



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, January 22, 2019**
Meeting Time: **7:00 pm**

1. CITIZENS' FORUM

2. APPROVAL OF THE PRIOR MINUTES

- January 8, 2019 Workshop Meeting Minutes
- January 8, 2019 Regular Meeting Minutes

3. OLD BUSINESS

4. NEW BUSINESS

- A. Public Hearing on the draft FY20 CDBG Action Plan. All persons wishing to speak on the proposed Action Plan and use of funds are urged to attend.*
- B. Consideration and acceptance of a Site Review for DMC Real Estate Holdings, LLC, (Owner: Kevin & Lydia Cooper), Assessor's Map H, Lot 33, zoned B-4, located at 67 Knox Marsh Road. (Proposal is to construct an urgent care animal hospital within two phases. The first phase consisting of 8,000 sq. ft. of first floor hospital space with 3,000 sq. ft. of second floor office space and the second phase would consist of an additional 4,800 sq. ft. of hospital space attached to the first floor). *(P18-57)
- C. Consideration and acceptance of a Conditional Use Permit for DMC Real Estate Holdings, LLC, Assessor's Map H, Lot 33, zoned B-4, located at 67 Knox Marsh Road. (Proposal is to construct an urgent care animal hospital with a wetland buffer impact of 50 ft.). *(P18-56)
- D. Consideration and acceptance of a Conditional Use Permit for Lilac Garden LLC, Assessor's Map H, Lot 35-D, zoned RM-SU, located at Lilac Lane. (Proposal is to construct a trash compactor area for the 50-acre existing housing complex. The construction consists of 235 sq. ft. of impervious area and 4,495 sq. ft. of disturbance within the 50 ft. wetland buffer). *(P18-64)
- E. Consideration and acceptance for a Conditional Use Permit for Donald R. & Dawn M. Barker, Assessor's Map B, Lot 12-B, zoned R-40, located at 94 County Farm Cross Road. (Proposal is to replace a failed septic system with a new septic system 43.8 ft. from wetlands, where 75 ft. is required). *(P19-02)
- F. Consideration and acceptance of a Conditional Use Permit for Knox Marsh Development, Assessor's Map 12, Lots 125 & 125A, zoned Heritage Residential, located at 84 Silver Street. (Proposal is to construct a 4 unit building in addition to the existing 8 unit apartment building and expand the existing parking lot). *(P19-01)

5. STAFF COMMENT

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 DoverPlanning@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: Workshop
Meeting Location: McConnell Center Cafeteria, 61 Locust Street
Meeting Date: **Tuesday, January 08, 2019**
Meeting Time: **5:30 pm**

Members Present: Dennis Ciotti, Frank Torr, Dave White, Lee Skinner, Gina Cruikshank (Acting Chair), Tom Clark, David Landry, Haley Harmon, Tristen Donovan

Members Not Present: James Burdin (Alternate), Jackson Kaspari (Alternate)

Other Boards Present: Community Trail, Conservation Commission, DBIDA, Energy Commission, Open Lands Committee, Recreation Advisory Commission, Zoning Board of Adjustment, Utilities Commission and Heritage Commission

Staff Present: Christopher Parker, Assistant City Manager, Steve Bird, City Planner, Dave Carpenter, Community Development Planner, Elena Piekut, Assistant City Planner, Donna Benton, City Planner, Dan Barufaldi, Economic Development Director, Gary Bannon, Recreation Director, Bill Simons Parking Manager

1. WELCOME/LIGHT DINNER

C.Parker welcomed the group and explained the goals for the evening.

Food was served from 5:30 to 5:45, no discussion. This meeting was not recorded due to location and background noise.

The Vice Chair called the meeting to order at 5:45 pm.

2. CENTRAL BUSINESS DISTRICT ARCHITECTURAL DESIGN GUIDELINES, PRESENTED BY RESILIENCE PLANNING AND DESIGN

C.Parker introduced the project and Steve Whitman of Resilience Planning to bring those in attendance up to date.

3. LAND USE BOARD ACTIVITY UPDATES

- C. Parker updated the group on staff activities.
 - Thanked the volunteers for the time and efforts that Board members put into making Dover a great place, and thanked staff for their efforts in supporting Board members.
- W.King updated the group on the activities of the Energy Commission
 - Board members were introduced
 - Reviewed the 2018 Energy Report
- D.Lynch updated the group on the activities CWDAC
 - Board members were introduced
- O.Perry updated the group on the Heritage Commission
 - Board members were introduced
- O.Perry updated the group on the Utilities Commission
- A. Boudreau updated the group on the activities of the Open Lands Committee
 - Board members were introduced
- A.McManus updated the group on the Parking Commission
- G.Cruikshank updated the group on the role of the Planning Board
 - Board members were introduced
- T.Dargin updated the group on the activities DBIDA is undertaking
 - Board members were introduced



CITY OF DOVER

DOVER PLANNING BOARD – MINUTES

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Meeting Date: **Tuesday, January 08, 2019**
Meeting Time: **5:30 pm**

- K.Weston updated on the activities of the Transportation Advisory Commission
 - Board members were introduced
- J.Hamor updated the group on activities of the Arts Commission
 - Board members were introduced
- B.Hunt updated the group on activities of the Conservation Commission
 - Board members were introduced
- P.Purcell updated the group on activities of the Recreation Advisory Commission
 - Board members were introduced
- B.Hardwick updated the group on activities of the Community Trail
 - Board members were introduced
- C.Prior updated the group on the Zoning Board of Adjustment
 - Board members were introduced.

4. ADJOURNMENT

Motion: T.Clark motioned to adjourn at 6:58 p.m. Seconded by F.Torr Vote U/A



CITY OF DOVER

DOVER PLANNING BOARD – MINUTES

Meeting Type: Regular Meeting
Meeting Location: McConnell Center, Room 306, 61 Locust Street
Meeting Date: **Tuesday, January 08, 2019**
Meeting Time: **7:00 pm**

Members Present: Frank Torr, Dennis Ciotti (Councilor), Tom Clark, Dave White, Gina Cruikshank (Chair), David Landry, Lee Skinner, Hayley Harmon, Tristan Donovan (Vice Chair), Jackson Kaspari

Members Not Present: James Burdin (Alternate)

Staff Present: Christopher Parker, Assistant City Manager, Donna Benton, City Planner, Dave Carpenter, Community Development Planner

The Chair called the meeting to order at 7:00 p.m.

1. ELECTION OF OFFICERS

F.Torr made a motion to nominate G.Cruikshank as Planning Board Chair. Seconded by D.Ciotti. Vote U/A

D.Ciotti made a motion to nominate T.Donovan as Planning Board Vice Chair. Seconded by T/Clark. Vote U/A

The Board voted by secret ballot. The votes were tallied and the results were announced by C.Parker. G.Cruikshank was elected as Chair and T.Donovan was elected as Vice Chair.

G.Cruikshank thanked the Board for the election.

2. CITIZENS' FORUM

Citizens Forum Open. Nobody Spoke. Citizens Forum Closed.

3. APPROVAL OF THE PRIOR MINUTES

- December 11, 2018 Regular Meeting Minutes

Motion: L.Skinner made a motion to approve the minutes as presented. Seconded by D.Landry. Vote U/A

4. OLD BUSINESS

- A. Public hearing and possible vote for amendments to Chapter 170, entitled "Zoning Ordinance" of the code of the City of Dover. The amendments allows any future relief to the Cochecho Waterfront District regulations to be through a Conditional Use Permit from the Planning Board rather than by relief from the Zoning Board of Adjustment, and to rezone a portion of Maglaras Park from R-12 to CWD.

C.Parker reviewed the two proposed amendments and the process the City has for zoning amendments.

Discussion ensued regarding setbacks and buffers.

Public hearing opened.

Christopher Prior 150 Henry Law Ave, spoke in favor of the proposal and noted that there are deed restrictions on one of the lots preventing further development.

Nancy Gauthier, 162 Henry Law Ave, spoke to the need for buffering and supported setbacks.



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Meeting Time: **7:00 pm**

Elizabeth Goldman, 44 Rutland Street, asked if there were Architectural Design Guidelines for this area.

Public Hearing Closed.

C.Parker stated that there are design guidelines in place for the City owned parcels. He reviewed the process and noted the Planning Department recommends that the Planning Board approve the zoning amendment and forward them to the City Council for ratification.

Discussion ensued regarding removing Map K lot 4B from the rezoning.

Motion: D.White made a motion to approve the zoning amendments and forward to the City Council for ratification. Seconded by T.Donovan. Vote U/A

5. NEW BUSINESS

A. Discussion of Land Use Amendments/Goal Setting

C.Parker reference the spreadsheet of a summary of proposed amendments (original in file) the Board received and provided a summary of the Staff suggestions as listed on the document. In addition to those on the summary, it was discussed to bring forward a zoning amendment to include buffers, Citywide, for residential uses from new Commercial uses, in commercial/industrial zones.

L.Skinner noted he still would like to have fifteen minutes to speak regarding the Open Space subdivision regulations. The Chair noted time would be allowed on the February 12th agenda under New Business.

6. STAFF COMMENTS

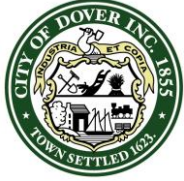
D.Carpenter previewed the upcoming CDBG application process.

7. MEMBER COMMENTS

G.Cruickshank stated F.Torr will be representing him/her at the Planning Technical Review Committee meetings.

8. ADJOURNMENT

Motion: T.Donovan made a motion to adjourn at 8:21 p.m. Seconded by T.Clark Vote U/A



CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P18-57

Application Type: Site Review for Review
Applicant(s): DMC Real Estate Holdings
Owner(s): DMC Real Estate Holdings
Location: 67 Knox Marsh Road (Assessor's Map H, Lot 33)
Meeting Date: January 22, 2019

INTENT: To construct an urgent care animal hospital within two phases. The first phase would be 8,000 s.f. of first floor animal hospital space with 3,000 s.f. of second floor office. The second phase would be an additional 4,800 s.f. of hospital space attached to the first floor. A related CUP application for wetland buffer impact will also appear before the Planning Board.

LOTS/UNITS PROPOSED: Animal Hospital

AGENDA ITEM #: 4-B

ACREAGE: 5.77 acres

ZONING DISTRICT: B-4 and Wetland Overlay

EXISTING LAND USE: Vacant

PROPOSED LAND USE: Urgent Care Animal Hospital

SURROUNDING LAND USE: Landscaping Company and Residential

ZBA ACTION: Z09-11: Variance granted on 10/15/2009 to allow a coffee shop with a drive-thru service

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
-NHDES Shoreland & Wetlands

WAIVERS REQUESTED: None

Summary of Request and Background

The applicant is requesting to construct an urgent care animal hospital in two phases. The first phase would be 8,000 s.f. of first floor animal hospital with 3,000 s.f. of second floor office. The second phase would be an additional 4,800 s.f. of hospital space on the first floor, however timing is not known for when the second phase would be constructed. The site is proposed to be serviced by municipal water and sewer.

Planning and Police staff have communicated to NHDOT the request to continue the previous right of way design with acceleration and deceleration lanes in both directions. At this time, staff has not heard a confirmation from NHDOT and therefore has a recommended condition of approval below.

This application was reviewed by the Technical Review Committee on November 29, 2018 (minutes attached).

The Conservation Commission endorsed this item at their January 14, 2019 meeting.

Consistency with Land Use Regulations

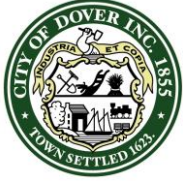
Chapter 149-4 of the Site Review Regulations of the City Code provides for site review by the Planning Board of new construction of various types. This plan is consistent with those regulations.

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:

Signing of Plans:

1. The conditional use permit (P18-56) shall be approved.
2. The applicant shall provide:
 - a. A digital version of plan set
 - b. Updated NHDOT Permit
3. 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. Revise the elevations to indicate materials and show full side of building rather than cut off
 - d. Add AOT, NHDES and NHDOT permit numbers
 - e. Indicate future pad as loamed and seeded
 - f. Show the right-of-way on Knox Marsh Road layout to the satisfaction of the Assistant City Manager.



CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P18-57

Application Type: Site Review for Review
Applicant(s): DMC Real Estate Holdings
Owner(s): DMC Real Estate Holdings
Location: 67 Knox Marsh Road (Assessor's Map H, Lot 33)
Meeting Date: January 22, 2019

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>

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

6. The new dwelling units 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:

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.

67 Knox Marsh Road

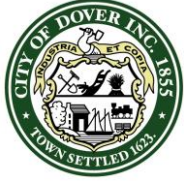
**Property Information**

Property ID H0033-000000
Location 67 KNOX MARSH RD
Owner COOPER KEVIN &
Land Use 390

**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 11/16/2018
Data updated 11/18/2018



CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P18-56

Application Type: Conditional Use Permit for Review
Applicant(s): DMC Real Estate Holdings
Owner(s): DMC Real Estate Holdings
Location: 67 Knox Marsh Road (Assessor's Map H, Lot 33)
Meeting Date: January 22, 2019

INTENT: Proposal is to construct an urgent care animal hospital with drainage facilities, utilities and grading impacting 11,240 sq. ft. of 50 foot wetland buffer.

LOTS/UNITS PROPOSED: N/A

AGENDA ITEM #: 4-C

ACREAGE: 5.77 acres

ZONING DISTRICT: B-4 and Wetland Overlay

EXISTING LAND USE: Vacant

PROPOSED LAND USE: Urgent Care Animal Hospital

SURROUNDING LAND USE: Landscaping Company and Residential

ZBA ACTION: Z09-11: Variance granted on 10/15/2009 to allow a coffee shop with a drive-thru service

ATTACHMENTS: Application materials, TRC minutes, Conservation Commission Minutes, and CUP 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
-NHDES Shoreland & Wetlands

WAIVERS REQUESTED: None

Summary of Request and Background

The applicant is requesting to construct an urgent care animal hospital with drainage facilities, utilities, and grading impacting 11,240 s.f. of the 50' wetland buffer. Therefore, a Conditional Use Permit is required.

This application was reviewed by the Technical Review Committee on November 29, 2018 (minutes attached).

The Conservation Commission endorsed this item at their January 14, 2019 meeting.

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 Conditional Use Permit with the following conditions:

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

1. Site Plan be approved (P18-57)
2. Copy of the NHDES Shoreland and Wetland Permit be submitted to the Planning Department.

67 Knox Marsh Road

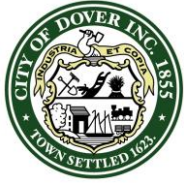
**Property Information**

Property ID H0033-000000
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Geometry updated 11/16/2018
Data updated 11/18/2018



CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – P18-57

Application Type: Site Plan Review
Applicant(s): DMC Real Estate Holdings, LLC
Owner(s): Kevin & Lydia Cooper
Location: 67 Knox Marsh Road (Tax Map H, Lot 33)
Date: November 29, 2018

INTENT: To construct an urgent care animal hospital within two phases. The first phase would be 8,000 s.f. of first floor hospital space with 3,000 s.f. of second floor office. The second phase would be an additional 4,800 s.f. of hospital space attached to the first floor. A related CUP application for wetland buffer impact will also appear before the Planning Board.

UNITS PROPOSED: N/A

AGENDA ITEM #: 1

ACREAGE: 5.77

ZONING DISTRICT: B-4 and Wetland Overlay

EXISTING LAND USE: Vacant

PROPOSED LAND USE: Urgent Care Animal Hospital

SURROUNDING LAND USE: Landscaping Company and Residential

ZBA ACTION: Z09-11: Variance granted on 10/15/2009 to allow a coffee shop with a drive-thru service

PERMITS REQUIRED: CUP for Wetland Protection District

WAIVERS REQUESTED: None

ATTENDANCE:

Members:

Donna Benton, Planning
Elena Piekut, Zoning
Jim Maxfield, Inspection Services
Frank Torr, Planning Board
Alan Dews, Engineering
Dan Barufaldi, Economic Development
Sgt. Speidel, Police

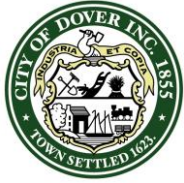
Others:

Chris Parker, Planning
Steve Haight, Engineer
Wes Chapin, Animal Hospital
Bob Meader, Budel Construction Corp.

PLAN REVIEW:

Planning:

- Water/Sewer investment fees
- Impact fees (\$0.92 x 11,000 s.f. = \$10,120)
- Is the plan to construct all parking in Phase I? What is the timing for Phase II?
- Remove note 17 on sheet 5 regarding hours for audible system
- Provide:
 - Landscape Plan (submitted at TRC)
 - Landscape Operation and Maintenance Plan
 - Streetscape
- Revise plan set to:
 - Add common site notes 35, 36 & 37
 - Add Planning File # P18-57
 - Add owner's signatures
 - Add PE, LLA, Licensed Landscape Architect signatures and stamps
 - Correct note 16 on cover sheet to Building "Official"
 - Show sewer easement on site plan and confirm it won't conflict with front yard/parking/access around building and into site
 - Show existing fence on existing conditions plan
 - Revise note 4 on existing conditions sheet and note 3 on sheet 5 that front setback is 30' and to remove the note about 150' from residential
 - Switch orientation on sheet 4
 - Comply with visual buffer
 - Clear up/label setback lines on sheets 4 & 5
 - Provide detail of R6-1 sign proposed
 - Pylon sign must be low planter or monument type
 - Indicate materials on Elevations and show full side (fix cut off)
 - Add permit numbers
 - Indicate zoning district boundaries



CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – P18-57

Application Type: Site Plan Review
Applicant(s): DMC Real Estate Holdings, LLC
Owner(s): Kevin & Lydia Cooper
Location: 67 Knox Marsh Road (Tax Map H, Lot 33)
Date: November 29, 2018

- Revise lighting plan to make darkest spot in parking lot between 0.3 and 0.5 foot candles
- Show snow storage areas
- Add wetland buffer placards
- Remove redundant notes

- Clarify the means used to maintain a clear and unobstructed accessible route from the van space to the entrance.
- Site plans shall indicate confirmation of design has been reviewed for and complies with all applicable accessibility regulations. (i.e. '09, IBC Chapter 11 w/ NH Amendments and ANSI) in accordance with NH RSA 155-A: 5.
- Provide additional building elevation plans.

Engineering Comments:

- Show the water gates at the main or tee.
- Winter maintenance should include no or low salt use.
- What is the proposed easement to 33A for?
- Per Section 149-14 A (2) this is a development causing 20,000 sf of continuous disturbance and/or 4,000 sf of new impervious are) that the applicant be asked to fill in the PTAPP tracking form.

Economic Development:

- Favor shakes not vinyl
- What will the addition look like?
- Building looks out of scale
- What is the process of surgical and medical waste disposal?

Police Department Comments:

- Clarify the special note on Sheet 4. Construct the intersection as shown on the plan, despite what the revised trip generation numbers say.
- Any potential equestrian service? Site layout is not conducive to trailer parking.
- On site or off site cremation?
- Review dumpster location in proximity to wetland buffer, consider relocating to west corner of site
- Clarify or remove note 17 on Sheet 5; presumably a holdover from the previously approved plan
- The word “alarm” is not required in note 20 on Sheet 1. Security system may be satisfied with suitable construction materials per Chapter 58, especially if business has 24 hour staff coverage. But an alarm system is still strongly encouraged, as are other security measures.

Planning Board Comments:

- Indicate materials on the exterior
- Screen dumpster

Next Steps: Come back for an unofficial TRC with letter indicating how comments were addressed and then submit for Planning Board.

TRC was paused at 11:08am.

Fire/Inspections Comments:

- Clarify location and elevation of business sign at road for clear and unobstructed view.
- Address shall be visible from street- suggest address being placed on sign.
- Discuss the entrances and exits to the building and intended use of the proposed addition.
- Indicate the use of the second floor and if staff may be sleeping within the structure.
- Clarify egress means from covered dog walking area. Provide gate if fenced area.



CITY OF DOVER

DOVER CONSERVATION COMMISSION – MINUTES

Meeting Type: Regular Meeting
Meeting Location: **1st Floor Conference Room** - 288 Central Avenue, Dover, NH
Meeting Date: Monday, January 14, 2019
Meeting Time: 5:30 pm

Bird confirmed with Riker that there were going to be two slips.

Bird: What is the balance between the length of the dock versus having a float resting on the mud?

Riker: That is a good question and one that is part of design consideration and discussions with DES. We try to strike a balance to keep the dock design so that DES will approve.

Donovan made a motion to endorse the NHDES Wetlands Permit, Erickson seconded. Vote: 7 in favor

- C. City of Dover Conditional Use Permit for Lilac Garden LLC, Assessor's Map H, Lot 35-D, zoned RM-SU, located on Lilac Lane.

Hannah Giovannucci was present to explain the proposal to construct a trash compactor area for the housing complex, with 237 sq. ft. of impervious area and 5,057 sq. ft. of 50 foot wetland buffer impact. The compactor will replace five dumpsters used now. Site was previously disturbed by construction. There are two parking spaces for residents to use. The 22 foot wide driveway is less than required by code but we wanted to minimize wetland buffer impacts so a waiver will be requested. We are avoiding buffer impacts as much as possible. Storm water design meets the standards. The dumpsters will be removed.

Aube: Do the plans call for the maintenance of the bio-retention areas?

Giovannucci: The plans do not include that.

Donovan: Is this location the least impacting alternative and what is the justification?

Giovannucci: This is a more central location that is convenient for the residents.

Hunt: Explain how the storm water design works.

Giovannucci: The water is directed towards the bio-retention areas so that it doesn't go into the road.

Bird: The trash compactor will help with the litter that comes with five dumpsters.

Aube made a motion to endorse the City of Dover Conditional Use Permit, with a condition that the plan details be amended to include maintenance of the bio-retention areas, Donovan seconded. Vote: 7 in favor

- D. City of Dover Conditional Use Permit for DMC Real Estate Holdings, LLC, Assessor's Map H, Lot 33, zoned B-4, located at 67 Knox Marsh Road.

Steve Haight was present to explain the proposal to construct an urgent care animal hospital with drainage facilities, utilities and grading impacting 11,240 sq. ft. of 50 foot wetland buffer. The original site plan was approved in 2010. We have reduced impacts from the 2010 plans by 45%. Wetlands were newly delineated. It is a much smaller building now. All site drainage is treated. The building has two phases. The plan has been to TRC already. The wetland buffer impacts are for storm water infrastructure. We have an operation and maintenance plan for storm water and landscaping.

Kramer-Perry: Why didn't the original plan get built?

Haight: The owner couldn't find tenants for the building that was approved.

Donovan: Does the detention pond have free board?

Haight: Yes it is designed to handle a 50-year storm and designed to AOT standards. All catch basins have oil/gas separators.

Bird: Explain what the conservation area means.

Haight: There is a deed restriction that was put in place in 2010 that is recorded at the Registry of Deeds.

Donovan made a motion to endorse the City of Dover Conditional Use Permit, Erickson seconded. Vote: 7 in favor



City of Dover, New Hampshire SITE REVIEW APPLICATION

[Revision Date: August 02, 2017]

Office Use Only

Project #: _____

Date Received: _____

Amount Paid: _____

Time Received: _____

APPLICANT AND OWNER INFORMATION

Name of Applicant: DMC Real Estate Holdings, LLC Telephone # 603.767.8859

Address of Applicant: 134 Ten Rod Road, Rochester, NH 03867

E-Mail Address: Chapinvet@gmail.com

Name of Property Owner (if different from applicant): Kevin Cooper Telephone # 603.767.9191

Address of Property Owner: 85 Knox Marsh Road, Dover, NH 03820

PROPERTY INFORMATION

Address of Property: 67 Knox Marsh Road

Assessor's Map # H Lot(s) # 33

Zoning District(s) B-4 Overlay District(s) Wetland

Size of Parcel: 251,352 sq. ft. 5.77 ac. Property Deed: Book 2018 Page: 528

Existing Use of Property: Vacant

SITE PLAN INFORMATION

Describe Proposed Use: Urgent Care Animal Hospital

Area of Parcel to be Developed: 93,000 sq. ft.

If Multi-family Residential, Specify Number of Units & Buildings Proposed: N/A

Number of Parking Spaces: Existing 0 Proposed 44

Highway Access (check where applicable): City Street X State Highway

Number of Employees Total: _____ In Maximum Shift: Phs 1 = 19
Phs 2 = 4

Disposition of Parcel:

Building Setbacks:

Building Footprint 12,800 sq. ft.

Front Yard 122.6 ft.

Total Building Area 15,800 sq. ft.

Rear Yard 138.9 ft.

Paved Area 48,707 sq. ft.

Side Yard: Right 118.6 ft. Left 75.5 ft.

City Water? ☒ Yes ☐ No How far is city water from the property? _____City Sewer? ☒ Yes ☐ No How far is city sewer from the property? _____**BUILDING INFORMATION**

Type of Building to be Built: _____

Height of Building: 32' - 6" Finished Floor Elevation: 99.0Number of Seats (where applicable) ----**WAIVER REQUESTS**

Site Review Regulations section(s) to be waived: _____

Justification for waiver request(s) (attach additional sheets as needed): _____

SURVEYOR INFORMATIONName of Surveyor and Company (Licensed in N.H.) McEneaney Survey Associates, Inc.Address P.O. Box 681, Dover, NH 03821 Telephone #: 603.742.0911Professional License #: LLS 661 E-mail address: msa@surveynh.com**ENGINEER INFORMATION**Name of Engineer and Company (Licensed in N.H.) Civilworks New EnglandAddress P.O. Box 1166, Dover, NH 03821 Telephone #: 603.749.0443Professional License #: PE 7050 E-mail address: shaight@civilworksnh.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.

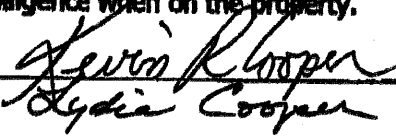
Signature of Property Owner: _____ Date: _____

Signature of Applicant (if different from owner): [Signature] Date: 10/30/18Signature of Agent: [Signature] Date: 11/5/18

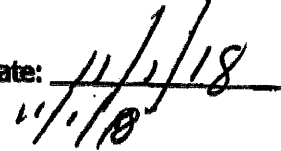
AUTHORIZATION TO ENTER SUBJECT PROPERTY

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

Signature of Property Owner: _____



Date: _____

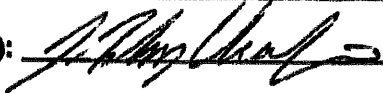
**AUTHORIZATION TO COMPLETE THE PROJECT ON SUBJECT PROPERTY**

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: _____

Signature of Applicant (if different from owner): _____



Date: _____

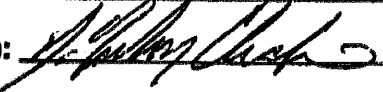
**CERTIFICATION OF FEES**

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: _____

Signature of Applicant (if different from owner): _____



Date: _____



**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

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

SEE ATTACHED LIST

ABUTTERS LIST

**Broadview Urgent Care Animal Hospital
NH Route 155, Knox Marsh Road, Dover**

<u>Tax Map</u>	<u>Lot No.</u>	<u>Name & Address</u>
H	18	Dover Bldg. Partners, LLC c/o Evergreen Management 17 Commerce Drive, Bedford, NH 03110-7059
H	18-1	Prolim Development Corp. 114 Old Gage Hill Road, Pelham, NH 03076
H	29-A	Quantum Real Estate Group, LLC 755 Central Avenue, Dover, NH 03820
H	32-A-1	Robert & Marilyn Sherwood Family Revocable Trust 11 Lisa Beth Circle, Dover, NH 03820
H	33, 33-A	Kevin & Lydia Cooper 85 Knox Marsh Road, Dover, NH 03820
H	33-B	Paul B. & Wendy Sue Rowe 81 Knox Marsh Road, Dover, NH 03820
H	33-D	Karil S. Morin Sept 1 1982 Trust, c/o Karil S. Morin, Trustee PO Box 2259, Dover, NH 03821-2259
H	33-E	Denis J. & Nancy K. Quinlan 89 Knox Marsh Road, Dover, NH 03820
Owner of Record:		Kevin & Lydia Cooper 85 Knox Marsh Road, Dover, NH 03820
Applicant:		DMC Real Estate Holdings, LLC 134 Ten Rod Road, Rochester, NH 03867
Engineer:		Civilworks New England P.O. Box 1166, Dover, NH 03821-1166

Tax Map**Lot No.****Name & Address**

Environmental Consultant:

Mark West, CWS, c/o West Environmental, Inc.
48 Stevens Hill Road, Nottingham, NH 03290

Surveyor:

McEneaney Survey Associates, Inc.
P.O. Box 681, Dover, NH 03821-0681

Landscape Architect:

Woodburn & Company
103 Kent Place, Newmarket, NH 03857

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 # 15,800 sq. ft. = \$ 2,370.00
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 # 48,707 = \$ 3,409.49
- 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 # 1 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 # 6 of x \$8.00 = \$ 48.00

2. Certified letters fee: # of abutters 8 X \$8.00 = \$ 64.00

3. First Class Mail fee (for individual owner of units within a condominium or other collective form of ownership): # of abutters _____ X \$1.00 = \$ _____

4. Creating/Printing Abutter Labels in triplicate per sheet _____ x \$10.00 = \$ _____

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

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

per sheet of plan set = \$ 0.00

(Revised May 15, 2017)

TOTAL FEE \$ 6,121.49



City of Dover, New Hampshire SITE PLAN REVIEW SUBMISSION CHECKLIST

[Revision Date: December 15, 2017]

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: DMC Real Estate Holdings LLC File Number: _____

PROJECT TITLE: Broadview Urgent Care Animal Hospital

PROPERTY LOCATION: Knox Marsh Road Tax Map: H Lot: 33

	Explain How Provided	Reviewed
1. Completed and signed Application form	✓	
2. Electronic copy of the engineered/surveyed plan layout	✓	
3. Electronic copy of supplementary materials and application	✓	
4. Traffic Impact Assessment and Analysis (Standard or Advanced)	✓	
5. Fiscal Impact Analysis (For more than 10 units)	N/A	
6. Waiver requests to the Site Plan Review Regulations, with written justification	attached	
7. Conditional Use Permit applications	✓	
8. A colored rendering of the streetscape that will be created along the existing public right-of-way	Pending	
9. A colored architectural plan showing all sides of buildings		
10. List of all professional agents to be notified for Planning Board	✓	
11. Letter to Serve from Public and Private Utilities	✓	
12. 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:		
Location map at appropriate scale	✓, cover	
Proposed Project name and title and Planning File #	space provided	
Date, north arrow and scale	✓, all plans	
Names of all abutting property owners	✓, cover, sht 2	
Name and address of owners and/or applicants	✓, cover	
Signature & stamp of NH licensed land surveyor and/or engineer	to be applied on final	
Zoning District boundaries, including any special or overlay districts	✓	
Location of Conservation District areas	✓ sht. 3	
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks	✓, sht. 3	
Location and widths of existing & proposed easements & right of ways	✓, sht. 3	
Depict pedestrian walkways and accessible access	✓, sht. 5	
Location and width of existing and proposed access/egress ways	✓, sht. 5 & 3	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	✓, sht. 3	

	Explain How Provided	Reviewed
Existing and proposed topographic information at two foot intervals	✓ sht. 3, 6	
Existing and proposed buildings and structure locations	✓ sht. 3	
Minimum building setbacks or build to lines on all lots	sht. 3 & 4	
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities	sht. 3 & 7	
Existing and proposed water lines and fire hydrants, including materials and capacity needed	sht. 3 & 7	
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load	sht. 3 & 7	
Existing and proposed stormwater lines and facilities	sht. 6	
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots	sht. 8	
Location of Flood Hazard Zone	sht. 3	
Location of all bodies of water and watercourses	sht. 3 (N/A)	
Location of wetlands and buffers	sht. 3 & 4, 5, 6	
Neighborhood plan with aerial underlay showing how project relates to abutting uses within the plan set	sht. 2	
Existing natural features and/or significant vegetation on property	sht. 3	
Depict existing contours up to 100 ft. beyond project limits	sht. 3	
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect	pending	
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces	sht. 5	
Location, material and size of existing and proposed pavement area	sht. 5 & 12	
Location of proposed fire lanes	sht. 5	
Specify finished floor elevations of buildings	sht. 6	
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening	sht. 5	
Depict all service, storage, loading bays and utility areas	sht. 5	
All applicable Dover Common Site Plan notes	all shts.	
13. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis	attached	
Stormwater Management System Operation and Maintenance Plan	attached	
Erosion and Sedimentation Control Plan	"	
Landscape Operation and Maintenance Plan	pending	
Proposed restrictive covenants or homeowners association documents	N/A	
Dates and permit numbers of all required state and federal permits	pending	
If wetland buffer, indicate placards locations, as applicable	determining @ TRC	
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs	N/A	
Location of proposed drive-in facilities	N/A	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required	—	

REVIEWED BY: _____ DATE _____ TRC DATE _____



City of Dover, New Hampshire CONDITIONAL USE PERMIT APPLICATION

[Revision Date: May 18, 2017]

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

APPLICANT AND OWNER INFORMATION

Name of Applicant: DMC Real Estate Holdings, LLC Telephone # 603.767.8859

Address of Applicant: 134 Ten Rod Road, Rochester, NH 03867

E-Mail Address: Chapinvet@gmail.com

Name of Property Owner (if different from applicant): Kevin & Lydia Cooper Telephone # 603.767.9191

Address of Property Owner: 85 Knox Marsh Road, Dover, NH 03820

PROPERTY INFORMATION

Assessor's Map # H Lot(s) # 33

Address of Property: 67 Knox Marsh Road

Zoning District(s) B-4 Overlay District(s) Wetland Protection

Existing Use of Property: Vacant

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:

Urgent care animal hospital and associates access, parking, and utility improvements.

Impact to 50 ft. wetland buffer required to create stormwater treatment/management facilities and minor amount of slope construction. The impacts are quantified on the attached narrative and compared to previously approved project P10-16.

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: _____

NHDOT Driveway Permit and EPA Notice of Intent

Name of Professional That Prepared Plans: Stephen J. Haight, P.E., c/o Civilworks New England

Address P.O. Box 1166, Dover, NH 03821-1166 Telephone #: 603.749.0443

Professional License #: P.E. 7050 E-mail address: shaight@civilworksne.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: _____

Signature of Applicant (if different from owner): [Signature] Date: 10/31/18

Signature of Agent: [Signature] Date: 11/5/18

AUTHORIZATION TO ENTER SUBJECT PROPERTY

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

Signature of Property Owner: [Signature] Date: 11/1/18

Lydia Cohen

11/1/18

**CITY OF DOVER CONDITIONAL USE
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

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

See Attached

ABUTTERS LIST

**Broadview Urgent Care Animal Hospital
NH Route 155, Knox Marsh Road, Dover**

<u>Tax Map</u>	<u>Lot No.</u>	<u>Name & Address</u>
H	18	Dover Bldg. Partners, LLC c/o Evergreen Management 17 Commerce Drive, Bedford, NH 03110-7059
H	18-1	Prolim Development Corp. 114 Old Gage Hill Road, Pelham, NH 03076
H	29-A	Quantum Real Estate Group, LLC 755 Central Avenue, Dover, NH 03820
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H	33-B	Paul B. & Wendy Sue Rowe 81 Knox Marsh Road, Dover, NH 03820
H	33-D	Karil S. Morin Sept 1 1982 Trust, c/o Karil S. Morin, Trustee PO Box 2259, Dover, NH 03821-2259
H	33-E	Denis J. & Nancy K. Quinlan 89 Knox Marsh Road, Dover, NH 03820
Owner of Record:		Kevin & Lydia Cooper 85 Knox Marsh Road, Dover, NH 03820
Applicant:		DMC Real Estate Holdings, LLC 134 Ten Rod Road, Rochester, NH 03867
Engineer:		Civilworks New England P.O. Box 1166, Dover, NH 03821-1166

Tax Map**Lot No.****Name & Address**

Environmental Consultant:

Mark West, CWS, c/o West Environmental, Inc.
48 Stevens Hill Road, Nottingham, NH 03290

Surveyor:

McEneaney Survey Associates, Inc.
P.O. Box 681, Dover, NH 03821-0681

Landscape Architect:

Woodburn & Company
103 Kent Place, Newmarket, NH 03857

**PROJECT NARRATIVE
ACCOMPANYING SITE REVIEW APPLICATION
for
BROADVIEW URGENT CARE ANIMAL HOSPITAL
67 KNOX MARSH ROAD
TAX MAP H, LOT 33**

Project Overview

The proposed project includes construction of an urgent care animal hospital with a gross floor area of approximately 15,800 square feet. The facility will be constructed in two phases with the first phase consisting of 8,000 square feet of first floor hospital space and approximately 3,000 s.f. of second floor office space. The second phase will consist of an additional 4,800 s.f. of hospital space attached to the first phase. An exact schedule for the second phase is yet to be determined, however, the site design, drainage, parking, and utilities have been designed to facilitate permitting of the full buildout of the project.

It is worth noting that this site was permitted in 2011 for a 25,000 sf. mixed-used commercial building which included a donut shop with a drive-thru window, restaurant, dry cleaner with a drive-thru window, and miscellaneous retail and office space (ref. Dover Planning File #P10-16.

Site Location & Characteristics

The project site consists of 5.84 acres and is identified as Lot 33, as shown on Tax Map H. The site is located on the northerly side of Knox Marsh Road, NH Route 155, directly opposite Trestle Way and approximately 1300 ft. west of Route 9. The parcel has 343.3 ft. of frontage on NH Route 155.

The site is located in the Hotel/Retail (B-4) District. Abutting property uses include a commercial site to the east (Sherwood's), residential to the south including single and multi-family in the RM-SU District, two (2) residences to the west, each on 20,000 s.f. lots, and owner of record residence/business to the north and west.

The entire site has been flagged to delineate jurisdictional wetlands by West Environmental, Inc. There are two (2) wetland areas within the site that lie along the easterly boundary and merge off property. As a condition of a Dredge and Fill Permit issued for the property (Permit No. 2006-01642) to facilitate filling of a small, isolated wetland within the parcel, a deed restriction was placed on 1.68 acres of the parcel which overlays the remaining wetlands. The Dredge and fill Permit was implemented and the deed restriction continues to carry with the land.

The project will disturb approximately 93,500 s.f. and accordingly, will not require an Alteration of Terrain Permit from NHDES Water Quality Division. All prescribed analysis and treatment criteria set forth by the City and NHDES has been incorporated in the project design.

Traffic, Access and Parking

A full Traffic Impact and Access Study was prepared for the project by TEPP, LLC in 2010. This study scope was based on a meeting with the City's Transportation Planner on July 16, 2009. The results of this study generally indicated consideration should be given to provisions to accommodate left turns into the site in the eastbound approach on Route 155 as well as right turns for the westbound approach. These "off-site" improvements were addressed through the NHDOT Driveway Permit process which yielded Drive Permit No. 06-1252-367.

Based on the proposed use as an animal hospital, a new trip generation analysis was issued by TEPP, LLC on October 18, 2008 (attached herewith). For purposes of comparison, the following table presents the results of the original and revised trip generation analysis:

Trip Generation Estimate Comparison		
	2018 (new)	2010 (original)
Average Weekday	340	1,731
Weekday AM street peak Hour	59	217
Weekday PM street peak Hour	56	134

It is noteworthy that the current proposal generates roughly 20% of the number of trip ends that the original proposal generated. This information will be used as part of an application to obtain a new Driveway Permit from NHDOT.

Parking calculations in accordance with the City Ordinances indicated a maximum allowable requirement of 44 spaces. Parking has been configured to readily access both facility entrances and employee parking will be designated behind the building.

UTILITIES AND LIGHTING

The proposed facilities will be served by City sewer and water. Letters to Serve have been obtained from the City, Eversource, and Unittel (gas).

Water

A 6-inch water service will be connected to the existing 16-inch main on the northerly side of Knox Marsh Road. This service will provide domestic and fire suppression water supplies to the buildings. An on-site fire hydrant, will be provided based on input from the Dover Fire Department.

Sewer

Sewer service for the building will be provided via a 6-inch and 8-inch service connection to an existing sewer manhole in Trestle Way on the southerly side of Knox Marsh Road. This connection will also facilitate connections of adjacent properties via 2-inch force mains. Appropriate easements and association documents will be provided to facilitate operation and maintenance. The total average daily sewage flow from the proposed project is estimated to be 1,500 gallons per day.

Telephone, Electric, Cable

The public utilities providing electricity and voice/data access are readily available in Knox Marsh Road. These utilities will be underground and coordinated with the respective utilities.

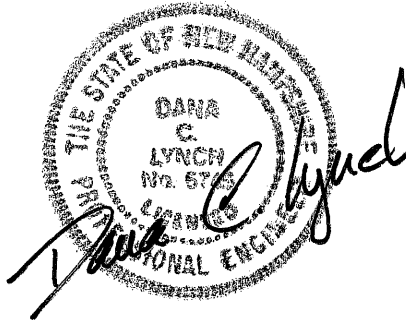
Lighting

Lighting for the site will meet the design criteria set forth in Section 149-14.E of the Dover Site Review Regulations. Lighting will provide adequate safety and security while not causing glare or direct illumination onto adjacent properties.

Standard Traffic Impact Assessment & Analysis

Broadview Urgent Care Animal Hospital

NH Route 155, Knox Marsh Road
Dover, New Hampshire



prepared for:

DMC Real Estate Holdings, LLC
134 Ten Rod Road
Rochester, NH 03867
Contact Person: Wes Chapin, DVM
Tel. No. (603) 767-8859

prepared by:

Civilworks New England
P.O. Box 1166
Dover, NH 03821

October, 2018

Description of Site and Surrounding Land Uses

The proposed project includes construction of an urgent care animal hospital with a gross floor area of approximately 15,800 square feet. The facility will be constructed in two phases with the first phase consisting of 8,000 square feet of first floor hospital space and approximately 3,000 s.f. of second floor office space. The second phase will consist of an additional 4,800 s.f. of hospital space attached to the first phase. An exact schedule for the second phase is yet to be determined, however, the site design, drainage, parking, and utilities have been designed to facilitate permitting of the full buildout of the project.

It is worth noting that this site was permitted in 2011 for a 25,000 sf. mixed-used commercial building which included a donut shop with a drive-thru window, restaurant, dry cleaner with a drive-thru window, and miscellaneous retail and office space (ref. Dover Planning File #P10-16.

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The site is located in the Hotel/Retail (B-4) District. Abutting property uses include a commercial site to the east (Sherwood's), residential to the south including single and multi-family in the RM-SU District, two (2) residences to the west, each on 20,000 s.f. lots, and owner of record residence/business to the north and west.

Description of Roadways

The site fronts on Knox Marsh Road, which is an east-west arterial highway under state jurisdiction as New Hampshire Route 155 (NH 155). To the west, Knox Marsh Road provides connection with the Town of Madbury, Town of Durham and U.S. Route 4, an arterial highway of regional importance. To the east, Knox Marsh Road provides connections with Dover central business district, NH 9, an arterial highway of regional importance and NH 16 (Spaulding Turnpike), a freeway of regional importance.

Knox Marsh Road

The road alignment in this area is relatively straight with minor curvature and grade changes. The road has, per direction, one travel lane about 12 feet (ft.) wide and one shoulder about six ft. wide, with vertical granite curb and a sidewalk about five ft. wide on the southerly side. A double-yellow line separates traffic directions and single-white lines mark shoulders. The posted speed limit is 40 miles per hour (mph).

Trestle Way

Trestle Way is a generally north-south local street under private jurisdiction. It provides access for the Bellamy Commons residential condominiums and intersects Knox Marsh Road directly opposite the proposed project entrance. Trestle Way pavement is about 24 ft. wide with vertical granite curb and a 5 ft. wide sidewalk along the westerly side. The posted speed limit is 15 mph and the intersection with Knox Marsh is STOP-sign controlled. There is a right-turn deceleration lane along Knox Marsh Road into Trestle Way as well as right-turn acceleration lane from Trestle Way onto Knox Marsh Road for eastbound traffic.

SIGHT DISTANCE ANALYSIS

AASHTO has established the authoritative policy for sight distances at unsignalized intersections. Stopping Sight Distance (SSD) is considered at unsignalized intersections. SSD provides for safety and is fundamental to intersection operation. SSD enables a driver, on the major road, to perceive and react accordingly to a vehicle entering the major road from a minor road. SSD is conservative because it encompasses a wide range of brake-reaction times and deceleration rates.¹

TEPP LLC measured relevant available intersection sight distances on October 22, 2018. Table 2 shows that relevant available sight distances exceed:

- AASHTO SSD² for reasonable major-street approach speeds
- The 400-ft. practice of the New Hampshire Department of Transportation

Sight lines should be maintained to prevent inappropriate roadside obstructions or vegetation.

¹ AASHTO, A Policy on Geometric Design of Highways and Streets, Fifth Edition (Washington, DC, 2004), page 651.

² AASHTO, pages 112 through 115.

Table 1: Sight distances for proposed site driveway intersection.			
Direction Along Knox Marsh Road	Major-Street Speed (mph)^a	SSD for Speed (ft.)^b	Available Sight Distance (ft)
To/From the East	45	360	550
To/From the West	45	360	460
^a Reasonable speed based on engineering judgment, often posted speed limit plus five mph.			
^b AASHTO, page 112.			

Trip Generation

A revised trip generation analysis has been prepared by TEPP, LLC, the traffic consultant for the project, and is attached herewith as Appendix 'A'.

In summary, due to the reduced scope and change in proposed use, the trips generated by the proposed are reduced substantially. Below is a comparison of the new proposal and the originally approved proposal from 2011.

Trip Generation Estimate Comparison		
	2018 (new)	2010 (original)
Average Weekday	340	1,731
Weekday AM street peak Hour	59	217
Weekday PM street peak Hour	56	134

Trip Distribution

Pursuant to the Traffic Impact and Access Study prepared for the original project in 2010 by TEPP, LLC, the estimated trip distribution and network assignment for the proposed project is 70 percent to/from Knox Marsh Road to the east of the project and 30 percent to/from the west.

These percentages consider the following:

- The relatively even split of peak-hour bidirectional traffic volumes on Knox Marsh Road
- The proximity of central areas of the City of Dover to the east
- The proximity of the Spaulding Turnpike to the east

Accordingly, the following table presents a summary of Trip Distribution:

Table 3 Trip Distribution Estimates				
	Entering		Exiting	
	EB	WB	EB	WB
Average Weekday Trips	119	51	119	51
Weekday AM Street-peak Hour	27	12	13	6
Weekday PM Street-peak Hour	15	7	24	10

Public Transit

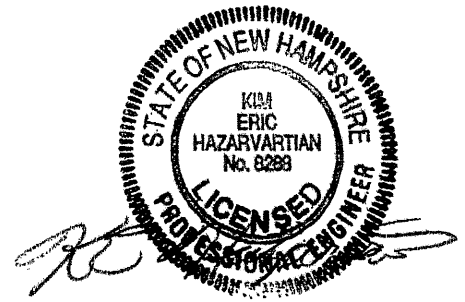
Wildcat service, Route 3A and 3B, are available 4 times per day along Route 155 (Knox Marsh Road) with three (3) stops in Dover including at Trestle Way (EB) and White Cliff Apartments (WB).

Appendix A
Trip Generation Memorandum
Prepared by TEPP, LLC
October 18, 2018

MEMORANDUM

93 Stiles Road, Suite 201, Salem, New Hampshire 03079 USA
800 Turnpike Street, Suite 300, North Andover, Massachusetts 01845 USA
Phone (603) 212-9133 and Fax (603) 226-4108
Email tepp@teppllc.com and Web www.teppllc.com

Ref: 1436
Subject: Trip Generation
Proposed Redevelopment
Dover, New Hampshire
From: Kim Eric Hazarvartian, Ph.D., P.E., PTOE
Principal
Date: October 18, 2018

**INTRODUCTION**

Civilworks New England has retained TEPP LLC to prepare this memorandum.

This memorandum regards calculated trip generation:

- of a proposed animal-hospital redevelopment
- with a floor area of about 15,800 square feet (sf)
- on Knox Marsh Road opposite Trestle Way in the City of Dover, New Hampshire

CALCULATED TRIP GENERATION

The Institute of Transportation Engineers (ITE) publishes trip-generation information in the authoritative reference *Trip Generation Manual*.¹ This information is based on empirical data for many land uses including animal hospital/veterinary clinic, land use 640, based on floor area.²

Table 1 shows calculated vehicle-trip generation as:

- weekday daily, 340 (total of in and out)
- weekday AM street-peak hour, 59 (39 in and 19 out)
- weekday PM street-peak hour, 56 (22 in and 34 out)

¹ ITE, *Trip Generation Manual*, 10th edition (Washington DC, September 2017).

² ITE, *Trip Generation Manual*, 10th edition, Volume 2, Data, Medical, pages 101 to 111.

Table 1. Calculated weekday vehicle-trips.

	Vehicle-Trips ^a		
	Total	In	Out
Daily	340	170	170
AM-Street-Peak Hour	58	39	19
PM-Street-Peak Hour	56	22	34

^a Based on ITE, *Trip Generation Manual*, 10th edition, animal hospital/veterinary hospital, land use 640, 15,800-sf floor area.

