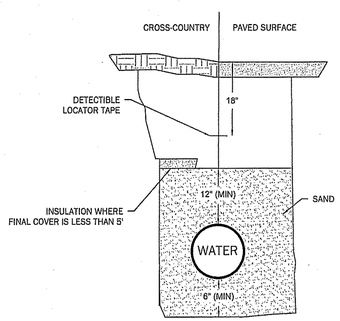
(MARCH 2008)



WATER AND GAS GATE VALVE

NOT TO SCALE

(MARCH 2008)



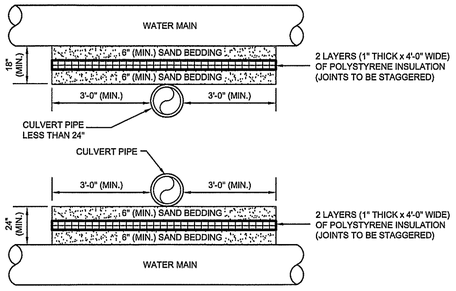
NOTE:

1. ALL WATER LINES 4" OR GREATER SHALL BE DUCTILE IRON WITH AN 8 MIL POLYETHYLENE WRAP. CONTRACTOR MAY FORGO WRAPPING PIPE IF THE DUCTILE IRON PIPE IS ZINC-COATED, TEES AND OTHER CONNECTIONS WILL STILL NEED TO BE WRAPPED.

TYPICAL WATERLINE TRENCH

CITY OF DOVER

NOT TO SCALE



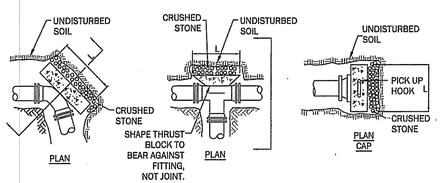
NOTES:

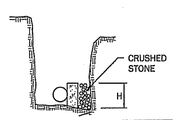
1. INSULATION TO BE USED WHERE PIPE SEPARATION IS 24" OR LESS.

WATER PIPE CROSSING INSULATION DETAIL

NOT TO SCALE

(JUNE 2012)





THRUST BLOCK SCHEDULE

MINIMUM BEARING AREA (SQUARE FEET)

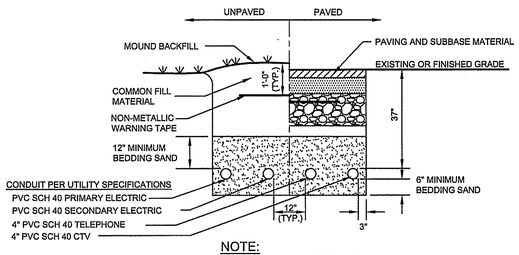
	PIPE SIZE					
Nominal Dia. (In)	4	6	8	10	12	16
Tees, Caps, Plugs, & Tapping Sleeves	1.05	2.32	4.15	6.37	9.15	16.23
90 Degree Bends	1.48	3.29	5.86	9.01	12.93	22.96
45 Degree Bends	0.80	1.78	3.17	4.88	7.00	12.42
22-1/2 Degree Bends	0.41	0.91	1.62	2.49	3.57	6.33
11-1/4 Degree Bends	0.21	0.46	0.81	1.25	1.79	3.18
	System Pressure: 100 psi Safety Factor: 1.5 Soil Bearing Capacity: 2,000 psf					

THE MINIMUM BEARING AREAS SHOWN IN THE THRUST BLOCK SCHEDULE ARE BASED ON A SYSTEM PRESSURE OF 100 PSI. IF THE SYSTEM PRESSURE IS ABOVE 100 PSI, INCREASE THE NOTED AREAS PROPORTIONAL TO THE ACTUAL SYSTEM PRESSURE. FOR EXAMPLE, IF THE ACTUAL SYSTEM PRESSURE IS 160 PSI, MULTIPLY THE ABOVE VALUES BY 160%.