POTENTIAL TRAFFIC IMPACTS

The Institute of Transportation Engineers (ITE) suggests that land developments generating at least 100 peak-hour vehicle trips, in the busier direction, are candidates for consideration of traffic impact analysis.³ Calculated peak-hour trip generation is well below this level.

³ ITE, *Manual of Transportation Engineering Studies* (Prentice Hall: Englewood Cliffs, New Jersey, 2000), page 144.

Land Use: 640

Animal Hospital/Veterinary Clinic

Description

An animal hospital or veterinary clinic is a facility that specializes in the medical care and treatment of animals.

Additional Data

Time-of-day distribution data for this land use are presented in Appendix A. For the six general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:30 and 8:30 a.m. and 3:15 and 4:15 p.m., respectively.

The sites were surveyed in the 2000s and the 2010s in California, New Jersey, and Texas.

Source Numbers

597, 662, 878

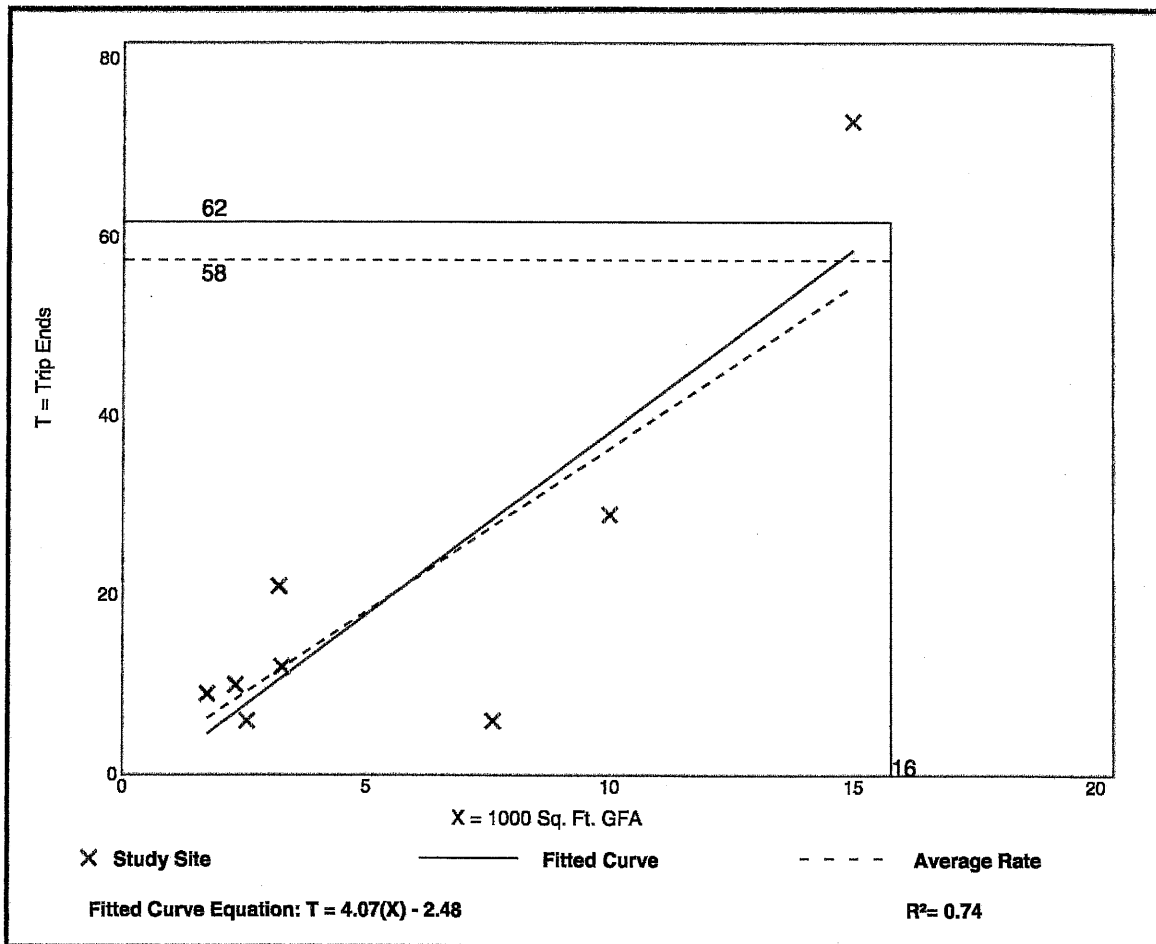
Animal Hospital/Veterinary Clinic
(640)

Vehicle Trip Ends vs:	1000 Sq. Ft. GFA
On a:	Weekday,
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	General Urban/Suburban
Number of Studies:	8
Avg. 1000 Sq. Ft. GFA:	6
Directional Distribution:	67% entering, 33% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.64	0.79 - 6.56	1.78

Data Plot and Equation



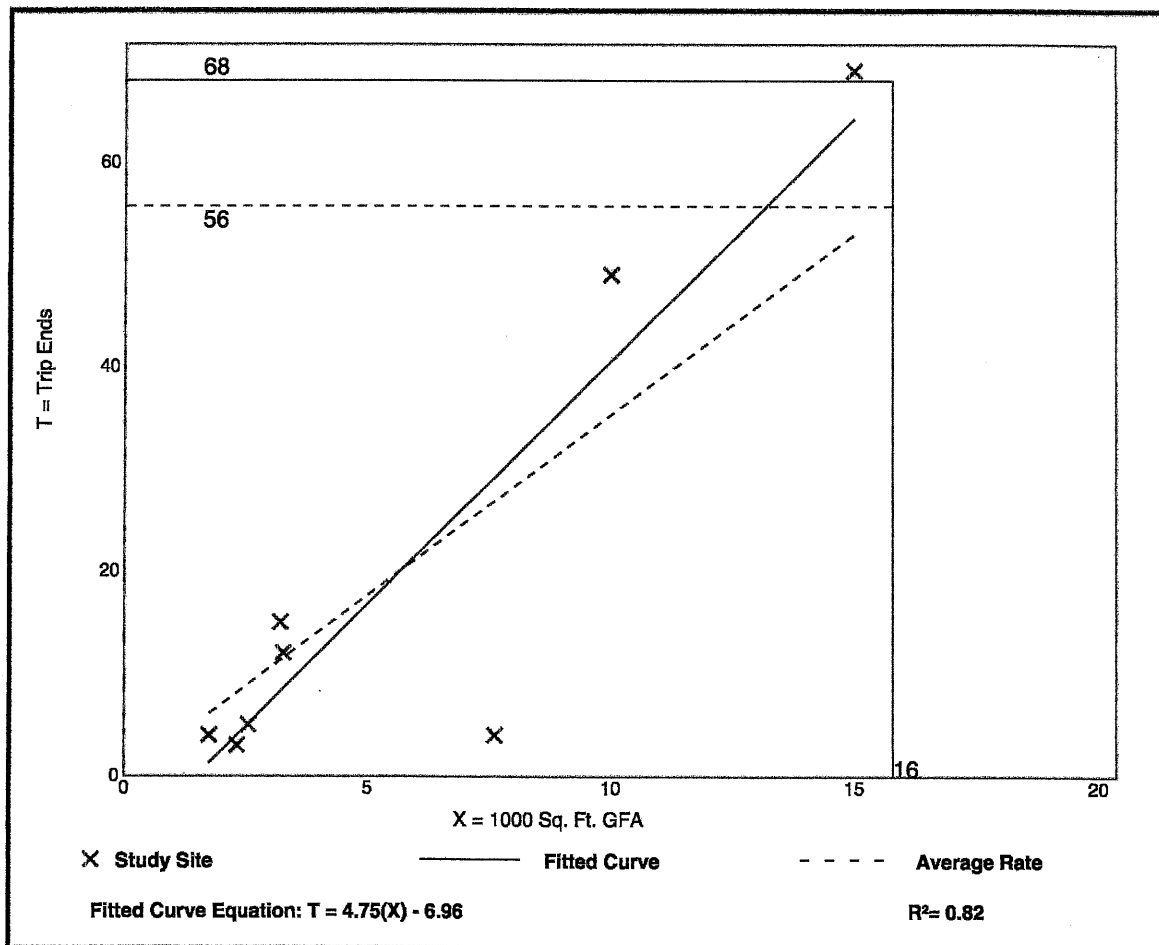
Animal Hospital/Veterinary Clinic (640)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 4 and 6 p.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 8
 Avg. 1000 Sq. Ft. GFA: 6
 Directional Distribution: 40% entering, 60% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

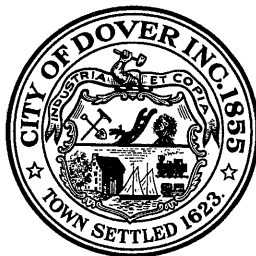
Average Rate	Range of Rates	Standard Deviation
3.53	0.53 - 4.90	1.80

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

DAVE WHITE, P.E.
City Engineer
d.white@dover.nh.gov



288 Central Avenue
Dover, New Hampshire 03820-4169
(603) 516-6450
www.dover.nh.gov

City of Dover, New Hampshire
COMMUNITY SERVICES DEPARTMENT

October 16, 2018

CIVILWORKS NEW ENGLAND
P.O. Box 1166, 181 Watson Road
Dover, NH 03820

RE: Tax Map H Lot 33
Knox Marsh Rd
Dover, NH 03820

To Whom It May Concern:

This letter is written confirmation that the City of Dover can serve the above referenced development with water and sanitary sewer services. Water and sanitary sewer work shall conform to the City's Water and Sewer Ordinances, as well as the requirements of Dover's Community Services Utilities Division. There is also adequate supply and capacity in the water and sewer system. If you have any questions, please feel free to call me at 516-6450.

Sincerely,

Dave White

Dave White, PE
City Engineer



10/16/18

Civilworks, Inc
181 Watson Road
Dover, NH 03820

RE: Natural gas service to 67 Knox Marsh Road, Dover, NH

Unitil's natural gas division has reviewed the requested site for natural gas service.

Unitil hereby confirms natural gas is available to supply service to 67 Knox Marsh Road, Dover, NH.

Please contact me with any questions at 603-294-5144.

Sincerely,

A handwritten signature in black ink, appearing to read "David Beaulieu".

David Beaulieu
Business Development Executive
Unitil
325 West Road
Portsmouth, NH 03801

October 23, 2018

Civil Works New England
Attn Dana Lynch
PO Box 1166
Dover NH 03821-1166

Re: Broad View Animal Hospital
67 Knox Marsh Rd
Dover NH

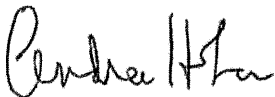
Dear Mr Lynch:

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

**STORMWATER MANAGEMENT SYSTEM
INSPECTION & MAINTENANCE PLAN**

FOR

BROADVIEW URGENT CARE ANIMAL HOSPITAL

**KNOX MARSH ROAD (NH ROUTE 155)
DOVER, NEW HAMPSHIRE**

PREPARED FOR:

**DMC REAL ESTATE HOLDINGS LLC
134 TEN ROD ROAD
ROCHESTER, NH 03867**

PREPARED BY:

**CIVILWORKS NEW ENGLAND
P.O. Box 1166
DOVER, NH 03820**

OCTOBER 2018

Introduction

Civilworks New England has prepared the following Stormwater System Inspection & Maintenance Plan for the Broad View Urgent Care Animal Hospital located on Knox Marsh Road at Tax Map H, Lot 33 in Dover, NH. The intent of this plan is to provide the property manager with a list of procedures that document the inspection and maintenance requirements of the Stormwater Management System for this site.

The following inspection and maintenance program is necessary in order to keep the Stormwater Management System functioning properly. By following the enclosed procedures, the development will be able to maintain the functional design of the Stormwater Management System and maximize its ability to remove sediment and other contaminants from site generated stormwater runoff.

Stormwater Management System Components

The Stormwater Management System is designed to mitigate both the quantity and quality of site-generated stormwater runoff. As a result, its design includes the following elements:

Non-Structural BMP's

Non-structural best management practices (BMP's) are designed to minimize and/or remove contaminants before they enter the stormwater collection system. Several of these BMP's have been incorporated into the Stormwater Management System including pavement sweeping and litter/trash removal. These types of BMP's are a highly effective initial treatment measure for reducing stormwater pollutant loading from pavement surfaces.

Structural BMP's

Structural BMP's are designed to reduce velocities associated with the offsite discharge of site generated stormwater runoff. BMP's incorporated into this Stormwater Management System include riprap outlet protection. These types of BMP's are an effective measure for reducing velocity induced downstream erosion.

Closed Drainage Collection and Piping System

The closed drainage system is designed to collect and convey stormwater runoff from paved and grassed areas to the detention pond and ultimately the treatment swales. Stormwater is collected by catch basins located in the parking area of the site and an inlet pipe in a portion of the grassed lawn. These catch basins are designed with deep sumps to provide storage areas for sediment and floatable pollutants.

Detention Pond

The detention pond is designed to provide storage to mitigate an increase to peak flow volumes as well as mitigate the hydraulic residence time of stormwater through treatment swale #2.

Treatment Swales

The treatment swales are designed to capture runoff from impervious surfaces to reduce the velocity of runoff thus allowing for maximum filtration and thereby increasing the efficiency of pollutant removal.

Inspection and Maintenance Plan

By implementing the following procedures, the Property Manager will be able to maintain the functional design of the Stormwater Management System and maximize the system's ability to remove sediment and other contaminants from site-generated stormwater runoff, mitigate the increased peak flow rate, and prevent velocity induced erosion.

Pavement Sweeping

- Sweep all pavement areas a minimum of two (2) times per year, or more as necessary.

Litter/Trash Removal

- Routinely inspect dumpster locations for spillage and clean as necessary.
- Routinely patrol site for litter pick up.

Rip Rap

- Inspect rip rap yearly.
- Replace and chink displaced stones as necessary.
- Remove all vegetation from rip rap as necessary.

Closed Drainage Collection and Piping System

- Inspect catch basins once annually, and remove accumulated sand, sediment, and floatable products.
- Inspect drain manholes and drainage pipes once every two years and remove accumulated sediment.
- Care should be taken to not flush sediments into the treatment swales.
- Any repairs needed should be undertaken as soon as practical.

Detention Pond

- Inspect the pond outlet structure once annually, and remove sand, accumulated sediments, and floatable products.
- Inspect outlet pipe once every two years and remove accumulated sediment.
- Inspect pond once annually for sediment and remove as required.
- Inspect pond vegetation at least once annually, and re-plant as necessary.
- Any repairs needed should be undertaken as soon as practical.

Treatment Swale

- Inspect swales for erosion at least once annually and clean/repair as necessary.
- The vegetated swales should be mowed at least monthly during the growing season and brush and trees must not be allowed to become established in the channel.

Annual Report

- Submit an annual Inspection & Maintenance Report to the Dover Engineering Department at the end of each year (by December 15th). The report should include a summary of the system's maintenance requirements, repairs, and copies of the Inspection & Maintenance Log Sheets.

Inspection & Maintenance Checklist/Log

The following pages contain an Inspection & Maintenance Checklist and a blank copy of the Stormwater Management System's Inspection & Maintenance Log. These forms are provided to assist with the inspection and maintenance of the aforementioned Stormwater Management System.

Stormwater Management System Inspection/Maintenance Checklist

BMP / System Component	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance / Cleanup Threshold
Pavement Sweeping	Two (2) times per year April/October	N/A	N/A
Litter / Trash Removal	Routinely	Inspect dumpsters, perimeter of parking areas for spillage.	Clean as required
Rip Rap:			
Stone Placement	One time per year	Inspect for stone displacement, erosion, etc	Repair as needed
Vegetation	One time per year	Inspect for vegetation	Cut vegetation to prevent growth
Closed Drainage System:			
Catch Basins	Once annually	Check for sediment accumulation	≥ 2 ft. sediment depth
		Check for floatable contaminants	≥ 3 in. floatable depth
Drain Manholes	One time per two years	Check for sediment accumulation/clogging	≥ 2 in. sediment depth
Drainage Pipes	One time per two years	Check for sediment accumulation/clogging	≥ 2 in. sediment depth
Detention Pond:			
Side Slopes / Vegetation	Once annually	Inspect for erosion and bare soil areas	Repair/reseed/replant damaged areas
Basin Bottom	Once annually	Inspect for erosion, bare soil, and sediment accumulation	Repair/reseed/replant damaged areas and remove sediment as needed
Outlet Structure/Pipe	Once annually	Check for sediment accumulation	≥ 2 in. sediment depth
		Check for floatable contaminants	≥ 0 in. floatable depth
		Inspect orifices and trash rack for debris	Clean as required
Treatment Swales:			
Side Slopes / Bottom	Once annually	Inspect for erosion and bare soil areas	Repair/reseed damaged areas
Vegetation	Once annually	Mow approximately monthly	Maintain 4" stand of vegetation Prevent woody vegetation
Annual Report	One time per year (by 12/15)	Submit Annual Report, including all Inspection & Maintenance Logs to the Dover Engineering Dept.	

Stormwater Management System Inspection & Maintenance Log

BMP / System Component	Date Inspected	Inspector	Cleaning/Repair Needed (List Items / Comments)	Date of Cleaning / Repair	Performed By
Pavement					
Litter / Trash Removal					
Rip Rap					
Closed Drainage System:					
Catch Basins					
Drain Manholes					
Drainage Pipes					
Detention Pond:					
Side Slopes / Vegetation					
Basin Bottom					
Outlet Structure/Pipe					
Treatment Swales:					
Side Slopes / Bottom					
Vegetation					
Annual Report					

Landscape Operation & Maintenance Plan For Broadview Urgent Care Animal Hospital

Weekly Tasks

1. Mow and edge lawns if needed. Lawns to be cut to 3.5" height.
2. Prune back any shrubs overhanging curbs or sidewalks.
3. Prune back any groundcover overhanging curbs or sidewalks.
4. Remove litter and leaves from plants, planters, and parking lots.
5. Remove any broken or fallen branches from trees. Remove sucker growth from tree trunks.
6. Remove any weeds larger than 2 inches (5 cm) high or wide from planters. Weeds 2 inches (5 cm) and larger must be removed, not just killed.
7. Replace bark mulch which has been knocked or washed out of planters. Smooth mulch layer if it has been disturbed.
8. Replace decorative rock which has been knocked or washed out of drip strips. Smooth decorative rock surface if it has been disturbed.
9. Check plants for signs of stress, pests or disease. Request authorization to replace other dead or missing plants. Note: Maintenance contractor must request authorization to make replacements within one week of the damage becoming evident.
10. Sweep or blow clean all walkways, curbs, and gutters.
11. Treat for any signs of disease or pest infestation.
12. Complete any items required on the Monthly Checklist.
13. Hand water any plants that are dry and stressed.
14. Check the irrigation system (if there is a system). Make emergency repairs as needed or request authorization to make major repairs. Note: Maintenance contractor must request authorization for repairs within one week of the damage becoming evident.
15. Adjust the irrigation controllers for current water needs of plants.
16. **Gently prune shrubs at appropriate time of year based on species, for shape and form. DO NOT shear.**

Yearly Tasks

Early Spring

1. Prune any tree branches that interfere with public safety. Prune all parking lot and street trees yearly to encourage strong growth.
2. Apply granular fertilizer to shrubs beds and lawns. Be sure to make application prior to a moderate rainfall in drip-irrigated planters so the rain will wash the fertilizer in.
3. Submit receipts to owner's authorized representative as proof of fertilizer purchase.
4. Trim any perennial foliage left in the fall for winter interest to within six inches of the ground.
5. Add new mulch to planters where the mulch depth has been reduced to less than 2 inches (5 cm) thick. Mulch depth shall not exceed 2". Additional mulch not required where shrubs or groundcover completely hide the soil surface from view.

6. Where there is irrigation and after threat of frost is gone, flush out irrigation systems as needed and check for proper operation of each valve zone.
7. Clean or replace plugged sprinkler nozzles. Replace plugged drip emitters.
8. Replace irrigation controller program back-up batteries.

June:

No additional items

July:

No additional items

August:

No additional items

September:

1. Inventory all plant materials. Inventory shall include an exact count of all shrubs and trees, itemized by planter. Replace any dead or missing plants.

October:

1. Prepare irrigation system for winter. Make sure backflow preventer is well insulated or drained prior to first freeze. Blow out pipes using compressed air in areas where freezing could result in breakage.
2. Mow field areas.

November:

1. "WILT-PRUF" broadleaf evergreens when temperature permits.

December:

1. Prune any tree branches that interfere with public safety. Prune all parking lot and street trees yearly to encourage strong growth.

CIVILWORKS NEW ENGLAND

181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443 FAX: 603.749.7348

December 26, 2018

Mr. Christopher Parker
Assistant City Manager/Director of Planning
City of Dover
288 Central Ave
Dover, NH 03820

Subject: Broadview Urgent Care Animal Hospital
67 Knox Marsh Road (Map H, Lot 33)
Dover, NH 03820
Our Reference No. 18031

Re: Site Review Application (P18-57)

Dear Mr. Parker:

On behalf of our client, DMC Real Estate Holdings, LLC we are pleased to submit the following in support of the planning board application. Outlined below are responses to each of the November 29, 2018 TRC comments.

Planning review comments:

- The project proponent will pay the water/sewer investment fee when appropriate.
- The project proponent is planning to construct phase I at this time. There is no definitive timeframe for phase II at this time.
- Note 17 on sheet 5 has been removed.
- The landscape plan was submitted at TRC and is included in the plan set as is the streetscape plan. The Landscape O&M is attached herewith.
- The notes for the project have been consolidated onto a common note sheet as plan sheet 4 in the plan set. Common notes 35, 36 & 37 have been added.
- The owner's signatures will be added to the final plan submitted for PB signature.
- The project LLS, PE, and Landscape Architect signatures and stamps will be added to the final plan
- The note regarding property address has been added as note #17 on the note sheet and updated to "building official"
- The sewer easement is shown on the site plan and it does not conflict with front yard/parking/access.
- The existing fence is shown on the existing conditions plan.
- The zoning table has been updated on sheet 4 of the plan set.
- The orientation of the existing conditions plan is now consistent throughout the plan set.
- The landscape plan identifies plantings to address visual buffer.
- The plans have been updated to be consistent with the zoning setback lines
- Detail of the proposed sign has been added to the detail sheet.

- A note has been added to the site plan indicating that the pylon sign must be low planter or monument type.
- The building elevation drawings have been updated and are included in the plan set.
- A note has been added to plan sheet 4 to indicate the permits required as pending.
- The existing conditions plan has been updated to indicate the zoning boundaries.
- Additional lights have been added to the site to boost light levels near the building and at the site entrance.
- Snow storage areas have been delineated along the south and west sides of the site.
- A note has been added to the note sheet under the site notes that the project proponent shall place wetland buffer placards along the buffer line.

Engineering review Comments:

- The utility plan has been updated to include the water gates.
- The stormwater maintenance manual indicates low salt use.
- The easement to lot 33A was a holdover from the former site plan approval and has been removed.
- The project proponent will complete the PTAPP tracking form as part of the final approval paperwork for the planning board.

Police Department review Comments:

- The note on the site plan refers to off-site improvements that will be dictated by NHDOT as part of their approval of the driveway permit. This permit is pending.
- There will be no equestrian services at this facility.
- There will be no onsite cremation.
- As discussed at the TRC the dumpster area will be fenced and policed as part of the normal site maintenance.
- The note #5 on the plan reviewed has been removed.
- The note regarding the security system has been updated to be consistent with the police department comment. The project proponent plans to have an alarm system for the building.

Fire/Inspection review Comments:

- A note has been added to the site plan indicating that the pylon sign must be low planter or monument type.
- The project proponent plans to include the street address on the sign.
- Entrance and exit locations were discussed at TRC. Subsequent to the TRC meeting the building designer contacted Inspection services to review and discuss the building layout. The updated plans are included in the plan package.
- The handicap signs will be in bollards placed in the curb line.
- The standard note regarding compliance with accessibility regulations

We look forward to discussing this application with the Planning Board after having been reviewed and endorsed by City Staff.

If you have any questions please do not hesitate to contact our office.

Sincerely,

CIVILWORKS NEW ENGLAND

A handwritten signature in black ink, appearing to read "S. Haight", with a horizontal line extending to the right.

Stephen J Haight, PE

SJH

CIVILWORKS NEW ENGLAND

181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443 FAX: 603.749.7348

December 26, 2018

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CIVILWORKS NEW ENGLAND

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Stephen J Haight, PE

SJH

Landscape Operation & Maintenance Plan For Broadview Urgent Care Animal Hospital

Weekly Tasks

1. Mow and edge lawns if needed. Lawns to be cut to 3.5" height.
2. Prune back any shrubs overhanging curbs or sidewalks.
3. Prune back any groundcover overhanging curbs or sidewalks.
4. Remove litter and leaves from plants, planters, and parking lots.
5. Remove any broken or fallen branches from trees. Remove sucker growth from tree trunks.
6. Remove any weeds larger than 2 inches (5 cm) high or wide from planters. Weeds 2 inches (5 cm) and larger must be removed, not just killed.
7. Replace bark mulch which has been knocked or washed out of planters. Smooth mulch layer if it has been disturbed.
8. Replace decorative rock which has been knocked or washed out of drip strips. Smooth decorative rock surface if it has been disturbed.
9. Check plants for signs of stress, pests or disease. Request authorization to replace other dead or missing plants. Note: Maintenance contractor must request authorization to make replacements within one week of the damage becoming evident.
10. Sweep or blow clean all walkways, curbs, and gutters.
11. Treat for any signs of disease or pest infestation.
12. Complete any items required on the Monthly Checklist.
13. Hand water any plants that are dry and stressed.
14. Check the irrigation system (if there is a system). Make emergency repairs as needed or request authorization to make major repairs. Note: Maintenance contractor must request authorization for repairs within one week of the damage becoming evident.
15. Adjust the irrigation controllers for current water needs of plants.
16. **Gently prune shrubs at appropriate time of year based on species, for shape and form. DO NOT shear.**

Yearly Tasks

Early Spring

1. Prune any tree branches that interfere with public safety. Prune all parking lot and street trees yearly to encourage strong growth.
2. Apply granular fertilizer to shrubs beds and lawns. Be sure to make application prior to a moderate rainfall in drip-irrigated planters so the rain will wash the fertilizer in.
3. Submit receipts to owner's authorized representative as proof of fertilizer purchase.
4. Trim any perennial foliage left in the fall for winter interest to within six inches of the ground.
5. Add new mulch to planters where the mulch depth has been reduced to less than 2 inches (5 cm) thick. Mulch depth shall not exceed 2". Additional mulch not required where shrubs or groundcover completely hide the soil surface from view.

6. Where there is irrigation and after threat of frost is gone, flush out irrigation systems as needed and check for proper operation of each valve zone.
7. Clean or replace plugged sprinkler nozzles. Replace plugged drip emitters.
8. Replace irrigation controller program back-up batteries.

June:

No additional items

July:

No additional items

August:

No additional items

September:

1. Inventory all plant materials. Inventory shall include an exact count of all shrubs and trees, itemized by planter. Replace any dead or missing plants.

October:

1. Prepare irrigation system for winter. Make sure backflow preventer is well insulated or drained prior to first freeze. Blow out pipes using compressed air in areas where freezing could result in breakage.
2. Mow field areas.

November:

1. "WILT-PRUF" broadleaf evergreens when temperature permits.

December:

1. Prune any tree branches that interfere with public safety. Prune all parking lot and street trees yearly to encourage strong growth.

SITE PLAN

BROADVIEW URGENT CARE ANIMAL HOSPITAL
TAX MAP H, LOT 33
KNOX MARSH ROAD (NH ROUTE 155)
DOVER, NEW HAMPSHIRE

DOVER PLANNING FILE NO.: P18-57
NOVEMBER 6, 2018
REVISED: DECEMBER 20, 2018

OWNERS OF RECORD: KEVIN & LYDIA COOPER
85 KNOX MARSH ROAD
DOVER, NH 03820
603-767-9191

APPLICANT: DMC REAL ESTATE HOLDINGS LLC
134 TEN ROD ROAD
ROCHESTER, NH 03867
603-767-8859

SITE ENGINEERING BY: CIVILWORKS NEW ENGLAND
P.O. BOX 1166
181 WATSON ROAD
DOVER, NH 03821
603-749-0443

SOIL/WETLAND SCIENTIST: MARK WEST, C.W.S.
48 STEVENS HILL ROAD
NOTTINGHAM, NH 03290

LANDSCAPE ARCHITECT: WOODBURN & COMPANY
103 KENT PLACE
NEWMARKET, NH 03857
603-659-5949

ABUTTERS LIST
(WITHIN 200 FT)

<u>TAX MAP</u>	<u>LOT NO.</u>	<u>NAME & ADDRESS</u>
H	18	DOVER BUILDING PARTNERS, LLC C/O EVERGREEN MGMT 17 COMMERCE DR. BEDFORD, NH 03110-7059
H	18-1	PROLIM DEVELOPMENT CORP. 114 OLD GAGE HILL ROAD PELHAM, NH 03076
H	29-A	QUANTUM REAL ESTATE GROUP, LLC 755 CENTRAL AVE. DOVER, NH 03820
H	32-A-1	ROBERT & MARILYN SHERWOOD FAMILY REVOCABLE TRUST 11 LISA BETH CIRCLE DOVER, NH 03820
H	33-A	KEVIN & LYDIA COOPER 85 KNOX MARSH ROAD DOVER, NH 03820
H	33-B	PAUL B. & WENDY SUE ROWE 81 KNOX MARSH ROAD DOVER, NH 03820
H	33-D	KARIL S. MORIN SEPT 1 1982 TRUST P.O. BOX 2259, 77 KNOX MARSH ROAD DOVER, NH 03820
H	33-E	DENIS J. & NANCY K. QUINLAN 89 KNOX MARSH ROAD DOVER, NH 03820



Location Map
scale 1" = 1000'

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Signature Block:

Owner of Record

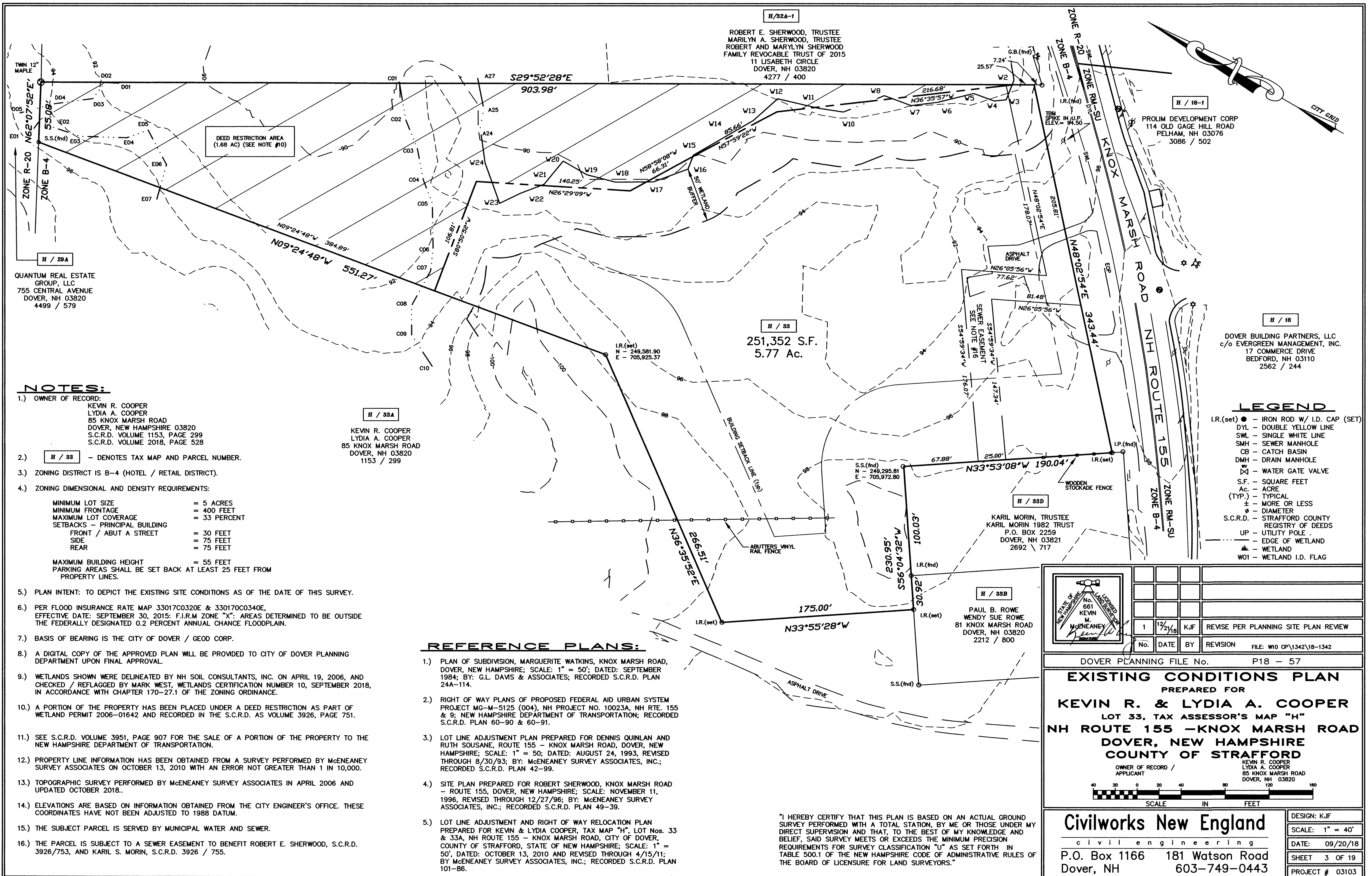
Kevin Cooper

Date _____

Applicant:

DMC Real Estate Holdings, LLC

Date _____



REFERENCE PLAN:

1. EXISTING CONDITIONS PLAN PREPARED FOR KEVIN R. & LYDIA A. COOPER; LOT 33, TAX ASSESSOR'S MAP "H" NH ROUTE 155 – KNOX MARSH ROAD, DOVER, NEW HAMPSHIRE COUNTY OF STRAFFORD; DATED: 09–20–18; PREPARED BY: CIVILWORKS NEW ENGLAND.

SITE NOTES:

1. THIS PLAN IS INTENDED TO DEPICT THE SITE IMPROVEMENTS AND LAYOUT ASSOCIATED WITH A PROPOSED ANIMAL HOSPITAL.
2. THE SUBJECT PARCELS ARE SHOWN AS LOT 33 ON THE CITY OF DOVER TAX MAP H.
3. THE SUBJECT PARCELS ARE LOCATED IN THE B–4, HOTEL, RETAIL DISTRICT AND ARE SUBJECT TO THE FOLLOWING REGULATIONS:
- | | |
|-------------------------|--------------|
| MINIMUM LOT SIZE | = 5 ACRES |
| MINIMUM FRONTAGE | = 400 FEET |
| MINIMUM SETBACKS* | |
| FRONT | = 30 FEET |
| SIDE | = 75 FEET |
| REAR | = 75 FEET |
| MAXIMUM LOT COVERAGE | = 33 PERCENT |
| MAXIMUM BUILDING HEIGHT | = 55 FEET |
| MINIMUM PARKING SETBACK | = 25 FEET |
4. SEE OVERALL SITE PLAN FOR LAND USE AND PARKING CALCULATIONS.
5. BOUNDARY INFORMATION OBTAINED FROM REFERENCE PLAN NO. 1.
6. TOPOGRAPHIC SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES, INC., MAY, 2006, NOVEMBER, 2009 AND OCTOBER, 2018.
7. THIS PLAN SHOWS ONLY THOSE FEATURES THAT WERE VISUALLY APPARENT AT THE TIME OF THE TOPOGRAPHIC SURVEY PERFORMED. THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC. FROM THIS PLAN, BUT IN EXISTENCE, IS NOT INTENDED OR IMPLIED.
8. HORIZONTAL AND VERTICAL DATUM SHOWN IS BASED UPON THE CITY OF DOVER GEOD COORDINATE GRID, BASED UPON INFORMATION PROVIDED BY CITY OF DOVER ENGINEER'S OFFICE.
9. 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–BUILTS SHALL BE PREPARED AND CERTIFIED CORRECT BY AN L.L.S. OR P.E. DIGITAL FILES SHALL BE GEO–REFERENCED TO NH STATE PLANE.
10. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE CITY AND STATE CODES.
11. A PRE–CONSTRUCTION CONFERENCE WITH THE DEVELOPER, THE DESIGN ENGINEER, THE SITE CONTRACTOR, AND THE CITY ENGINEER SHALL OCCUR PRIOR TO ANY EARTH DISTURBANCE ACTIVITY.
12. ALL TEMPORARY LOAM STOCKPILES SHALL RECEIVE TEMPORARY EROSION CONTROL MEASURES.
13. A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURRING.
14. 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 1–888–344–7233.
15. SEE DETAILS FOR SIGN LEGENDS.
16. CARE SHALL BE TAKEN TO PRESERVE LARGE TREES LOCATED ALONG THE BOUNDARY WITH LOT 33D. CHANGES IN GRADE OR LANDSCAPING SHALL BE COORDINATED WITH THE OWNER'S REP. ENGINEER AND LANDSCAPE ARCHITECT AND APPROVED BY PLANNING BOARD.
17. BUILDING ADDRESS SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
18. THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS. THE PROPOSED STRUCTURE WILL BE ALSO BE DESIGNED IN ACCORDANCE WITH APPLICABLE REGULATIONS.
19. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM WITH DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICE DIRECTOR.
20. THE PLANS AND SPECIFICATIONS ARE INTENDED TO BE EXPLANATORY OF THE WORK TO BE DONE AND OF EACH OTHER. SHOULD ANY OMISSIONS, 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.
21. CONTACT INDIVIDUAL UTILITY COMPANIES TO DETERMINE CONDUIT SIZE AND SCHEDULES. ALL ON–SITE UTILITIES SHALL BE INSTALLED UNDERGROUND.
22. 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.
23. BACKFLOW PREVENTORS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
24. SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 58, ARTICLE I, SECTION 58–2 OF THE CODE OF THE CITY OF DOVER.
25. PROVIDE 6" P.V.C., SDR 35 PERFORATED PERIMETER DRAINS AROUND THE OUTSIDE OF THE BASEMENT FOOTINGS. SEE BUILDING PLANS BY OTHERS FOR CONSTRUCTION DETAILS.
26. EXTERIOR LIGHTING SHALL BE CUT OFF TYPE FIXTURES PER CHAPTER 149–14–E AND SHALL PROVIDE LIGHTING DIRECTED ON SITE ONLY. (SEE LIGHTING PLAN FOR LIGHT LOCATIONS AND SPECIFICATIONS).

SITE NOTES CONT.:

27. PAVEMENT /PARKING STRIPING TO BE 4" WIDE/WHITE.
28. STRAFFORD COUNTY REGISTRY OF DEEDS REFERENCE NO. BOOK 2018, PAGE 528.
29. JURISDICTIONAL WETLANDS DELINEATED BY MARK WEST, CERTIFIED WETLAND SCIENTIST ON NO. 10 SEPTEMBER ACCORDANCE WITH CHAPTER 170–27.1 OF THE ZONING ORDINANCE AND THE 1987 CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, TECHNICAL REPORT Y–87–1.
30. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY–FRIDAY 7 AM–6 PM, SATURDAY AND SUNDAY 9 AM–4 PM. HOURS OF CONSTRUCTION MUST BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH THE CONTACT INFORMATION FOR GENERAL CONTRACTOR. SAID SIGNAGE MUST BE LOCATED AND APPROVED BY THE CITY ENGINEER OR ASSISTANT CITY MANAGER.
31. 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.
32. A CONDITIONAL USE APPROVAL PURSUANT TO SECTION 170–27.1 (F) FOR 5,901 S.F. OF ENCROACHMENT IN THE 50 FOOT WETLAND BUFFER FOR SLOPES AND CONSTRUCTION OF DRAINAGE IMPROVEMENTS ASSOCIATED WITH WETLAND COMPENSATION REQUESTED BY THE DOVER CONSERVATION COMMISSION & NHDES ALTERATION OF TERRAIN PERMIT GUIDELINES AND STANDARDS: PENDING
33. NHDOT DRIVEWAY PERMIT: PENDING
34. EPA NOI: PENDING
35. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY AND STATE CODES.
36. 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.
37. 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. ON–SITE SNOW STORAGE SHALL OCCUR ALONG THE EDGES OF PROPOSED PAVEMENT.
38. LAYOUT OF BUILDING CORNERS SHALL BE PERFORMED BY A LICENSED LAND SURVEYOR AND SHALL BE BASED UPON THE ARCHITECT'S FINAL FOUNDATION PLAN AND ALL SITE LAYOUT SHALL BE PERFORMED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR UNDER CONTRACT WITH THE CONTRACTOR.
39. 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.
40. 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.
41. 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.
42. THE SITE DESIGN IS IN COMPLIANCE WITH THE APPLICABLE ACCESSIBILITY REGULATIONS 2009 IBC AND ANSI STANDARDS.
43. 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 DISTURBAIN ACTIVITY OCCURS.
44. THE PROJECT PROPONENT SHALL PLACE WETLAND BUFFER PLACARDS ALONG THE BUFFER LINE.

GRADING NOTES:

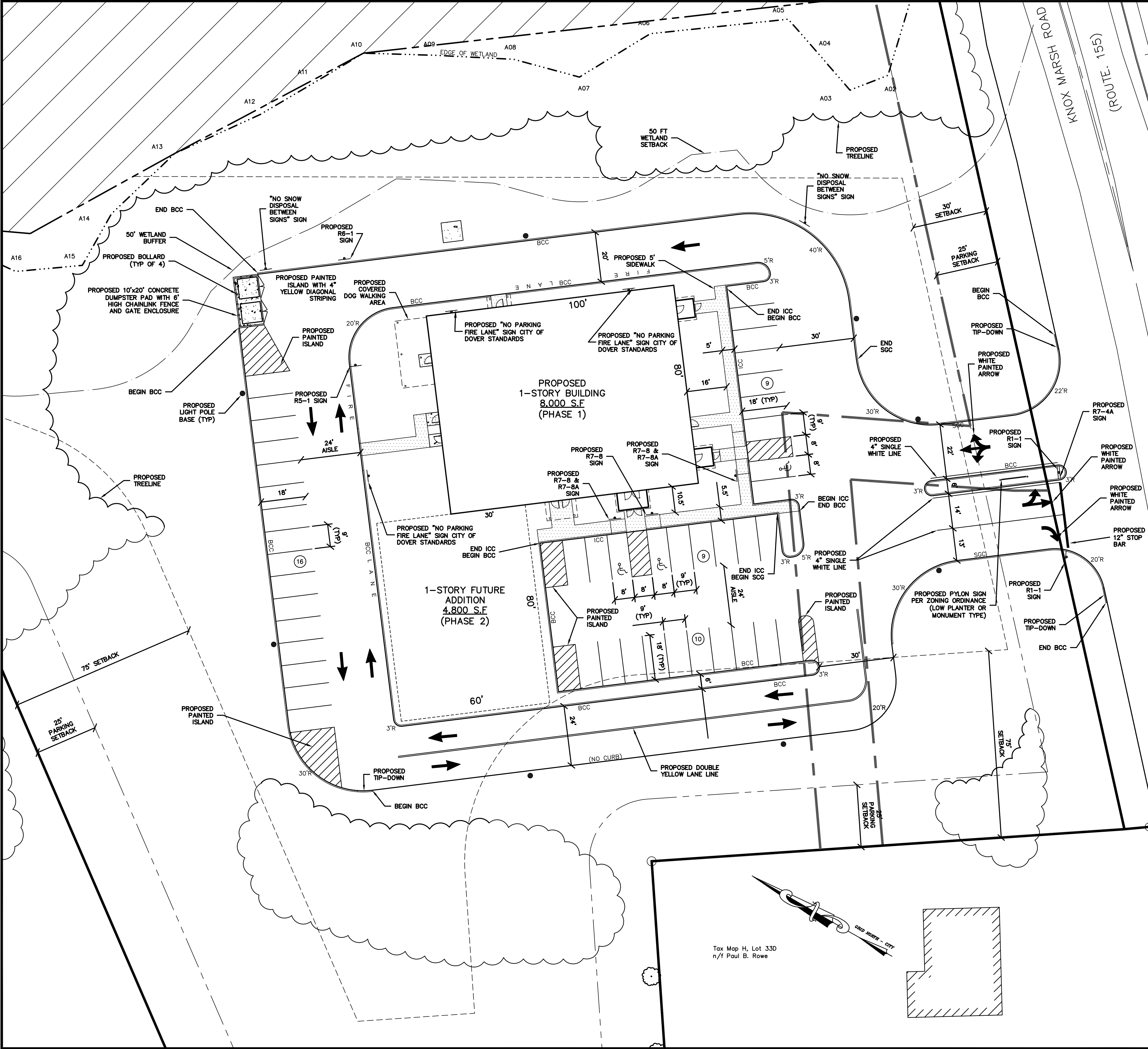
1. ALL WATER, SEWER, ROAD (INCLUDING PARKING LOT AND DRAINAGE) WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR CONSTRUCTION OF THE CITY OF DOVER, N.H. AND "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION", LATEST EDITION. THE MORE STRINGENT SPECIFICATION SHALL APPLY.
2. TOTAL AREA OF SOIL DISTURBANCE IS APPROXIMATELY 93,000 S.F.
3. 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".
4. SEE SHEET 10 FOR DETAILS OF TEMPORARY AND PERMANENT EROSION CONTROL MEASURES.
5. SEE NOTES ON COVER SHEET, 1 OF 20.
6. ALL DRAINAGE PIPES SHALL BE HDPE OR APPROVED EQUAL UNLESS OTHERWISE NOTED.
7. BUILDING SHALL BE CONSTRUCTED WITH FOUNDATION DRAINS PER STRUCTURAL DRAWINGS. SEE THIS PLAN FOR OUTLET LOCATION & ELEVATION.
8. 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.
9. ROOF DRAINS SHOWN SHALL BE 6" PVC UNLESS OTHERWISE NOTED.
10. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN THE 50' OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS.
11. ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.
12. 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 DISTURBING ACTIVITY.
13. 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.
14. ALL DRAINAGE PIPES SHALL BE HDPE UNLESS OTHERWISE NOTED.

UTILITY NOTES:

1. THE PROJECT SITE IS SERVED BY MUNICIPAL SEWER AND WATER SERVICES.
2. 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.
3. ALL PROPOSED UTILITY SERVICES SHALL BE UNDERGROUND WITHIN THE SITE.
4. UNDERGROUND ELECTRIC, TELEPHONE, AND CABLE TV CONDUITS SHALL BE INSTALLED IN ACCORDANCE WITH/PER EVERSOURCE, FAIRPOINT AND COMCAST STANDARDS.
5. PROPOSED INSTALLATION OF UNDERGROUND CONDUITS FOR TELEPHONE, ELECTRIC AND ELECTRICAL TRANSFORMER PAD AND GAS SERVICE SHALL BE COORDINATED WITH THE RESPECTIVE UTILITIES AND INSTALLED PER THEIR STANDARDS DETAILS AND SPECIFICATIONS.
6. SEWAGE FLOW CALCULATIONS: SEWAGE FLOW RATES FOR THE PROPOSED USE DO NOT APPEAR IN NHDES UNITS DESIGN FLOW FIGURES (TABLE 1008–1) OR IN THE NHDES SEWER SYSTEM DESIGN STANDARDS REFERENCE DOCUMENT ENTITLED " WASTERWATER ENGINEERING TREATMENT & RESOURCE RECOVERY", BY METEAL F & EDDY, 5TH EDITION 2014
- BASED ON DATA OBTAINED BY THE APPLICANT FOR SIMILAR FACILITIES AVERAGE MONTHLY FLOWS ARE BETWEEN 40,000 AND 50,000 GALLONS PER MONTH, OR N AVERAGE OF APPROXIMATELY 1,500 GALLONS PER DAY.
7. SEE GRADING AND DRAINAGE SHEET FOR ROOF DRAIN INFORMATION.
8. PROPOSED UTILITIES THAT INTERSECT PROPOSED DRAINAGE PIPES SHALL BE INSTALLED BENEATH THE DRAINAGE PIPE WITH A MINIMUM VERTICAL SEPARATION OF 1 FOOT.
9. CONNECTION TO THE EXISTING 16" WATER MAIN IN KNOX MARSH ROAD SHALL BE COORDINATED WITH THE CITY OF DOVER COMMUNITY SERVICES DEPT.
10. A TRENCH PERMIT SHALL BE OBTAINED FROM NHDOT BY THE CONTRACTOR FOR JACKING A SLEEVE BENEATH ROUTE 155 FOR SEWER INSTALLATION (TEL. 868–1133).
11. SEE ELECTRICAL DRAWINGS AND DETAILS FOR OUTDOOR LIGHTING CONDUIT LOCATIONS.
12. SEWER EXTENSION FROM EXISTING SEWER AT TRESTLE WAY UP TO, AND INCLUDING, PSMH1 SHALL BE CONSIDERED PUBLIC SEWER.
13. APPROVED BACKFLOW PREVENTORS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
14. SPRINKLER CONNECTIONS MUST BE FLUSHED IN ACCORDANCE WITH NFPA 24 AND A CONTRACTOR'S MATERIAL AND TEST CERTIFICATION FOR UNDERGROUND PIPING FROM MUST BE COMPLETED.
15. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13.

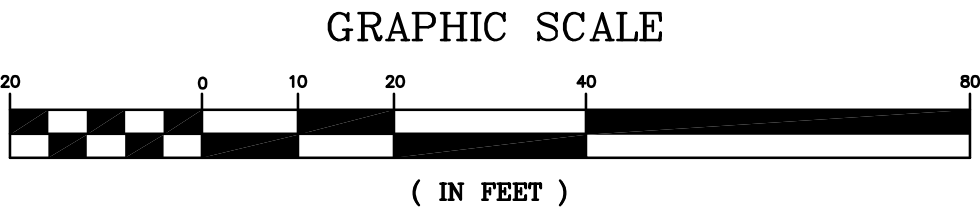


NOTE SHEET		NOT FOR CONSTRUCTION FOR PERMIT USE ONLY			
		DOVER PLANNING FILE NO.: P18–57			
BROADVIEW URGENT CARE ANIMAL HOSPITAL 67 KNOX MARSH ROAD TAX MAP "H", LOT 33 DOVER, NEW HAMPSHIRE	APPLICANT:	DMC REAL ESTATE HOLDINGS LLC 134 TEN ROD ROAD ROCHESTER, NH 03867			
	4	CIVILWORKS NEW ENGLAND CIVIL ENGINEERING 181 Watson Road, P.O. Box 1166 Dover, New Hampshire 03820 (603) 749-0443			

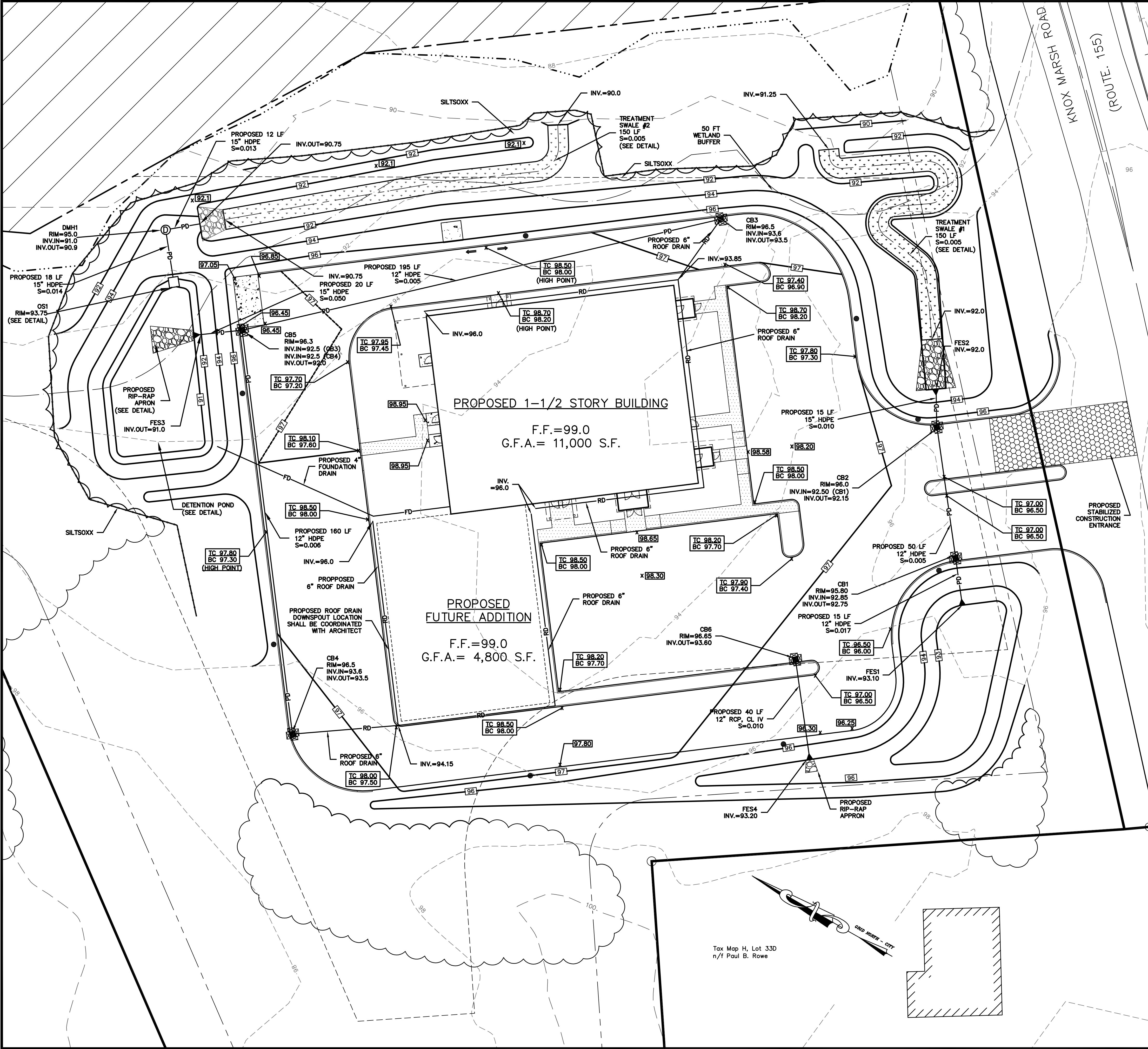


NOTES:
1. SEE SHEET #3 THIS PLAN SET FOR ADDITIONAL PLAN SET NOTES.

- LEGEND**
- | | | | |
|-------|---------------------------------------|--------|--------------------------|
| ● | PROPOSED LIGHT POLE BASE | — OR — | SIGN |
| ⊙ | EXISTING LIGHT POLE | --- | BUILDING SETBACK LINE |
| 3'R | CURB RADIUS | --- | PARKING SETBACK LINE |
| — | PROPOSED SIGN | --- | TREELINE |
| W | WETLAND SYMBOL | --- | EDGE OF WETLAND |
| A078 | WETLAND MAPPING IDENTIFICATION NUMBER | --- | PROPOSED TREELINE |
| (TYP) | TYPICAL | --- | SLOPED GRANITE CURB |
| Ⓢ | PROPOSED PARKING COUNT | --- | BITUMINOUS CONCRETE CURB |
| TYP. | TYPICAL | --- | INTEGRATED CONCRETE CURB |
| ♿ | HANDICAP SYMBOL | --- | PROPOSED SIDEWALK |
| ■ | CONCRETE PAD | | |



SITE LAYOUT PLAN		APPLICANT: DMC REAL ESTATE HOLDINGS LLC 134 TEN ROD ROAD ROCHESTER, NH 03867		DATE: 11-6-18		SCALE: AS SHOWN		DRAWN BY: SRD		DESIGN BY: DCL		APPROVED BY: SJH		PROJECT NO: 18031		FILE: SITE.DWG		NO.		REVISION		APP'D		DATE		NOT FOR CONSTRUCTION FOR PERMIT USE ONLY		DOVER PLANNING FILE NO.: P18-57		CIVILWORKS NEW ENGLAND CIVIL ENGINEERING 181 Watson Road, P.O. Box 1166 Dover, New Hampshire 03820 (603) 749-0443	
6		BROADVIEW URGENT CARE ANIMAL HOSPITAL 67 KNOX MARSH ROAD TAX MAP "H", LOT 33 DOVER, NEW HAMPSHIRE																													



NOTES:
1. SEE SHEET #3 THIS PLAN SET FOR ADDITIONAL PLAN SET NOTES.

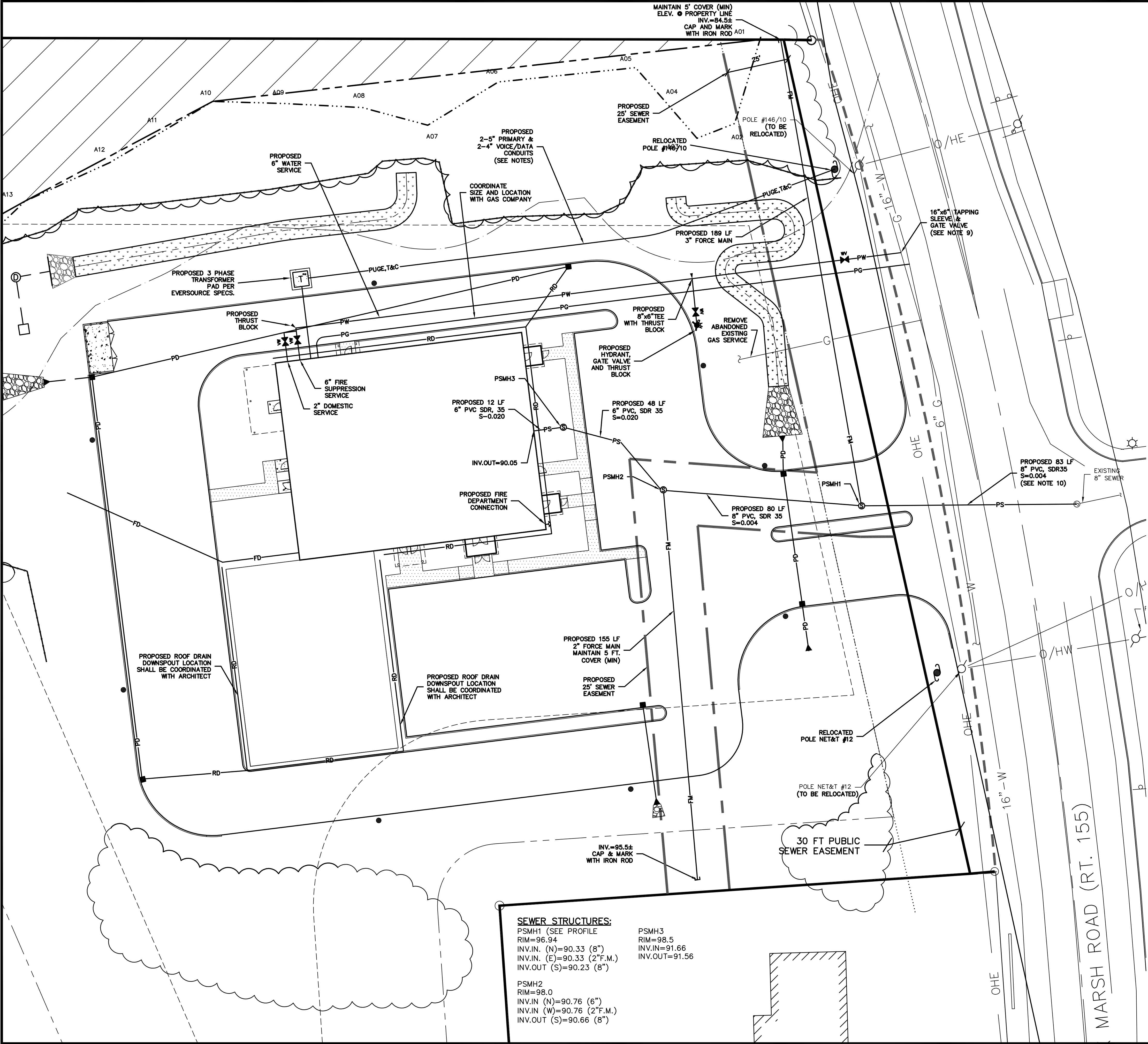
Tax Map H, Lot 330
n/f Paul B. Rowe

GRAPHIC SCALE
(IN FEET)

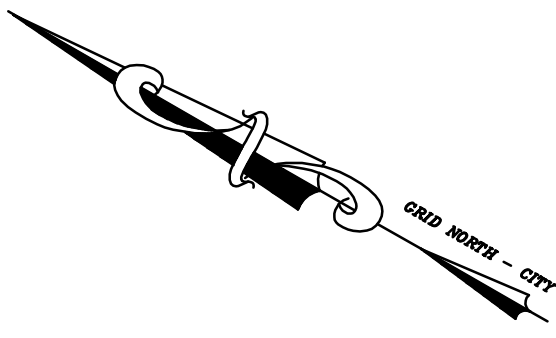
LEGEND

- WETLAND SYMBOL
- FLARED END SECTION
- PROPOSED LIGHT POLE BASE
- PROPOSED SPOT GRADE
- PROPOSED CATCH BASIN NUMBER
- PROPOSED FINISH GRADE
- PROPOSED DRAIN LINE
- BUILDING SETBACK LINE
- PARKING SETBACK LINE
- TREELINE
- EXISTING CONTOUR
- EDGE OF WETLAND
- RIP-RAP STONE
- PROPOSED SIDEWALK
- CONCRETE PAD
- SOD-LINED SWALE

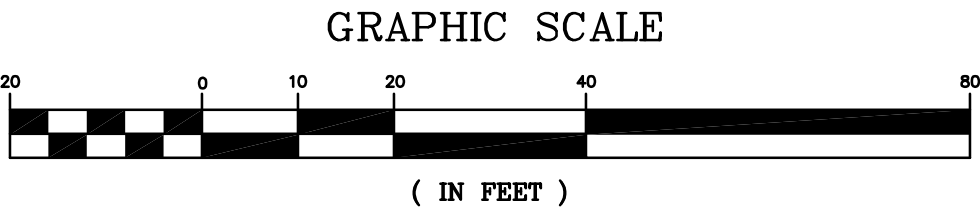
GRADING, DRAINAGE & EROSION CONTROL PLAN		NOT FOR CONSTRUCTION FOR PERMIT USE ONLY	
APPLICANT: BROADVIEW URGENT CARE ANIMAL HOSPITAL 67 KNOX MARSH ROAD TAX MAP "H", LOT 33 DOVER, NEW HAMPSHIRE	DATE: 11-6-18 SCALE: AS SHOWN DRAWN BY: SRD DESIGN BY: DCL APPROVED BY: JH PROJECT NO: 18031	DOVER PLANNING FILE NO.: P18-57	
		CIVILWORKS NEW ENGLAND CIVIL ENGINEERING 181 Watson Road, P.O. Box 1166 Dover, New Hampshire 03820 (603) 749-0443	
		REVISION PER TRC COMMENTS	DATE
		NO.	APPD
		1	12-20-18



NOTES:
1. SEE SHEET #3 THIS PLAN SET FOR ADDITIONAL PLAN SET NOTES.



- LEGEND**
- SEWER MANHOLE
 - HYDRANT
 - HANDICAP SYMBOL
 - PROPOSED SIGN
 - WETLAND SYMBOL
 - A078 WETLAND MAPPING IDENTIFICATION NUMBER TYPICAL
 - EXISTING LIGHT POLE
 - CONCRETE SIDEWALK
 - CONCRETE PAD
 - FD PROPOSED FOUNDATION DRAIN
 - RD PROPOSED ROOF DRAIN
 - PD PROPOSED DRAIN LINE
 - EXISTING SIGN
 - PROPOSED TREELINE
 - BUILDING SETBACK LINE
 - PARKING SETBACK LINE
 - EXISTING TREELINE
 - EDGE OF WETLAND
 - PW PROPOSED WATER LINE
 - PS PROPOSED SEWER LINE
 - PG PROPOSED GAS LINE
 - PUGE,T&C PROPOSED UNDERGROUND ELECTRIC, TELEPHONE & CATV GAS LINE

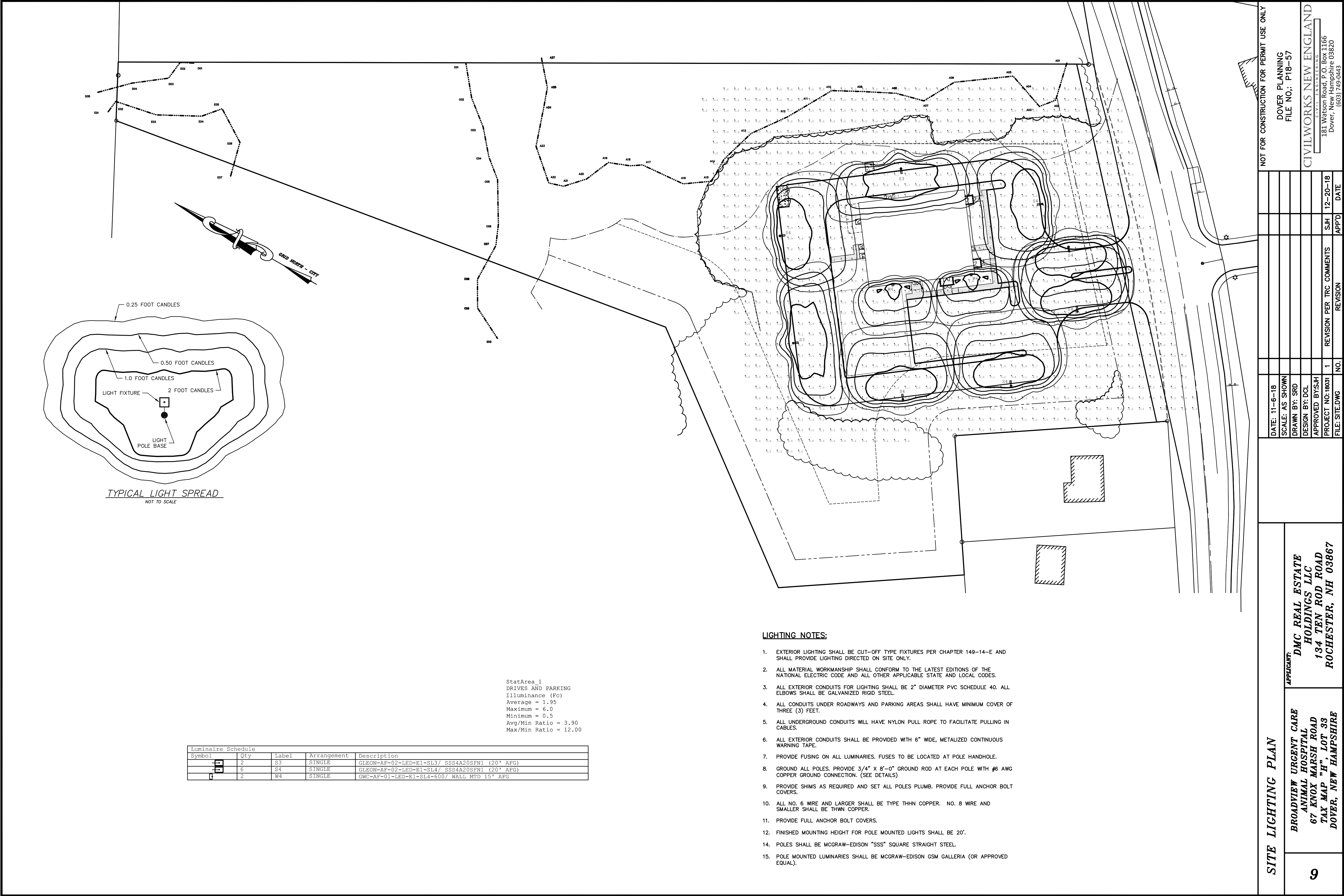


SEWER STRUCTURES:
PSMH1 (SEE PROFILE)
RIM=96.94
INV.IN. (N)=90.33 (8")
INV.IN. (E)=90.33 (2"F.M.)
INV.OUT (S)=90.23 (8")

PSMH2
RIM=98.0
INV.IN (N)=90.76 (6")
INV.IN (W)=90.76 (2"F.M.)
INV.OUT (S)=90.66 (8")

PSMH3
RIM=98.5
INV.IN=91.66
INV.OUT=91.56

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY				DOVER PLANNING FILE NO.: P18-57				CIVILWORKS NEW ENGLAND 181 Watson Road, P.O. Box 1166 Dover, New Hampshire 03820 (603) 749-0443			
DATE: 11-6-18	SCALE: AS SHOWN	DRAWN BY: SRD	DESIGN BY: DCL	PROJECT NO: 18031	FILE: SITE.DWG	NO.	1	REVISION PER TRC COMMENTS	APPD	DATE	
APPLICANT: DMC REAL ESTATE HOLDINGS LLC 134 TEN ROD ROAD ROCHESTER, NH 03867				BROADVIEW URGENT CARE ANIMAL HOSPITAL 67 KNOX MARSH ROAD TAX MAP "H", LOT 33 DOVER, NEW HAMPSHIRE				8			
SITE UTILITY PLAN											



DATE: 11-6-18

SCALE: AS SHOWN

DRAWN BY: SRD

DESIGN BY: DCL

APPROVED BY: SH

PROJECT NO: 18031

FILE: SITE.DWG

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

DOVER PLANNING

FILE NO.: P18-57

CIVILWORKS NEW ENGLAND

CIVIL ENGINEERING

181 Watson Road, P.O. Box 1166

Dover, New Hampshire 03820

(603) 749-0443

REVISION PER TRC COMMENTS

NO.

DATE

APPLICANT:

DMC REAL ESTATE HOLDINGS LLC

134 TEN ROD ROAD

ROCHESTER, NH 03867

BROADVIEW URGENT CARE

ANIMAL HOSPITAL

67 KNOX MARSH ROAD

TAX MAP "H", LOT 33

DOVER, NEW HAMPSHIRE

9

DESCRIPTION

The Gallson™ LED luminaire delivers exceptional performance in a highly scalable, low-profile design. Patented, high-efficiency AccuLED Optics™ system provides uniform and energy conscious illumination to walkways, parking lots, roadways, building areas and security lighting applications. IP66 rated and UL/GUL Listed for wet locations.

SPECIFICATION FEATURES

Construction
Extruded aluminum driver enclosure thermally isolated from Light Squares for optimal thermal performance. Heavy-wall, die-cast aluminum end caps enclose housing and die-cast aluminum heat sinks. A unique, patent pending interlocking housing and heat sink provides scalability with superior structural rigidity. 3G vibration tested and rated. Optional tool-less hardware available for ease of entry into electrical chamber. Housing is IP66 rated.

Optics
Patented, high-efficiency injection-molded AccuLED Optics technology. Optics are precisely designed to shape the distribution maximizing efficiency and application spacing. AccuLED Optics create consistent distributions with the scalability to meet customized application requirements. Offered standard in 4000K (+/- 275K) CCT 70 CRI. Optional 5000K, 5500K and 6500K CCT.

Electrical
LED drivers are mounted to removable tray assembly for ease of maintenance. 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Standard with 0-10V dimming. Shipped standard with Eaton proprietary circuit module designed to withstand 10kV of transient line surge. The Gallleon LED luminaire is suitable for operation in -40°C to 40°C ambient environments. For applications with ambient temperatures exceeding 40°C, specify the HA (High Ambient) option. Light Squares are IP66 rated. Greater than 90% lumen maintenance expected at 60,000 hours. Available in standard 1A drive current and optional 600mA, 800mA and 1200mA drive currents (nominal).

Mounting
STANDARD ARM MOUNT:
Extruded aluminum arm includes internal bolt guides allowing for easy positioning of fixture during mounting. When mounting two or more luminaires at 90° and 120° apart, the EA extended arm may be required. Refer to the

arm mounting requirement table. Round pole adapter included. For wall mounting, specify wall mount bracket option. QUICK MOUNT ARM: Adapter is bolted directly to the pole. Quick mount arm slide into place on the adapter and is secured via two screws, facilitating quick and easy installation. The versatile, patent pending, quick mount arm accommodates multiple drill patterns ranging from 1-1/2" to 4-7/8". Removal of the door on the quick mount arm enables wiring of the fixture without having to access the driver compartment. A knock-out enables round pole mounting.

Finish
Housing finished in super durable TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Heat sink is powder coated black. Standard housing colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available.

Warranty
Five-year warranty.

McGraw-Edison

Catalog #	Type
Project	
Comments	
Prepared by	



GLEON
GALLEON LED

1-10 Light Squares
Solid State LED

AREA/SITE LUMINAIRE

DESCRIPTION

The Gallson™ wall LED luminaire's appearance is complementary with the Gallleon area and site luminaire bringing a modern architectural style to lighting applications. Flexible mounting options accommodate wall surfaces in both an upward and downward configuration. The Gallleon family of LED products deliver exceptional performance with patented, high-efficiency AccuLED Optics™, providing uniform and energy conscious lighting for parking lots, building and security lighting applications.

SPECIFICATION FEATURES

Construction
Driver enclosure thermally isolated from optics for optimal thermal performance. Heavy wall aluminum housing die-cast with integral external heat sinks to provide superior structural rigidity and an IP66 rated housing. Overall construction passes a 1.5G vibration test to ensure mechanical integrity. UPLIGHTING: Specify with the UPL option for inverted mount upright housing with additional protections to maintain IP rating.

Optics
Choice of thirteen patented, high-efficiency AccuLED Optics. The optics are precisely designed to shape the distribution maximizing efficiency and application spacing. AccuLED Optics create consistent distributions with the scalability to meet customized application requirements. Offered standard in 4000K (+/- 275K) CCT and minimum 70 CRI. Optional 5000K, 5500K and 6000K CCT. Greater than 90%

lumen maintenance expected at 60,000 hours. Available in standard 1A drive current and optional 1200mA, 800mA, and 600mA drive currents.

Electrical
LED drivers are mounted for ease of maintenance. 120-277V 50/60Hz, 347V or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Drivers are provided standard with 0-10V dimming. An optional Eaton proprietary surge protection module is available and designed to withstand 10kV of transient line surge. The Gallleon Wall LED luminaire is suitable for operation in -30°C to 40°C ambient environments. For applications with ambient temperatures exceeding 40°C, specify the HA (High Ambient) option. Emergency egress options for -20°C ambient environments and occupancy sensor available.

Mounting
Gasketed and zinc plated rigid steel mounting attachment fits directly to 4" J-box or wall with the Gallleon Wall "Hook-N-Lock" mechanism for quick installation. Secured with two captive corrosion resistant black oxide coated allen head set screws which are concealed but accessible from bottom of fixture.

Finish
Housing finished in super durable TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available. Consult the McGraw-Edison Architectural Colors brochure for the complete selection.

Warranty
Five-year warranty.

McGraw-Edison

Catalog #	Type
Project	
Comments	
Prepared by	

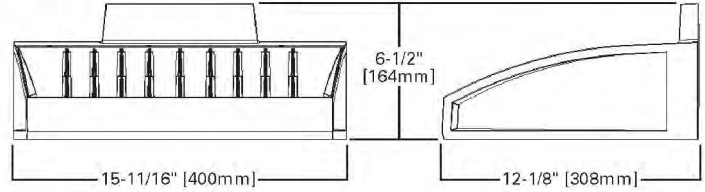


GWC GALLEON
WALL LUMINAIRE

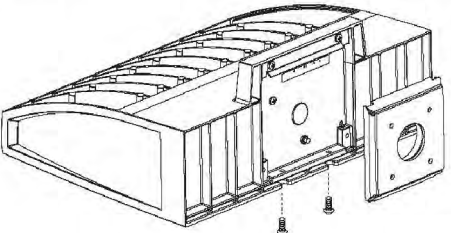
1-2 Light Squares
Solid State LED

WALL MOUNT LUMINAIRE

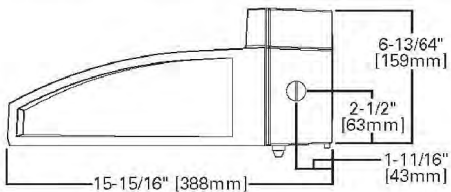
DIMENSIONS



HOOK-N-LOCK MOUNTING



BATTERY BACKUP AND THRU-BRANCH BACK BOX



Powering Business Worldwide



CERTIFICATION DATA
UL/GUL Listed
LM79 / LM80 Compliant
IP66 Housing
ISO 9001
DesignLights Consortium™ Qualified*

ENERGY DATA
Electronic LED Driver
≥0.9 Power Factor
≤20% Total Harmonic Distortion
120-277V/50 & 60Hz, 347V/60Hz, 480V/60Hz
-30°C Minimum Temperature
40°C Ambient Temperature Rating

SHIPPING DATA
Approximate Net Weight:
27 lbs. (12.2 kgs.)



Powering Business Worldwide

Steel Poles

Catalog #	Type
Project	
Comments	
Prepared by	



SSS SQUARE
STRAIGHT STEEL

FEATURES
• ASTM Grade steel base plate with ASTM A366 base cover
• Hand hole assembly 3" x 5" on 5" and 6" pole; and 2" x 4" on 4" pole
• 10'-39" mounting heights
• Drilled or tenon (specify)

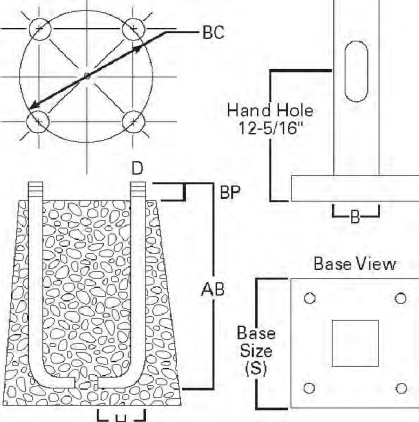
ORDERING INFORMATION

SAMPLE NUMBER: SSS5A205FM1XG

Product Family	Shaft Size (Inches) ¹	Wall Thickness (Inches)	Mounting Height (Feet)	Base Type	Finish	Mounting Type	Number and Location of Arms	Arm Lengths (Feet)	Options (Add as Suffix)
SSS-Square Straight Steel	4-4" 5-5" 6-6"	A=0.120" M=0.188" X=0.250"	10-10' 15-15' 20-20' 25-25' 30-30' 35-35' 39-39'	S-Square Steel Base	F-Dark Bronze G-Galvanized Steel J-Summit White K-Carbon Bronze L-Dark Platinum P-Primer Powder Coat R-Hartford Green S-Silver T-Graphite Metallic V-Grey W-White X-Custom Color Y-Black	2=2-3/8" O.D. Tenon (4" Long) 3=3-1/2" O.D. Tenon (5" Long) 4=4" O.D. Tenon (6" Long) 5=5" O.D. Tenon (8" Long) 6=6-3/8" O.D. Tenon (6" Long) 7=7" O.D. Tenon (10" Long)	1=Single 2=2 at 180° 2=1 pipe* 4=4 at 90° 5=2 at 90° X=None	X=None	A=1/2" Tapped Hub (Specify location desired) B=3/4" Tapped Hub (Specify location desired) C=Convenience Outlet* E=CFI Convenience Outlet* G=Ground Lug H=Additional Hand Hole L=Drilled for Bumper Glitter Vibration Damper

NOTES: 1. All shaft sizes nominal. 2. Square poles are 3 at 90°, round poles are 3 at 120°. 3. Outlet is located 4" above base and on same side of pole as hand hole, unless specified otherwise. Receptacle not included, provision only. 4. Additional hand hole is located 12" below pole top and 90° from standard hand hole location, unless otherwise specified.

DIMENSIONS



WARNING: Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to pole white paper WPB1301EN for additional support information. Before installing, make sure proper anchor bolts and templates are obtained. The use of unauthorized accessories such as banners, signs, cameras or pennants for which the pole was not designed voids the pole warranty and may result in pole failure causing serious injury or property damage. Information regarding total loading capacity can be supplied upon request. The pole warranty is void unless poles are used and installed as a complete pole and luminaire combination. This warranty specifically excludes failure as the result of a third party act or omission, misuse, unanticipated use, fatigue failure or similar phenomena resulting from induced vibration, harmonic oscillation or resonance associated with movement of air currents around the product.

Specifications and dimensions subject to change without notice. Consult your lighting representative at Eaton or visit www.eaton.com/lighting for available options, accessories and ordering information.



Powering Business Worldwide

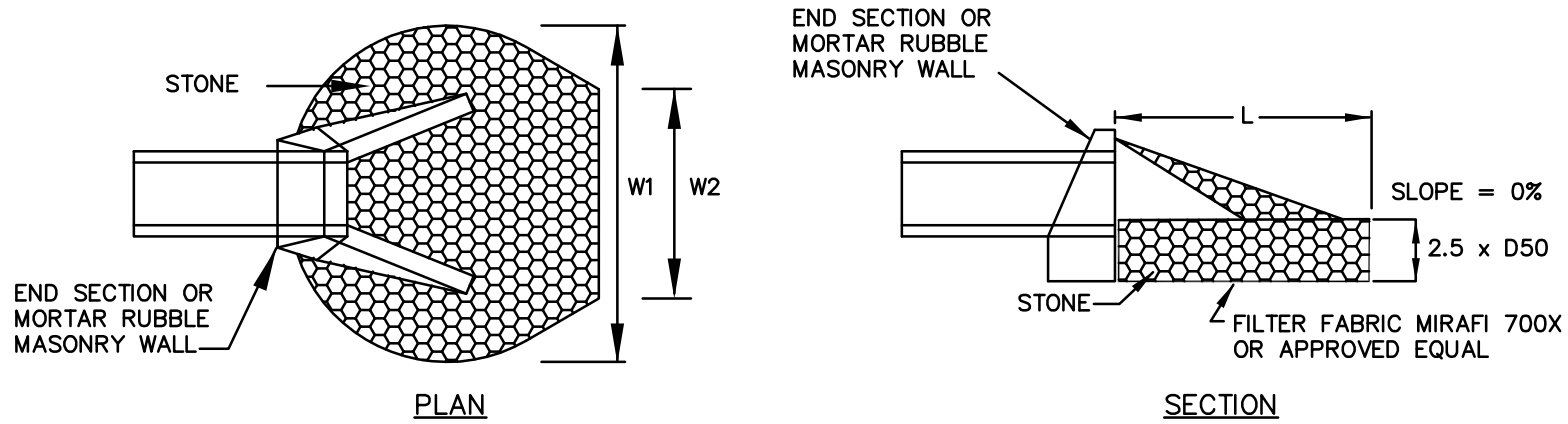
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DOVER PLANNING
FILE NO.: P18-57
CIVILWORKS NEW ENGLAND
CIVIL ENGINEERING
181 Watson Road, P.O. Box 1166
Dover, New Hampshire 03820
(603) 749-0443

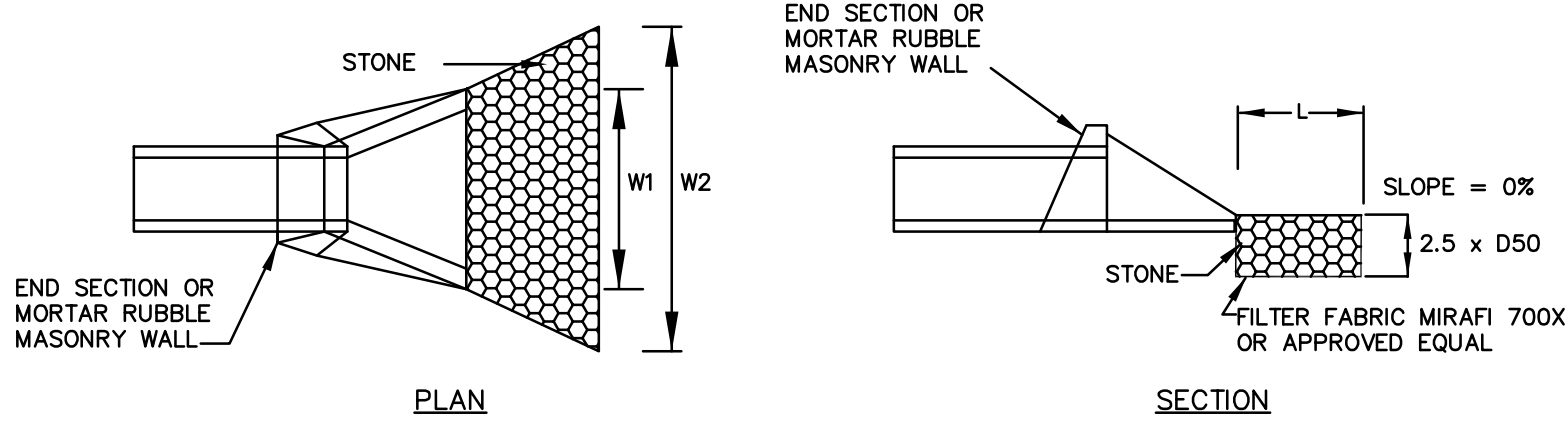
DATE: 11-6-18	SCALE: AS SHOWN	DRAWN BY: SRD	DESIGN BY: DCL	APPROVED BY: JSH	PROJECT NO: 18031	1	REVISION PER ITC COMMENTS	NO.	REVISION	DATE

SITE LIGHTING DETAILS

APPLICANT: DMC REAL ESTATE HOLDINGS LLC
BROADVIEW URGENT CARE ANIMAL HOSPITAL
67 KNOX MARSH ROAD
TAX MAP "H", LOT 33
134 TEN ROD ROAD
ROCHESTER, NH 03867



STONE APRON OUTLET PROTECTION DETAIL
OUTLET TO DEFINED CHANNEL



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

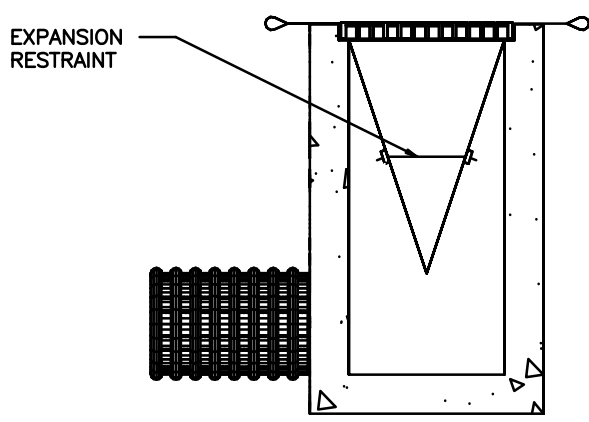
CONSTRUCTION SPECIFICATIONS

- THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIPRAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
- THE ROCK OR GRAVEL USED FOR FILTER OR RIPRAP SHALL CONFORM TO THE SPECIFIED GRADATION.
- 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.
- 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. APRON DEPTH SHALL BE 2.5 TIMES D50.

RIP RAP OUTLET PROTECTION

NOT TO SCALE

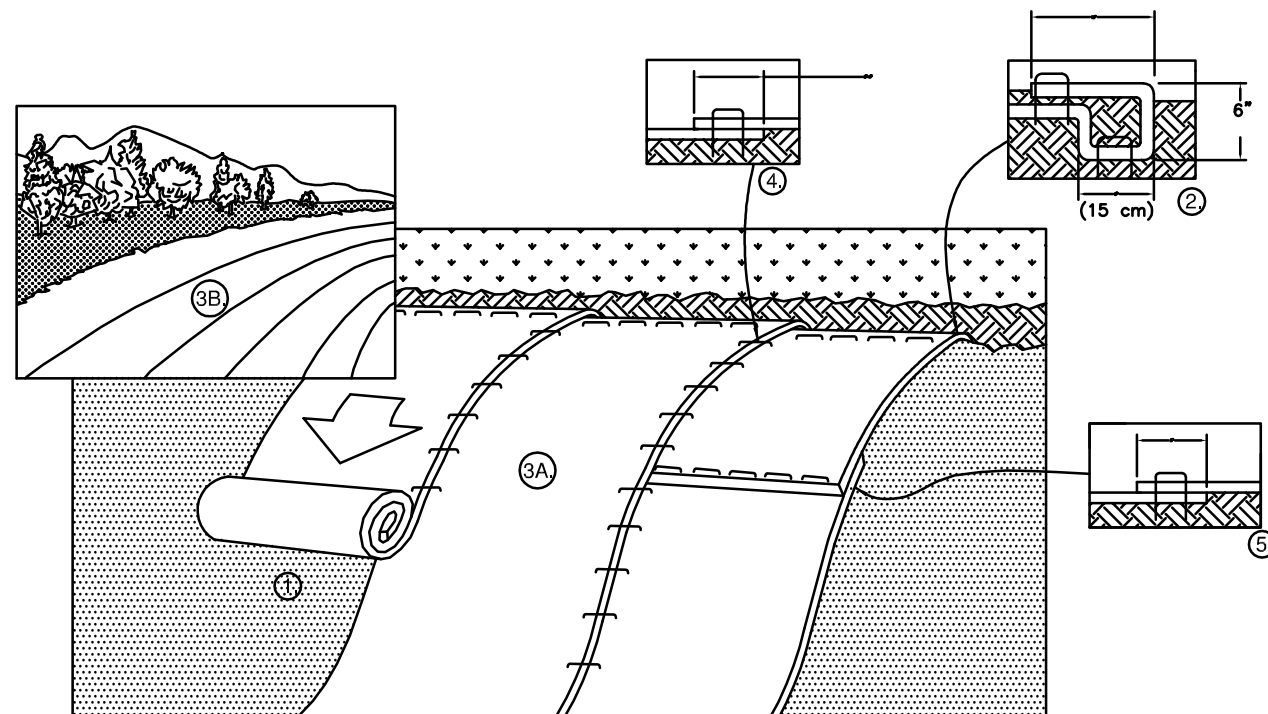
OUTLET	W1(ft)	W2(ft)	L(ft)	D50(in)	CHANNEL TYPE
CB#2	16	8	20	4	DEFINED
CB#5	4	11	17	4	NON-DEFINED
DMH#1	16	8	12	4	DEFINED



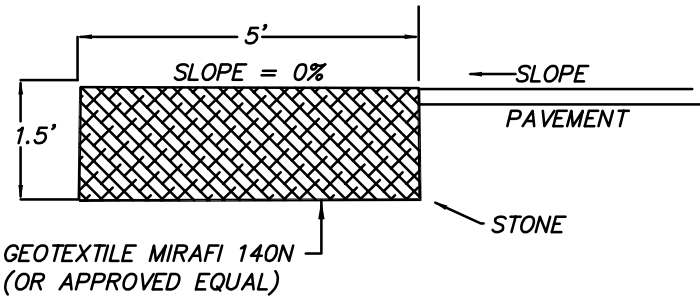
DETAIL OF INLET SEDIMENT CONTROL DEVICE
NOT TO SCALE



SLOPE INSTALLATION NORTH AMERICAN GREEN - SC150



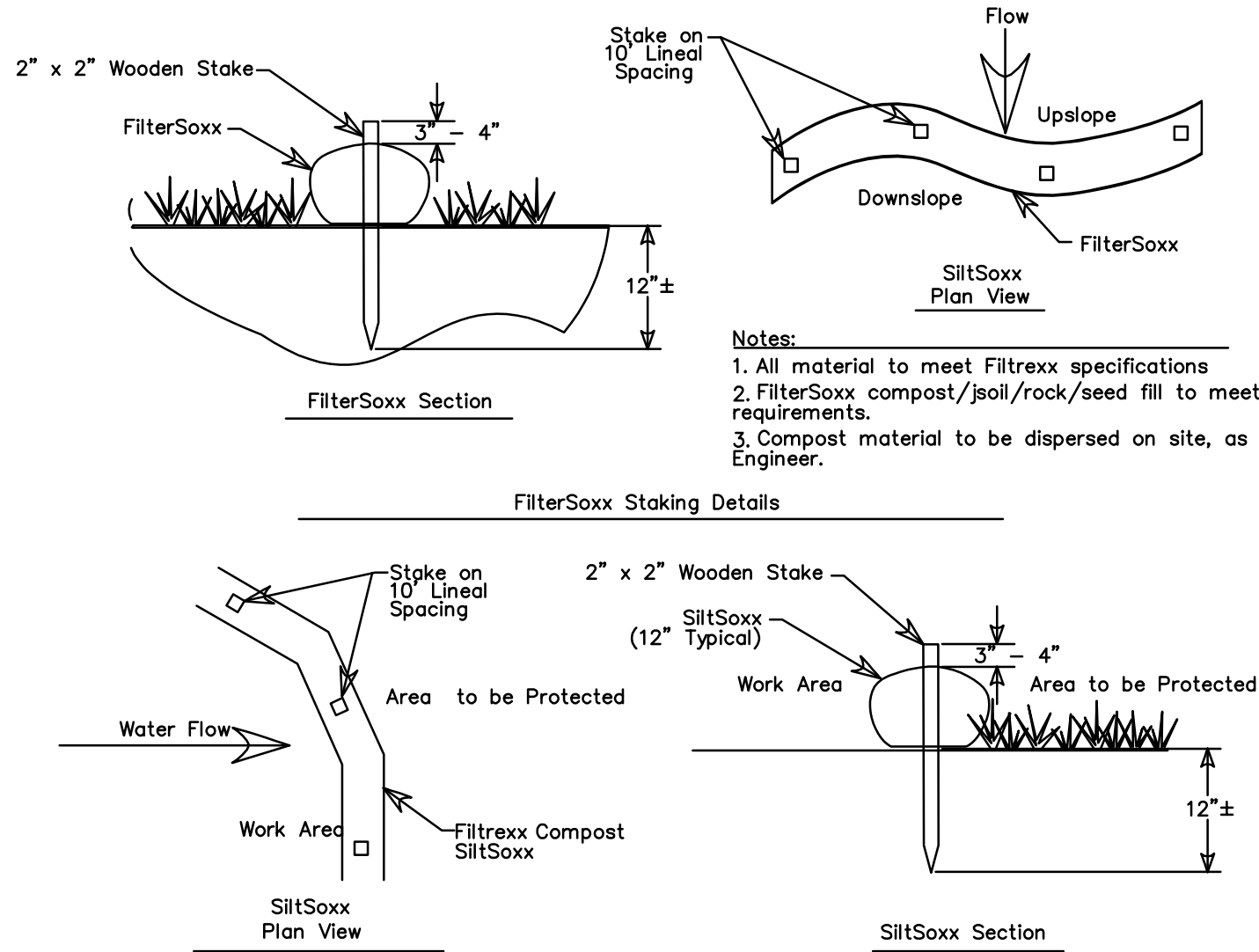
- PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
NOTE: WHEN USING CELL-0-SEED DO NOT SEED PREPARED AREA. CELL-0-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's 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.
- 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.
- THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
- CONSECUTIVE RECP's SPICED 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.



- NOTES:
- 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



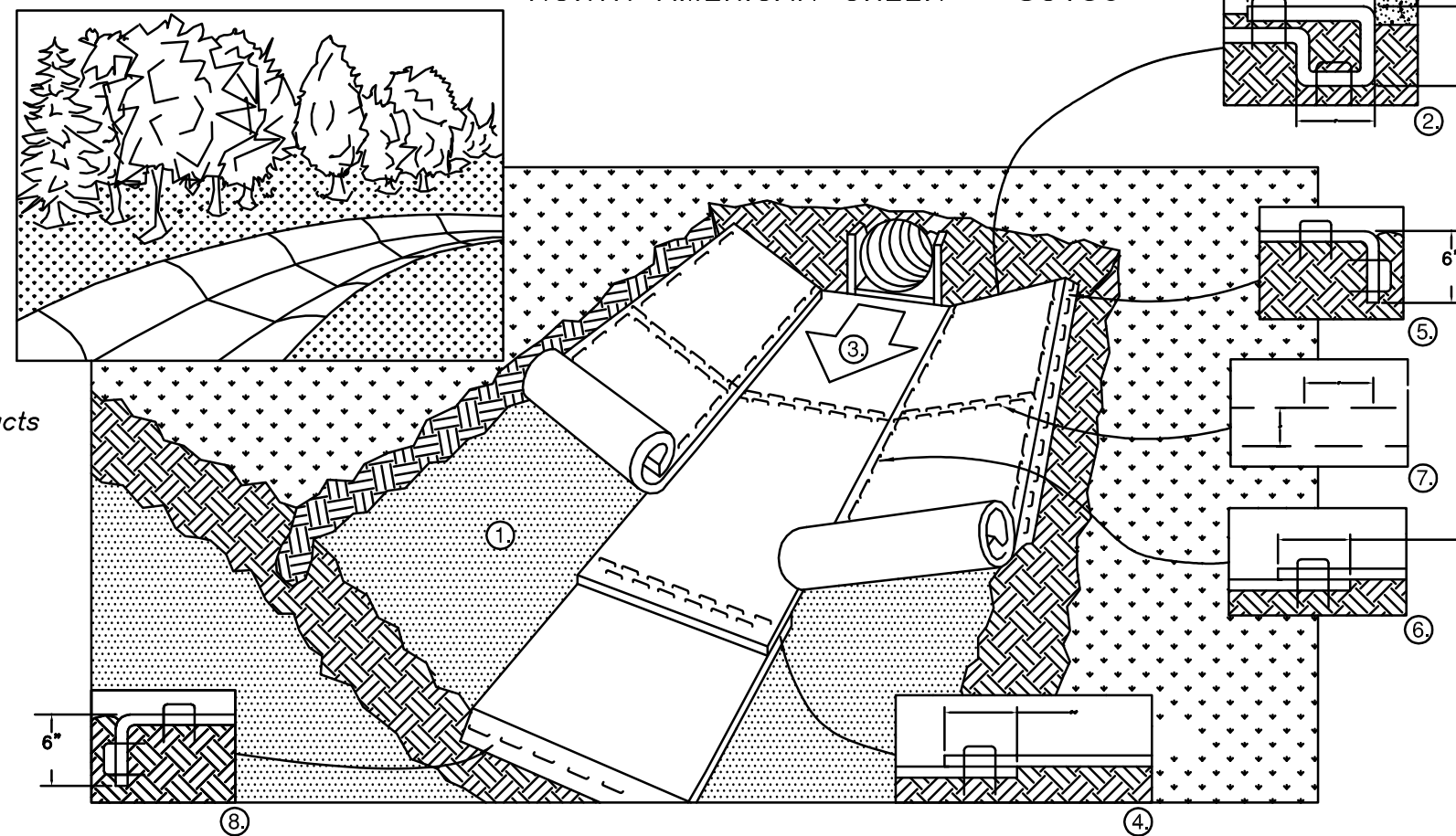
- NOTES:
- All material to meet Filtrrexx specifications or approved equal.
 - SiltSoxx devices to be installed on rock/seed slopes in accordance with requirements.
 - SiltSoxx may require larger socks per the Engineer.
 - Compost material to be dispersed on site, as determined by Engineer.
1. SEE EROSION CONTROL NOTES FOR MATERIAL, INSTALLATION AND MAINTENANCE REQUIREMENTS.