PRECAST CONCRETE THRUST BLOCK & ANCHOR

CITY OF DOVER

NOT TO SCALE



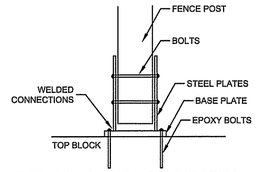
NOTE:

INSTALLATION AND MATERIALS OF UNDERGROUND UTILITIES SHALL CONFORM TO LOCAL UTILITY COMPANY SPECIFICATIONS.

UTILITY TRENCH DETAIL

NOT TO SCALE

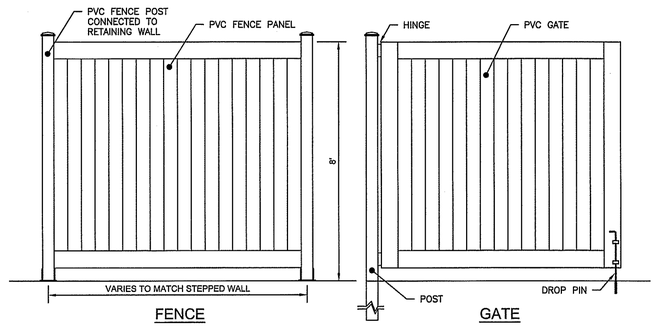
(MARCH 2008)



RETAINING WALL CONNECTION

NOTES:

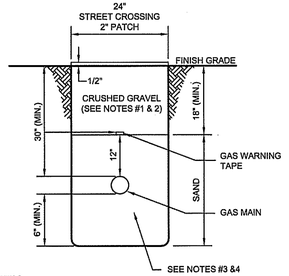
1. ALL RETAINING WALL CONNECTION HARDWARE SHALL BE GALVANIZED STEEL
2. FENCE CONNECTION TO WALL TO BE DESIGNED BY A NEW HAMPSHIRE PROFESSIONAL ENGINEER.



FENCE GATE

PVC DUMPSTER ENCLOSURE FENCE

NOT TO SCALE

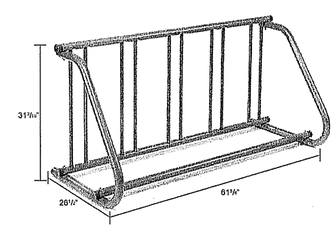


NOTES:

1. TYPE II AGGREGATE BASE, REQUIRES 95% COMPACTION.
2. THE TOP 18" OF ALL TRENCHES IN ESTABLISHED HIGHWAYS, STREETS AND OTHER PAVED AREAS SUBJECT TO TRAFFIC, SHALL BE BACKFILLED WITH TYPE II BASE.
3. NO CONDUITS SHALL BE INSTALLED ABOVE OR PARALLEL TO GAS LINES.
4. NON-METALIC RED WARNING TAPE WILL BE 6" WIDE, MARKED "LE UTILITIES BURIED BELOW" AND SHALL BE PLACED IN ALL TRENCHES AT LEAST 18" BELOW FINISH GRADE AND 12" ABOVE LE CONDUIT.

GAS MAIN TRENCH DETAIL

NOT TO SCALE



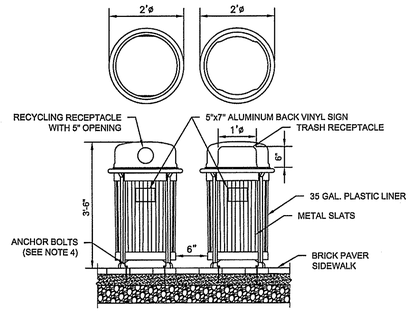
Product Specifications	
LENGTH INCHES	61-5/8
WIDTH INCHES	26-1/2
HEIGHT INCHES	31-3/16
CAPACITY	5 Bikes
ASSEMBLY	Unassembled
BRAND	Global Industrial™ (or Equal)
CONSTRUCTION	Galvanized Steel
MODEL	652770
TUBE DIAMETER INCHES	1-5/8 Frame;3/4 Grid
TYPE	5-Bike Single
WEIGHT LBS	54