Filter Barrier Detail

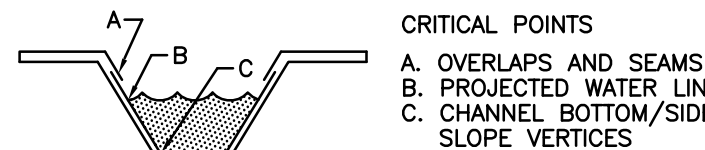
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CHANNEL INSTALLATION NORTH AMERICAN GREEN - SC150

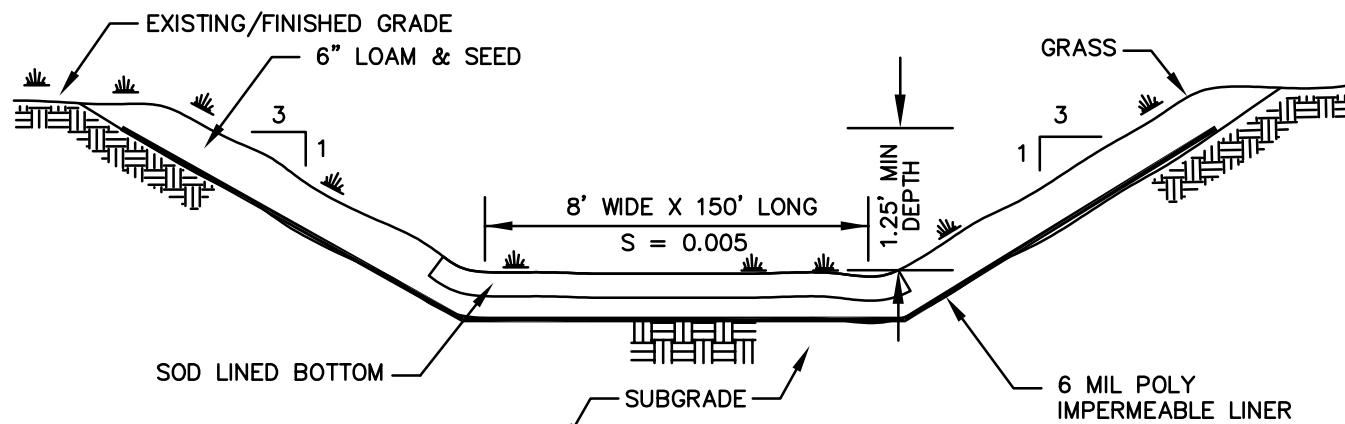


- PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
NOTE: WHEN USING CELL-0-SEED DO NOT SEED PREPARED AREA. CELL-0-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE 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.
- 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.
- 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.
- 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.
- ADJACENT RECP's MUST BE OVERLAPPED APPROXIMATELY 2" - 5" (DEPENDING ON RECP's TYPE) AND STAPLED.
- 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.
- 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
- OVERLAPS AND SEAMS
 - PROJECTED WATER LINE
 - 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.



TREATMENT SWALE DETAIL

NOT TO SCALE

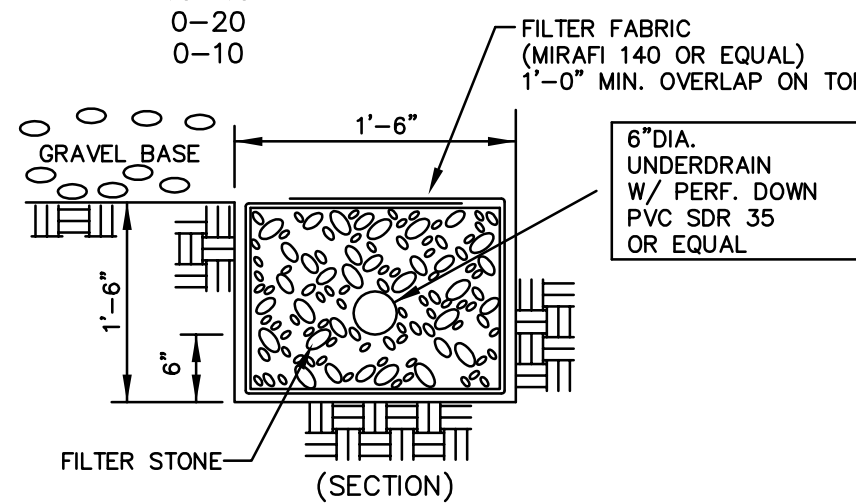
SWALE	INV. IN	INV. OUT
TS#1	92.00'	91.25'
TS#2	90.75'	90.00'

MAINTENANCE
TIMELY MAINTENANCE IS IMPORTANT TO KEEP THE VEGETATION IN THE SWALE IN GOOD CONDITION. MOWING SHOULD BE DONE FREQUENTLY ENOUGH TO KEEP THE VEGETATION IN VIGOROUS CONDITION AND TO CONTROL ENCROACHMENT OF WEEDS AND WOODY VEGETATION, HOWEVER IT SHOULD NOT BE MOWED TOO CLOSELY. MAINTAIN A MINIMUM 4" STAND OF VEGETATION. FERTILIZE ON AN "AS NEEDED" BASIS TO KEEP THE GRASS HEALTHY. OVER FERTILIZATION CAN RESULT IN THE SWALE BECOMING A SOURCE OF POLLUTION.

THE SWALE SHOULD BE INSPECTED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE THE CONDITION OF THE SWALE. RILLS AND DAMAGED AREAS SHOULD BE PROMPTLY REPAIRED AND REVEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION.

FILTER STONE SPECIFICATIONS

SIEVE SIZE	% PASSING
1"	100
.75"	70-85
.5"	10-40
.375"	0-20
#200	0-10



FILTER STONE SPECIFICATIONS

SIEVE SIZE	% PASSING
1"	100
.75"	70-85
.5"	10-40
.375"	0-20
#200	0-10

MAINTENANCE
TIMELY MAINTENANCE IS IMPORTANT TO KEEP THE VEGETATION IN THE SWALE IN GOOD CONDITION. MOWING SHOULD BE DONE FREQUENTLY ENOUGH TO KEEP THE VEGETATION IN VIGOROUS CONDITION AND TO CONTROL ENCROACHMENT OF WEEDS AND WOODY VEGETATION, HOWEVER IT SHOULD NOT BE MOWED TOO CLOSELY AS TO REDUCE THE FILTERING EFFECT. FERTILIZE ON AN "AS NEEDED" BASIS TO KEEP THE GRASS HEALTHY. OVER FERTILIZATION CAN RESULT IN THE SWALE BECOMING A SOURCE OF POLLUTION.

THE SWALE SHOULD BE INSPECTED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE THE CONDITION OF THE SWALE. RILLS AND DAMAGED AREAS SHOULD BE PROMPTLY REPAIRED AND REVEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION.

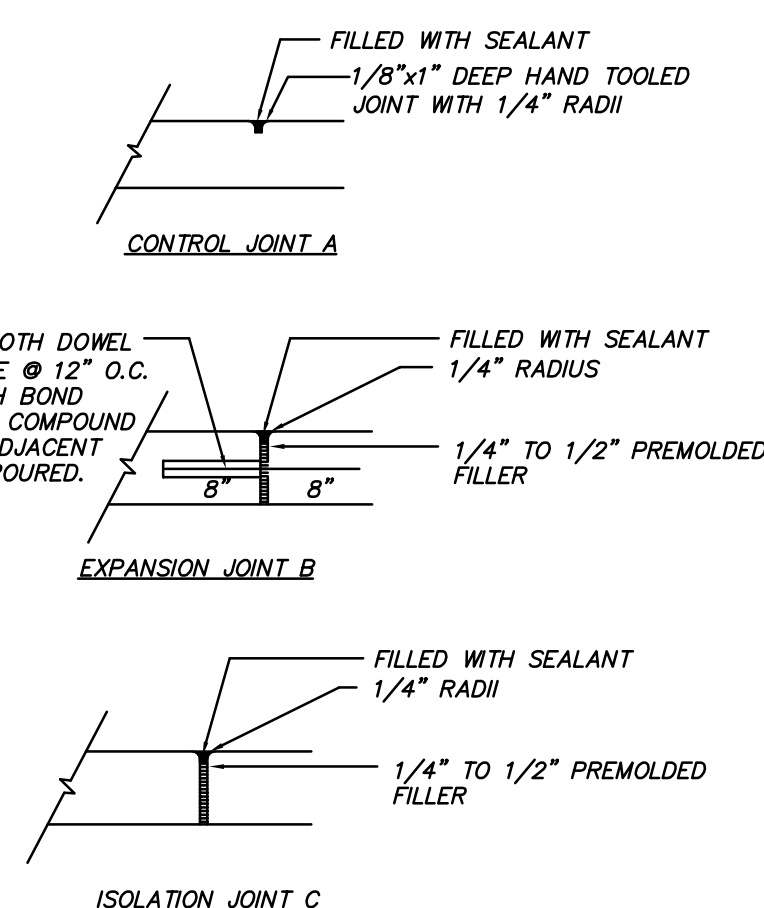
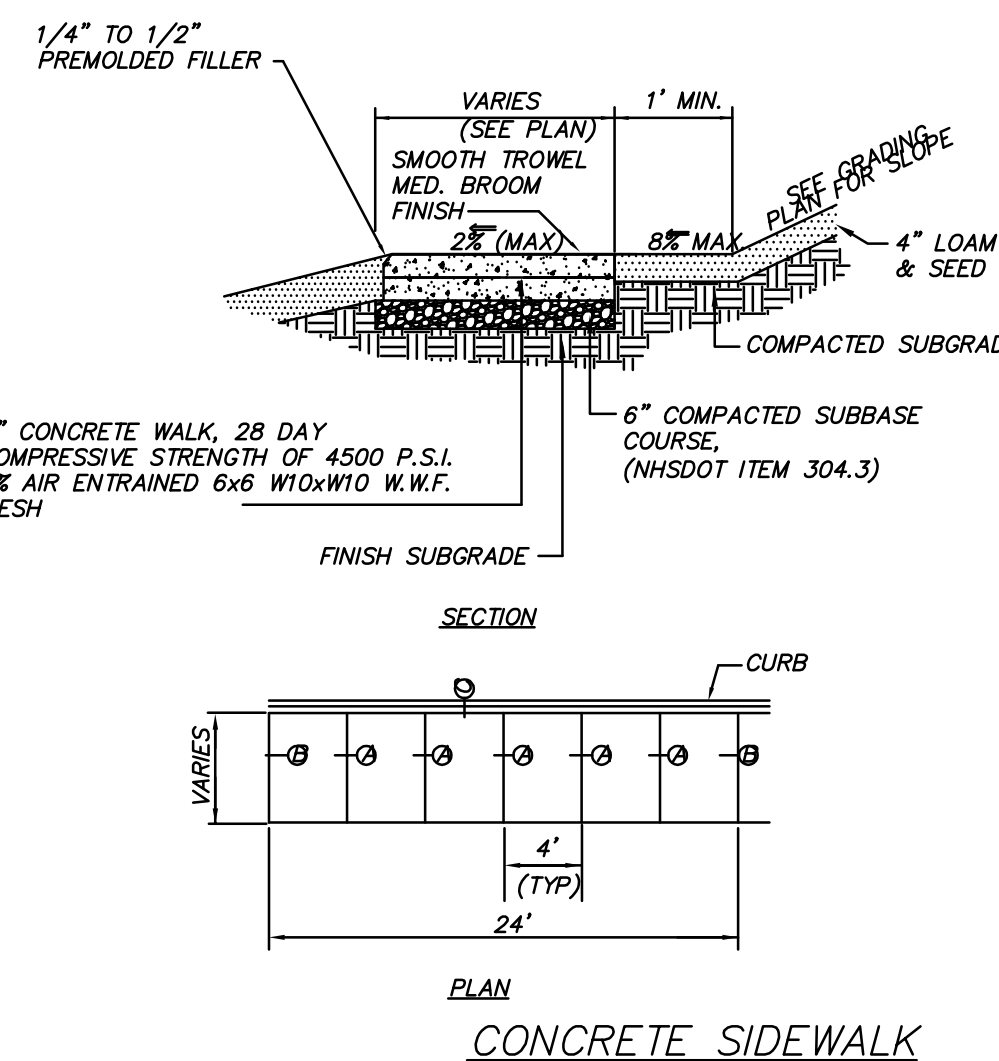
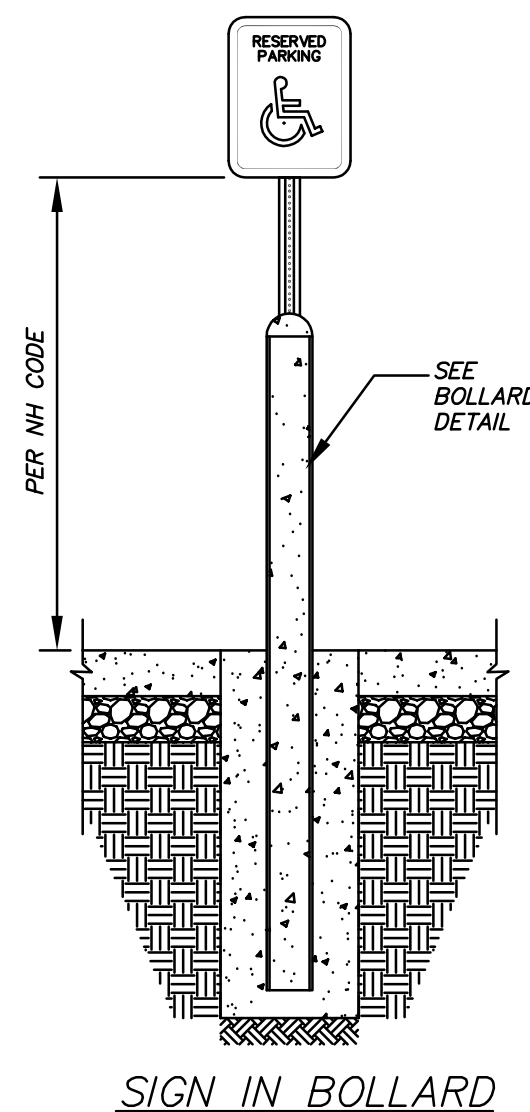
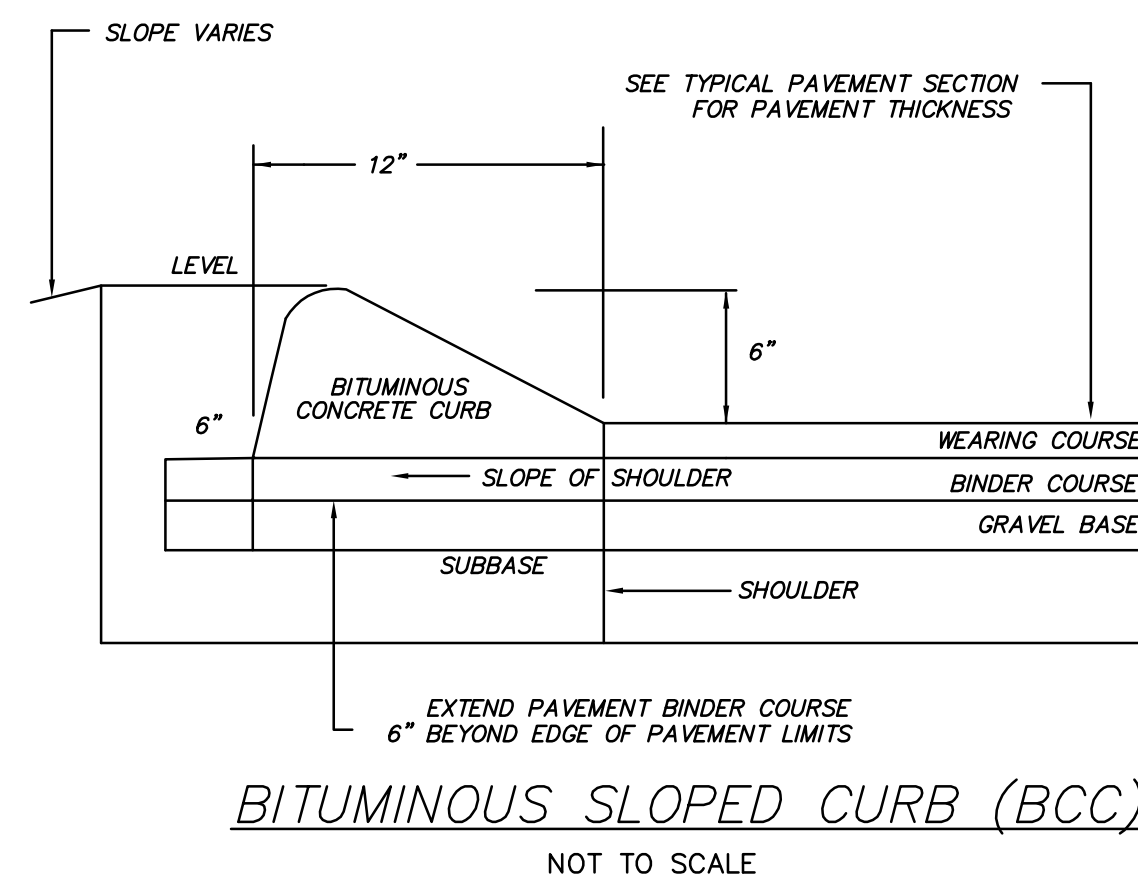
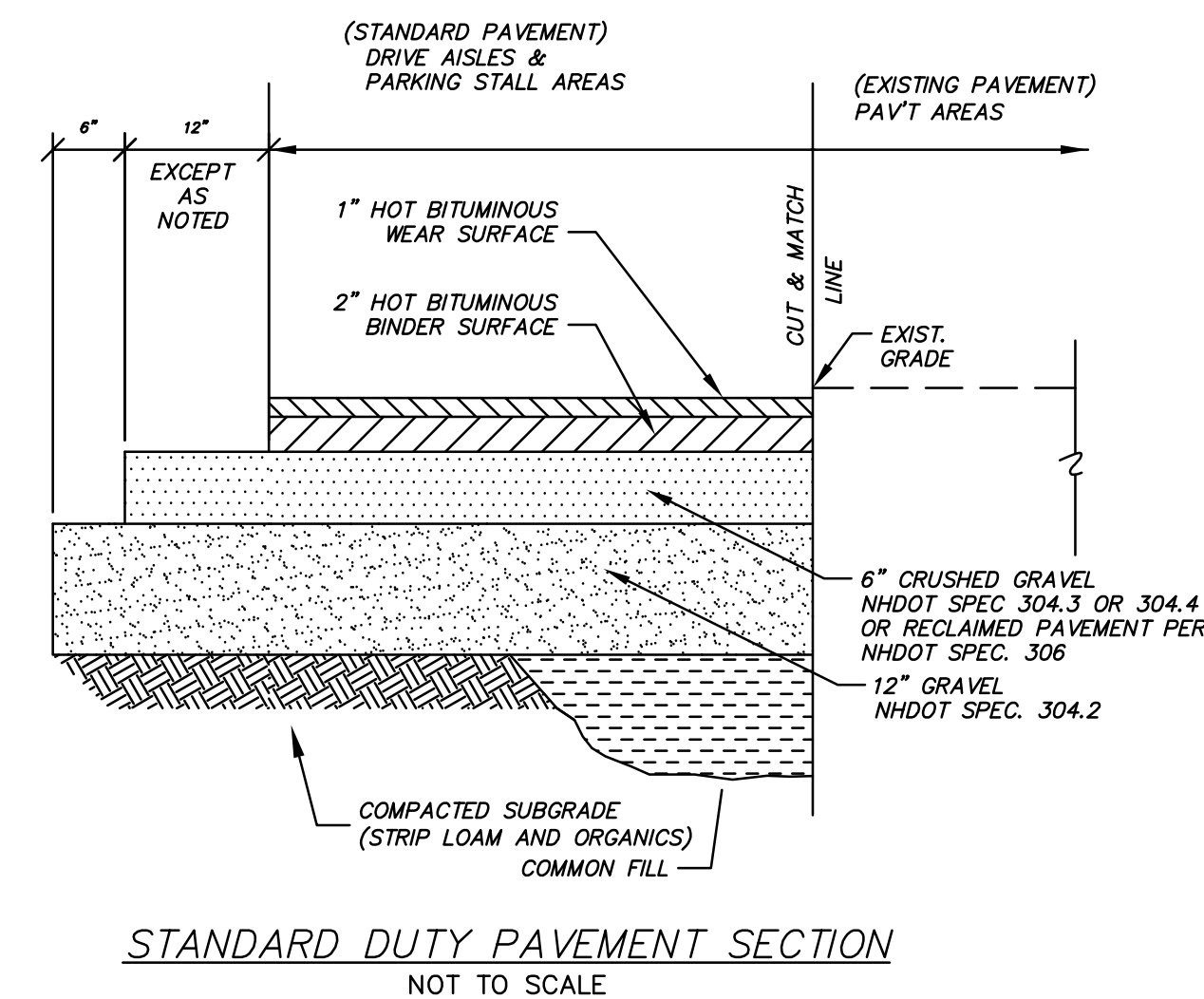
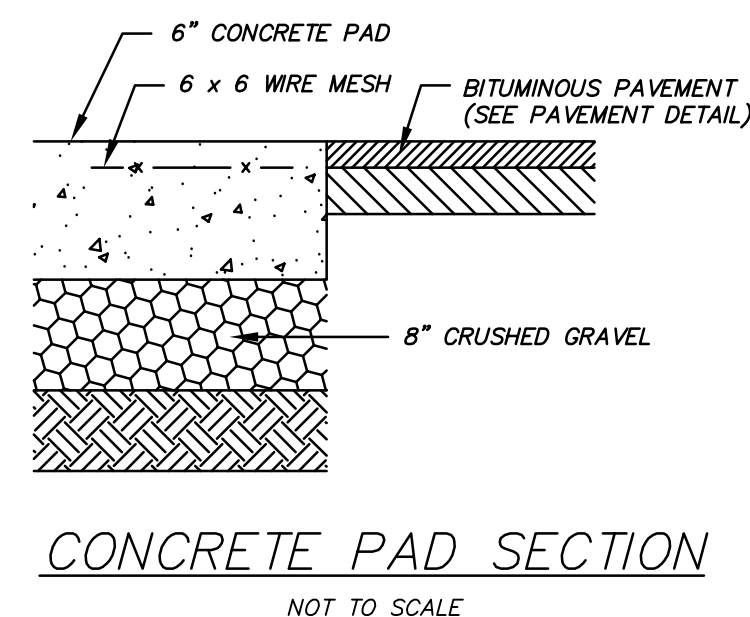
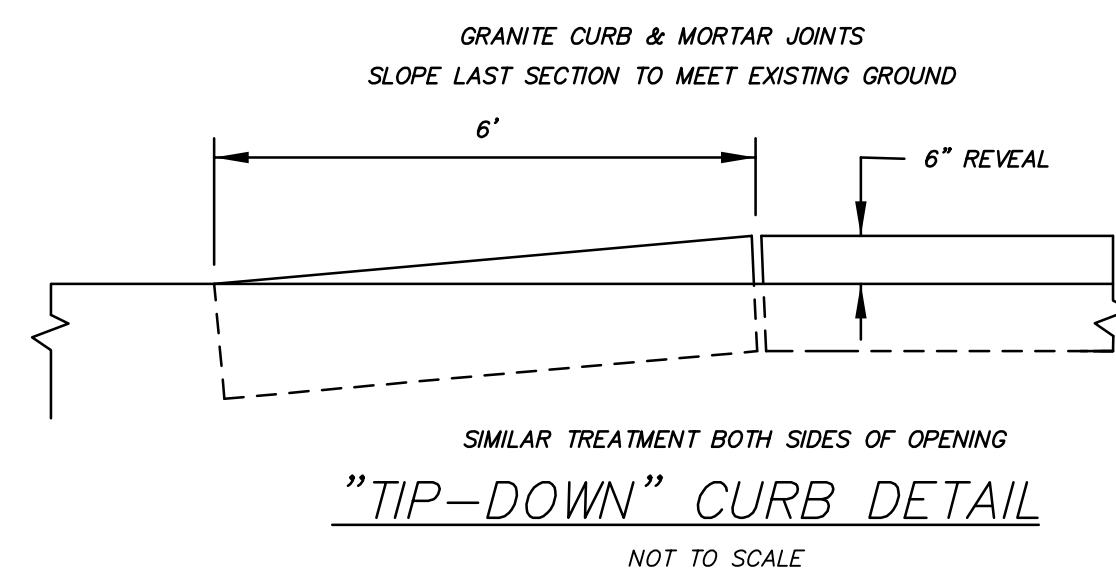
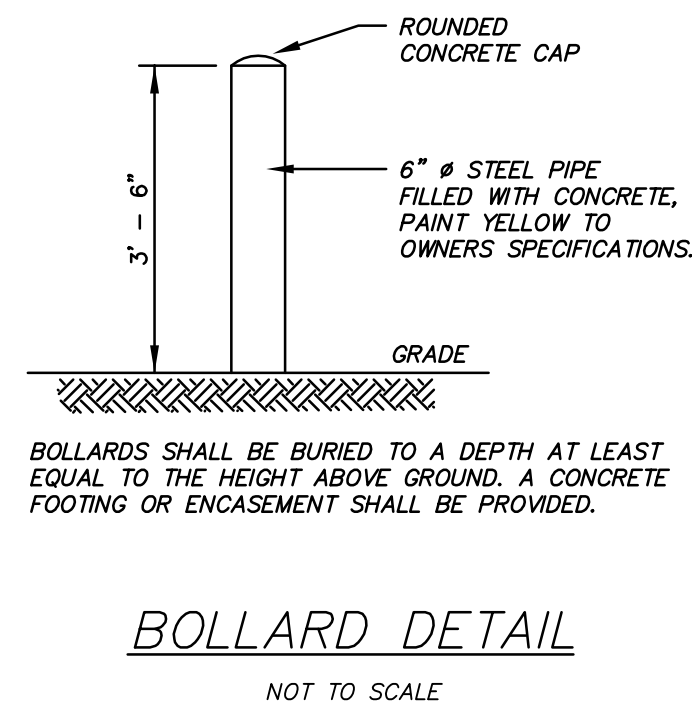
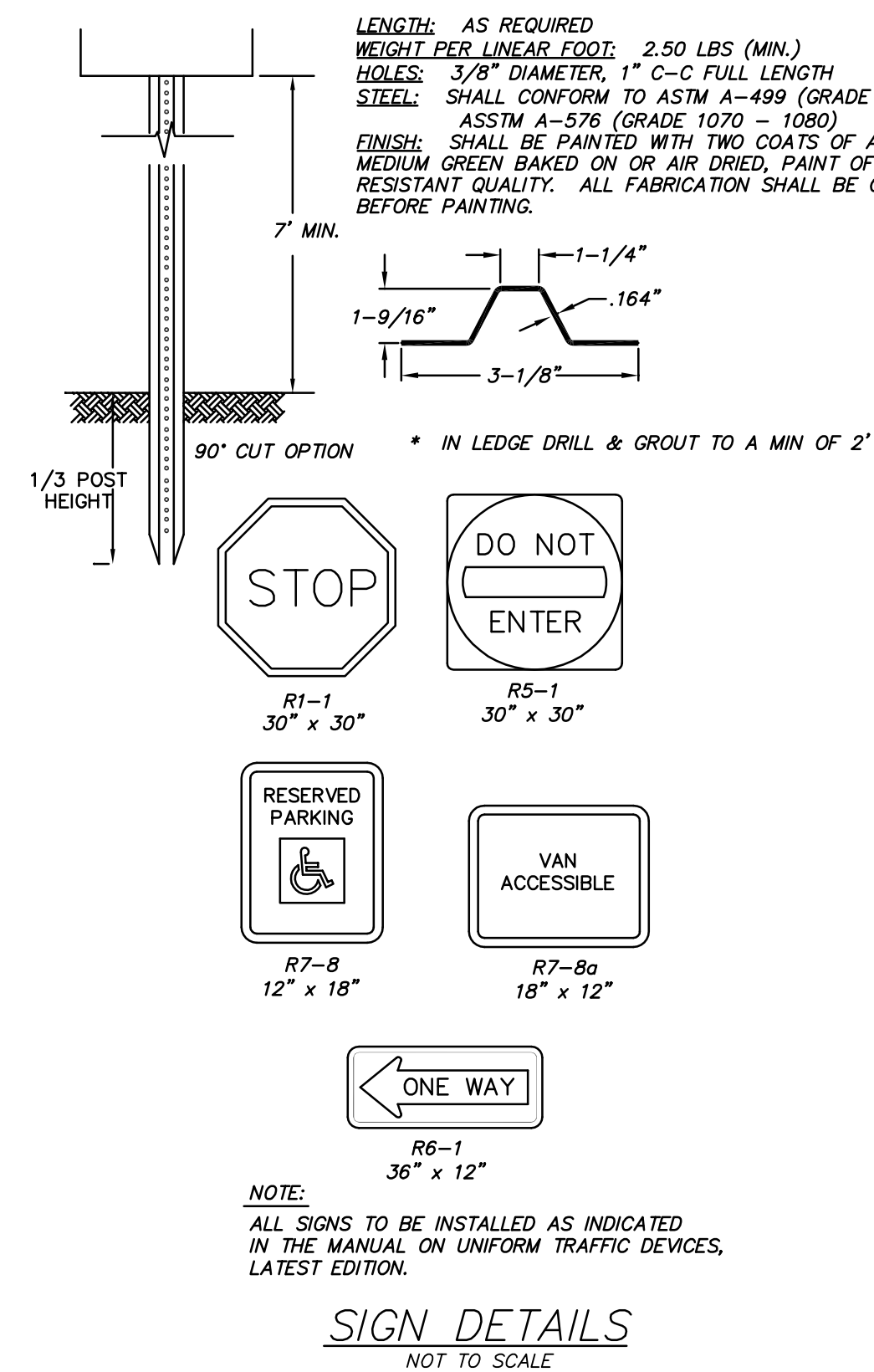
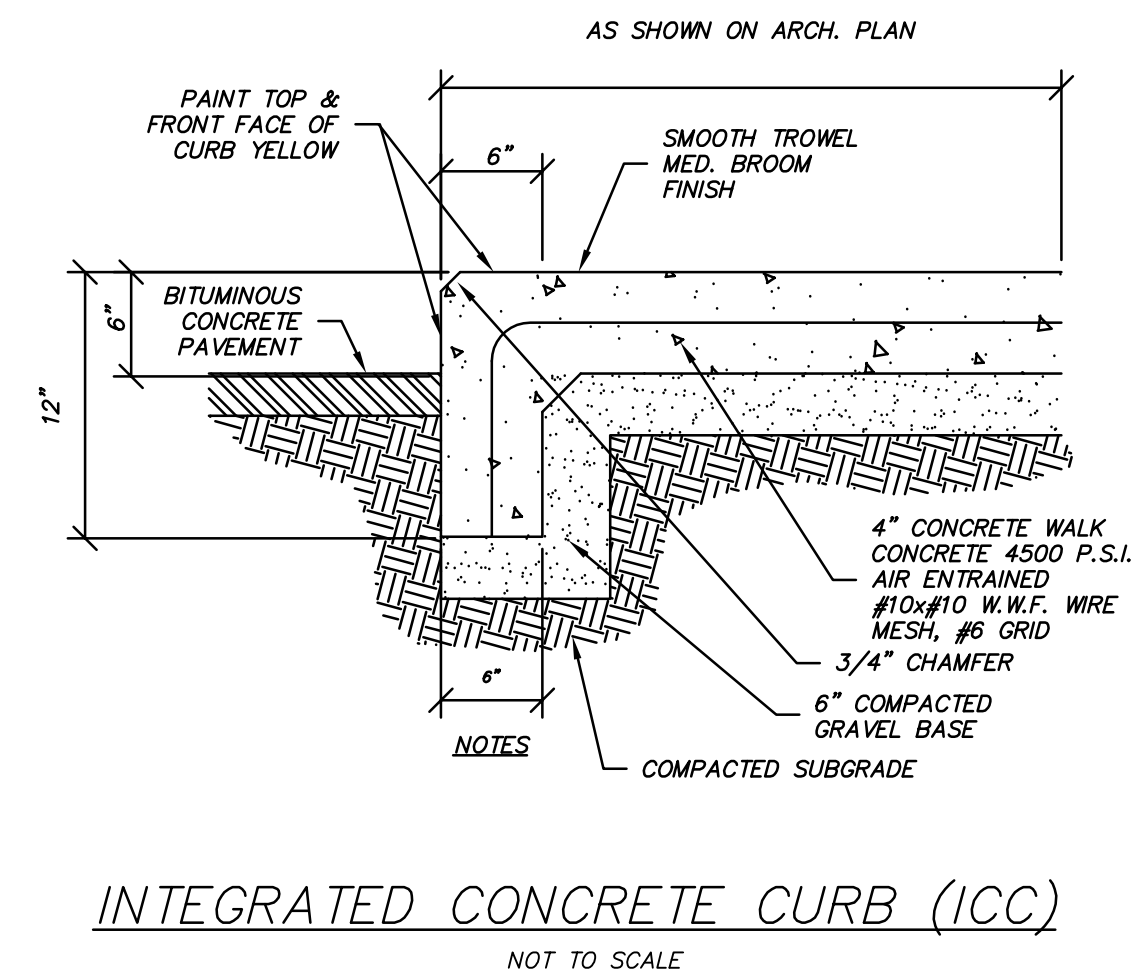
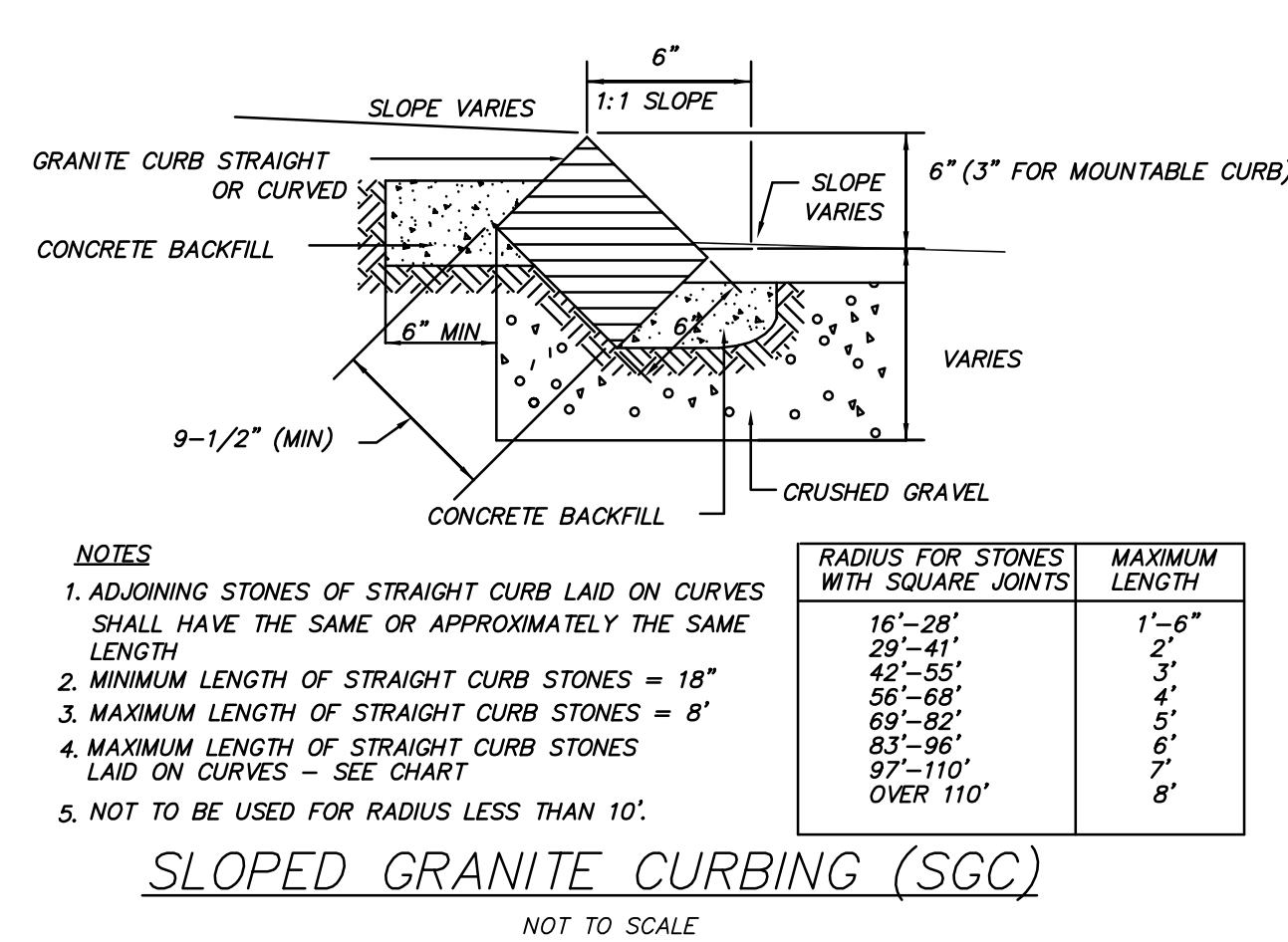
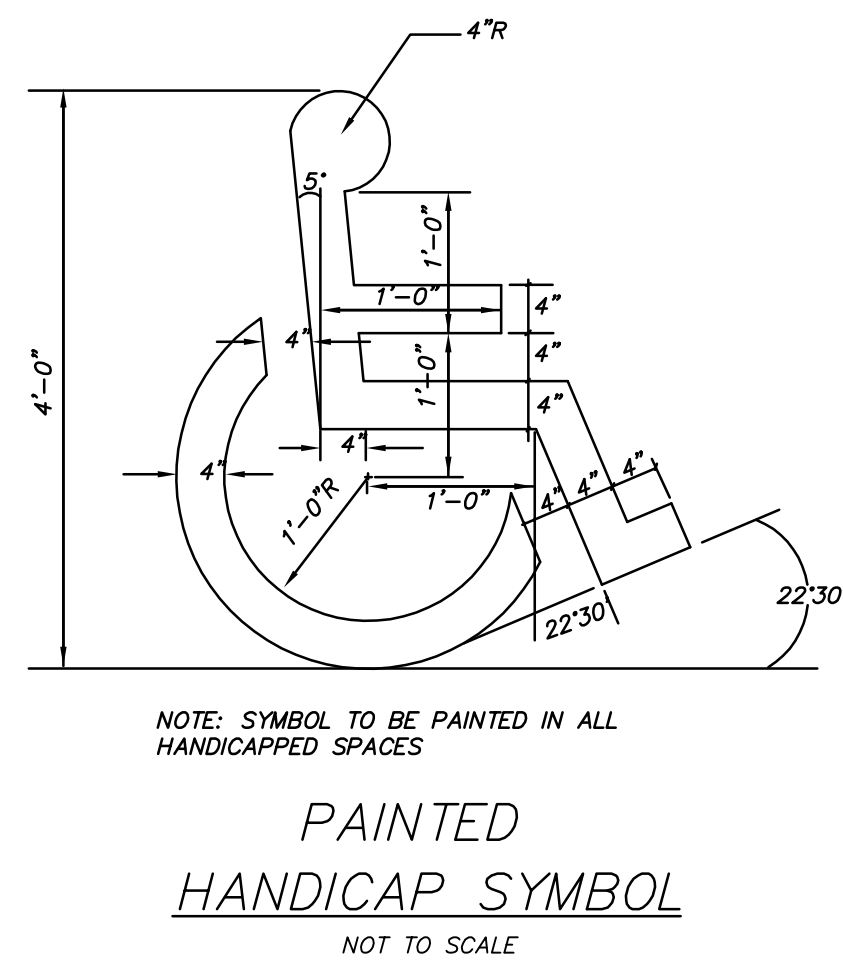
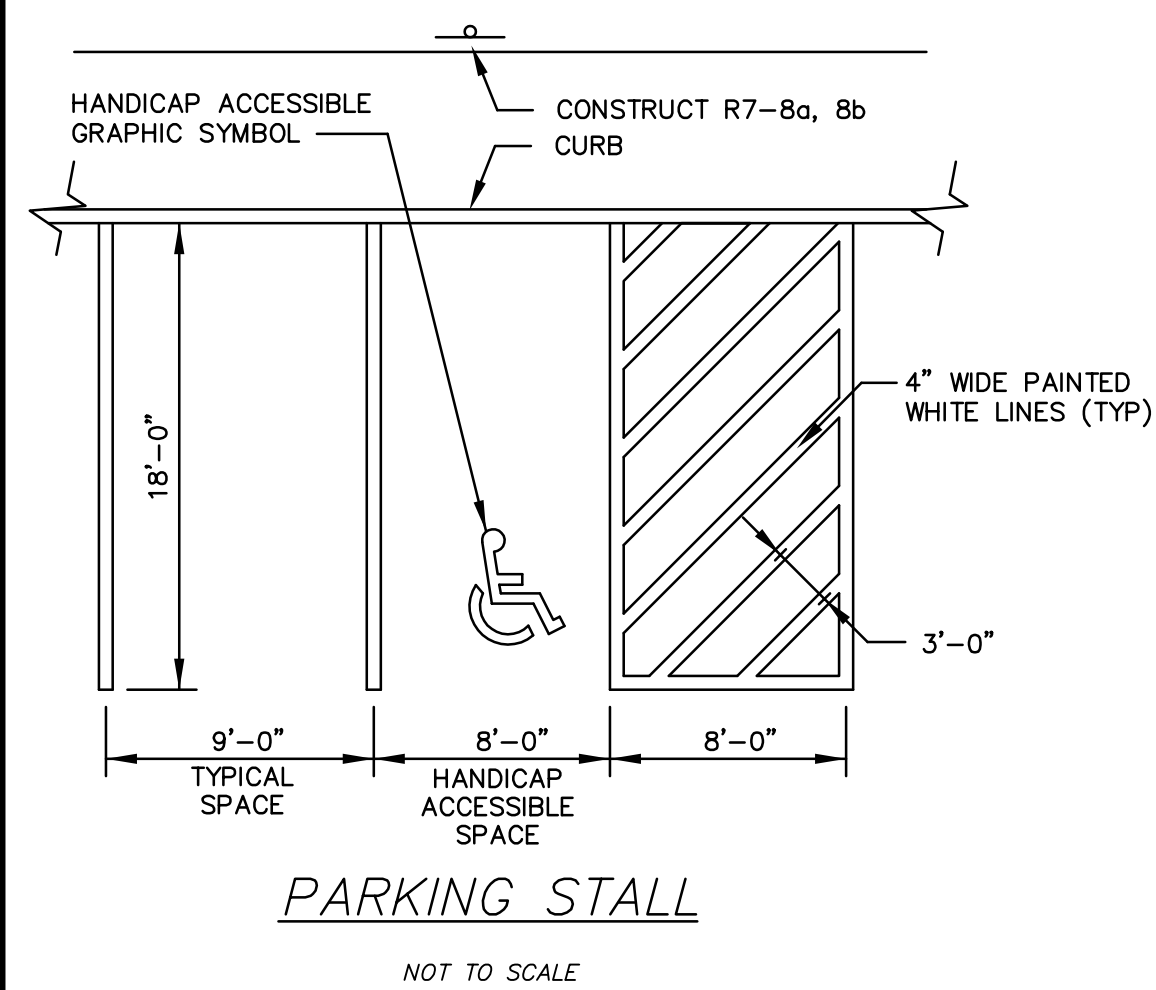
UNDERDRAIN DETAIL

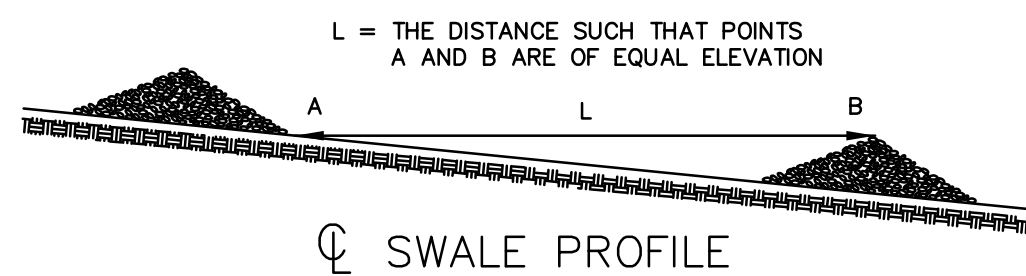
NOT TO SCALE

EROSION CONTROL DETAIL SHEET

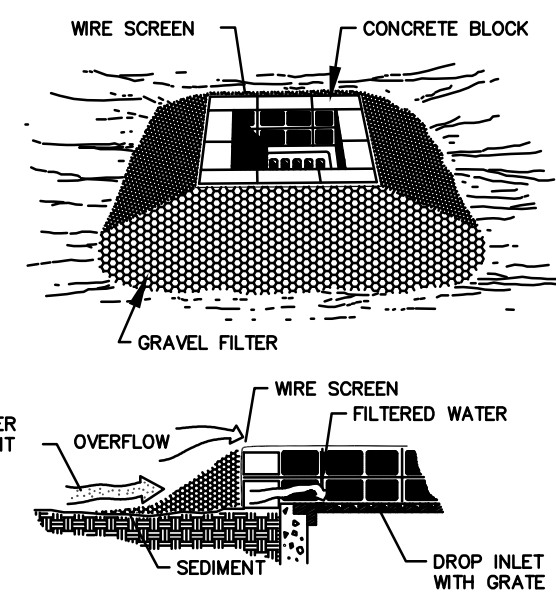
APPLICANT: **DMC REAL ESTATE HOLDINGS LLC**
134 TEN ROD ROAD
ROCHESTER, NH 03867

BROADVIEW URGENT CARE
ANIMAL HOSPITAL
67 KNOX MARSH ROAD
TAX MAP "H", LOT 33
DOVER, NEW HAMPSHIRE

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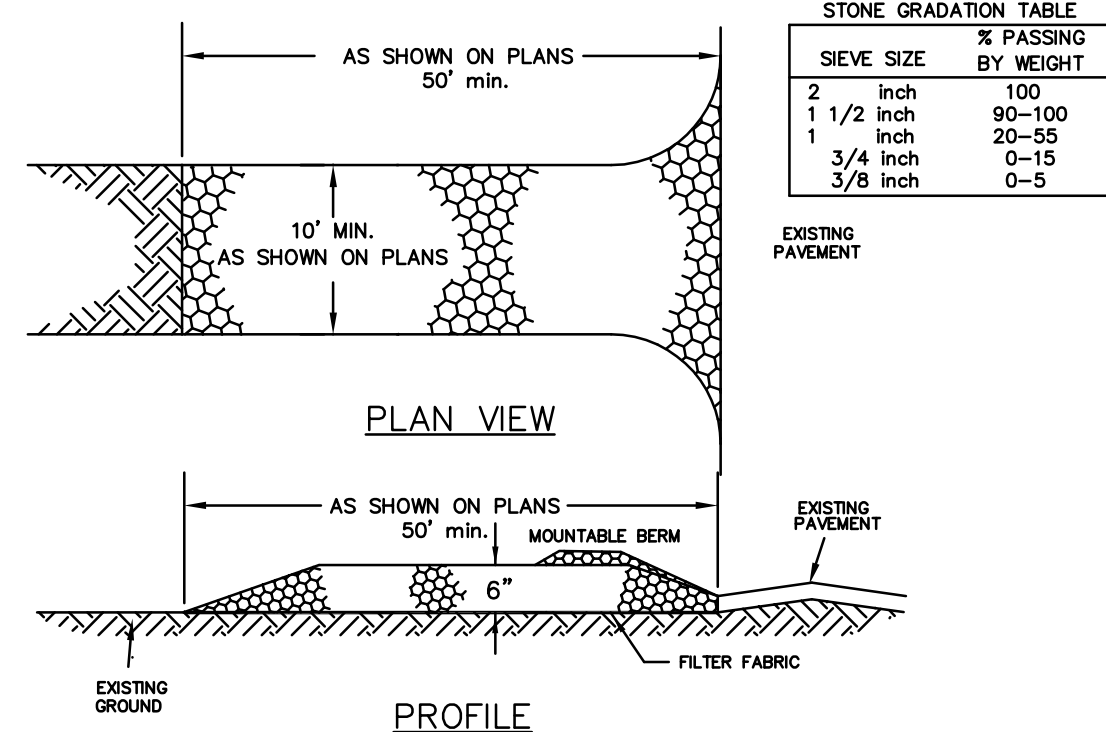
NO SCALE
SOURCE: VIRGINIA SOIL AND WATER CONSERVATION COMMISSION



MAINTENANCE
ALL STRUCTURES SHOULD BE INSPECTED AFTER EVERY RAIN STORM AND REPAIRS MADE AS NECESSARY. SEDIMENT SHOULD BE REMOVED FROM TRAPPING DEVICES AFTER THE SEDIMENT HAS REACHED A MAXIMUM OF ONE HALF THE DEPTH OF THE TRAP. THE SEDIMENT SHOULD BE DISPOSED OF IN A SUITABLE AREA AND PROTECTED FROM EROSION BY EITHER STRUCTURAL OR VEGETATIVE MEANS. THE TEMPORARY TRAPS SHOULD BE REMOVED AND THE AREA REPAIRED AS SOON AS THE CONTRIBUTING DRAINAGE AREA TO THE INLET HAS BEEN COMPLETELY STABILIZED.

NOTES:
1. NORMAL USE AROUND CATCH BASINS.

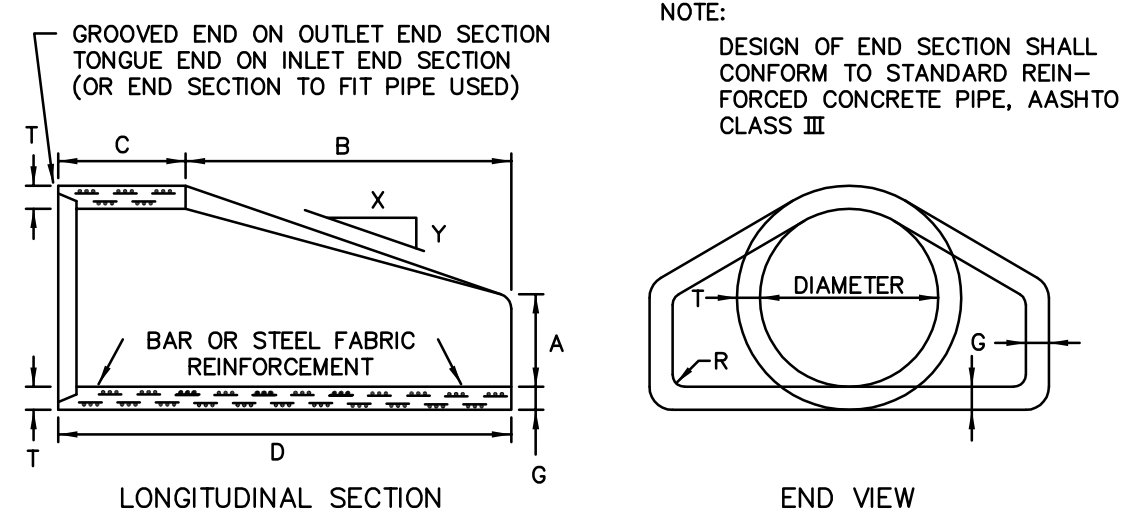
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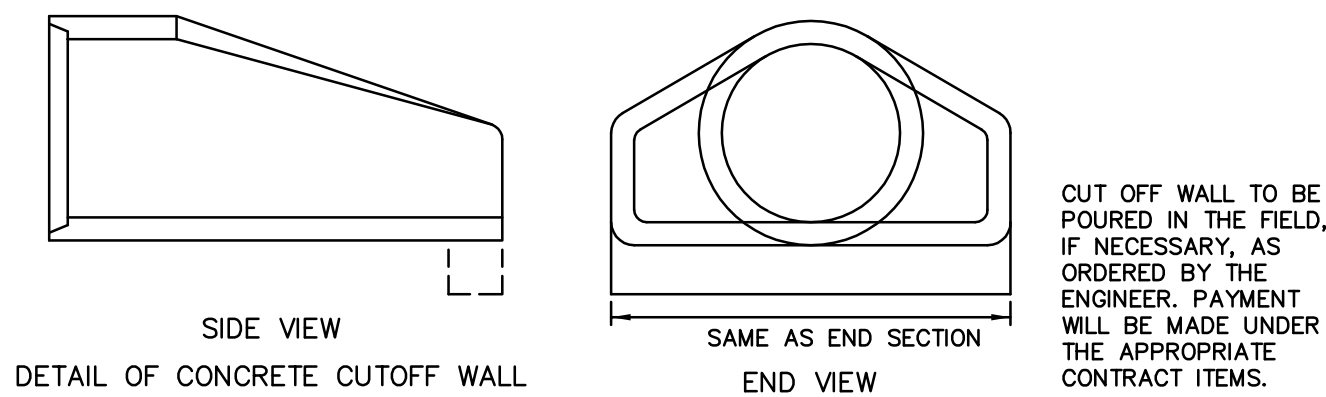
CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - NHDOT STANDARD STONE SIZE #4 - SECTION 703 OF NHDOT STANDARD SPECIFICATIONS. (SEE GRADATION TABLE).
2. LENGTH - DETAILED ON PLANS (50 FOOT MINIMUM).
3. THICKNESS - SIX (6) INCHES (MINIMUM).
4. WIDTH - FULL DRIVE WIDTH (10 FOOT MINIMUM).
5. FILTER FABRIC - MIRAFI 600X OR APPROVED EQUAL.
6. SURFACE WATER CONTROL - ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. WHEN REQUIRED, WORKING TOP OF THE ENTRANCE SHALL BE MAINTAINED TO THE MINIMUM LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
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.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

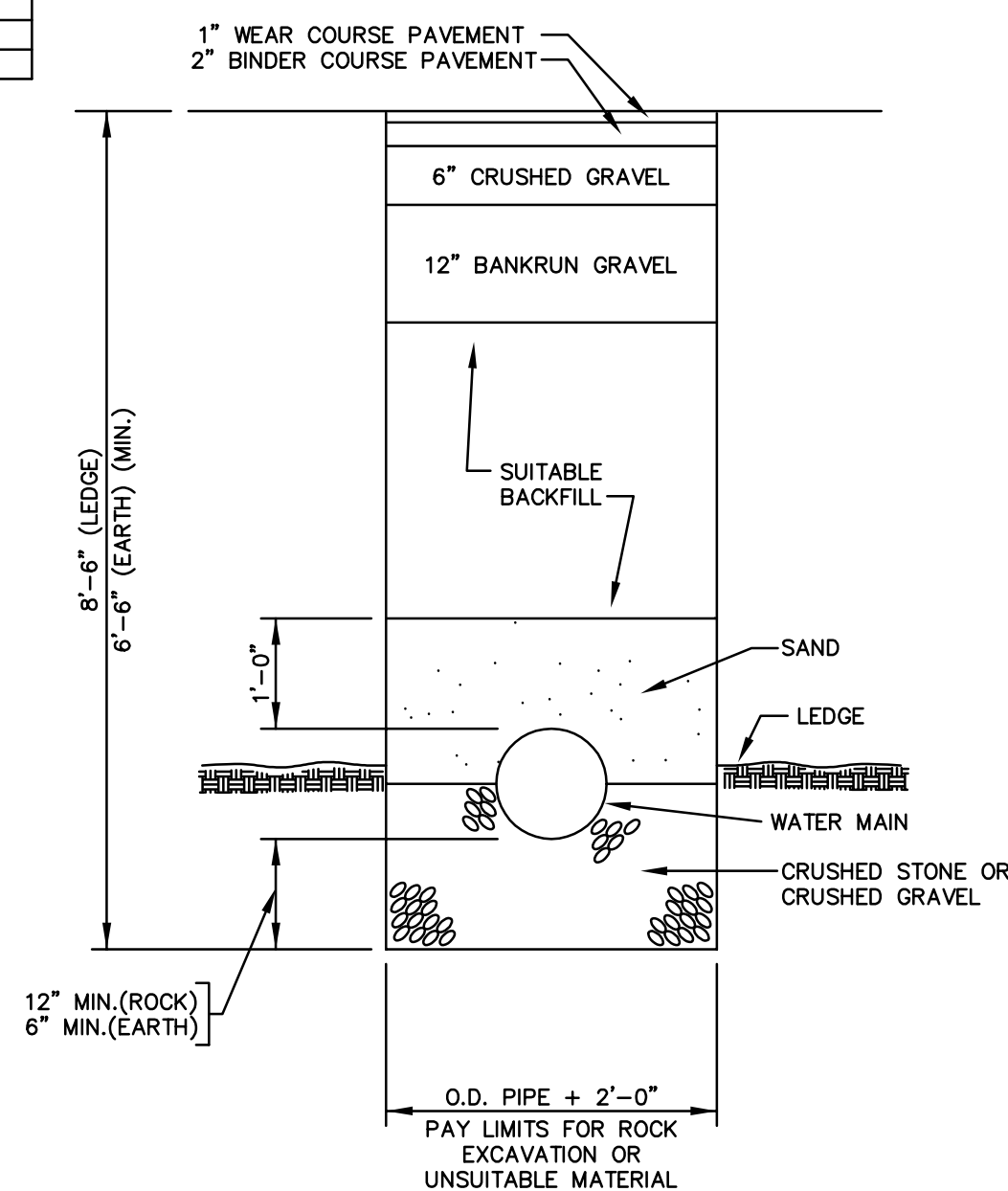


DIAM.	WEIGHT PER SECTION	APPROX. SLOPE	XtoY	A	B	C	D	E	G	R	T
12"	530	3 to 1	4"	24"	487/8"	727/8"	24"	2"	1 1/2"	2 1/4"	2"
15"	740	3 to 1	6"	27"	46"	73"	30"	2 1/4"	1 1/2"	2 1/4"	2"
18"	990	3 to 1	9"	27"	46"	73"	36"	2 1/2"	1 1/2"	2 1/2"	2"
24"	1520	3 to 1	9 1/2"	43 1/2"	30"	73 1/2"	48"	3"	1 1/2"	3 1/2"	3"
30"	2190	3 to 1	12"	54"	193 1/4"	73 3/4"	50"	3 1/2"	1 1/2"	3 1/2"	3"
36"	4100	3 to 1	15"	63"	343 1/4"	97 3/4"	72"	4"	1 1/2"	4"	4"
42"	5380	3 to 1	21"	63"	35"	98"	78"	4 1/2"	1 1/2"	4 1/2"	4"
48"	6550	3 to 1	24"	72"	36"	98"	84"	5"	1 1/2"	5"	5"
54"	8240	2.4 to 1	27"	65"	331 1/4"	99 1/4"	90"	5 1/2"	1 1/2"	5 1/2"	5"
60"	8730	2 to 1	35"	60"	39"	99"	96"	5"	1 1/2"	6"	6"
72"	12520	1.86 to 1	36"	78"	21"	99"	108"	6"	1 1/2"	7"	7"

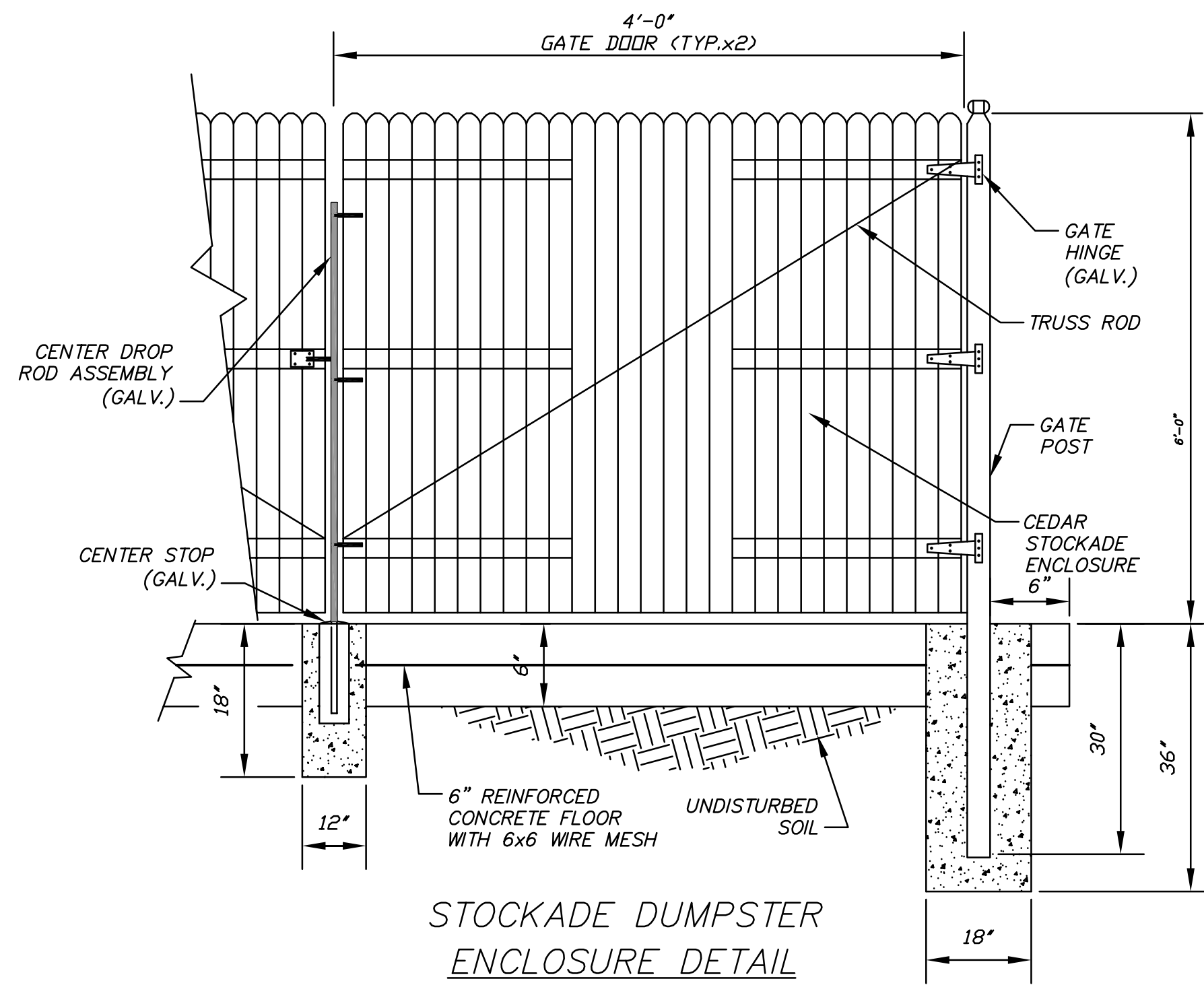


NOT TO SCALE

END SECTION DESIGNATION	OUTLET PIPE DIA (INCHES)
FES1	12
FES2	12
FES3	12
FES4	15
FES5	15



NOT TO SCALE



STOCKADE DUMPSTER
ENCLOSURE DETAIL

NOT TO SCALE

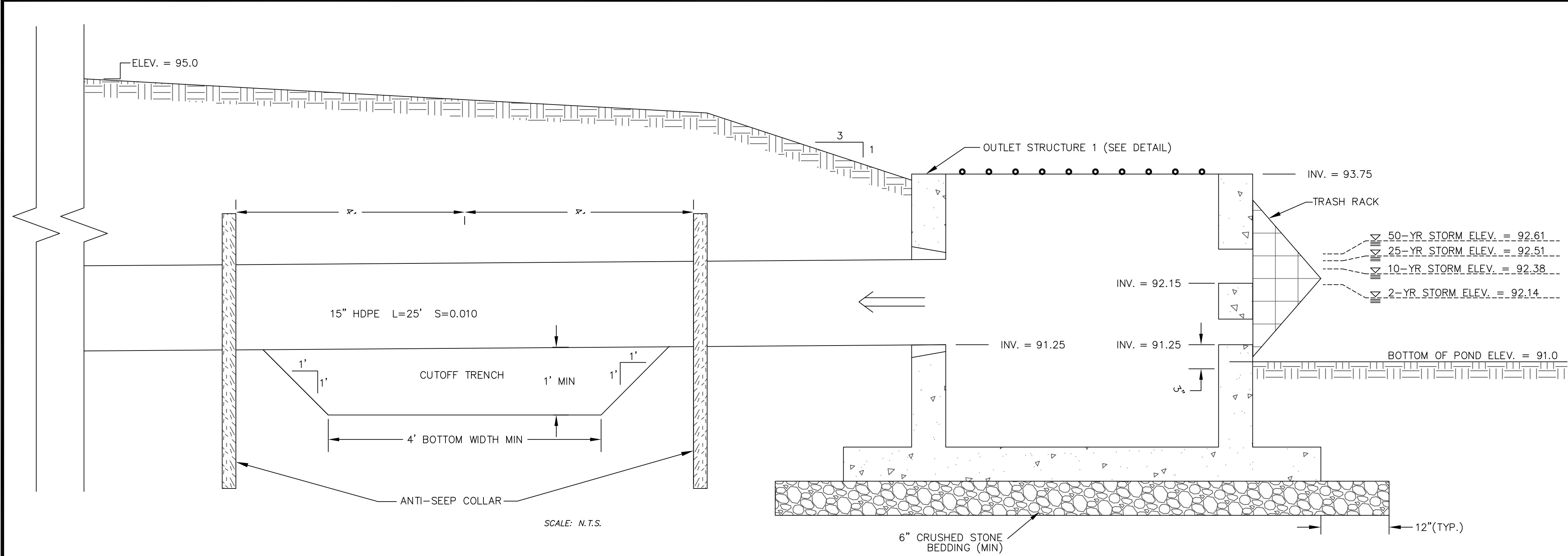
NOTE:
PROPOSED SEWER CONSTRUCTION
WITHIN N.H. ROUTE 155 WILL REQUIRE
A NHDOT TRENCH PERMIT. OBTAINED
BY CONTRACTOR

DOVER PLANNING
FILE NO.: P18-57

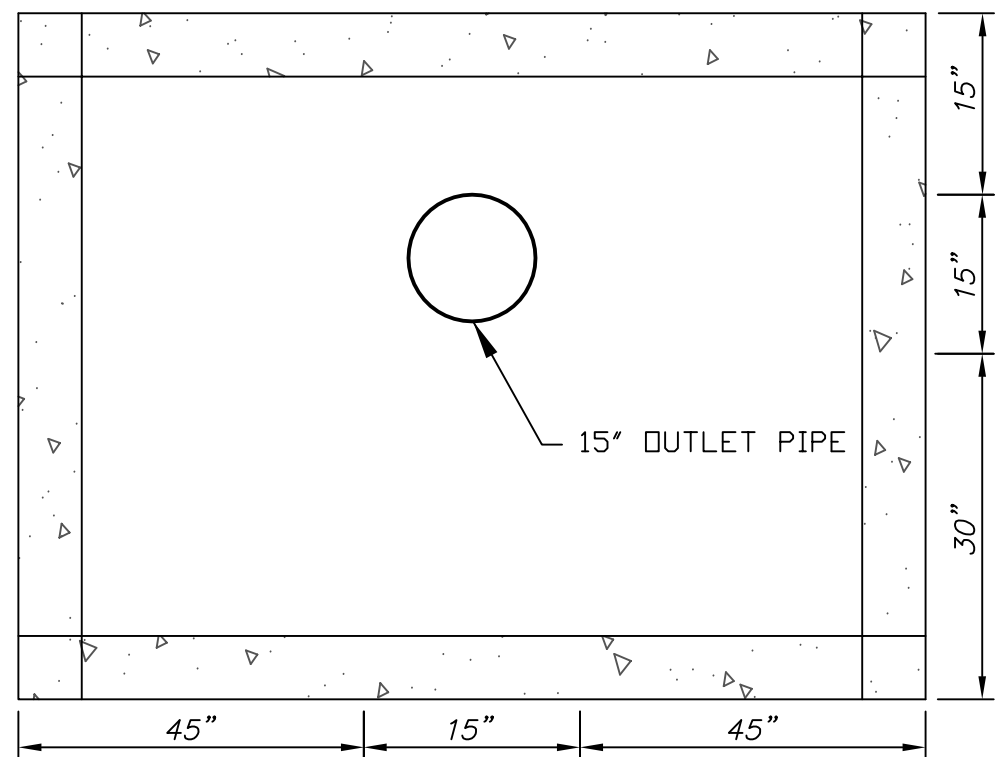
CIVILWORKS NEW ENGLAND
CIVIL ENGINEERING
181 Watson Road, P.O. Box 1166
Dover, New Hampshire 03820
(603) 749-0443

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**BROADVIEW URGENT CARE
ANIMAL HOSPITAL
67 KNOX MARSH ROAD
TAX MAP "H", LOT 33
DOVER, NEW HAMPSHIRE**

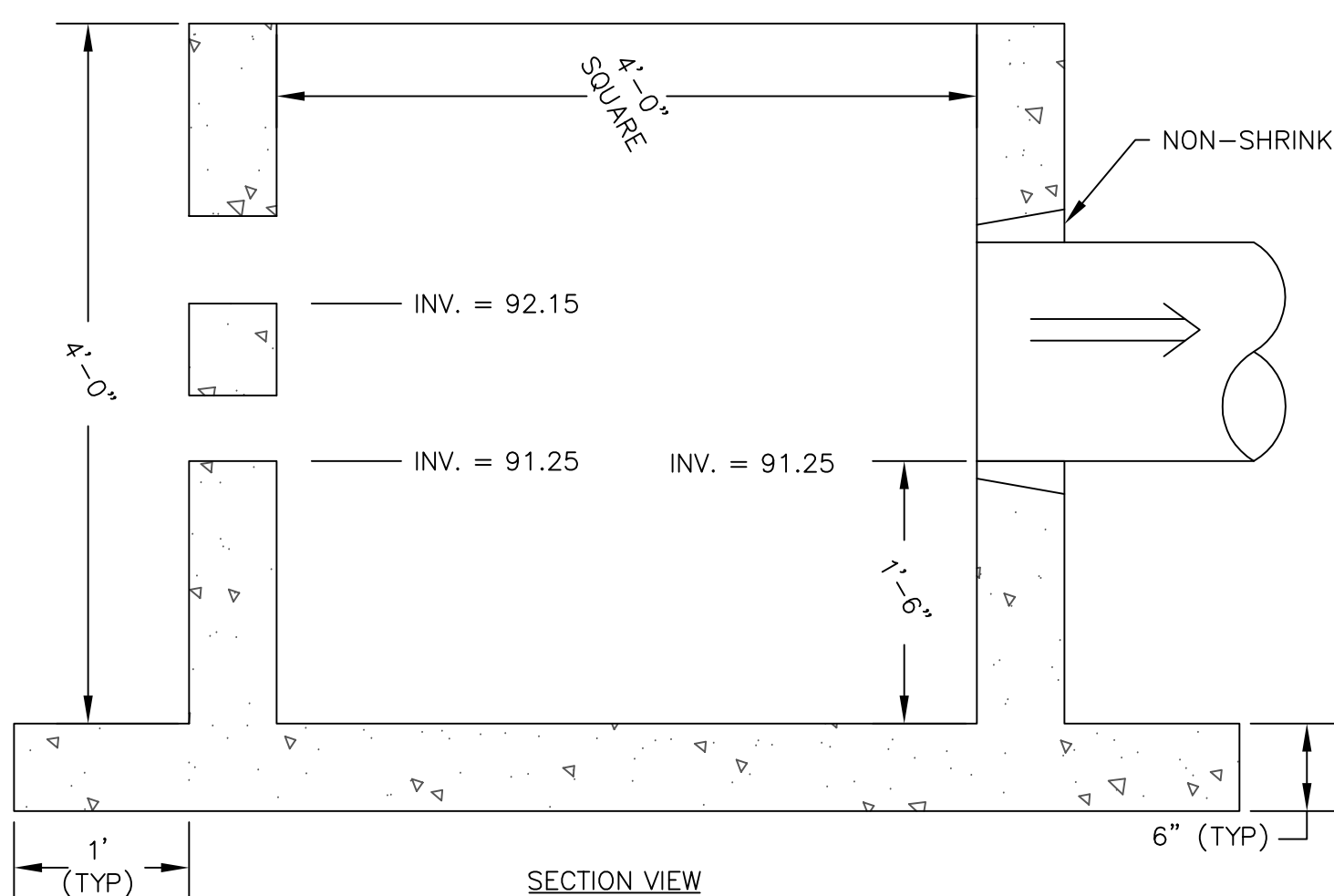


DETENTION POND OUTLET STRUCTURE
NOT TO SCALE



DETENTION POND 1
ANTI-SEEP COLLAR DETAIL
NOT TO SCALE

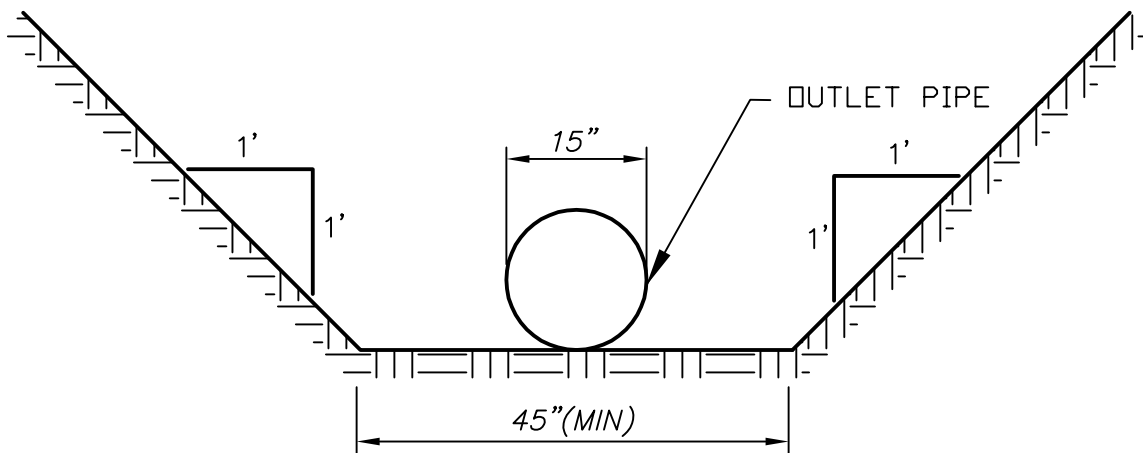
- NOTES:
- ANTI-SEEP COLLARS SHALL BE WATERPROOF AND HAVE A WATERPROOF CONNECTION TO THE PIPE.
 - ANTI-SEEP COLLARS TO BE AGRI DRAIN OR APPROVED EQUAL.



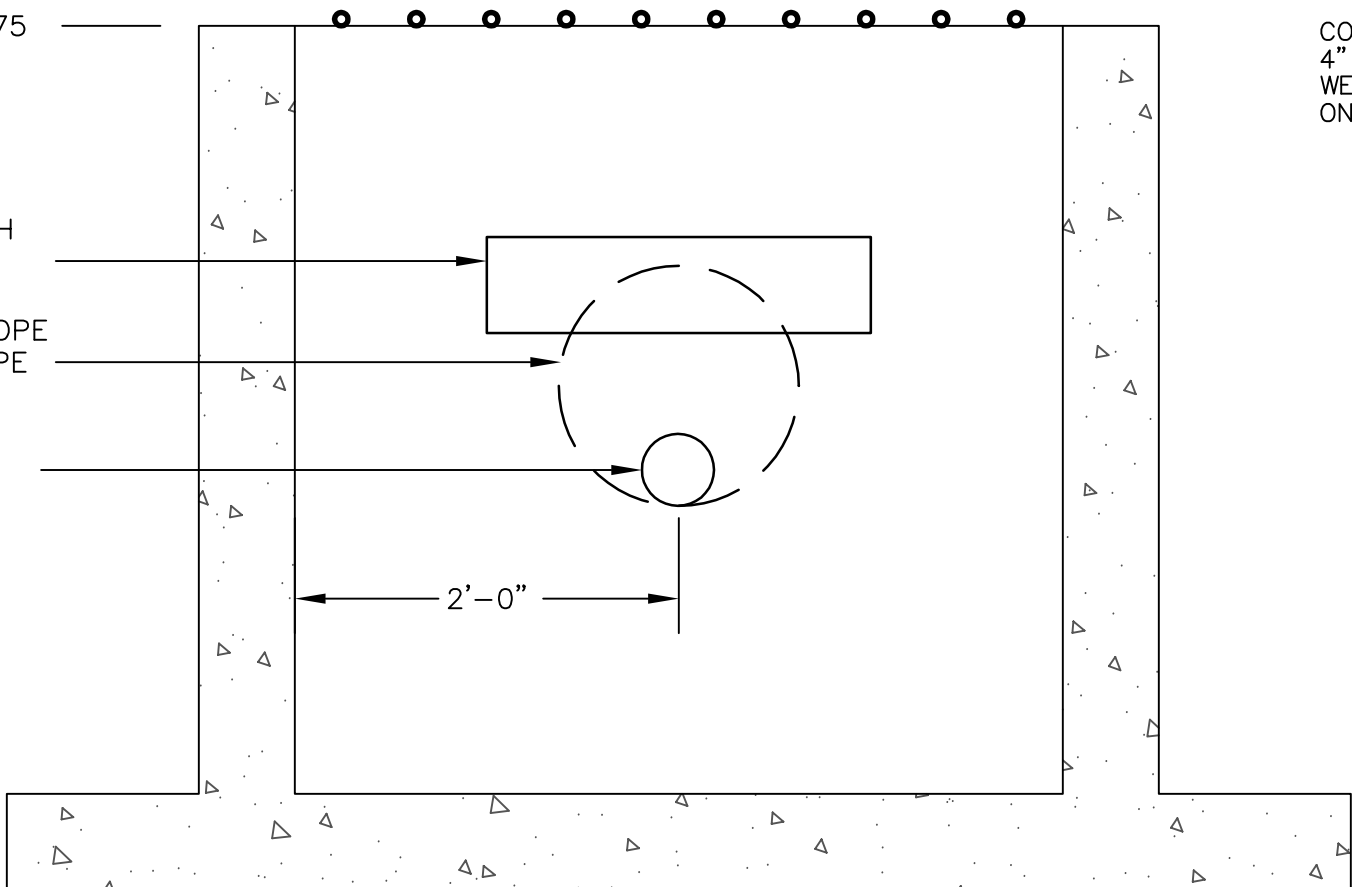
NOTE:

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

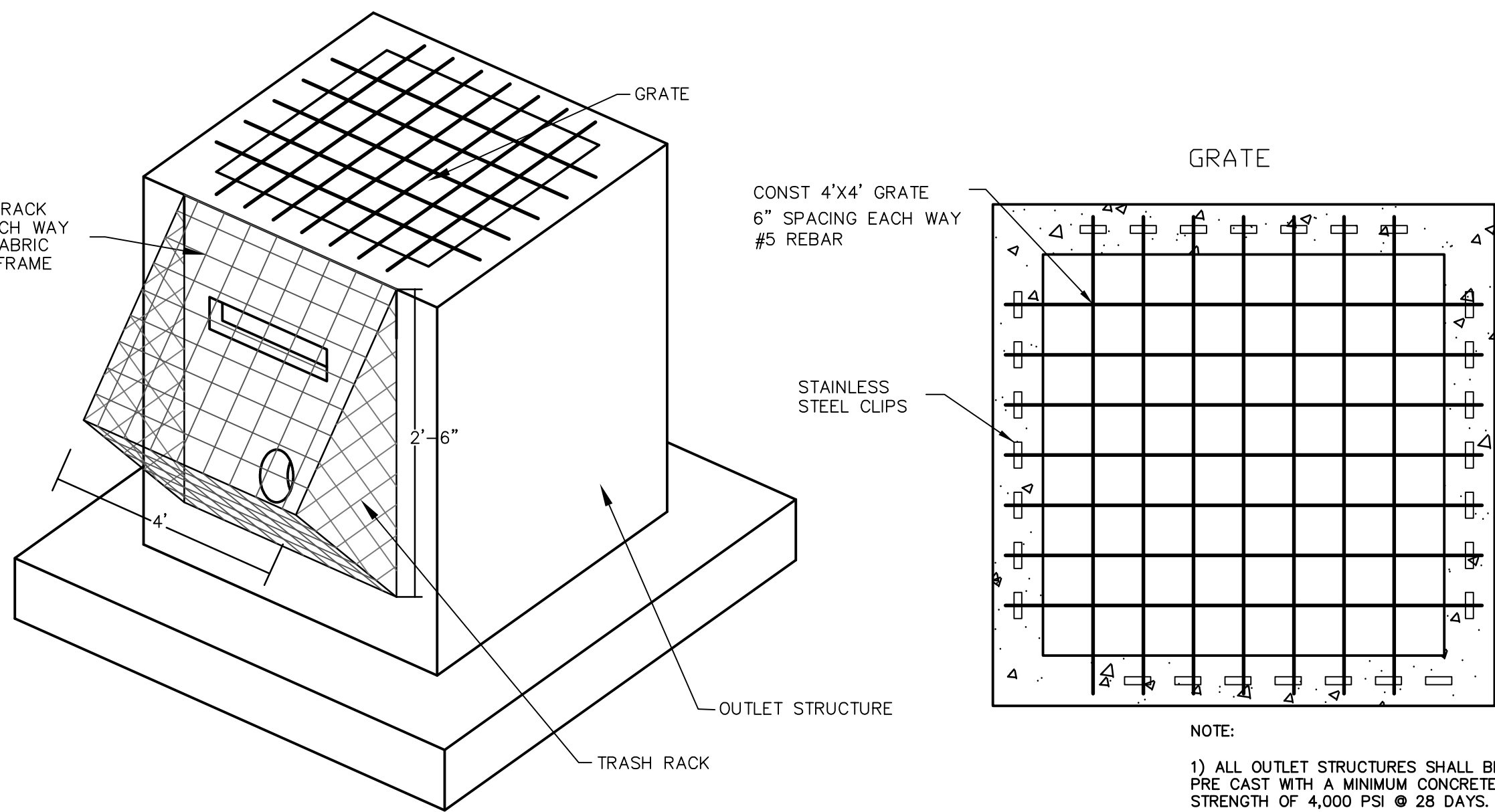
OUTLET STRUCTURE 1 (OS1) DETAIL
NOT TO SCALE



DETENTION POND 1
OUTLET PIPE TRENCH DETAIL
NOT TO SCALE



FRONT VIEW



TYPICAL INLET TRASH RACKS
NOT TO SCALE

DETENTION POND CONSTRUCTION NOTES

DETENTION AREA EARTH EMBANKMENT:

- SEE GRADIENT PLAN FOR BERM WIDTH.
- SIDE SLOPES - THREE HORIZONTAL TO ONE VERTICAL (3:1) OR UNLESS OTHERWISE NOTED.
- FILL MATERIALS SHALL BE FREE OF DETRIMENTAL AMOUNTS OF SOD, ROOTS, FROZEN SOIL, STONES MORE THAN 6 INCHES IN DIAMETER (EXCEPT FOR ROCK FILLS), AND OTHER OBJECTIONABLE MATERIAL.
- FILL MATERIALS SHALL BE A MIXTURE OF STONES (NOT EXCEEDING 6" IN DIAMETER) AND A FINE SANDY SILT MATERIAL.
- THE SOIL USED FOR THE BERM SHALL HAVE A MINIMUM PERCOLATION RATE OF 10 MINUTES AN INCH.
- SELECTED BACKFILL MATERIAL SHALL BE PLACED AROUND STRUCTURES, PIPE CONDUITS, AND ANTISEEP COLLARS AT ABOUT THE SAME RATE ON ALL SIDES TO PREVENT DAMAGE FROM UNEQUAL LOADING.

DETENTION AREA BERM BASE PREPARATION:

- THE BASE AREA SHALL BE CLEARED OF TREES, LOGS, STUMPS, ROOTS, BRUSH, BOULDERS, SOD, AND RUBBISH. IF NEEDED TO ESTABLISH VEGETATION, THE TOPSOIL AND SOD SHALL BE STOCKPILED AND SPREAD ON THE COMPLETED BERM. THE BASE AREA SHALL BE THOROUGHLY SCARIFIED BEFORE PLACEMENT OF MATERIAL.
- REMOVE ALL SOFT ORGANIC MATTER, PEAT, DEBRIS AND FOREIGN MATERIAL TO A DEPTH AS NEEDED (1' MIN) TO REACH AN UNYIELDING BASE OF VIRGIN SOIL.

EXECUTION:

- FILL MATERIALS SHALL BE PLACED IN HORIZONTAL 12" (MAX.) LIFTS TO FULL WIDTHS AS SHOWN ON THE DESIGN PLAN.
- FILL MATERIALS SHALL BE FRESHLY PLACED PRIOR TO COMPACTION.
- ALL FILLS SHALL BE COMPACTED BY MECHANICAL VIBRATORY COMPACTION TO 95% PROCTOR DENSITY.
- FILL SHALL BE CONSTRUCTED IN CONTINUOUS HORIZONTAL LAYERS EXCEPT WHERE OPENINGS OR SECTIONALIZED FILLS ARE REQUIRED. IN THOSE CASES, THE SLOPE OF THE BONDING SURFACES BETWEEN THE EMBANKMENT IN PLACE AND THE EMBANKMENT TO BE PLACED SHALL NOT BE STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL. PLACE THE MORE IMPERVIOUS SOIL (HIGHER PERCENTAGE PASSING THE #200 SIEVE) IN THE UPSTREAM TWO-THIRDS (2/3) OF THE BERM. THE MORE GRANULAR SOIL MATERIAL SHOULD BE PLACED IN THE REMAINING DOWNSTREAM ONE-THIRD PORTION OF THE BERM.
- INSTALL ANTI-SEEP COLLARS CONCURRENTLY WITH FILL MATERIAL PLACEMENT.
- INSTALL CUT-OFF TRENCH CONCURRENTLY WITH FILL MATERIAL PLACEMENT. THE CUT OFF TRENCH SHALL BE LOCATED AT OR SLIGHTLY UPSTREAM OF THE CENTER LINE OF THE BERM. IT SHALL EXTEND UP THE ABUTMENTS AS REQUIRED AND BE DEEP ENOUGH TO EXTEND INTO A RELATIVELY IMPERVIOUS LAYER.
- THE CUTOFF TRENCH SHALL HAVE A BOTTOM WIDTH ADEQUATE TO ACCOMMODATE THE EQUIPMENT USED FOR EXCAVATION, BACKFILL AND COMPACTION OPERATIONS. CUTOFF TRENCH TO BE EXCAVATED AND BACKFILLED PRIOR TO PLACING PIPE.
- CUTOFF TRENCH SIDE SLOPES SHALL NOT BE STEEPER THAN ONE HORIZONTAL TO ONE VERTICAL.

MOISTURE CONTROL

THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL BE ADEQUATE FOR OBTAINING THE REQUIRED COMPACTION. MATERIAL THAT IS TOO WET SHALL BE DRIED TO MEET THIS REQUIREMENT, AND MATERIAL THAT IS TOO DRY SHALL HAVE WATER ADDED AND MIXED UNTIL THE REQUIREMENT IS MET.

COMPACTION

FILL ADJACENT TO STRUCTURES, PIPE CONDUITS, AND ANTI-SEEP COLLARS SHALL BE COMPACTED TO A DENSITY EQUIVALENT TO THAT OF THE SURROUNDING FILL BY MEANS OF HAND TAMPING OR MANUALLY DIRECTED POWER TAMPER OR PLATE VIBRATORS.

MAINTENANCE:

MAINTENANCE IS NECESSARY TO ENSURE THAT THE DETENTION BASINS WILL CONTINUE TO FUNCTION AS ORIGINALLY DESIGNED. THE "HOMEOWNERS ASSOCIATION" IS RESPONSIBLE FOR MAINTAINING THE STRUCTURES AND THE BASIN AREA.

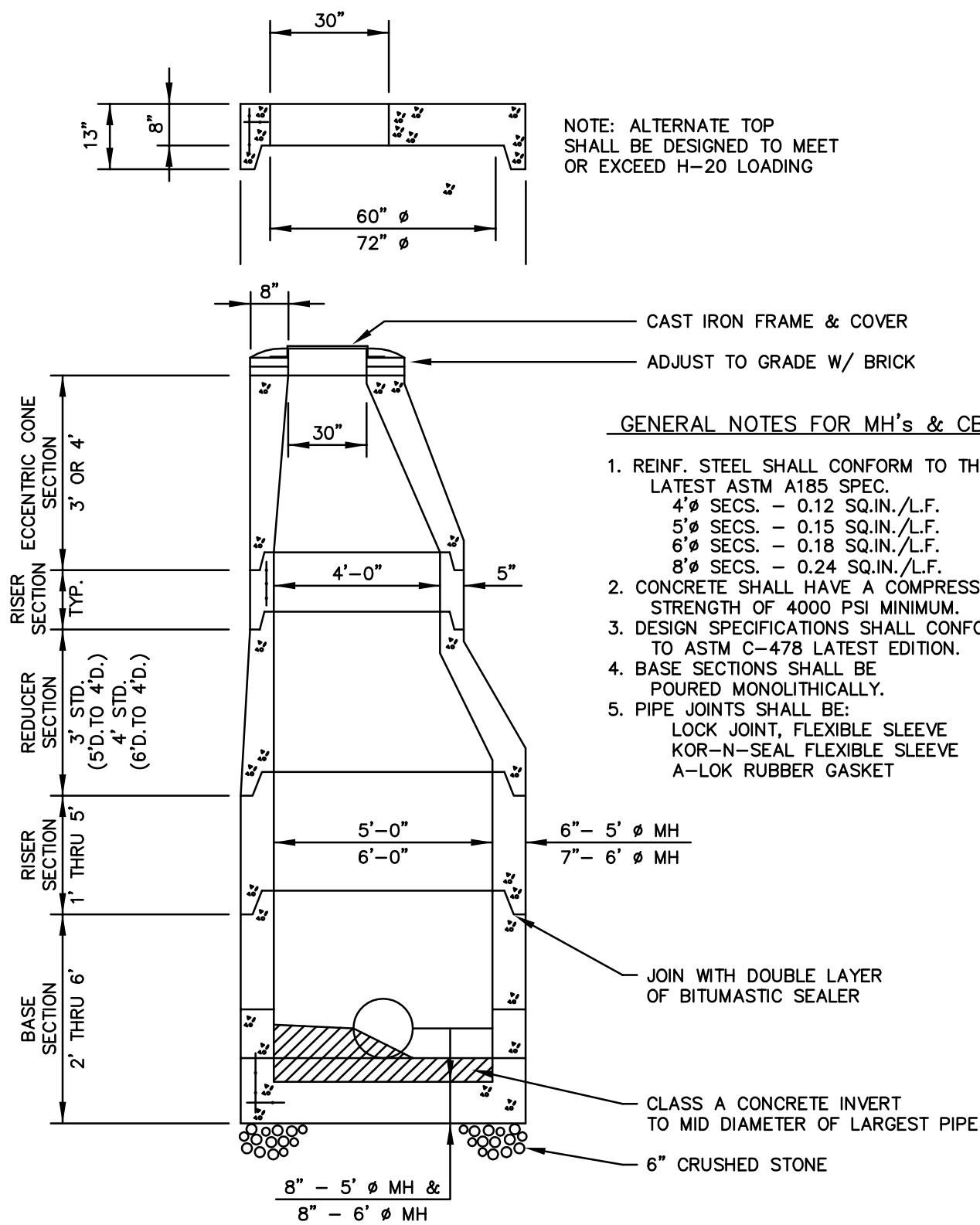
- EMBANKMENT - THE EMBANKMENT SHOULD BE INSPECTED ANNUALLY TO DETERMINE IF RODENT BURROWS, WET AREAS, OR EROSION OF THE FILL IS TAKING PLACE. IF SUCH ISSUES ARE NOTED THEY SHALL BE RECTIFIED AS SOON AS PRACTICAL.
- VEGETATION - THE VEGETATED AREAS OF THE BERM SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH. LIME AND FERTILIZER SHOULD BE APPLIED AS NECESSARY AS DETERMINED BY SOIL TESTS. TREES SHOULD BE KEPT OFF THE BERM AREA.
- INLETS AND OUTLETS - SHOULD BE INSPECTED ANNUALLY AND AFTER EVERY MAJOR STORM. ACCUMULATED DEBRIS AND SEDIMENT SHOULD BE REMOVED.
- SEDIMENT - SEDIMENT SHOULD BE CONTINUALLY CHECKED IN THE BASIN. WHEN SEDIMENT ACCUMULATIONS REACH THE STRUCTURE INLET ELEVATION THEN THE SEDIMENT SHOULD BE REMOVED AND PROPERLY DISPOSED OF.