BICYCLE RACK

NOT TO SCALE

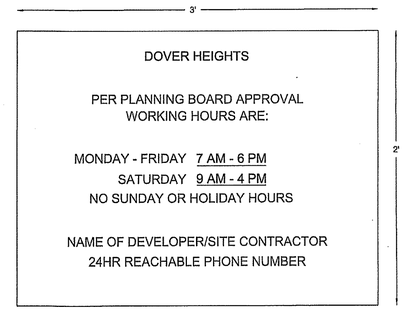
NOTES:

1. SCARBOROUGH SERIES TRASH AND RECYCLING RECEPTACLES MANUFACTURED BY LANDSCAPE FORMS INC. OR APPROVED EQUAL.
2. ALL STEEL MEMBERS COATED WITH RUST INHIBITOR THEN FINISHED WITH POLYESTER POWDER COATING (BLACK)
3. ALL WELDS CONTINUOUS THEN GROUND SMOOTH.
4. (4) 3/8" Ø x 3" STAINLESS STEEL ANCHOR BOLTS (NOT SUPPLIED BY MANUFACTURER). ANCHOR HOLES FILLED WITH NON-SHRINK EPOXY GROUT. APPLY DROPS OF EPOXY TO NUT TO LOCK. PAINT TO MATCH EXISTING COLOR.



RECEPTACLE GROUP

NOT TO SCALE



NOTES:

1. SIGN SHALL HAVE BLACK LETTERS ON A WHITE BACKGROUND

SITE CONSTRUCTION SIGN

CITY OF DOVER

NOT TO SCALE

CONSTRUCTION DETAILS

DOVER HEIGHTS

MAP 6 LOT 20

1 FIRST STREET

DOVER, NEW HAMPSHIRE

STRAFFORD COUNTY

PLANNING FILE # P19-16

OWNER OF RECORD & APPLICANT:

ONE FIRST DOVER, LLC
157 MAIN DUNSTABLE RD, SUITE 102
NASHUA, NH 03060
S.C.R.D. BK. 4510 PG. 565

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE - STEVEN B KEACH No. 7839 LICENSED PROFESSIONAL ENGINEER - 05-03-19

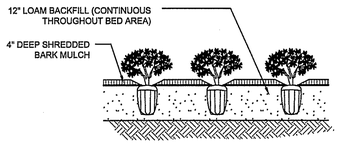
REVISIONS

No.	DATE	DESCRIPTION	BY
1	03/22/19	REV. PER CITY TRC COMMENTS	MC
2	04/22/19	REV. PER CITY TRC COMMENTS	MC

DATE: JANUARY 22, 2019 **SCALE:** AS SHOWN

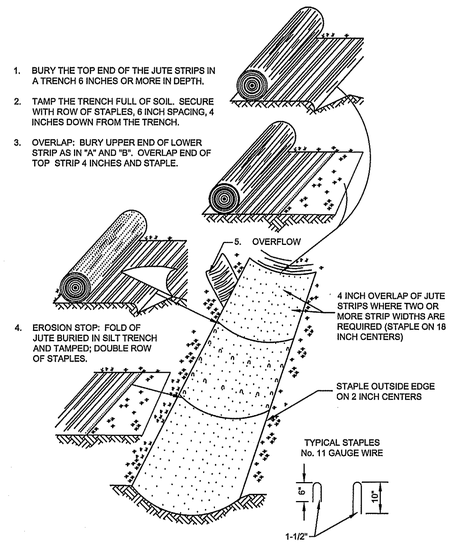
PROJECT NO: 17-1219-1 **SHEET** 14 OF 15

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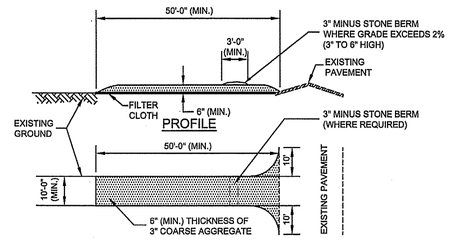
TYPICAL PERENNIAL PLANTING