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY				DOVER PLANNING FILE NO.: P18-57				CIVILWORKS NEW ENGLAND CIVIL ENGINEERING 181 Watson Road, P.O. Box 1166 Dover, New Hampshire 03820 (603) 749-0443			
DATE: 11-6-18	SCALE: AS SHOWN	DRAWN BY: SRD	DESIGN BY: DCL	APPROVED BY: SH	PROJECT NO: 18031	1	REVISION PER TRC COMMENTS	NO.	DATE	APPD	DATE

DETAIL SHEET

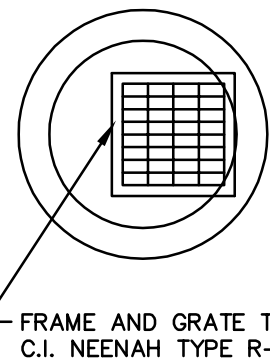
APPLICANT: DMC REAL ESTATE HOLDINGS LLC
134 TEN ROD ROAD
ROCHESTER, NH 03867

BROADVIEW URGENT CARE
ANIMAL HOSPITAL
67 KNOX MARSH ROAD
TAX MAP "H", LOT 33
DOVER, NEW HAMPSHIRE



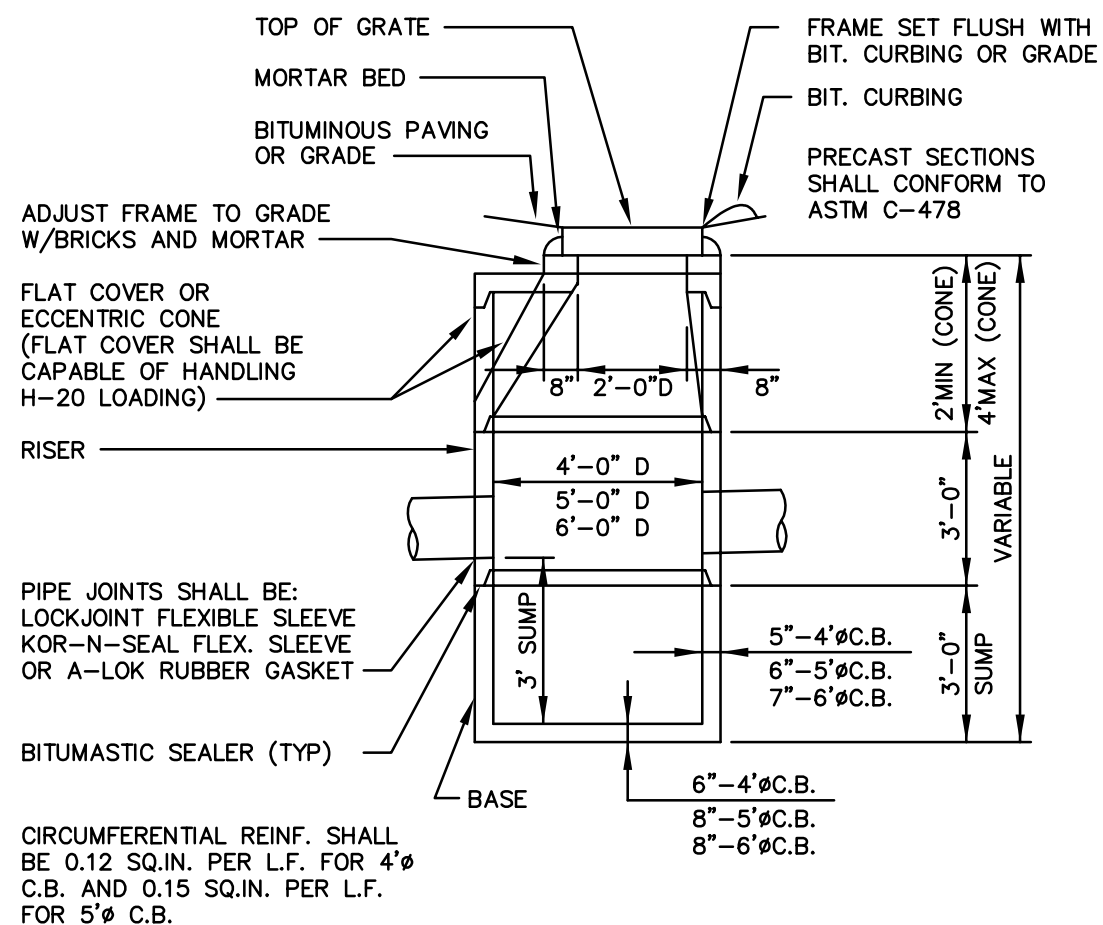
STANDARD 5 FT. & 6 FT. DIA. MANHOLES

NOT TO SCALE



GRATE DETAIL

NOT TO SCALE

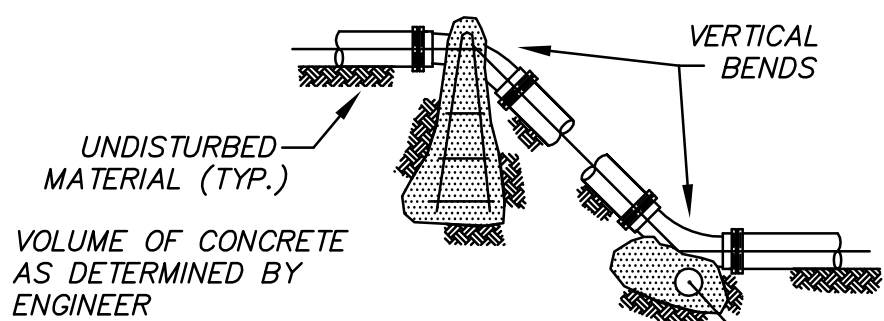


PRE-CAST REINFORCED CATCH BASIN

NOT TO SCALE

SPECIFICATIONS

- All construction shall conform with the State of New Hampshire Department of Transportation (NHDOT), "Standard Specifications for Road and Bridge Construction"; hereinafter referred to as the "Standard Specifications".
- Storm drains shall be ADS N12 or approved equal, and shall be jointed with neoprene "O" rings.
- Catch basins and manholes shall be pre-cast reinforced concrete designed by an engineer registered in New Hampshire, and able to withstand loadings of 8 tons (H2O Loading).
- Manholes shall have cast iron frames and covers with 30" inside diameter openings. A 3-inch (minimum) letter "D" for drain shall be plainly cast into the center of each cover.
- Catch basins and manholes shall be adjusted to grade with courses of brick. Maximum adjustment to grade shall be 12 inches. Frames shall be set on a full bed of mortar, true to grade and concentric with the masonry. All voids between the top of the structure and the bottom flange of the frame shall be completely filled to make a watertight fit. A ring of mortar at least one inch thick and pitched to shed water away from the frame, shall be placed over and around the outside of the bottom flange. The mortar shall extend to the outer edge of the masonry all around its circumference and shall be finished smooth. No visible leakage will be permitted.
- Invert channels of sewer manholes shall be formed smoothly to the largest pipe radius. Changes in grade shall be formed smoothly and evenly. The floor of the structure outside the channels shall be sloped towards the channels at approximately 1/2 inch per foot. The floor at the channel shall match the crown of the largest pipe.
- Trench construction will conform with Section 603.3.1 of the Standard Specifications (1974).
- Wood sheeting or a suitable trench box shall be used to support the trench as necessary. If wood sheeting is used, it shall be driven at a distance of 1 foot from the outside diameter of the pipe to a depth 6 inches below the invert of the pipe. Wood sheeting shall be cut off and left in place to an elevation not less than 1 foot above the top of the pipe, but not greater than 3 feet below the finished grade.
- Bedding shall conform with Section 603.3.2 of the Standard Specifications (1974).
- Backfill material will conform with Section 603.3.5 of the Standard Specifications (1974) and, in addition, shall exclude debris, pieces of pavement, organic matter, top soil, all wet or soft muck, peat or clay, all excavated ledge material, frozen material, all rocks over 6 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. Backfill shall not be placed on frozen or previously frozen material.
- All backfill and bedding compaction shall meet the requirements of AASHTO T 99 Method C. Density shall be 95 percent. Compaction shall be 6 inch lifts for bedding and backfill to a plane 1 foot above the pipe and in 12 inch lifts thereafter by an approved mechanical compactor.
- Should frozen material be encountered, it shall not be placed in the backfill nor shall backfill be placed upon frozen material. Previously frozen material shall be removed as required before new backfill is placed.
- The Contractor shall be responsible for any damage to frames and grates during and from the time of removal from the existing structure to and during the time of resetting, and shall replace in kind any damaged frames or grates at no additional compensation.
- All trenches will be covered and debris, including any rejected materials, shall be removed daily. Strict safety precautions shall be maintained at all times.
- Location of utilities shown on the plans are approximate.
 - the Contractor shall, 48 hours prior to construction, notify the utility companies and have all utilities in the vicinity of the construction marked in the field.
 - after the utilities have been located and prior to construction, the Contractor with the Engineer, shall layout the proposed drainage system in the field and rectify any utility conflicts which may be found.
 - Any conflicts with utilities found during construction by the Contractor shall be immediately brought to the attention of the Engineer and the Utility Company and properly rectified.
 - The Contractor is responsible for the cost of repair for any utilities damaged during construction. The Contractor shall contact the Utility Company to repair any damages, however, the Contractor may make appropriate repairs with the Utility Company's permission.
- Complete shop drawings for pipe, manholes, catch basins, frames, grates and covers shall be submitted in triplicate for approval by the Engineer prior to the start of construction. Each shop drawing shall be checked and initialized by the Contractor to indicate approval before it is submitted to the Engineer.
- Shop drawings for flat concrete covers shall be stamped prior to submission for approval by a New Hampshire Registered Professional Engineer.
- Brick masonry for setting frames and brick and mortar plugs shall conform to the Standard Specification Section 604.2.4.

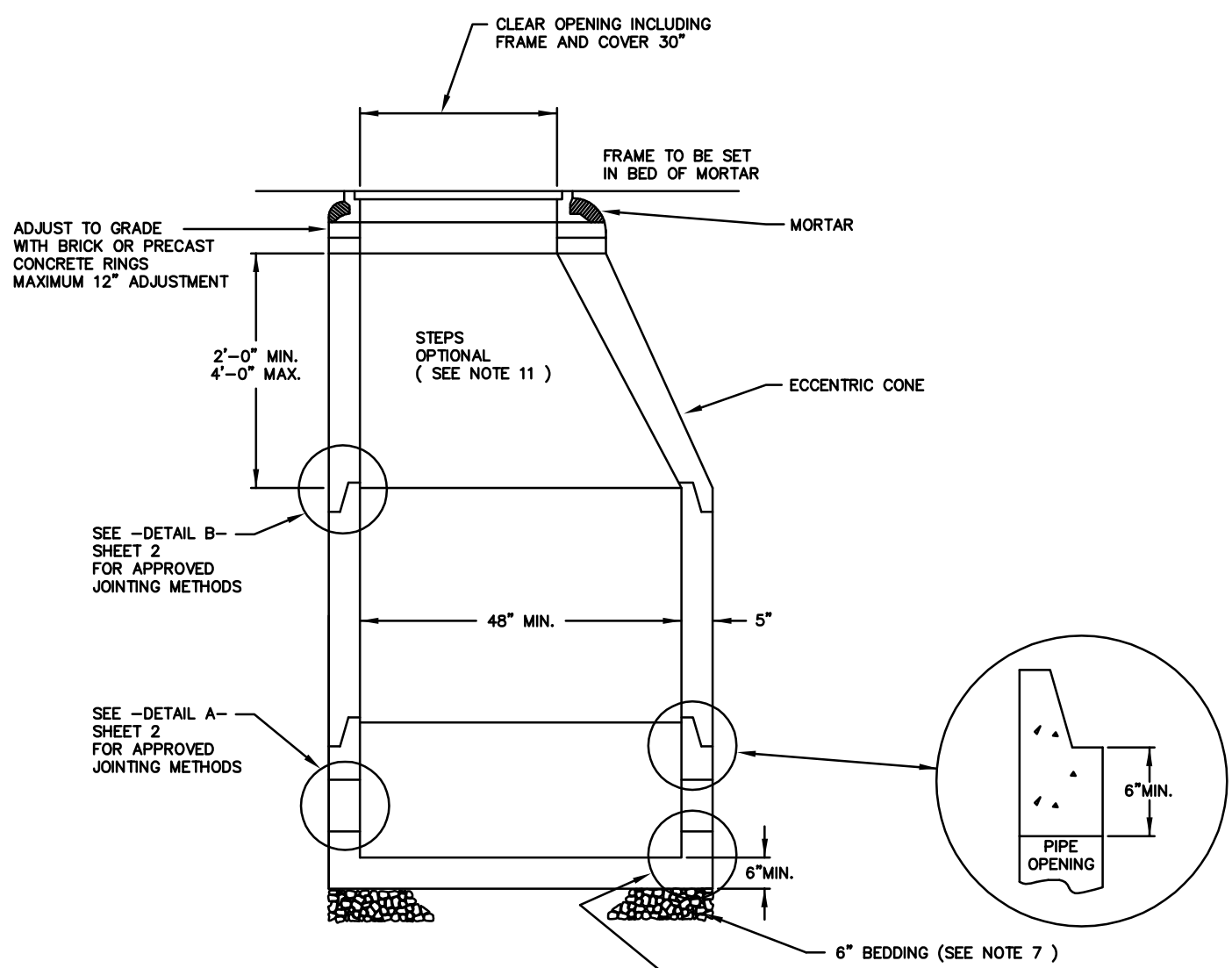


TEST PRESSURE = 200psi	REACTION TYPE	PIPE SIZE			
		4"	6"	8"	10"
A	90°	0.89	2.19	3.82	11.14
B	180°	0.65	1.55	2.78	8.38
C	45°	0.48	1.19	2.12	6.02
D	22-1/2°	0.25	0.60	1.06	3.08
E	11-1/4°	0.13	0.30	0.54	1.54

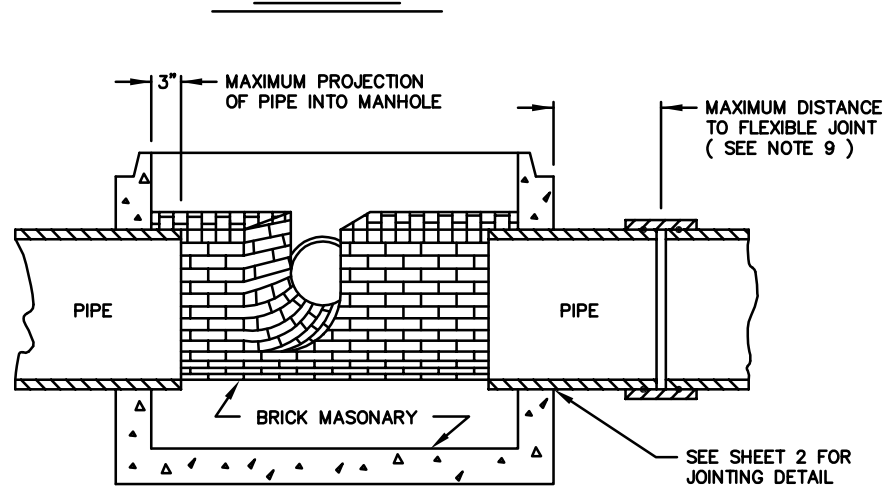
- NOTES:
- POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
 - ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
 - PLACE BOARD IN FRONT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

THRUST BLOCKING DETAIL

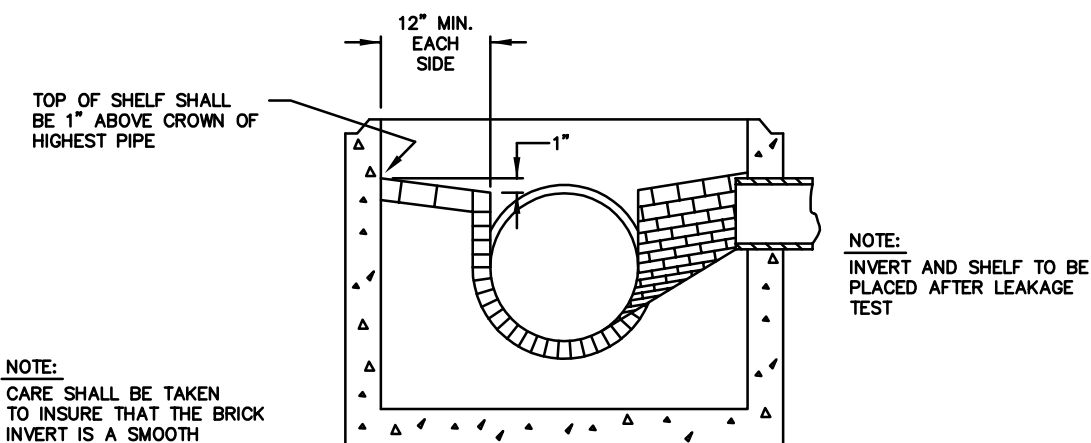
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TYPICAL SECTION



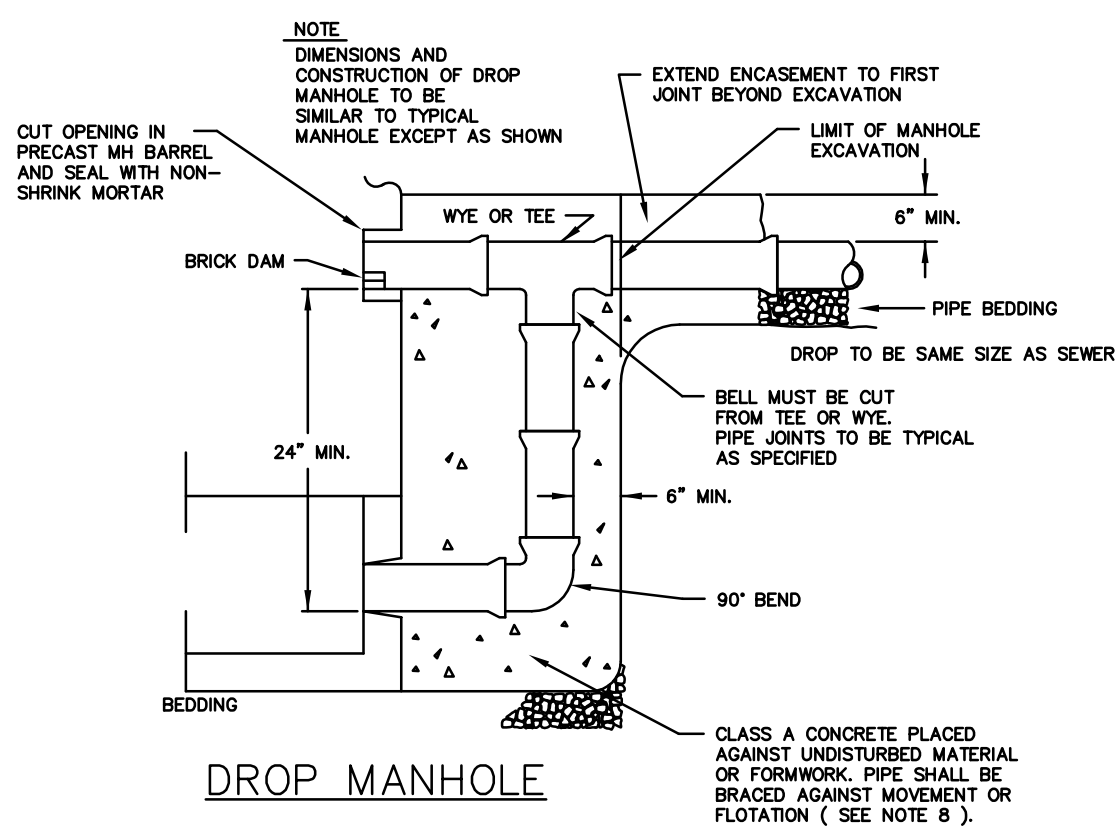
SECTION A-A



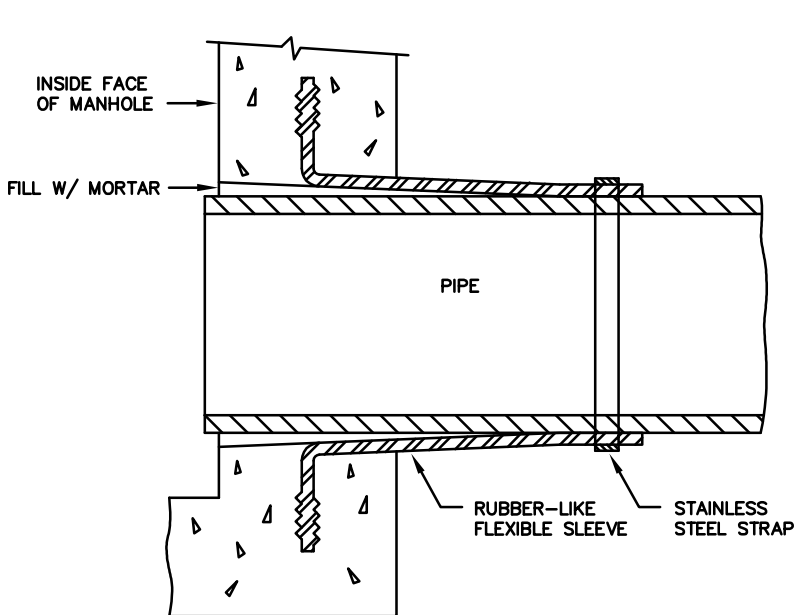
SECTION B-B

- NOTES:
- IT IS THE INTENTION OF THE COMMISSION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY BY THE COMMISSION FOR THE INTENDED SERVICE SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWING. MANHOLES MAY BE AN ASSEMBLY OF PRECAST SECTIONS, WITH OR WITHOUT STEEL REINFORCEMENT, WITH ADEQUATE JOINTING, OR CONCRETE CAST MONOLITHICALLY IN PLACE WITH OR WITHOUT REINFORCEMENT, IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE, A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.
 - BARRELS AND CONE SECTIONS SHALL BE PRECAST REINFORCED.
 - PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C478.
 - LEAKAGE TEST SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS.
 - INVERTS AND SHELVES 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 SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.
 - FRAMES AND COVERS MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING A 3-INCH (MINIMUM HEIGHT) LETTER "S" FOR SEWER OR "D" FOR DRAINS SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
 - BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33
100% PASSING 1 INCH SCREEN 0-10% PASSING # 4 SIEVE
90-100% PASSING 3/4 INCH SCREEN 0- 5% PASSING # 8 SIEVE
20-55% PASSING 3/8 INCH SCREEN
WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1 1/2 INCH TO 1/2 INCH SHALL BE USED.
 - CONCRETE: FOR DROP SUPPORT SHALL CONFORM TO THE REQUIREMENT 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
 - FLEXIBLE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES:
RCP & CI PIPE - ALL SIZES - 48"
AC & VC PIPE - UP THROUGH 12' DIA -18"
AC & VC PIPE - LARGER THAN 12' DIA - 36"
DI PIPE - NONE REQUIRED
PVC (ASTM 3034) - UP THROUGH 15" DIA. - NONE REQUIRED
PVC (ASTM F 679) - LARGER THAN 15" DIA. - 48" - 60"
PVC (ASTM F 789) - ALL SIZES - 48" - 60"
ABS (ASTM D 2680) - ALL SIZES - SAME AS VC ABOVE

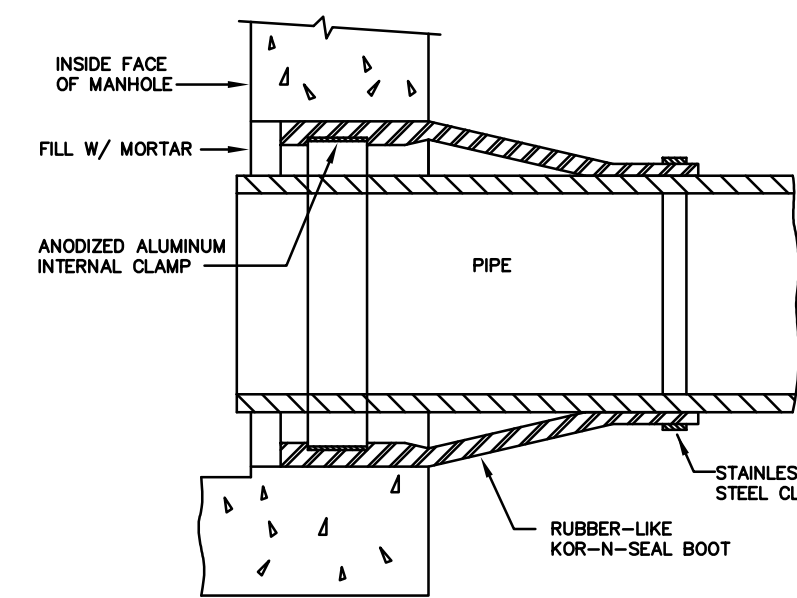
- UNDER SEVERE CONDITIONS WHEN DIFFERENTIAL SETTING CANNOT BE CONTROLLED WITHIN NORMAL LIMITS, VARIATIONS IN THE STUB LENGTH MAY BE NECESSARY. OTHER PLASTIC PIPES SHALL BE REVIEWED ON A CASE BY CASE BASIS.
 - SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H-20 LOADS.
 - MANHOLE STEPS MAY BE PERMITTED UPON REQUEST BY THE OWNER AS SECONDARY ADDITIONAL SAFETY FEATURE SUPPLEMENTARY TO THE PRIMARY PORTABLE LADDER ENTRY AND WHEN INSTALLED UNDER THE FOLLOWING CONDITIONS:
 - THE STEPS SHALL BE MANUFACTURED OF 5/8 INCH ROUND STAINLESS STEEL OR FORGED ALUMINUM ALLOY. THEY SHALL BE SHAPED SO THAT THEY CANNOT BE PULLED OUT OF THE CONCRETE WALL IN WHICH THEY ARE EMBEDDED.
 - THE STEPS SHALL BE EMBEDDED IN THE CONCRETE BY THE MANUFACTURER DURING MANUFACTURE OR IMMEDIATELY FOLLOWING REMOVAL OF THE FORMS. SECURING THE STEPS WITH MORTAR IN DRILLED OR CAST HOLES, WILL NOT BE ACCEPTABLE.
 - THE STEPS SHALL BE OF THE DROP TYPE WITH A DEPRESSED SECTION FOR HANDHOLD, APPROXIMATELY 14" X 10" IN DIMENSION.



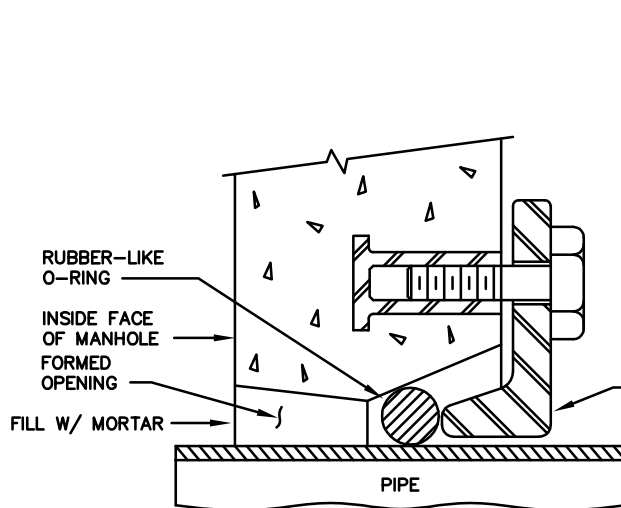
DROP MANHOLE



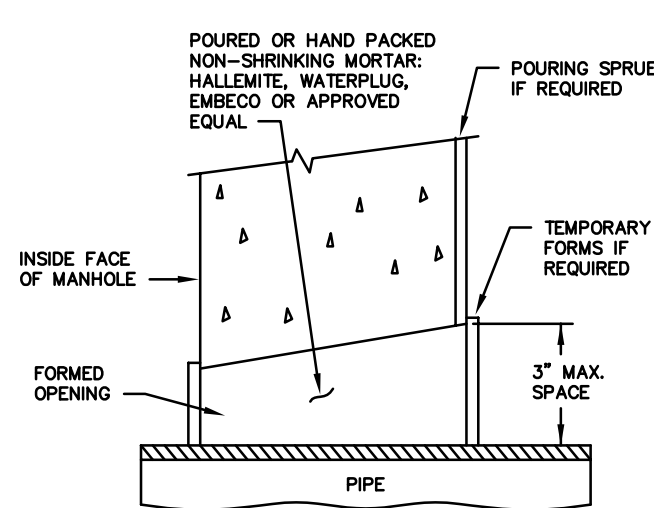
LOCK-JOINT FLEXIBLE MANHOLE SLEEVE
(OR EQUAL)



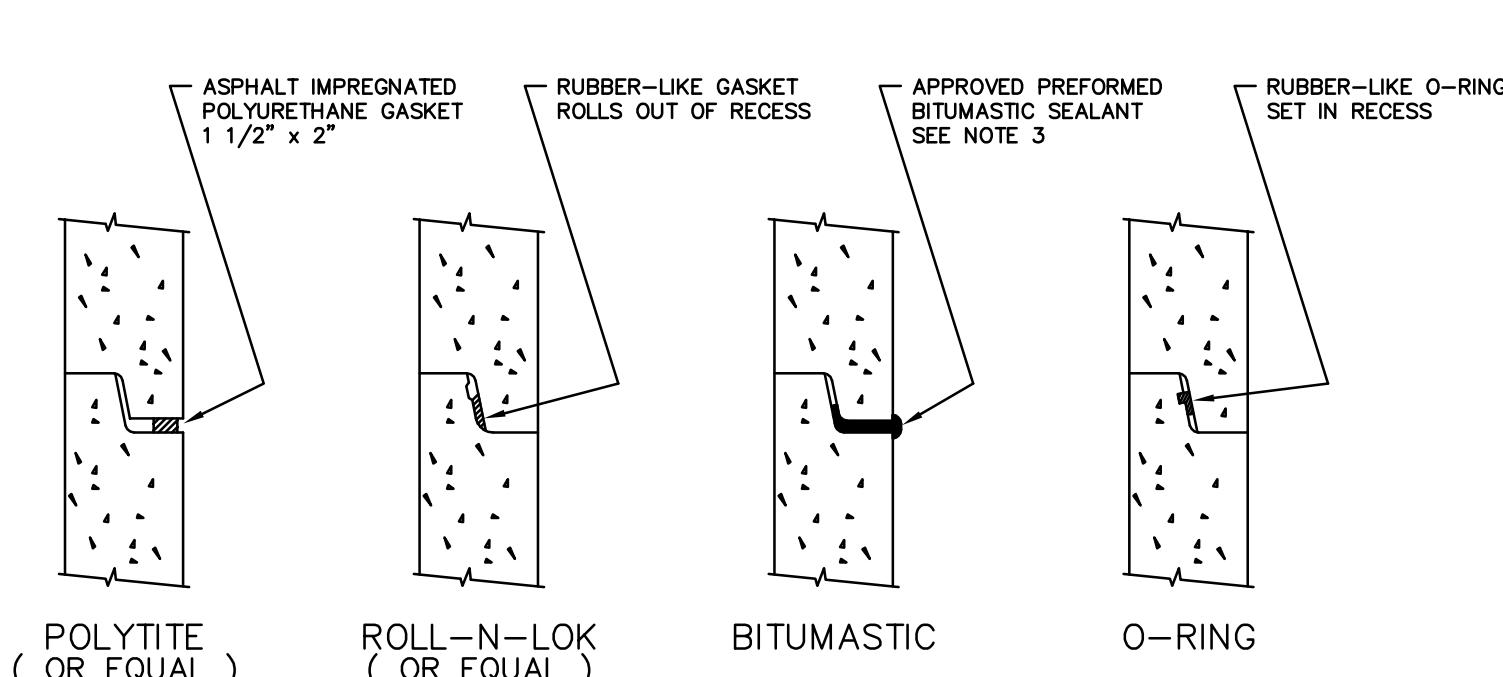
KOR - N - SEAL JOINT SLEEVE
(OR EQUAL)



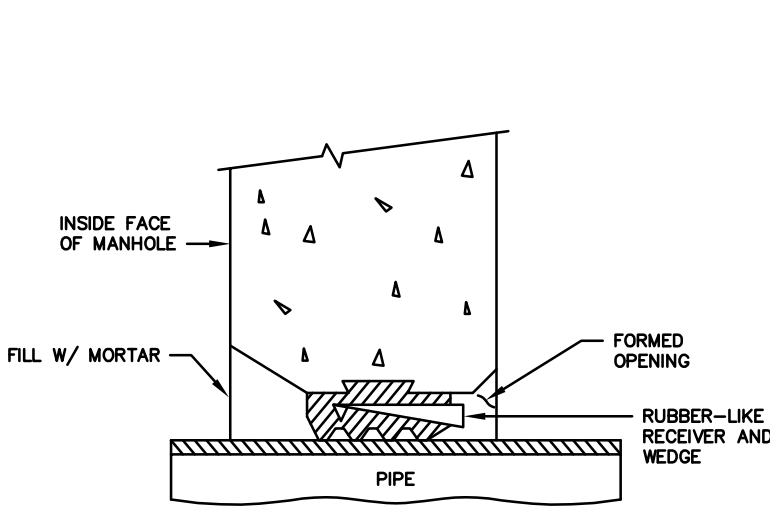
RES-SEAL
(OR EQUAL)



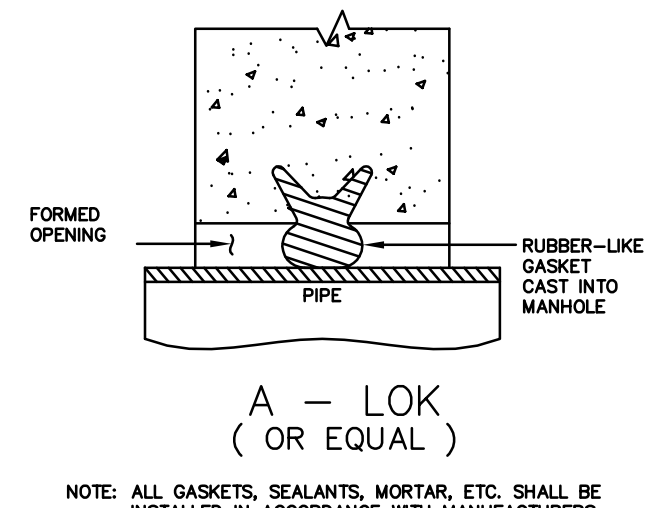
NON-SHRINKING MORTAR



DETAIL - B



PRESS-WEDGE II
(OR EQUAL)

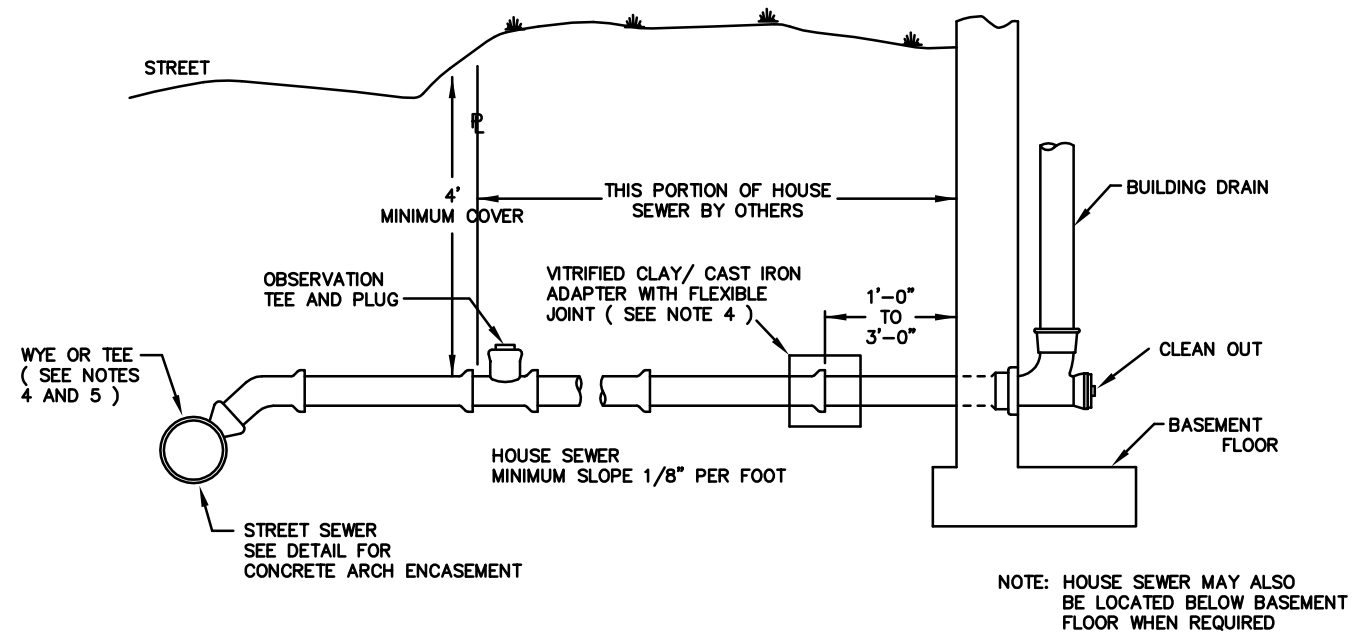


DETAIL - A

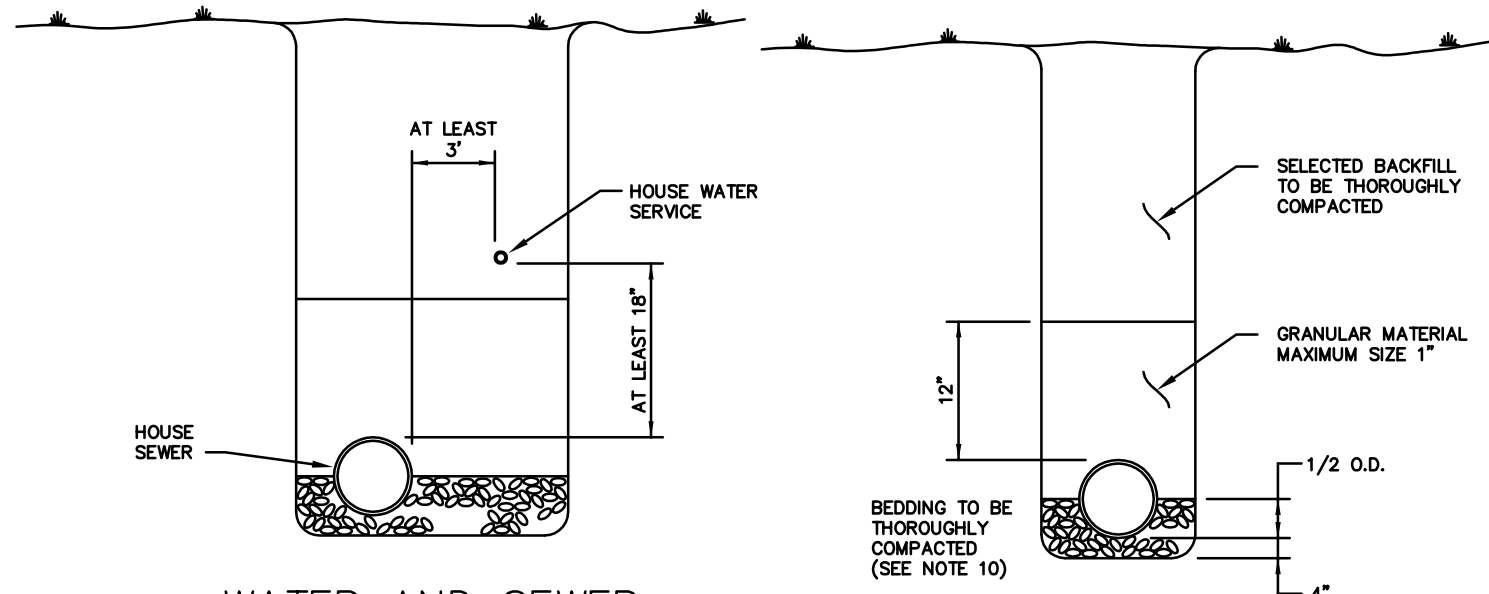
- NOTES:
- HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF A TYPE APPROVED BY THE COMMISSION, WHICH TYPE SHALL, IN GENERAL, DEPEND FOR WATERTIGHTNESS UPON AN ELASTOMERIC OR MASTIC-LIKE GASKET.
 - PIPE TO MANHOLE JOINTS SHALL BE ONLY AS APPROVED BY THE COMMISSION AND IN GENERAL, WILL DEPEND FOR WATERTIGHTNESS UPON EITHER AN APPROVED NON-SHRINKING MORTAR OR ELASTOMERIC SEALANT.
 - FOR BITUMASTIC TYPE JOINTS, THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.
APPROVED BITUMASTIC SEALANTS:
RAM-NEK
KENT SEAL NO. 2
EZ

DETAIL SHEET		NOT FOR CONSTRUCTION FOR PERMIT USE ONLY		DOVER PLANNING		CIVILWORKS NEW ENGLAND		181 Watson Road, P.O. Box 1166		Dover, New Hampshire 03820	
DATE: 11-6-18		SCALE: AS SHOWN		DRAWN BY: SRD		DESIGN BY: DCL		APPROVED BY: SH		PROJECT NO: 18031	
APPLICANT: DMC REAL ESTATE HOLDINGS LLC		134 TEN ROD ROAD		ROCHESTER, NH 03867		REVISION PER TRC COMMENTS		NO.		DATE	
BROADVIEW URGENT CARE		ANIMAL HOSPITAL		67 KNOX MARSH ROAD		TAX MAP "H", LOT 33		DOVER, NEW HAMPSHIRE		17	

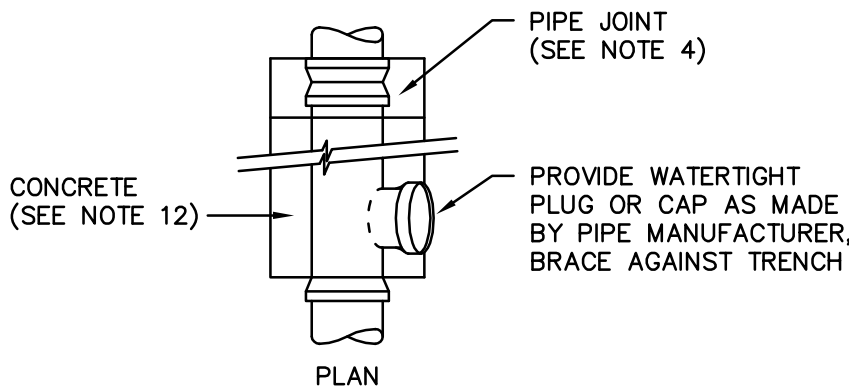
HOUSE SEWER DETAILS



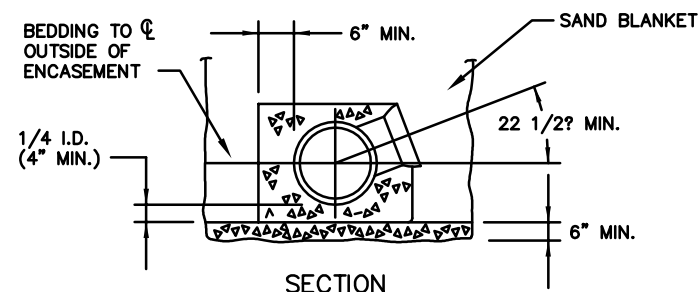
VITRIFIED CLAY SEWER AND HOUSE SEWER
(NO SCALE)



TRENCH CROSS-SECTION
(NO SCALE)

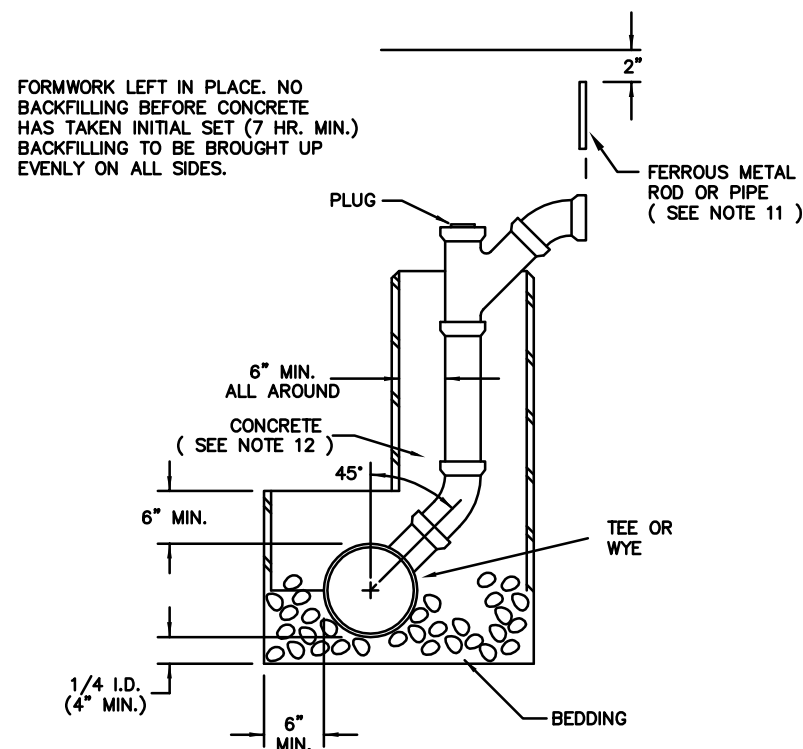


PLAN



SECTION

CONCRETE FULL ENCASEMENT
(NO SCALE)



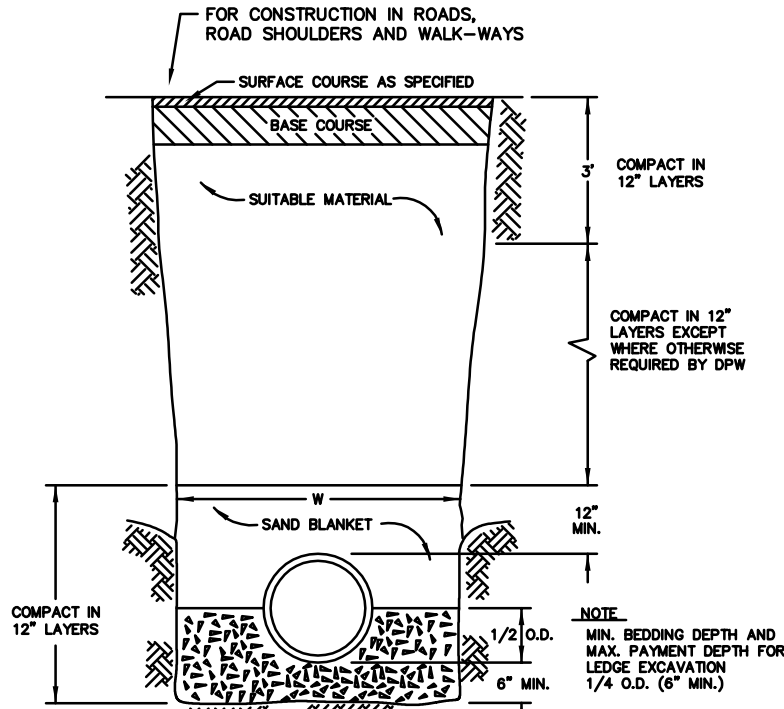
CHIMNEY

(SEE NOTE 13)
(NO SCALE)

NOTES:

- 1.) MINIMUM SIZE PIPE FOR HOUSE SERVICE SHALL BE FOUR INCHES.
- 2.) PIPE AND JOINT MATERIALS:
- A) VITRIFIED CLAY PIPE.
- 1 - PIPE AND FITTINGS. SHALL BE EXTRA STRENGTH CLAY PIPE CONFORMING TO THE REQUIREMENTS OF ASTM C-700
- 2 - JOINTS SHALL BE MADE WITH OIL RESISTANT GASKET IN ACCORDANCE WITH ASTM C-425 TYPE III. MANUFACTURERS INSTRUCTIONS FOR INSTALLATION SHALL BE FOLLOWED.
- B) ASBESTOS-CEMENT-NON-PRESSURE SEWER PIPE.
- 1 - PIPE AND FITTINGS. SHALL CONFORM TO ASTM TENTATIVE SPECIFICATIONS C 644 TYPE II.
- 2 - JOINTS. SHALL BE OF THE SLEEVE - COUPLING TYPE CONFORMING TO ASTM SPECIFICATIONS C 644 TYPE II. COMPRESSION RINGS SHALL BE OF OIL RESISTANT RUBBER TYPE OR ELASTOMERIC MATERIAL AND SHALL CONFORM TO ASTM SPECIFICATION D 1869. MANUFACTURERS INSTRUCTIONS FOR INSTALLATION SHALL BE FOLLOWED.
- C) CAST - IRON PIPE FITTINGS AND JOINTS.
- 1 - CAST IRON PIPE $\frac{3}{4}$ \"/>
- 2 - JOINTS. SHALL BE OF THE MECHANICAL OR PUSH-ON TYPE JOINTS AND GASKETS SHALL CONFORM TO ASTM 11 RUBBER GASKET JOINTS FOR CAST IRON PRESSURE PIPE AND FITTINGS.
- D) DUCTILE - IRON PIPE, FITTINGS AND JOINTS.
- 1 - DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE UNITED STATES OF AMERICA STANDARDS INSTITUTE
- ASTM A-536 DUCTILE IRON CASTINGS
- ASTM A51 DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL MOLDS OR SAND-LINED MOLDS FOR WATER OR OTHER LIQUIDS.
- 2 - JOINTS. SHALL BE AS SPECIFIED IN C2 ABOVE, CAST IRON PIPE JOINTS.
- 3.) DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.
- 4.) JOINTS. SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATER-TIGHTNESS. 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 ADAPTORS SHALL BE USED.
- 5.) TEES OR WYES. WHERE A TEE OR WYE IS NOT AVAILABLE IN THE EXISTING STREET SEWER, AN APPROPRIATE CONNECTION SHALL BE MADE FOLLOWING MANUFACTURERS INSTRUCTIONS USING A BOLTED, CLAMPED, OR EPOXY - CEMENTED SADDLE TAPPED INTO A SMOOTHLY DRILLED OR SAWN OPENING IN THE SEWER. THE PRACTICE OF BREAKING AN OPENING WITH A SLEDGE HAMMER, STUFFING CLOTH OR OTHER SUCH MATERIAL AROUND THE JOINT, OR APPLYING MORTAR TO HOLD THE CONNECTION, AND ANY OTHER SIMILAR CRUDE PRACTICES OR INEPT OR HASTY IMPROVISATIONS WILL NOT BE PERMITTED. THE CONNECTION SHALL BE CONCRETE ENCASED AS SHOWN IN THE DETAIL UP TO AND INCLUDING 15" DIAMETER. (DOES NOT APPLY TO INSTALLATIONS WHERE 'Ts' & 'Ys' ARE USED).
- 6.) PIPE INSTALLATION. THE PIPE SHALL BE HANDLED, PLACED, AND JOINTED IN ACCORDANCE WITH THE INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER. IT SHALL BE CAREFULLY BEDDED ON A 4 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL AS SPECIFIED IN NOTE 10. 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 APPROPRIATE MECHANICAL DEVICES.
- 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. 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 CLEANOUT 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.
- LEAKAGE OBSERVED IN ANY OF THE ABOVE ALTERNATE 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 CONNECTION. NOTHING BUT SANITARY WASTE FLOW FROM HOUSE TOILETS, SINKS, LAUNDRY ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS OR SUMP PUMPS OR ANY OTHER SIMILAR CONNECTION CARRYING RAIN WATER, DRAINAGE OR GROUND WATER, SHALL NOT BE PERMITTED.
- 9.) HOUSE WATER SERVICE. SHOULD NOT BE LAID IN THE SAME TRENCH AS SEWER SERVICE, BUT WHEN NECESSARY, SHALL BE PLACED ABOVE AND TO ONE SIDE OF THE HOUSE SEWER AS SHOWN.
- 10.) BEDDING. SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATERIAL AND MEETING ASTM C33-67.
- 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
- WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, SCREENED GRAVEL OR CRUSHED STONE 1 1/2 INCH TO 1/2 INCH SHALL BE USED.
- 11.) LOCATION. THE LOCATION OF THE TEE OR WYE SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS METAL ROD OR PIPE SHALL BE PLACED OVER THE TEE OR WYE AS DESCRIBED IN THE TYPICAL "CHIMNEY" DETAIL TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PIPEFINDER.
- 12.) CONCRETE. CONCRETE SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000 PSI) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATIONS AS FOLLOWS:
- CEMENT - 6.0 BAGS / C.Y. WATER - 5.75 GALS. / BAG CEMENT AGGREGATE - 1 1/2" MAX.
- 13.) CHIMNEYS. IF VERTICAL DROP INTO SEWER IS GREATER THAN 4', A CHIMNEY SHALL BE CONSTRUCTED FOR THE HOUSE CONNECTION.

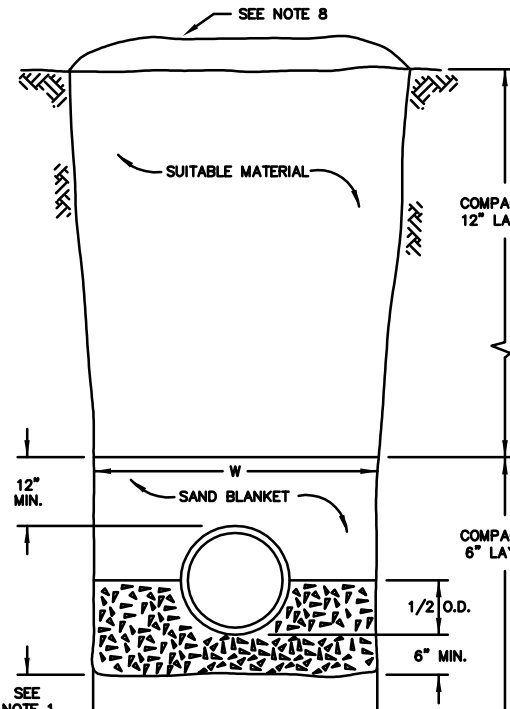
STANDARD TRENCH SECTION



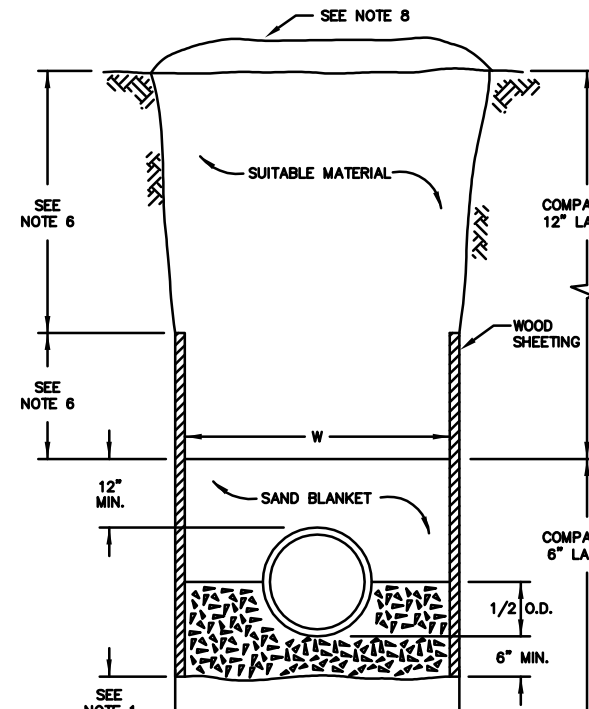
LEDGE CONSTRUCTION

NOTES:

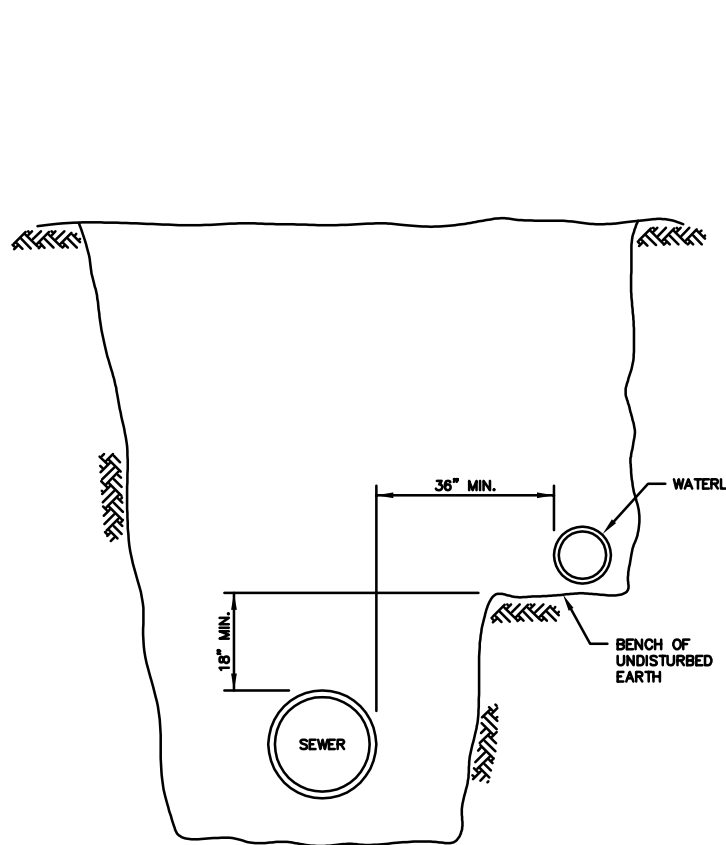
- 1.) ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE. REFILL WITH BEDDING MATERIAL. SEE ALSO NOTE 7.
- 2.) BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33 STONE SIZE NO. 67.
- 100% PASSING 1 INCH SCREEN
- 90 - 100% PASSING 3/4 INCH SCREEN
- 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 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 MOUND 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.



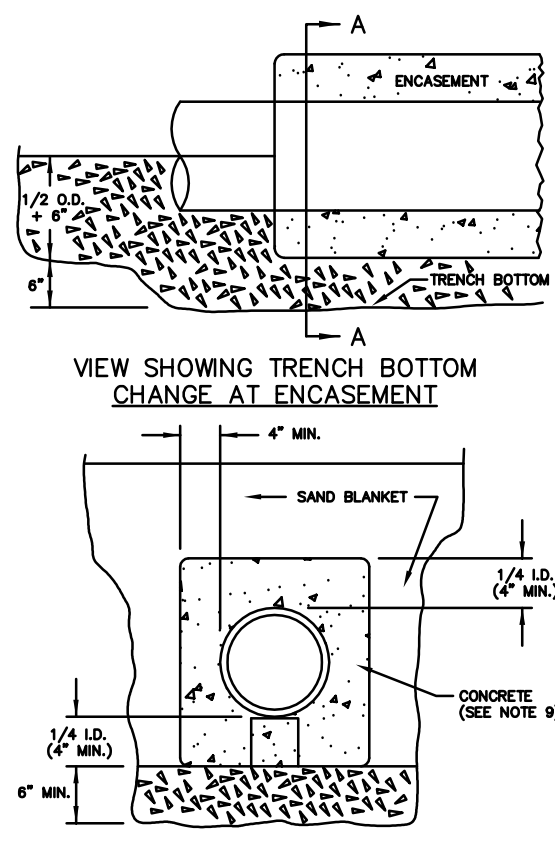
EARTH CONSTRUCTION



EARTH CONSTRUCTION WITH SHEETING



WATER AND SEWER IN SAME TRENCH
(SPECIAL CONDITIONS SEE NOTE 10)



CONCRETE FULL ENCASEMENT
(SEE NOTE 11)

DETAIL SHEET

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

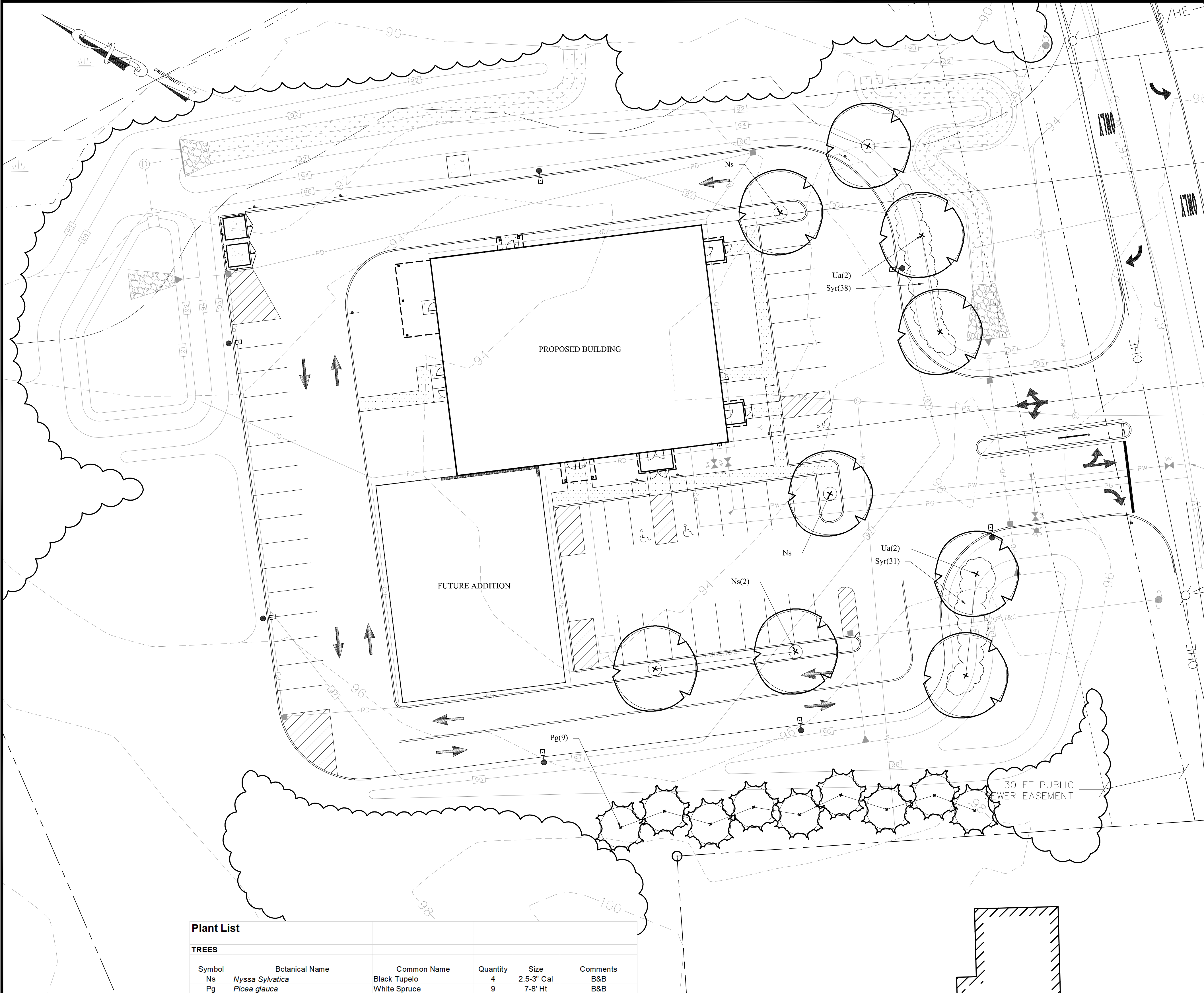
DOVER PLANNING
FILE NO.: P18-57

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

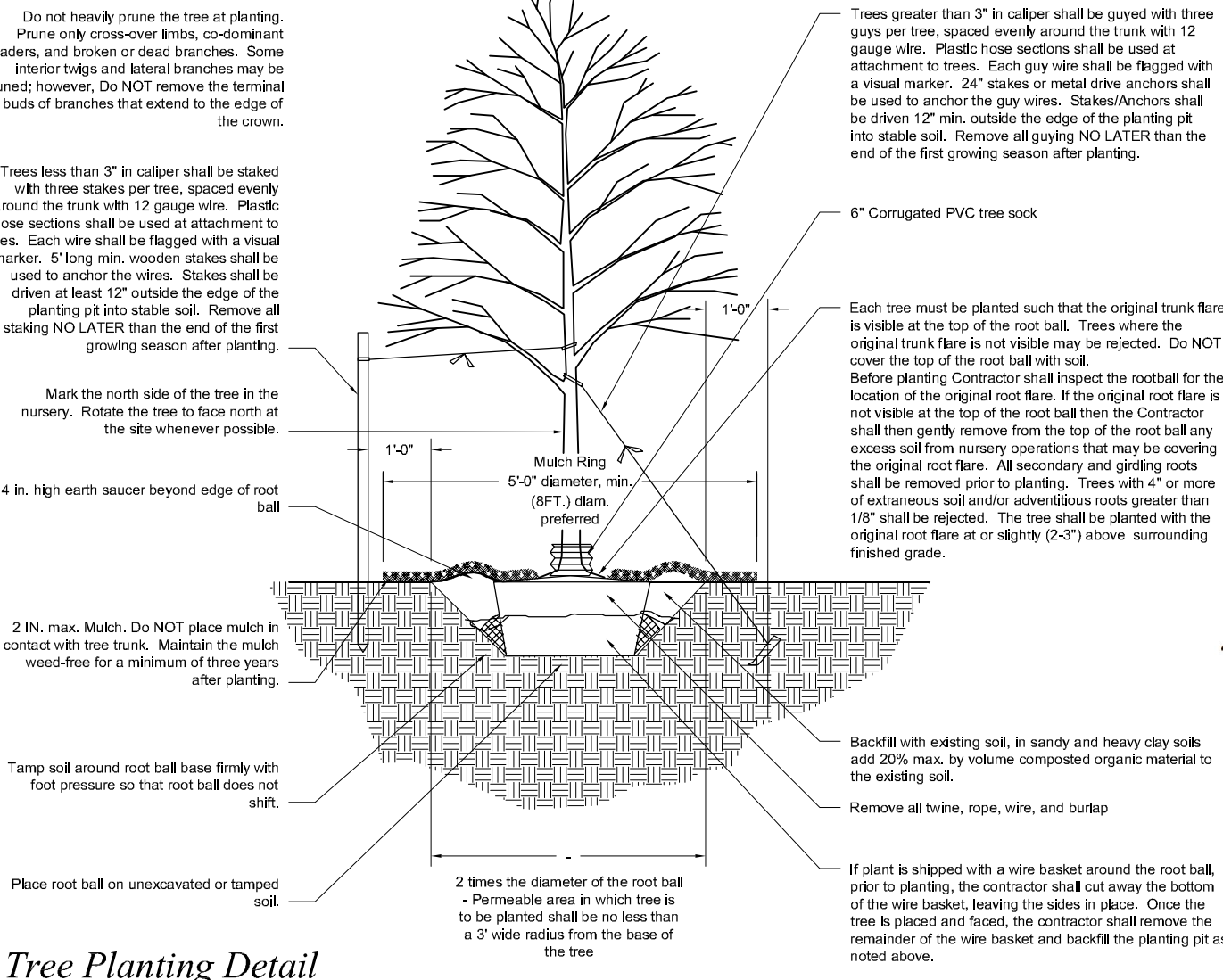
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11-6-18	AS SHOWN	SRD	DCL	BYSH	18031	1				

APPLICANT: **DMC REAL ESTATE HOLDINGS LLC**
134 TEN ROD ROAD ROCHESTER, NH 03867

BROADVIEW URGENT CARE ANIMAL HOSPITAL
67 KNOX MARSH ROAD
TAX MAP "H", LOT 33
DOVER, NEW HAMPSHIRE

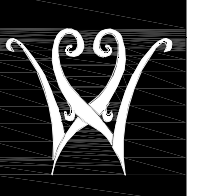


Plant List					
TREES					
Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Ns	<i>Nyssa Sylvatica</i>	Black Tupelo	4	2.5-3" Cal	B&B
Pg	<i>Picea glauca</i>	White Spruce	9	7-8" Ht	B&B
Ua	<i>Ulmus americana 'Princeton'</i>	Princeton American Elm	5	2.5-3" Cal	B&B
SHRUBS					
Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Syr	<i>Syringa meyeri 'Palibin'</i>	Dwarf Korean Lilac	69	2-3" Ht	B&B



- Landscape Notes**
- Design is based on drawings by Civilworks New England and may require adjustment due to actual field conditions.
 - The contractor shall follow best management practices during construction and shall take all means necessary to stabilize and protect the site from erosion.
 - Erosion Control shall be in place prior to construction.
 - 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.
 - 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.
 - 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.
 - Trees to Remain within the construction zone shall be protected from damage for the duration of the project by snow fences 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 portables within the tree protection area.
 - Location, support, protection, and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor.
 - 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.
 - The Contractor shall procure any required permits prior to construction.
 - 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.
 - 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. The Contractor shall furnish and plant all plants shown on the drawings 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 grades and standards as adopted by the American Association of Nurserymen, Inc. in the American Standard Nursery Standard, American Standards Institute, Inc. 230 Southern Building, Washington, D.C. 20005.
 - 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.
 - All plants shall be legibly tagged with proper botanical name.
 - The Contractor shall guarantee all plants for not less than one year from time of acceptance.
 - 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.
 - No substitutions of plants may be made without prior approval of the Owner or the Owner's Representative for any reason.
 - All landscaping shall be provided with either of the following:
 - An underground sprinkling system.
 - An outside hose attachment within 150 feet.
 - If an automatic irrigation system is installed, all irrigation valve bores shall be located within planting bed areas.
 - The contractor is responsible for the security of the 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.
 - 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.
 - Trees, ground cover, and shrub beds shall be mulched to a depth of 2" with one-year-old, well-composted, shredded native bark no longer than 4" in length and 1/2" 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.
 - Drip stop shall extend to 6" beyond roof overhang and shall be edged with 3/16" thick metal edger.
 - 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.
 - 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.
 - Snow shall be stored a minimum of 5' from stems and trunks of trees.
 - Landscape Architect is not responsible for the means and methods of the contractor.

Tree Planting Detail



**woodburn
& company**
LANDSCAPE ARCHITECTURE
103 Kent Place Neumarket, New Hampshire Phone: 603.659.5949

GRAPHIC SCALE
20 0 10 20 40 60
(IN FEET)
1 inch = 20 ft.

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY				DOVER PLANNING FILE NO.: P18-				CIVILWORKS NEW ENGLAND CIVIL ENGINEERING 181 Watson Road, P.O. Box 1166 Dover, New Hampshire 03820 (603) 749-0443			
DATE: 11.28.2018	SCALE: 1" = 20'	DRAWN BY: VM	DESIGN BY: VM	APPROVED BY: VM	PROJECT NO: 18031	FILE: SITE.DWG	NO.	DATE: 12.19.2018	DATE: 11.28.2018	DATE: 11.28.2018	DATE: 11.28.2018
APPLICANT: DMC REAL ESTATE HOLDINGS LLC 134 TEN ROD ROAD ROCHESTER, NH 03867				FOR PLANNING BOARD 1				INITIAL SUBMISSION			
LANDSCAPE PLAN				REVISION				APP'D			
BROADVIEW URGENT CARE ANIMAL HOSPITAL 67 KNOX MARSH ROAD TAX MAP "H", LOT 33 DOVER, NEW HAMPSHIRE				SHEET: L-1							



woodburn
& company

LANDSCAPE ARCHITECTURE
103 Kent Place Newmarket, New Hampshire Phone: 603.659.5949

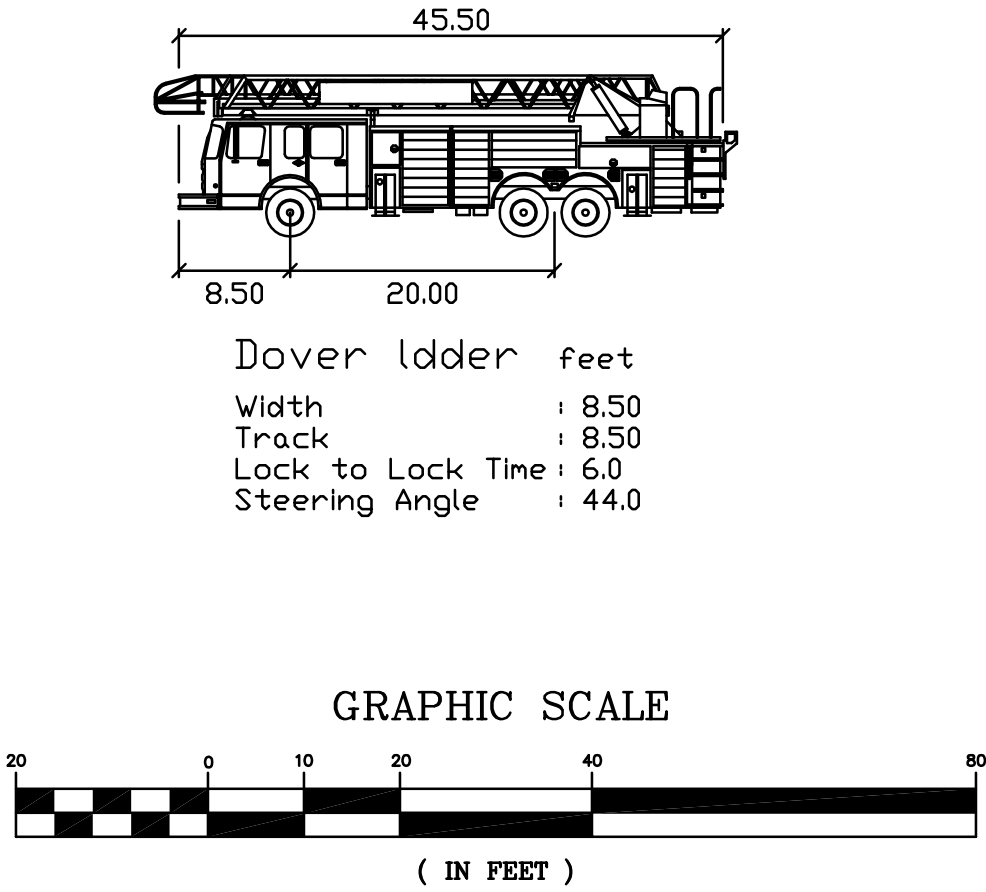
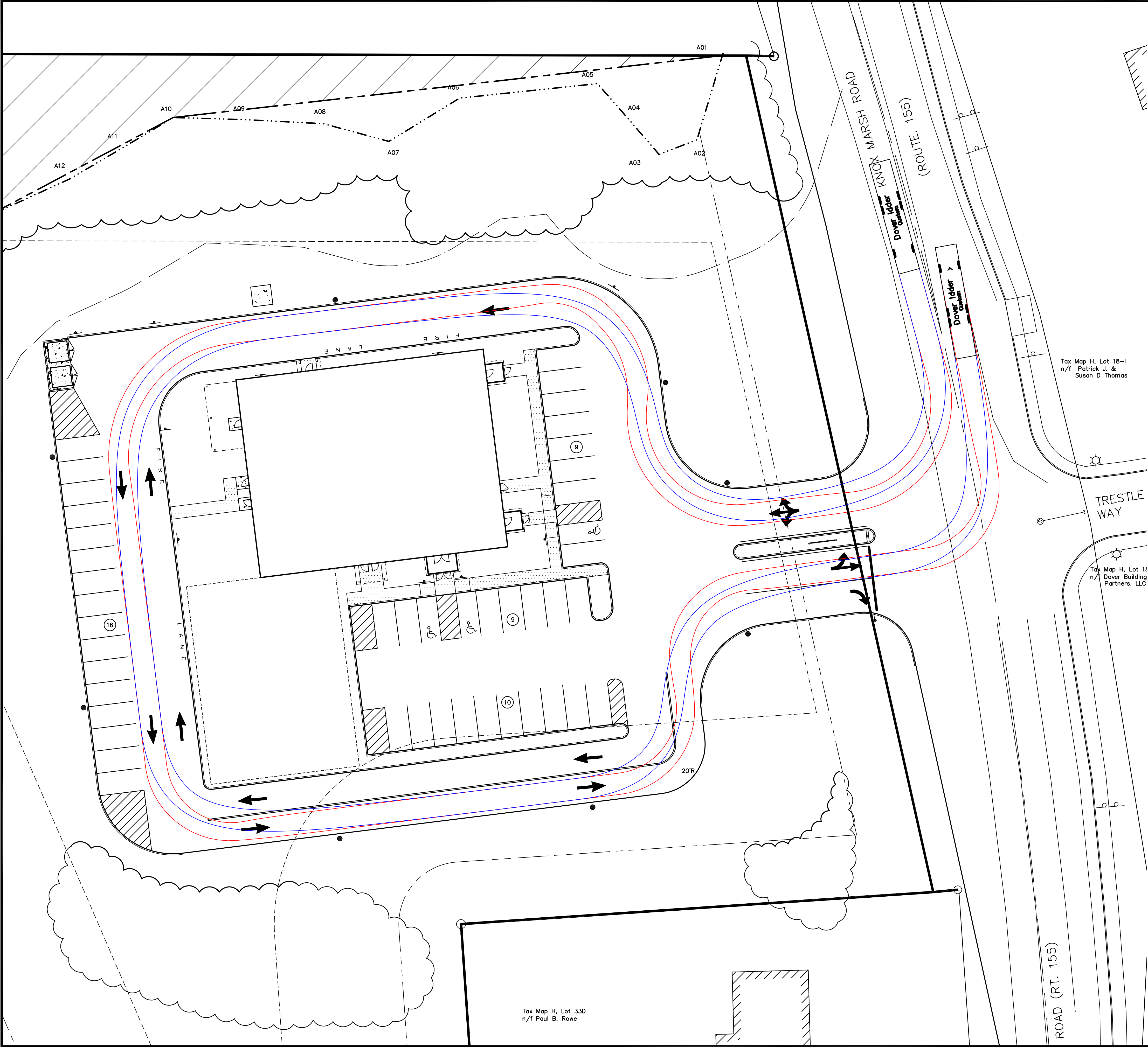
STREETSCAPE

**BROADVIEW URGENT CARE
ANIMAL HOSPITAL
67 KNOX MARSH ROAD
TAX MAP "H", LOT 33
DOVER, NEW HAMPSHIRE**

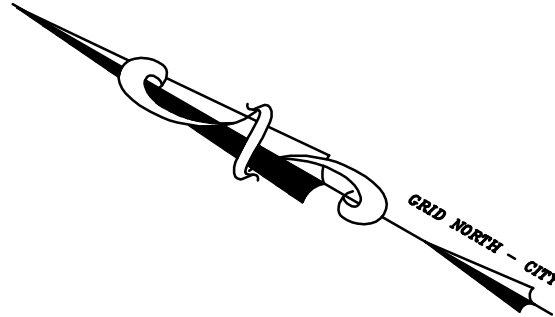
**DMC REAL ESTATE
HOLDINGS LLC
134 TEN ROD ROAD
ROCHESTER, NH 03867**

SHEET:
L-2

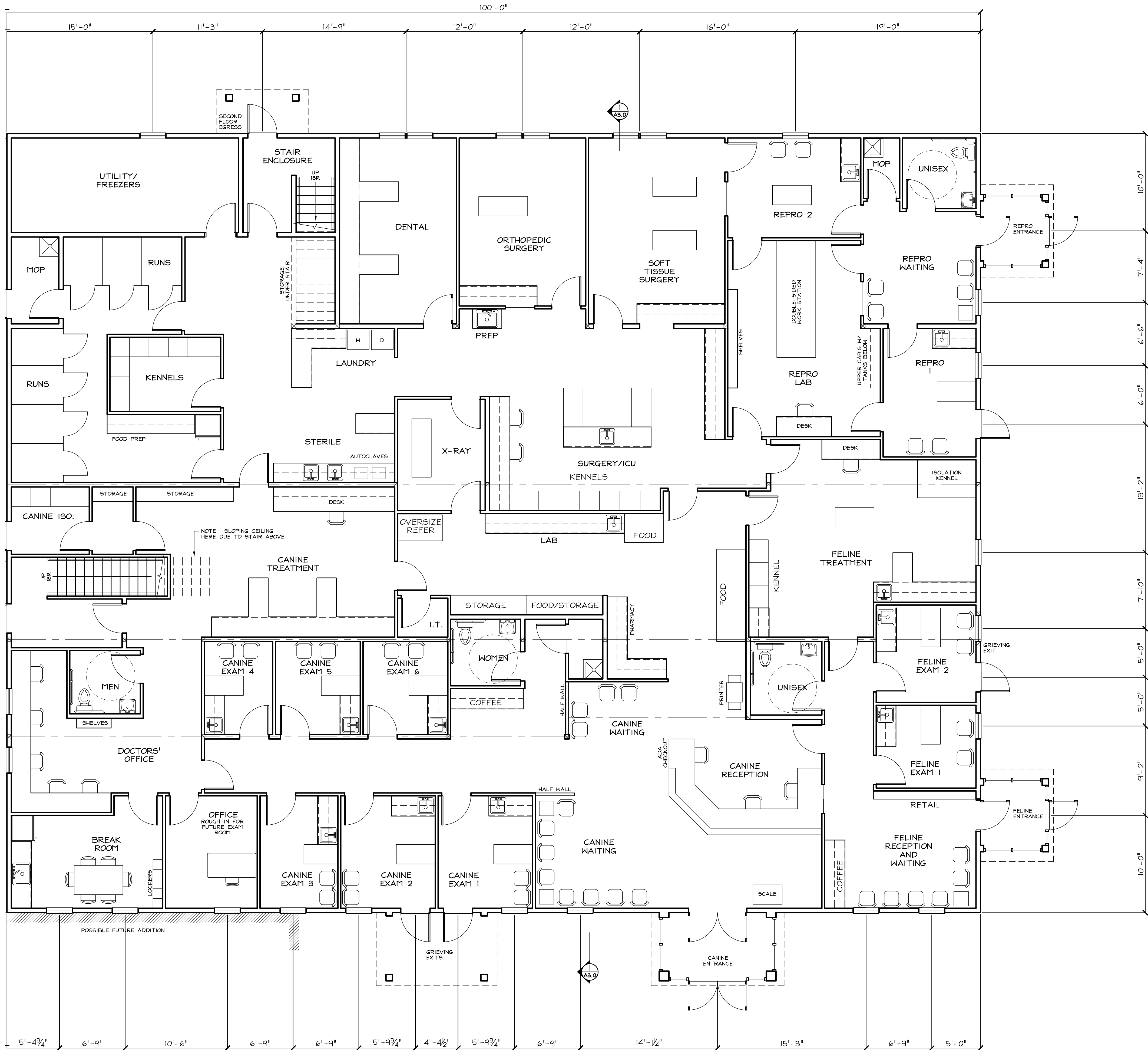
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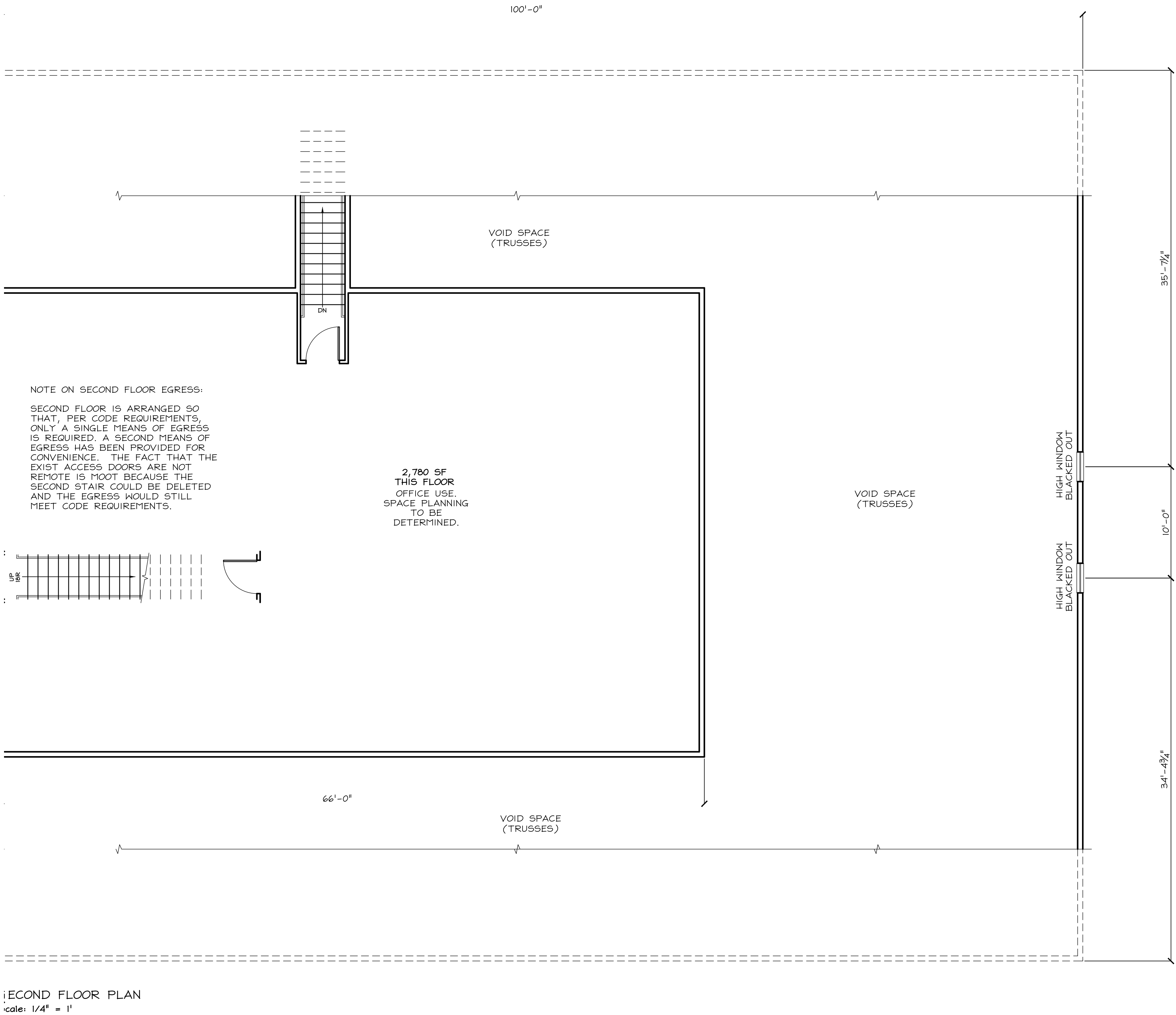
TRUCK FRONT WHEELS
TRUCK REAR WHEELS



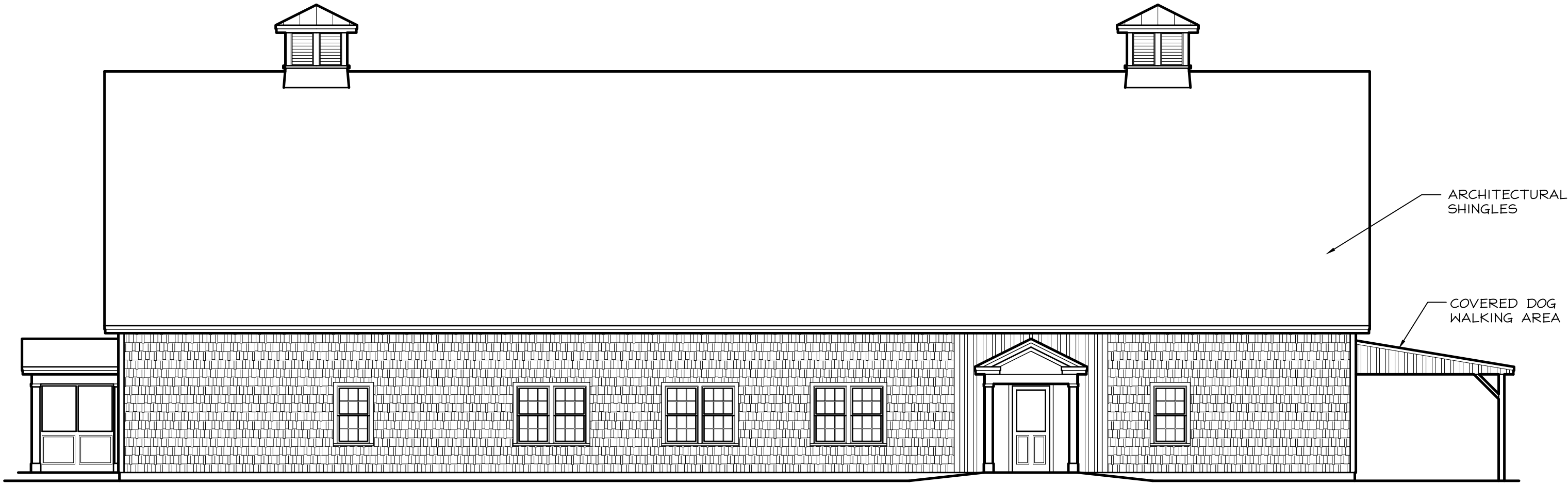
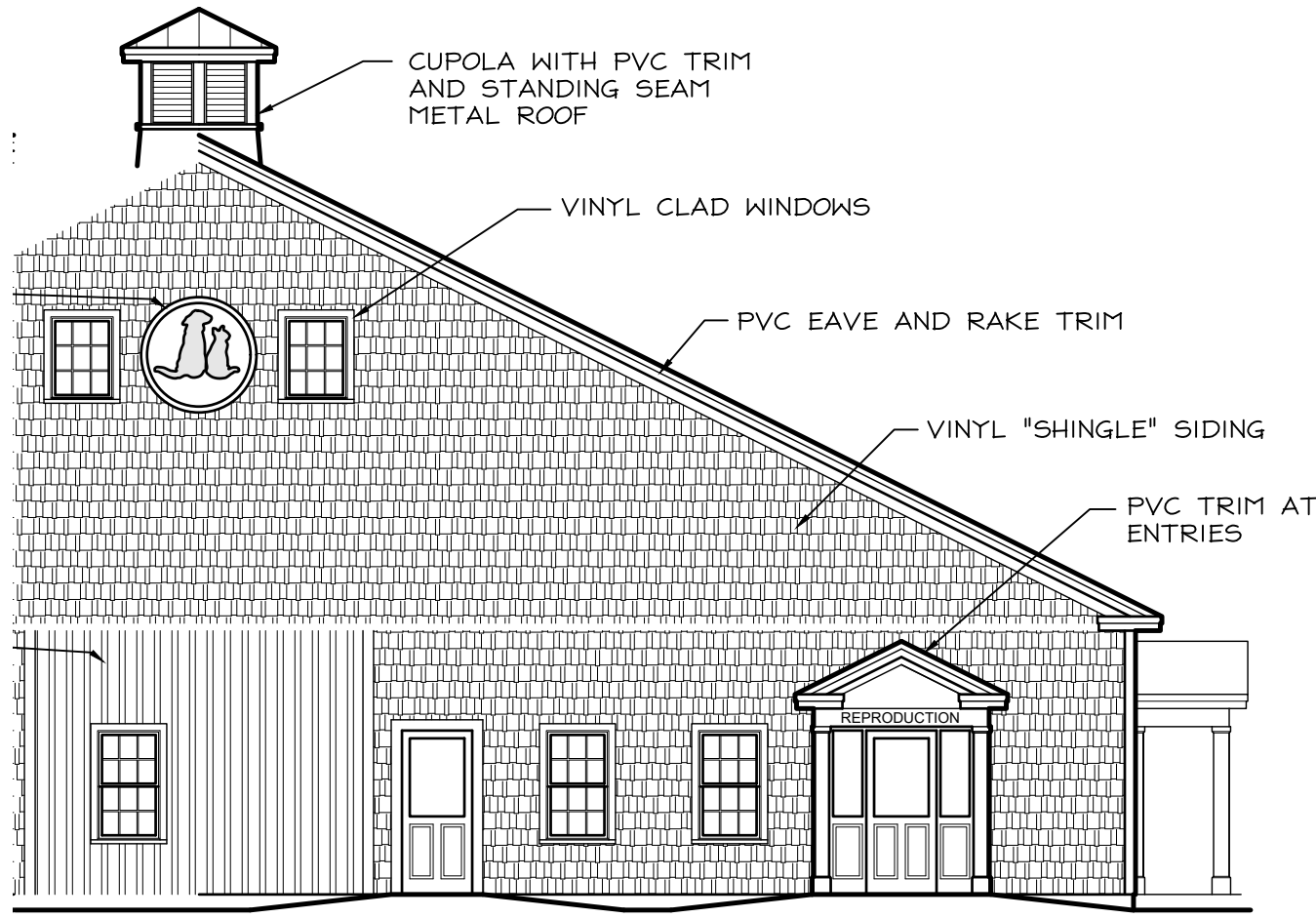
DOVER LADDER TRUCK MOVEMENT PLAN		NOT FOR CONSTRUCTION FOR PERMIT USE ONLY	
		DOVER PLANNING FILE NO.: P18-57	
APPLICANT: BROADVIEW URGENT CARE ANIMAL HOSPITAL 67 KNOX MARSH ROAD TAX MAP "H", LOT 33 DOVER, NEW HAMPSHIRE	DATE: 11-6-18		
	SCALE: AS SHOWN		
	DRAWN BY: SRD		
	DESIGN BY: DCL		
	APPROVED BY: SJH		
1 OF 1	PROJECT NO: 18031	REVISION PER TRC COMMENTS	DATE
	1	NO.	12-20-18
	FILE: SITE.DWG	APPD	
CIVILWORKS NEW ENGLAND 181 Watson Road, P.O. Box 1166 Dover, New Hampshire 03820 (603) 749-0443			



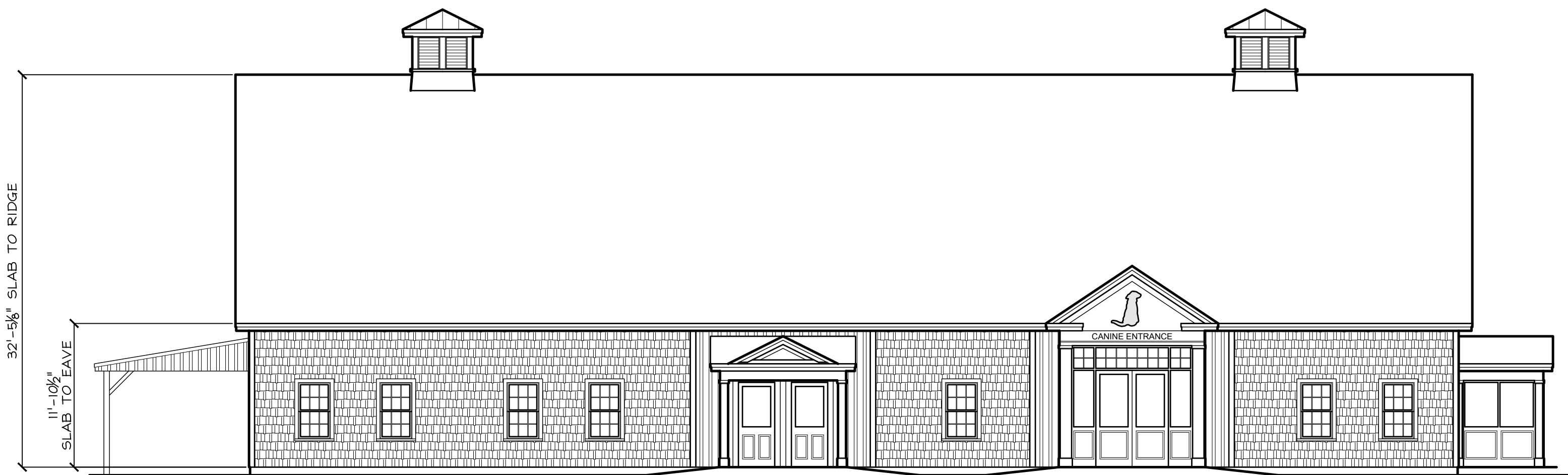
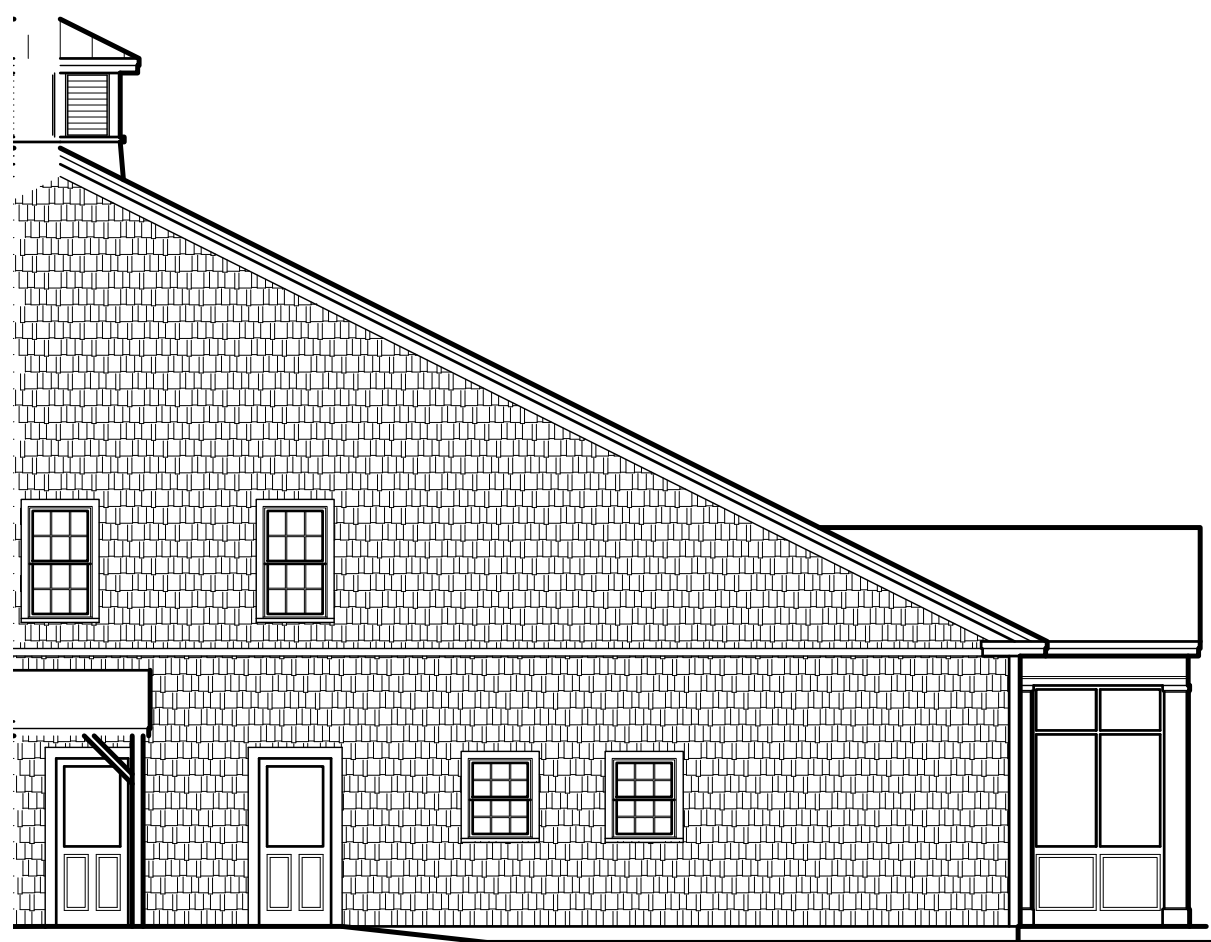
1
A1.0
FIRST FLOOR PLAN
Scale: 3/16" = 1'



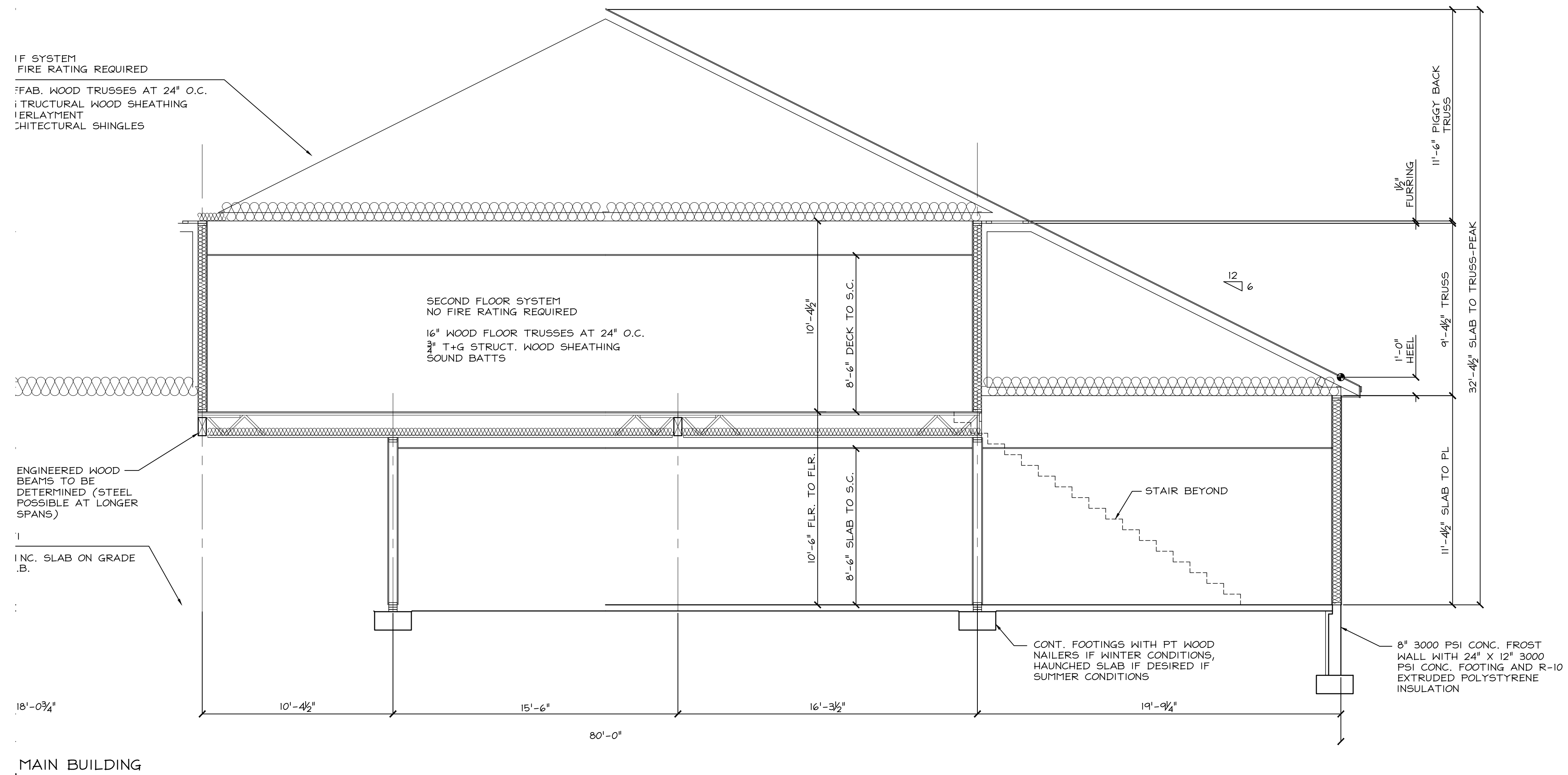
Revisions



2 RIGHT SIDE ELEVATION
A2.0 Scale: 1/8" = 1'

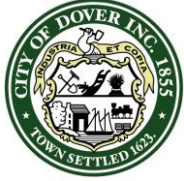


4 LEFT SIDE (MAIN ENTRY) ELEVATION
A2.0 Scale: 1/8" = 1'



P18-56 & P18-57 67 Knox Marsh Road

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
H0018-000000	70 KNOX MARSH RD	DOVER BUILDING PARTNERS LLC	C/O EVERGREEN MANAGEMENT IN	17 COMMERCE DR	BEDFORD	NH	03110-7059
H0018-001000	2 8 TRESTLE WY	PROLIM DEVELOPMENT CORP		114 OLD GAGE HILL RD	PELHAM	NH	03076
H0018-001045	2 TRESTLE WY	BAIRD BETSY J		2 TRESTLE WY	DOVER	NH	03820
H0018-001046	4 TRESTLE WY	SAND KRISTA H		665 WASHINGTON ST UNIT 2109	BOSTON	MA	02111-1652
H0018-001047	6 TRESTLE WY	DUPONT CHRISTOPHER J		6 TRESTLE WY	DOVER	NH	03820
H0018-001048	8 TRESTLE WY	TALON CHRISTINE E		8 TRESTLE WY	DOVER	NH	03820
H0029-A00000	LITTLEWORTH RD	QUANTUM REAL ESTATE GROUP LLC		755 CENTRAL AVE	DOVER	NH	03820
H0032-A00001	55 KNOX MARSH RD	SHERWOOD ROBERT E & MARILYN A TRUSTEES	SHERWOOD ROBERT & MARILYN FAMILY REVOCAB	11 LISA BETH CIRCLE	DOVER	NH	03820
H0033-A00000	85 KNOX MARSH RD	COOPER LYDIA	COOPER KEVIN	85 KNOX MARSH RD	DOVER	NH	03820
H0033-B00000	81 KNOX MARSH RD	ROWE PAUL B	ROWE WENDY SUE	81 KNOX MARSH RD	DOVER	NH	03820
H0033-D00000	77 KNOX MARSH RD	MORIN KARIL S SEPT 1 1982 TRUST	MORIN KARIL S TRUSTEE	P O BOX 2259	DOVER	NH	03821-2259
H0033-E00000	89 KNOX MARSH RD	QUINLAN DENIS J	QUINLAN NANCY K	89 KNOX MARSH RD	DOVER	NH	03820
		DMC REAL ESTATE HOLDINGS LLC		134 TEN ROD ROAD	ROCHESTER	NH	03867
		KEVIN & LYDIA COOPER		85 KNOX MARSH ROAD	DOVER	NH	03820
		CIVILWORKS NEW ENGLAND		STEPHEN J HAIGHT	DOVER	NH	03820
		WEST ENVIRONMENTAL INC	MARK WEST, CWS	48 STEVENS HILL ROAD	NOTTINGHAM	NH	03290
		MCENEANEY SURVEY ASSOCIATES INC		P.O. BOX 681	DOVER	NH	03821-0681
		WOODBURN & COMPANY		103 KENT PLACE	NEWMARKET	NH	03857



CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P18-64

Application Type: Conditional Use Permit for Review
Applicant(s): Lilac Garden, LLC
Owner(s): Lilac Garden, LLC
Location: Lilac Lane (Assessor's Map H, Lot 35-D)
Meeting Date: January 22, 2019

INTENT: Proposal is to install a trash compactor area with 237 s.f. of impervious area and 5,057 s.f. of disturbance within the 50' wetland buffer.