NOT TO SCALE



EROSION CONTROL BLANKETS - SWALE INSTALLATION

NOT TO SCALE



PLAN VIEW

STABILIZED CONSTRUCTION EXIT DETAIL

NOT TO SCALE

(APRIL 2018)

MAINTENANCE:

MUD AND SOIL PARTICLES WILL EVENTUALLY CLOG THE VOIDS IN THE CRUSHED STONE AND THE EFFECTIVENESS OF THE CRUSHED STONE PAD WILL NOT BE SATISFACTORY. WHEN THIS OCCURS, THE PAD SHOULD BE TOPDRESSED WITH NEW CRUSHED STONE OR COMPLETE REPLACEMENT OF THE PAD MAY BE NECESSARY WHEN THE PAD BECOMES COMPLETELY CLOGGED.

IF WASHING FACILITIES ARE USED, THE SEDIMENT TRAPS SHOULD BE CLEANED OUT AS OFTEN AS NECESSARY TO ASSURE THAT ADEQUATE TRAPPING EFFICIENCY AND STORAGE VOLUME IS AVAILABLE. VEGETATIVE FILTER STRIPS SHOULD BE MAINTAINED TO INSURE A VIGOROUS STAND OF VEGETATION AT ALL TIMES.

CONSTRUCTION SPECIFICATIONS:

1. STONE FOR A STABILIZED CONSTRUCTION EXIT SHALL BE 1 TO 2 INCH STONE, RECLAIMED STONE OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED EXIT SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3. THE THICKNESS OF THE STONE FOR THE STABILIZED EXIT SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE EXIT SHALL NOT BE LESS THAN THE FULL WIDTH OF THE AREA 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 THE STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENCE LOT.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION EXIT SHALL BE PIPED BENEATH THE EXIT. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.
8. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY . WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

CONSTRUCTION SEQUENCE:

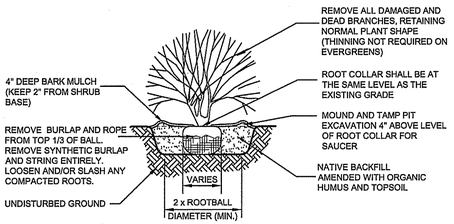
1. FIRST CUT AND CLEAR TREES AND BRUSH ONLY WITHIN DESIGNATED LIMITS OF CLEARING AS NECESSARY TO FACILITATE PROPOSED CONSTRUCTION. ALL TREES, BRANCHES AND OTHER VEGETATIVE MATERIALS SHALL BE PROPERLY DISPOSED OF OFF SITE BY THE CONTRACTOR. THIS PROJECT IS MANAGED TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
2. PRIOR TO COMMENCEMENT OF ANY EARTHMOVING OPERATIONS, ALL APPLICABLE TEMPORARY EROSION CONTROL MEASURES, INCLUDING SPECIFIED PERIMETER SILTATION FENCING AND STABILIZED CONSTRUCTION EXIT SHALL BE IN PLACE AS SHOWN ON THE PROJECT PLANS.
3. COMPLETE GRUBBING OPERATIONS. ALL STUMPS AND SIMILAR ORGANIC DEBRIS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR. NATIVE ORGANIC SOIL MATERIALS SUITABLE FOR USE AS TOPSOIL SHALL BE STOCKPILED WITHIN AREAS OUT OF THE WAY OF OTHER CONSTRUCTIONS ACTIVITIES AND DRAINAGE FLOW. STOCKPILES SHALL BE TEMPORARILY SEEDED WITH WINTER RYE AND BE SURROUNDED WITH HAY BALES AND/OR FABRIC SILTATION FENCE IN ORDER TO PREVENT LOSS DUE TO EROSION.
4. BEGIN EARTHMOVING OPERATIONS, COMMENCING WITH WORK NEEDED TO BALANCE SITE AND FACILITATE BUILDING FOUNDATION AND RETAINING WALL CONSTRUCTION. PERMANENT DOWNSLOPE WORK SHALL BE PROTECTED FROM UPGRADIENT STORMWATER FLOW BY THE CONSTRUCTION OF TEMPORARY EARTHEN DIKES OR EXCAVATED SWALES.
5. ONCE BUILDING FOUNDATION WORK IS UNDERWAY, CONTINUE EARTHMOVING OPERATIONS UNTIL DESIGN SUBGRADE IS ACHIEVED.
6. INSTALL DRAINAGE SWALE SYSTEMS AND OTHER UTILITIES WORKING FROM LOW TO HIGH. INCOMPLETE WORK SHALL BE PROTECTED FROM SILTATION BY THE USE OF SILTATION BARRIERS AROUND SWALES UNTIL THE SITE HAS BECOME FULLY STABILIZED.
7. PLACE GRAVEL AND CRUSHED GRAVEL OVER PROPOSED DRIVEWAY, WALKS AND PARKING AREAS AND COMPACT IN SPECIFIED LIFT THICKNESS.
6. COMPLETE EXCAVATION/STABILIZATION GRADING ACTIVITIES. WHEN COMPLETE, IMMEDIATELY BEGIN TOPSOILING PROPOSED TURF AREAS USING STOCKPILED LOAM SUPPLEMENTED WITH BORROW LOAM, IF NECESSARY, TO LEAVE A THICKNESS OF 4 INCHES OF FRIABLE LOAM.
9. FINE GRADE ALL FUTURE TURF AREAS AND HYDROSEED WITH THE SPECIFIED SEED MIXTURE IMMEDIATELY AFTER FINE GRADING IS COMPLETED. ALL AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
10. INSTALL THE BINDER COURSE OF PAVEMENT OVER ALL DESIGNATED AREAS.
11. CONTINUE TO MONITOR AND RECTIFY MINOR SITE AND SLOPE EROSION UNTIL ENTIRE SITE APPEARS TO BE COMPLETELY STABILIZED AND VEGETATED WITH A HEALTHY STAND OF TURF OR GROUND COVER. MAINTAIN SPECIFIED SILTATION/EROSION CONTROL MEASURES THROUGH ONE WINTER.
12. INSTALL THE SPECIFIED WEARING COURSE OF PAVEMENT OVER THE BINDER COURSE.
13. COMPLETE INSTALLATION OF LANDSCAPING, SIGNAGE AND OTHER SITE AMENITIES.

EROSION CONTROL NOTES:

1. EXPOSED EARTHWORK SHALL BE CONFINED TO AS LIMITED AN AREA AS IS PRACTICAL AT ANY GIVEN TIME THROUGHOUT THE CONSTRUCTION SEQUENCE. AT NO TIME SHALL MORE THAN FIVE (5) ACRES OF SITE AREA BE IN AN UNSTABLE CONDITION. NO GIVEN AREA OF THE SITE SHALL BE LEFT IN AN UNSTABILIZED CONDITION FOR A PERIOD OF TIME EXCEEDING THIRTY (30) CALENDAR DAYS.
2. TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH PROJECT PLANS. IN ADDITION, SIMILAR MEASURES SHALL BE INSTALLED WHERE AND WHEN THE FIELD CONDITION, OR FIELD OPERATION OF THE INDIVIDUAL SITE CONTRACTOR, MAY WARRANT. ALL TEMPORARY EROSION CONTROL MEASURES USED SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER 0.25" OF RAINFALL OR MORE. THEY SHALL BE CLEANED AND MAINTAINED AND OTHERWISE KEPT IN AN EFFECTIVE OPERATING MANNER THROUGHOUT THE CONSTRUCTION PERIOD.
3. ALL DISTURBED AREAS DESIGNATED TO BE TURF, SHALL RECEIVE A MINIMUM APPLICATION OF 4 INCHES OF LOAM (COMPACTED THICKNESS), PRIOR TO FINAL SEEDING AND MULCHING.
4. ALL SWALES AND DITCHLINES SHALL BE PERIODICALLY CLEANED OF DEPOSITED SEDIMENT SO AS TO MAINTAIN AN EFFECTIVE GRADE AND CROSS SECTION. ALL SWALES AND DITCHLINES SHALL BE FULLY STABILIZED PRIOR TO HAVING STORMWATER DIRECTED TOWARDS THEM.
5. IN THE EVENT THAT, DURING CONSTRUCTION OF ANY PORTION OF THIS PROJECT, A WINTER SHUTDOWN IS NECESSARY, THE CONTRACTOR SHALL STABILIZE ALL INCOMPLETE WORK AND PROVIDE FOR SUITABLE METHODS OF DIVERTING RUNOFF IN ORDER TO ELIMINATE SHEET FLOW ACROSS FROZEN SURFACES.
6. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
   A. BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
   B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
   C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
   D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
7. DUST SHALL BE CONTROLLED BY THE USE OF WATER AS NECESSARY THROUGHOUT THE CONSTRUCTION PERIOD, IN ACCORDANCE WITH ENV-A 1002.
8. IN NO WAY ARE THOSE TEMPORARY EROSION CONTROL MEASURES INDICATED ON THESE PLANS TO BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR SHALL USE JUDGEMENT IN INSTALLING SUPPLEMENTARY EROSION CONTROL MEASURES WHERE AND WHEN SPECIFIC SITE CONDITIONS AND/OR CONSTRUCTION METHODOLOGIES MAY WARRANT.
9. AREAS HAVING FINISH GRADE SLOPES OF 3 : 1 OR STEEPER, SHALL BE STABILIZED WITH JUTE MATTING WHEN AND IF FIELD CONDITIONS WARRANT, OR IF SO ORDERED. JUTE MATTING INSTALLED TO CONFORM WITH THE RECOMMENDED BEST MANAGEMENT PRACTICE OUTLINED IN VOLUME 3 OF THE NEW HAMPSHIRE STORMWATER MANUAL "EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION."
10. ALL DETENTION PONDS AND TREATMENT SWALES SHALL BE CONSTRUCTED PRIOR TO ANY EARTH MOVING ACTIVITIES THAT WILL INFLUENCE STORMWATER RUNOFF.
11. ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
12. ALL CUT AND FILL SLOPES SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

WINTER CONSTRUCTION NOTES:

1. ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 4:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3 OR, IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON, BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.
4. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
   A. BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
   B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
   C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
   D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

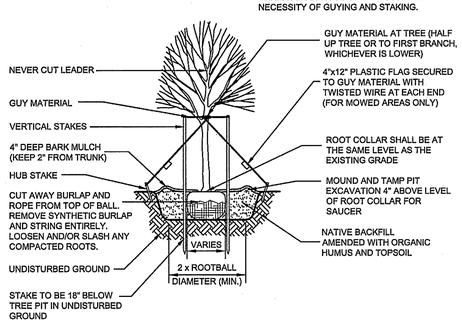


BALLED & BURLAP SHRUB PLANTING DETAIL

NOT TO SCALE

(JANUARY 2012)

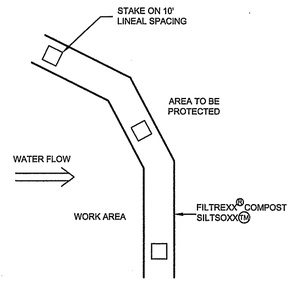
NOTE:
GUYING AND STAKING TO BE DETERMINED IN THE FIELD BY THE LANDSCAPE ARCHITECT. LOCAL FIELD CONDITIONS AS WELL AS PLANT CHARACTERISTICS WILL DETERMINE THE NECESSITY OF GUYING AND STAKING.



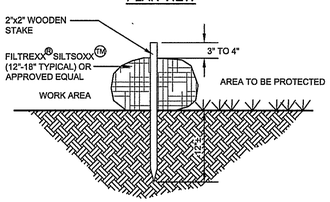
DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE

(JANUARY 2012)



PLAN VIEW



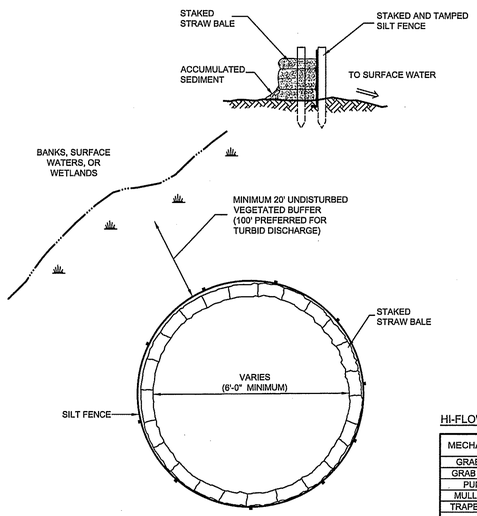
SECTION VIEW

NOTES:
1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. SILTSOXX™ COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.
3. SILTSOXX™ DEPICTED IS FOR MINIMUM SLOPES. GREAT SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER.
4. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

FILTREXX® SILTSOXX™ DETAIL

NOT TO SCALE

(AUGUST 2011)

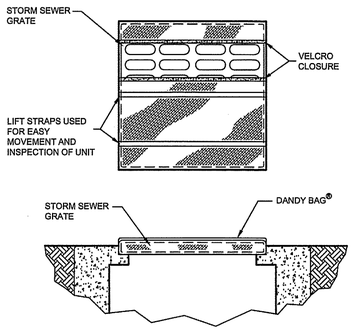


PLAN VIEW

SEDIMENT RETENTION BASIN

NOT TO SCALE

(AUGUST 2013)



HI-FLOW DANDY BAG® (SAFETY ORANGE)

MECHANICAL PROPERTIES	TEST METHOD	UNITS	MARV
GRAB TENSILE STRENGTH	ASTM D 4632	kN (lbs)	1.62 (365) x 0.89 (200)
GRAB TENSILE ELONGATION	ASTM D 4632	%	24 x 10
PUNCTURE STRENGTH	ASTM D 4833	kN (lbs)	0.40 (90)
MULLEN BURST STRENGTH	ASTM D 3786	kPa (psi)	3097 (450)
TRAPEZOID TEAR STRENGTH	ASTM D 4533	kN (lbs)	0.51 (115) x 0.33 (75)
UV RESISTANCE	ASTM D 4355	%	90
APPARENT OPENING SIZE	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
FLOW RATE	ASTM D 4491	l/min/m^2 (gal/min/ft^2)	5907 (145)
PERMITTIVITY	ASTM D 4491	Sec^{-1}	2.1

DANDY BAG®

NOT TO SCALE

(APRIL 2010)

CONSTRUCTION DETAILS

DOVER HEIGHTS

MAP 6 LOT 20
1 FIRST STREET
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
PLANNING FILE # P19-16

OWNER OF RECORD & APPLICANT:
ONE FIRST DOVER, LLC
157 MAIN DUNSTABLE RD, SUITE 102
NASHUA, NH 03060
S.C.R.D. BK. 4510 PG. 565

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

STATE OF NEW HAMPSHIRE - STEVEN B. KEACH No. 7859 LICENSED PROFESSIONAL ENGINEER 03/23/2019

REVISIONS

No.	DATE	DESCRIPTION	BY
1	03/22/19	REV. PER CITY TRC COMMENTS	MC
2	04/22/19	REV. PER CITY TRC COMMENTS	MC

DATE: JANUARY 22, 2019 | SCALE: AS SHOWN
PROJECT NO: 17-1219-1 | SHEET 15 OF 15

T:_project\1712191\dwg\Production Drawings\1712191-DETAILS.dwg, Cover-Details, 5/3/2019 12:56:29 PM, tmccarthy, \\kna-newserver\SAVIN MP W6700 PS, 22" x 34", 1:1