LOTS/UNITS PROPOSED: N/A

AGENDA ITEM #: 4-D

ACREAGE: 50.52 acres

ZONING DISTRICT: RM-SU

EXISTING LAND USE: Residential

PROPOSED LAND USE:
Residential

SURROUNDING LAND USE:
Residential, Commercial, and Industrial

ZBA ACTION: Z10-04: Variance granted on 5/20/10 to construct three buildings to house 93 storage units
H77-7: Variance granted on 6/2/1977 to construct a barn

ATTACHMENTS: Application materials, TRC minutes, Conservation Commission Minutes, and CUP 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

WAIVERS REQUESTED: None

Summary of Request and Background

The applicant is requesting to install a trash compactor area with 237 s.f. of impervious area which would have 5,057s.f. of disturbance within the 50' wetland buffer.

This application went to the Technical Review Committee on December 13, 2018 for review (minutes attached).

The Conservation Commission endorsed this item at their January 14, 2019 meeting with a condition that the plan details be amended to include maintenance of the bio-retention areas.

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 Conditional Use Permit with the following conditions:

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

1. Applicant shall revise the plan set to:
 - a. Update permit numbers and supply a copy to the Planning Department.
 - b. Remove note that the drawings are not for construction.
 - c. Owners signature and date on final plan set
 - d. Have the LLS, PE, and Wetland Soil Scientist sign and stamp the final plan set
 - e. Add wetland buffer placards along southwesterly buffer line
 - f. Confirm accessible parking and layout to the satisfaction of the Building Official
 - g. Indicate confirmation of design has been reviewed for and complies with all applicable accessibility regulations. (i.e. '09, IBC Chapter 11 w/ NH Amendments and ANSI) in accordance with NH RSA 155-A: 5.
 - h. Add detail to include maintenance of the bio-retention areas to the satisfaction of the Assistant City Manager.

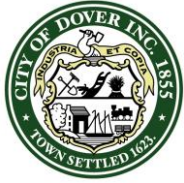
Lilac Lane



**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 11/16/2018
Data updated 11/18/2018



CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – P18-64

Application Type: Site Plan Review
Applicant(s): Lilac Garden LLC
Owner(s): Lilac Garden LLC
Location: Lilac Lane (Tax Map H, Lot 35-D)
Date: December 13, 2018

INTENT: To construct a trash compactor site at Lilac Garden. The construction consisted of additional impervious area and 4,495 s.f. of disturbance within the 50' wetland buffer.

UNITS PROPOSED: N/A

AGENDA ITEM #: 2

ACREAGE: 50.52 acres

ZONING DISTRICT: RM-SU

EXISTING LAND USE: Multi-Family Residential

PROPOSED LAND USE: Same as existing

SURROUNDING LAND USE: Residential, Commercial/Industrial, vacant

ZBA ACTION:

Z10-04: Variance granted on 5/20/10 to construct three buildings to house 93 storage units

H77-7: Variance granted on 6/2/1977 to construct a barn

PERMITS REQUIRED: CUP for Wetland Protection District

WAIVERS REQUESTED: None requested but one needed for driveway width

ATTENDANCE:

Members:

Donna Benton, Planning
Dave White, Engineering
Dan Barufaldi, Economic Development
Elena Piekut, Zoning
Sgt. Speidel, Police
Lee Skinner, Planning Board
Jim Maxfield, Inspection Services

Others:

Hannah Giovannucci, TF Moran
Chris Rice, TF Moran
Steve Fee, Applicant
Chris Parker, Planning

Approval of 11/29/2018 Meeting Minutes (3 sets)

D.White moved to approve the minutes of November 29, 2018. E.Piekut seconded. Vote: U/A

PLAN REVIEW:

Planning:

- 8' fence is the max height
- Add taller screening around the compactor
- Supply detail/elevation of compactor
- Revise plan set to:
 - Add note to indicate the current use plan is not effected by the addition of the trash compactor area as it's outside of the Current Use areas
 - Reduce brightness of area to meet regulations
 - Add Planning File # P18-64
 - Add owner's signatures
 - Add PE signature and stamps
 - Add wetland buffer placards along southwesterly buffer line
 - Add sign about recycling center

Engineering Comments:

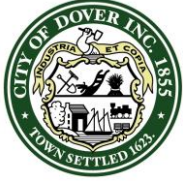
- Confirm compactor design (open vs. closed)
- Consider pedestrian access
- Move second light post closer to compactor

Police Department Comments:

- Confirm safety/security aspects

Fire/Inspections Comments:

- Provide dimensions of trash compactor and confirm height of fence will completely screen the compactor.
- Provide elevation drawings (including front and side vies) of the proposed installation.
- Is there a location for recyclables to be placed.
- Clarify the accessible route to the compactor with heights and reach ranges.
- Provide accessible parking space in accordance with applicable accessibility regulations.
- Site plans shall indicate confirmation of design has been reviewed for and complies with all applicable accessibility regulations. (i.e. '09, IBC Chapter 11 w/ NH Amendments and ANSI) in accordance with NH



CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – P18-64

Application Type: Site Plan Review
Applicant(s): Lilac Garden LLC
Owner(s): Lilac Garden LLC
Location: Lilac Lane (Tax Map H, Lot 35-D)
Date: December 13, 2018

RSA 155-A: 5.

- In accordance with the State adopted building code fences greater than 6' require a building permit. Place a note on the plan: Building permit required to be obtained from Inspection Services prior to fence installation.
- The electrical and mechanical components shall be protected from physical damage (left side of compactor).

Economic Development:

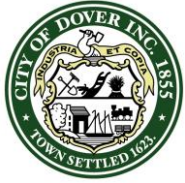
- Would like to see elevation of compactor
- Concerned about access to unit

Planning Board Comments:

- Recycling option should be on site

Next Steps: Submit for Conservation Commission review and then Planning Board review for the CUP and waiver.

Adjournment: A motion to adjourn TRC was made at 11:38 am by D.White and seconded by J. Maxfield. Vote: U/A



CITY OF DOVER

DOVER CONSERVATION COMMISSION – MINUTES

Meeting Type: Regular Meeting
Meeting Location: **1st Floor Conference Room** - 288 Central Avenue, Dover, NH
Meeting Date: Monday, January 14, 2019
Meeting Time: 5:30 pm

Bird confirmed with Riker that there were going to be two slips.

Bird: What is the balance between the length of the dock versus having a float resting on the mud?

Riker: That is a good question and one that is part of design consideration and discussions with DES. We try to strike a balance to keep the dock design so that DES will approve.

Donovan made a motion to endorse the NHDES Wetlands Permit, Erickson seconded. Vote: 7 in favor

- C. City of Dover Conditional Use Permit for Lilac Garden LLC, Assessor's Map H, Lot 35-D, zoned RM-SU, located on Lilac Lane.

Hannah Giovannucci was present to explain the proposal to construct a trash compactor area for the housing complex, with 237 sq. ft. of impervious area and 5,057 sq. ft. of 50 foot wetland buffer impact. The compactor will replace five dumpsters used now. Site was previously disturbed by construction. There are two parking spaces for residents to use. The 22 foot wide driveway is less than required by code but we wanted to minimize wetland buffer impacts so a waiver will be requested. We are avoiding buffer impacts as much as possible. Storm water design meets the standards. The dumpsters will be removed.

Aube: Do the plans call for the maintenance of the bio-retention areas?

Giovannucci: The plans do not include that.

Donovan: Is this location the least impacting alternative and what is the justification?

Giovannucci: This is a more central location that is convenient for the residents.

Hunt: Explain how the storm water design works.

Giovannucci: The water is directed towards the bio-retention areas so that it doesn't go into the road.

Bird: The trash compactor will help with the litter that comes with five dumpsters.

Aube made a motion to endorse the City of Dover Conditional Use Permit, with a condition that the plan details be amended to include maintenance of the bio-retention areas, Donovan seconded. Vote: 7 in favor

- D. City of Dover Conditional Use Permit for DMC Real Estate Holdings, LLC, Assessor's Map H, Lot 33, zoned B-4, located at 67 Knox Marsh Road.

Steve Haight was present to explain the proposal to construct an urgent care animal hospital with drainage facilities, utilities and grading impacting 11,240 sq. ft. of 50 foot wetland buffer. The original site plan was approved in 2010. We have reduced impacts from the 2010 plans by 45%. Wetlands were newly delineated. It is a much smaller building now. All site drainage is treated. The building has two phases. The plan has been to TRC already. The wetland buffer impacts are for storm water infrastructure. We have an operation and maintenance plan for storm water and landscaping.

Kramer-Perry: Why didn't the original plan get built?

Haight: The owner couldn't find tenants for the building that was approved.

Donovan: Does the detention pond have free board?

Haight: Yes it is designed to handle a 50-year storm and designed to AOT standards. All catch basins have oil/gas separators.

Bird: Explain what the conservation area means.

Haight: There is a deed restriction that was put in place in 2010 that is recorded at the Registry of Deeds.

Donovan made a motion to endorse the City of Dover Conditional Use Permit, Erickson seconded. Vote: 7 in favor



December 31, 2018

Gina Cruikshank, Planning Board Chairperson
City of Dover Planning Board
288 Central Avenue
Dover, NH 03820

Attn: Christopher Parker, AICP
Assistant City Manager: Director of Planning and Strategic Initiatives

**RE: Planning Board Cover Letter & Response to TRC Comments
Site Plan – Lilac Garden Trash Compactor Site – 1 Lilac Lane – Tax Map H Lot 35-D-0
Dover Planning Board File Number P16-39A, MSC Project #47123.00**

Dear Ms. Cruikshank:

On behalf of the applicant, Lilac Garden, LLC, enclosed please find a Planning Board submission relative to the above-referenced project. The following materials are included in this submission:

- Application for Conditional Use Permit (including Abutter List, Estimated Fee Schedule, & Site Plan Review Submission Checklist) (15 copies);
- Conditional Use Permit Request (15 copies)
- Waiver Request - Section 149-14(D)(6)(b) (15 copies)
- Ground & Aerial Photographs of the Site (15 copies);
- List of Professional Agents to Be Notified for Planning Board (15 copies);
- Drainage Analysis (15 copies); and
- Site Plans entitled "Site Development Plans, Tax Map H Lot 35-D-0, Lilac Garden Trash Compactor Site, 1 Lilac Lane, Dover, New Hampshire", prepared by MSC a division of TFMoran, Inc., dated December 6, 2018 and revised December 31, 2018 (3 copies at 22"x34" and 12 copies at 11"x17").

The project includes the development of a trash compactor area to support waste removal for the 63-acre existing housing complex called Lilac Garden. The proposed site is located within a Wetland Protection Overlay District and Secondary Groundwater Protection Overlay District. The applicant seeks approval of a Conditional Use Permit for work within the Wetland Projection Overlay District.

The proposed project includes less than 4,000 sf of impervious area of which only 237 sf will be within the 50' Wetland Buffer. Total land disturbance within the 50' Wetland Buffer is 5,294 sf. The project includes associated stormwater treatment system, electric utilities, lighting, landscaping, and grading, resulting in approximately a quarter acre of total disturbed area.

TFMoran, Inc.
48 Constitution Drive, Bedford, NH 03110
T(603) 472-4488 www.tfmoran.com



MSC a division of TFMoran, Inc.
170 Commerce Way–Suite 102, Portsmouth, NH 03801
T(603) 431-2222 www.tfmoran.com

The Applicant recently presented the project to the Technical Review Committee (TRC) on December 13, 2018. City staff offered several constructive comments. To facilitate your review, we have provided the TRC comments along with our responses, which are shown in ***bold italics***.

Technical Review Committee Comments:

Planning Department Comments:

1. 8' fence is the max height.

The height of the fence has been reduced from 10 to 8 feet.

2. Add taller screening around the compactor.

The Landscaping Plan has been updated to include six Canadian Hemlocks along with a proposed 8-foot-tall fence enclosure to better screen the compactor.

3. Supply detail/elevation of compactor.

A detail of the trash compactor and elevations is included in the Details (Sheet C-08).

4. Revise plan set to: Add note to indicate the current use plan is not affected by the addition if the trash compactor area as it's outside of the Current Use areas.

The note has been added to the Site & Layout Plan.

5. Revise plan set to: Reduce brightness of area to meet regulations.

The Site Lighting shows a reduction in brightness of the area to meet City regulations.

6. Revise plan set to: Add planning file #P18-64.

The planning file #P18-64 has been added to the bottom left corner of each C-# sheet.

7. Revise plan set to: Add owner's signatures.

The owner's signature is located within the Common Site Plan Notes on Sheet C-01 and on the bottom right corner of each C-# sheet.

8. Revise plan set to: Add PE signature and stamps.

The signature and stamp of the Professional Engineer has been added to the plan set.

9. Revise plan set to: Add wetland buffer placards along southwesterly buffer line.

The wetland buffer placards will be field located as requested by the end of January 2019.

10. Revise plan set to: Add sign about recycling center.

As preferred by City Staff, a recycling area within the compactor enclosure will be provided and serviced by Waste Management. If recycling service is discontinued, a sign directing residents to an alternative recycling center shall be provided.

Engineering Department Comments:

11. Confirm compactor design (open vs. closed).

The compactor design will be closed with the custom addition of a “doghouse” over the opening of the RJ-250SC compactor as depicted on the Details (Sheet C-08). The doghouse will have a door for access.

12. Consider pedestrian access.

Pedestrian access has been considered. The average pedestrian route from Lilac Garden residences to the compactor is approximately a quarter mile. Due to the relatively long distance for pedestrians to carry their trash and/or recycling, a proposed walkway from Lilac Lane to the compactor may be impractical and is not a predicted method for residents’ waste disposal. A proposed sidewalk within the compactor site would further impact the 50’ Wetland Buffer and affect the environmentally sensitive Wetland Protection Overlay District and Secondary Groundwater Protection District. A crosswalk and receiving ramp across the existing Lilac Lane would be required to accommodate a pedestrian route, an improvement for a pedestrian route that is not predicted for any Lilac Garden residents.

For ease of use to residents, the proposed design provides and encourages access via the two provided parking spaces where residents may then easily unload their trash or recycling from a vehicle. The parking area is accessible and offers an accessible pedestrian route to and from the compactor. Lilac Garden Residents unable to access the compactor can request trash collection services from property management, as indicated on Note 3 of the Site & Layout Plan.

Lilac Lane may be reconstructed in the near future. If it is discovered that residents are not using the facility as designed for vehicular access, future improvements may consider a sidewalk, crosswalk, and ramps for compactor access. The proposed vehicular accessway to the compactor is well-lit and has grades less than 2%, which would enable an accessible walkway if necessary in the future.

13. Move second light post closer to compactor.

The second light pole has been moved closer to the compactor and an additional one proposed for lighting within the compactor’s enclosure.

Police Department Comments:

14. Confirm safety/security aspects.

The compactor design will be securely closed with the custom addition of a “doghouse” over the opening of the RJ-250SC compactor as depicted on the Details (Sheet C-08). The door to the doghouse is at least 4 feet above the concrete and has a T-handle latch. Waste Management confirms the compactor shall be installed to meet all safety and OSHA requirements as noted in the Details. Waste Management confirms the selected compactor (RJ-250SC) is a common compactor used by residents in similar residential complexes. Additionally, two light poles are proposed near the compactor to ensure brightness within the enclosure, outside the front of the enclosure, and within the parking lot.

Fire Department/Inspections Comments:

15. Provide dimensions of trash compactor and confirm height of fence will completely screen the compactor.

A detail of the trash compactor with elevations is included in the Details (Sheet C-08). The trash compactor has a height of 8'-8". The proposed fence enclosure is 8 feet, the maximum height allowed per City regulation. Six Canadian Hemlocks are proposed as shown on the Landscape Plan around the fence to further screen the trash compactor.

16. Provide elevation drawings (including front and side views) of the proposed installation.

Elevation drawings of the trash compactor for both the side and plan view have been included in the Details (Sheet C-08).

17. Is there a location for recyclables to be placed?

A recycling area within the compactor enclosure will be provided and serviced by Waste Management.

18. Clarify the accessible route to the compactor with heights and reach ranges.

The proposed design provides two parking spaces which offer accessible routes to and from the compactor. The compactor design will be securely closed with the custom addition of a “doghouse” over the opening of the RJ-250SC compactor as depicted on the Details (Sheet C-08). The door to the doghouse is at least 4 feet from concrete and has a custom-built T-handle latch proposed 4.5 feet from concrete. Waste Management confirms the compactor shall be installed to meet all safety and OSHA requirements as noted in the Details. Waste Management confirms the selected compactor (RJ-250SC) is a common compactor used by residents in similar residential complexes. Lilac Garden Residents unable to access the compactor can request trash collection services from property management, as indicated on Note 3 of the Site & Layout Plan.

19. Provide accessible parking spaces in accordance with applicable accessibility regulations.

An accessible parking space with applicable accessibility regulations has been proposed.

20. Site plans shall indicate confirmation of design has been reviewed for and complies with all applicable accessibility regulations. (i.e. '09, IBC Chapter 11 w/ NH Amendments and ANSI) in accordance with NH RSA 155-A: 5.

The applicable accessibility regulations have been reviewed and found that the proposed design complies.

21. In accordance with the State adopted building code fences greater than six feet require a building permit. Place a note on the plan: Building permit required to be obtained from Inspection Services prior to fence installation.

The note has been added to the Site & Layout Plan and Details (Sheet C-08).

22. The electrical and mechanical components shall be protected from physical damage (left side of compactor).

The proposed electrical and mechanical components are within a landscaped area protected from vehicular and snow plow by a raised curb, bollard, fence enclosure, tree, and light pole.

Economic Development Comments:

23. Would like to see elevation of compactor.

The elevations have been added to the trash compactor detail on the detail sheet.

24. Concerned about access to unit.

The proposed design provides two parking spaces which offer accessible routes to and from the compactor. The compactor design will be securely closed with the custom addition of a “doghouse” over the opening of the RJ-250SC compactor as depicted on the Details (Sheet C-08). The door to the doghouse is at least 4 feet from concrete and has a custom-built T-handle latch proposed 4.5 feet from concrete. Waste Management confirms the compactor shall be installed to meet all safety and OSHA requirements as noted in the Details. Waste Management confirms the selected compactor (RJ-250SC) is a common compactor used by residents in similar residential complexes. Lilac Garden Residents unable to access the compactor can request trash collection services from property management, as indicated on Note 3 of the Site & Layout Plan.



Planning Board Cover Letter & Response to TRC Comments
Site Plan – Lilac Garden Trash Compactor Site – 1 Lilac Lane - Tax Map H Lot 35-D-0
Dover Planning Board File Number P16-39A, MSC Project #47123.00

December 31, 2018

Planning Board Comments:

25. Recycling option should be on site.

A recycling area within the compactor enclosure will be provided and serviced by Waste Management.

We respectfully request that we be placed on the upcoming agenda for the Planning Board hearing on January 22, 2019. We look forward to presenting this project to you in the near future.

Respectfully,

MSC a division of TFMoran, Inc.

Hannah Giovannucci, PE
Project Manager

HEG



City of Dover, New Hampshire CONDITIONAL USE PERMIT APPLICATION

[Revision Date: May 18, 2017]

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

APPLICANT AND OWNER INFORMATION

Name of Applicant: Lilac Garden LLC Telephone # 603-231-4440

Address of Applicant: 1 Lilac Lane, Dover, NH 03820

E-Mail Address: stephenfee34@gmail.com

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

Address of Property Owner: _____

PROPERTY INFORMATION

Assessor's Map # H Lot(s) # 35-D-0

Address of Property: Lilac Lane, Dover, NH

Zoning District(s) RM-SU Overlay District(s) Wetland Protection & Secondary Groundwater Protection

Existing Use of Property: dwelling, multifamily

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:

Wetland Protection District - The applicant requests approval for the construction of approximately 237 SF of
impervious area and 5,057 sf of disturbance associated with grading, access, lighting, stormwater and erosion and
sediment control BMP's, utilities, and landscaping within the 50' Wetland Buffer to support the construction of a
proposed trash compactor area.

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: _____

Name of Professional That Prepared Plans: Hannah Giovannucci, PE - TFMoran, Inc.

Address 170 Commerce Way - Suite 102, Portsmouth, NH Telephone #: 603-431-2222

Professional License #: 15699 E-mail address: hgiovannucci@tfmoran.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: 12/31/2018

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

Signature of Agent: _____ Date: _____

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: 12/31/2018

CITY OF DOVER CONDITIONAL USE 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.

See attached Sheets

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS



Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

Abutters List

**Lilac Garden LLC
Knox Marsh Road / Lilac Lane
Dover, NH**

Date: **November 27, 2018**
Project #: **47123.00**

Assessors Map		Abutter Name	Mailing Address
Map	Lot		
H	36-B-1	NSA Optivest Acquisition Holdings, LLC	24901 Dana Point Harbor Drive Suite #200 Dana Point, CA 92629
H	36-B-0	Vasco Four Twenty-Seven River, LLC	217 Knox Marsh Road Dover, NH 03820-5402
H	36-C-0	Public Service Co of N.H.	P.O. Box 330 Manchester, NH 03105-0330
H	36-1-0	1 Progress Llc	340 Central Ave #202 Dover NH 03820
H	35-C-2A	Cole IO Dover NH LLC	c/o Irving Oil Marketing Inc. P.O. Box 868 Calais, ME 04619
H	35-C-1	W Coneys Properties, LLC	17 Ivans Lane Dover, NH 03820-9132
H	34-0-0	Sampson Supermarkets, Inc.	P.O. Box 1000 - MS 6000 Portland, ME 04104-5005
H	41-L-0	Crosshill Housing Associates, LP	P.O. Box 250 New Ipswich, NH 03071
H	41-D-0	Crosshill Housing Associates, LP	Same as H-41-L-0
H	41-M-0	Crosshill Housing Associates, LP	Same as H-41-L-0
H	41-R-0	MSM Brothers Inc.	510 Martha's Way Dover, NH 03820



Abutters List - cont.

Assessors Map		Abutter Name	Mailing Address
Map	Lot		
H	41-S-0	MSM Brothers Inc.	Same as H-41-R-0
H	58-0-0	City of Dover	288 Central Avenue Dover, NH 03820
H	59-0-0	Candia South Branch Brook Holdings, LLC	P.O. Box 410 Candia, NH 03034
H	60-0-0	Candia South Branch Brook Holdings, LLC	Same as H-59-0-0
H	62-0-0	Candia South Branch Brook Holdings, LLC	Same as H-59-0-0
H	63-0-0	City of Dover	Same as H-58-0-0
H	40-0-0	Olde Madbury Lane Inc.	P.O. Box 250 Dover, NH 03820
H	40-B-0	237 Albany Street Investments LLC 85% & Abel and Brunell Associates 15%	160 Middlesex Turnpike Bedford, MA 01730

Civil Engineers / Surveyor	MSC, a division of TFMoran, Inc. 170 Commerce Way – Suite 102 Portsmouth, NH 03801
Environmental / Wetlands Scientist	
Architect	

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 = \$ _____
- GRAVEL PIT/ EXCAVATIONS - Application fee \$50.00 & Permit fee \$75.00 = \$ _____
- EXTENSIONS OF/AMENDMENTS TO/WAIVERS FOR AN APPROVED PLAN (\$150.00 minimum) \$50.00 x # _____ per hour of review \$ _____
- REQUEST FOR REZONING \$150.00 = \$ _____
- DRIVEWAY WAIVER – \$100.00 application fee = \$ _____
Letter of rejection from Engineering Department, diagram & letter from owner \$ _____

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

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

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

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

(Revised May 15, 2017)

TOTAL FEE \$ _____



City of Dover, New Hampshire SITE PLAN REVIEW SUBMISSION CHECKLIST

[Revision Date: May 15, 2017]

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: Lilac Lane LLC File Number: _____

PROJECT TITLE: Lilac Garden Trash Compactor Site

PROPERTY LOCATION: Lilac Lane Tax Map: H Lot: 35-D-0

	Explain How Provided	Reviewed
1. Completed and signed Application form		
2. Electronic copy of the engineered/surveyed plan layout		
3. Electronic copy of supplementary materials and application		
4. Traffic Impact Assessment and Analysis (Standard or Advanced)		
5. Fiscal Impact Analysis (For more than 10 units)		
6. Waiver requests to the Site Plan Review Regulations, with written justification		
7. Conditional Use Permit applications		
8. A colored rendering of the streetscape that will be created along the existing public right-of-way		
9. A colored architectural plan showing all sides of buildings		
10. List of all professional agents to be notified for Planning Board		
11. Eight 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:		
Location map at appropriate scale		
Proposed Project name and title and Planning File #		
Date, north arrow and scale		
Names of all abutting property owners		
Name and address of owners and/or applicants		
Signature & stamp of NH licensed land surveyor and/or engineer		
Zoning District boundaries, including any special or overlay districts		
Location of Conservation District areas		
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks		
Location and widths of existing & proposed easements & right of ways		
Depict pedestrian walkways and accessible access		
Location and width of existing and proposed access/egress ways		
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system		
Existing and proposed topographic information at two foot intervals		

	Explain How Provided	Reviewed
Existing and proposed buildings and structure locations		
Minimum building setbacks or build to lines on all lots		
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities		
Existing and proposed water lines and fire hydrants, including materials and capacity needed		
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load		
Existing and proposed stormwater lines and facilities		
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots		
Location of Flood Hazard Zone		
Location of all bodies of water and watercourses		
Location of wetlands and buffers		
Neighborhood plan with aerial underlay showing how project relates to abutting uses		
Existing natural features and/or significant vegetation on property		
Depict existing contours up to 100 ft. beyond project limits		
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect		
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces		
Location, material and size of existing and proposed pavement area		
Location of proposed fire lanes		
Specify finished floor elevations of buildings		
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening		
Depict all service, storage, loading bays and utility areas		
All applicable Dover Common Site Plan notes		
12. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis		
Stormwater Management System Operation and Maintenance Plan		
Erosion and Sedimentation Control Plan		
Landscape Operation and Maintenance Plan		
Proposed restrictive covenants or homeowners association documents		
Dates and permit numbers of all required state and federal permits		
If wetland buffer, indicate placards locations, as applicable		
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs		
Location of proposed drive-in facilities		
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required		

REVIEWED BY: _____ DATE _____ TRC DATE _____



December 31, 2018

Gina Cruikshank, Planning Board Chairperson
City of Dover Planning Board
288 Central Avenue
Dover, NH 03820

Attn: Christopher Parker, AICP
Assistant City Manager: Director of Planning and Strategic Initiatives

**RE: Condition Use Permit Request
Site Plan – Lilac Garden Trash Compactor Site – 1 Lilac Lane – Tax Map H Lot 35-D-0
Dover Planning Board File Number P16-39A, MSC Project #47123.00**

Dear Ms. Cruikshank:

On behalf of the applicant, Lilac Garden, LLC, we respectfully request a Condition Use Permit for work within the Wetland Protection Overlay District as part of the submittal for the above-referenced project. Based on our interpretation of the City of Dover Zoning Code Chapter 170 27.1, we are requesting approval for construction within the Wetland Buffer, including, but not limited to, paved access, utilities and lighting, stormwater management systems, landscaping, and grading.

The project includes the development of a trash compactor area to support waste removal for the 63-acre existing housing complex called Lilac Garden. The proposed site is located within a Wetland Protection Overlay District and Secondary Groundwater Protection Overlay District. The applicant seeks approval of a Conditional Use Permit for work within the Wetland Projection Overlay District.

The proposed project includes approximately 237 sf of impervious area within the 50' Wetland Buffer. Associated improvements within the 50' Wetland Buffer include a stormwater treatment system, electric utilities, lighting, landscaping, and grading, resulting in approximately 5,057 sf of pervious disturbed area. The entire project area is approximately a quarter acre.

Wetlands Protection Overlay District

Demonstration of Need:

The proposed construction is essential to the productive use of land outside the Wetlands Protection Overlay District because approximately two thirds of the usable land in this area off of Lilac Garden is located within the 50' Wetland Buffer. Due to the narrow geometry of land between the wetlands, the development of this land outside of the Wetland Protection Overlay District would not be accessible nor feasible if this portion of the property could not be

TFMoran, Inc.
48 Constitution Drive, Bedford, NH 03110
T(603) 472-4488 www.tfmoran.com



MSC a division of TFMoran, Inc.
170 Commerce Way–Suite 102, Portsmouth, NH 03801
T(603) 431-2222 www.tfmoran.com



Conditional Use Permit Request
Site Plan – Lilac Garden Trash Compactor Site – 1 Lilac Lane - Tax Map H Lot 35-D-0
Dover Planning Board File Number P16-39A, MSC Project #47123.00

December 31, 2018

developed. Furthermore, the proposed trash compactor site is located centrally for residential access from Lilac Lane and proposed within an existing wooded area, which offers natural screening to Lilac Garden residences and Knox Marsh Road.

Avoidance:

Potential impacts of the project have been avoided to the maximum extent practicable. The proposed site design is the least impacting of the considered alternatives. The design seeks to minimize impervious surfaces within the 50' Wetland Buffer to the maximum extent practicable, limiting most disturbances within the Wetland Protection Overlay District to primarily grading and stormwater management.

Minimization:

Unavoidable impacts to the wetlands have been minimized by proposing limited impervious surfaces, a stormwater treatment system, and encouraging minimal use of sodium chloride-based materials for winter maintenance. The proposed impervious surface has been minimized to only what is required for access and minimizes intrusion to the 50' Wetland Buffer. The project proposed a stormwater treatment system that will improve the collection, treatment, and infiltration of stormwater over existing conditions. The stormwater treatment system also serves to protect the wetland by collecting, treating, and improving the quality of stormwater from runoff and snow/ice melt prior to entering the wetlands. The applicant has been instructed to minimize the use of sodium chloride-based materials to the minimum necessary for safety to protect the wetlands and groundwater.

Mitigation:

The project proposes to mitigate impacts to the proposed site by proposing stormwater treatment systems and through reduced sodium chloride-based usage. The City of Dover Conservation Commission will also have the opportunity to review the project during the Conservation Commission Hearing.

We look forward to your review of the enclosed request and look forward to presenting this project to you on January 22, 2019. If you require additional information, please let us know.

Respectfully,

MSC a division of TFMoran, Inc.

Hannah Giovannucci, PE
Project Manager

HEG



Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

Project #47123.00

Ground & Aerial Photos for

**Lilac Garden, LLC
1 Lilac Lane
Dover, New Hampshire**

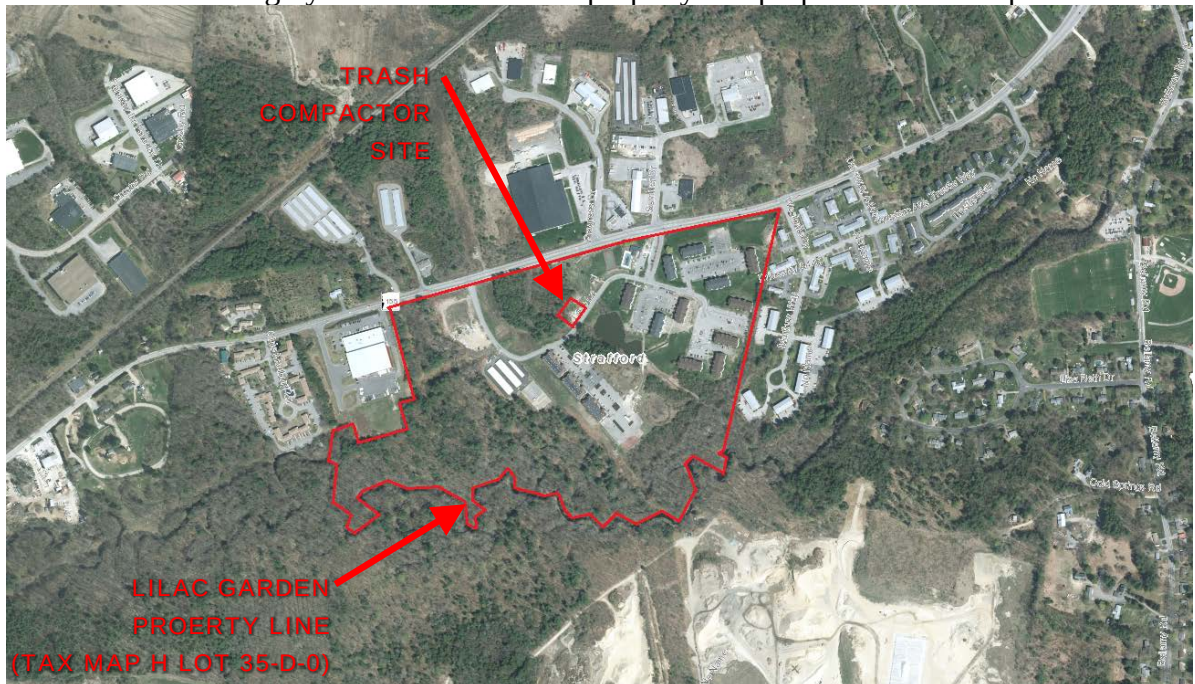
Photo 1: View from Lilac Lane of existing Lilac Garden residential trash drop-off location adjacent to the Leasing Office at the main entrance.



Photo 2: View from Lilac Lane of proposed Lilac Garden residential trash drop-off and compactor site location (see Photo 3 for Trash Compactor Site).



Photo 3: Aerial imagery of the Lilac Garden property and proposed trash compactor site.





Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects

MSC
A Division of TFMoran, Inc.



List of Professional Agents to be Notified for Planning Board

Owner: **Lilac Garden, LLC**
C/O Stephen Fee
21 Continental Boulevard
Suite 101
Merrimack, NH 3054

Civil Engineer: **TFMoran, Inc.**
C/O Hannah Giovannucci, PE
170 Commerce Way
Suite 102
Portsmouth, NH 03801

Geotechnical Engineer: **S. W. Cole Engineering Inc.**
Nathan Cote, PE
10 Centre Road
Somersworth, NH 03878

TFMoran, Inc.
48 Constitution Drive, Bedford, NH 03110
T(603) 472-4488 www.tfmoran.com



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DRAINAGE ANALYSIS SUMMARY

F O R

Lilac Garden Compactor Site

**1 Lilac Lane
Dover, New Hampshire**

Tax Map H, Lot 35-D-0

December 31, 2018

Prepared By:



Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

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Contents

1.0 SUMMARY& PROJECT DESCRIPTION
2.0 - CALCULATION METHODS
3.0 – PRE-DEVELOPMENT & POST_DEVELOPMENT CONDITIONS
4.0 – BEST MANAGEMENT PRACTICES
4.1 – Temporary Practices:
4.2 – Permanent Practices:
5.0 – REGULATORY COMPLIANCE
6.0 – CONCLUSION

APPENDIX A – EXTREME PRECIPITATION TABLE

APPENDIX B – SITE SOIL REPORT & TEST PIT LOGS

APPENDIX C – BMP WORKSHEET

APPENDIX D – RIP RAP CALCULATIONS

APPENDIX E – PRE DRAINAGE

APPENDIX F – POST DRAINAGE

APPENDIX G –PRE & POST DRAINAGE PLANS

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1.0 SUMMARY & PROJECT DESCRIPTION

The project includes the development of a trash compactor area to support waste removal for the 50-acre existing housing complex called Lilac Garden. The lot has public access via Knox Marsh Road and internal, private access via Lilac Lane. The proposed site is located off of Lilac Lane and within a Wetland Protection District Overlay District and Secondary Groundwater Protection Overlay District. The project proposed less than 4,000 sf of impervious area for the compactor and access and ¼-acre of disturbance to facilitate the development. Associated improvements include utilities and lighting, stormwater management systems, landscaping, and grading.

The project meets and exceeds the Minimum Stormwater Protections and Management Standards required per the City of Dover Site Review Regulations Chapter 149-14(A)(2). The project also strives to meet to the maximum extent practicable the Stormwater Management for New Development, per Chapter 149-14(B), although not a requirement of this project.

This drainage study was completed to reduce the generation of stormwater runoff volume for the new development and identify the Minimum Stormwater Protections and Management Standards. The study also assesses the pre- and post-development stormwater runoff rates and volume from the proposed development for the 2-year, 10-year, 25-year, and the 50-year storm events. In addition, Low Impact Development (LID) Best Management Practices (BMP's) were designed to reduce impacts near the wetland area and protect stormwater quality both during and after construction. The following summarizes the findings from the study.

2.0 - CALCULATION METHODS

The design storms analyzed in this study are the 2-year, 10-year, 25-year and the 50-year, 24-hour storm events. The software program, HydroCAD version 10.00¹ was utilized to calculate the peak runoff rates from these storm events. The program estimates the peak rates using the TR-20 method. A Type III storm pattern was used in the model. Rainfall frequencies for the analyzed region were also incorporated into the model. Rainfall frequencies from the Northeast Regional Climate Center (Extreme Precipitation Values) were used to determine the storm-event intensities. An additional 15% of the Extreme Precipitation Values were added to each storm event for this analysis in accordance with NH AoT Regulations. See Appendix A and Table 1 below. Design standards were taken from the New Hampshire Stormwater Manual, December 2008².

¹ HydroCAD version 10.00, HydroCAD Software Solutions LLC, Chocorua, NH, 2013.

² New Hampshire Stormwater Manual: Volume One - Stormwater and Antidegradation, December 2008; Volume Two - Post-Construction Best Management Practices Selection and Design, December 2008; Volume Three - Erosion and Sediment Controls During Construction, December 2008.

Table 1 PRECIPITATION ESTIMATES	
Storm- Event (yr.)	Extreme Precipitation Rainfall Value (in.)
2	3.14
10	4.74
25	5.99
50	7.16

Time of Concentration (T_C) is the time it takes for water to flow from the most hydrologically most remote point to the watershed outlet following the longest hydrologic route within a subcatchment. This time is determined by calculating the time it takes runoff to travel this route under one of three hydrologic conditions: sheet flow, shallow concentrated flow or channel flow. Because the Intensity-Duration-Frequency (IDF) curve is steep with short T_C 's, estimating the actual intensity is subject to error and overestimates actual runoff. Due to this, the T_C 's are adjusted to a minimum of 6 minutes.

The soils within the project are identified in accordance with the NRCS soil survey (see Appendix B for soil location). The predominant soils were the 234 Biddeford Silty Clay Loam (very poorly drained) and the 233 Scantic Silt Loam (poorly drained). See Appendix B for a more detailed description and test pit logs.

3.0 – PRE-DEVELOPMENT & POST DEVELOPMENT CONDITIONS

There post-development condition is characterized by one watershed. Pre-development subcatchment areas are depicted on the attached plan entitled "Pre-Development Drainage Map," Sheet D-01 in Appendix G.

The site drains to the existing eastern wetlands which discharge via underground culvert to the other side of Lilac Lane. For ease of calculation, the storage in the existing wetlands were not evaluated.

The post-development condition is characterized by one watershed split into two subcatchment areas. Post-development subcatchment areas are depicted on the attached plan entitled "Post-Development Drainage Map," sheet D-02 in Appendix G.

A bioretention area is proposed to reduce the generation of stormwater runoff volume from the impact of the new impervious area from the proposed development. Please refer to Appendix C for the BMP Worksheet for Bioretention Area #1. The practice is lined due to shallow water tables and low soil infiltration rates.

Bioretention areas are Low Impact Development (LID's) stormwater treatment Best Management Practices (BMP's). The use of the bioretention area BMP accomplishes many of the LID goals. It is a decentralized method of treating water. The water is treated near where it is collected through vegetation and soil filtering. The plants and the root systems as well as the soil filters treat and attenuate the stormwater flows, lowering their

impact. Bioretention Area #1 is placed to act as a natural buffer between the development and wetland area.

Table 2 and Table 3 summarize the pre- and post-development peak runoff rates and volumes for the 2-year, 10-year, 25-year and 50-year 24-hour Type III storm events for POI-1. Appendices E and F in this Drainage Study documents the computations for these peak runoff rates and volumes.

TABLE 2 - PEAK RUNOFF RATE COMPARISON (CFS)					
POINT OF INTEREST		DESIGN STORM			
		2-year	10-year	25-year	50-year
POI-1	Pre	0.39	0.94	1.42	1.89
	Post	0.23	0.82	1.17	1.50

TABLE 3 – SURFACE WATER RUNOFF VOLUME COMPARISON (CF)					
POINT OF INTEREST		DESIGN STORM			
		2-year	10-year	25-year	50-year
POI-1	Pre	1,959	4,388	6,551	8,703
	Post	1,930	4,585	6,878	9,127

The proposed project reduces the generation of stormwater runoff volume from the impact of the new impervious area from the proposed development, per the required Minimum Protections and Management Standards.

The stormwater management system is further designed to reduce the pre- and post-development runoff rates and reduce the surface water runoff volumes to the maximum extent practicable, per the Stormwater Management for New Development, not applicable to this project.

4.0 – BEST MANAGEMENT PRACTICES

The proposed stormwater management system includes a Low-Impact Design for a Bioretention Area per the *New Hampshire Stormwater Manual, Volumes Two and Three, December 2008*.

BMP's also provide for temporary erosion control measures during the construction process and permanent erosion control measures after construction is complete. All soil erosion and sediment control measures shall be in accordance with regulations and principles as outlined in the *New Hampshire Stormwater Manual, Volumes Two and Three, December 2008*. The intent of the outlined measures is to minimize erosion and sedimentation during construction, stabilize and protect the site from erosion after construction is complete and mitigate any adverse impacts to stormwater

quality resulting from development. Best Management Practices for this project include:

- Temporary practices to be implemented during construction.
- Permanent practices to be implemented after construction.

4.1 – Temporary Practices:

1. Erosion, sediment, and stormwater detention measures must be installed as directed by the engineer.
2. All disturbed areas, as well as loam stockpiles, shall be seeded and contained by a silt barrier.
3. Silt barriers must be installed prior to any construction commencing. All erosion control devices including silt barriers and storm drain inlet filters shall be inspected at least once per week and following any rainfall. All necessary maintenance shall be completed within twenty-four (24) hours.
4. Any silt barriers found to be failing must be replaced immediately. Sediment is to be removed from behind the silt fence if found to be one-third the height of the silt barrier or greater.
5. Any area of the site, which has been disturbed and where construction activity will not occur for more than twenty-one (21) days, shall be temporarily stabilized by mulching and seeding.
6. No construction materials shall be buried on-site.
7. After all areas have been stabilized, temporary practices are to be removed, and the area they are removed from must be smoothed and revegetated.
8. Areas must be temporarily stabilized within 14 days of disturbance or seeded and mulched within 3 days of final stabilization.
9. After November 15th, incomplete driveways or parking areas must be protected with a minimum of 3" of crushed gravel, meeting the standards of NHDOT item 304.3.
10. An area is considered stabilized if it has met one of the following:
 - a) A minimum of 85% vegetative growth has been established.
 - b) Base course gravel has been installed in areas to be paved.
 - c) Stone, rip rap, or any other non-erosive material has been installed with a minimum thickness of 3".
 - d) Erosion control blankets have been installed.

4.2 – Permanent Practices:

The objectives for developing permanent Best Management Practices for this site include the following:

1. Mitigate existing runoff flow characteristics.
 - a) Drainage is structured to reduce or meet to the maximum extent practicable any offsite increase in runoff
2. Treatment BMP's are established to ensure the water quality.
3. Maintenance schedules are set to safeguard the long term working of the stormwater BMP's.

5.0 – REGULATORY COMPLIANCE

The project meets and exceeds the Minimum Stormwater Protections and Management Standards required per the City of Dover Site Review Regulations Chapter 149-14(A)(2).

(i) Where applicable, all DEVELOPMENT must comply with the EPA Phase II Stormwater Rules and the City's MS4 Permit as amended.

The regulation is not applicable to the proposed project.

(ii) Existing surface waters, including ponds, rivers, perennial and intermittent streams (natural or channelized), and wetland (including vernal pools) shall be protected by the minimum buffer setback as specified in Chapter 170-27. STORMWATER and EROSION and SEDIMENT control BEST MANAGEMENT PRACTICES (BMP's) shall be located outside the specified buffer zone unless otherwise approved by the Planning BOARD.

The project seeks a Conditional Use Permit within the Wetland Protection District for the construction of approximately 237 sf of impervious area and 5,057 sf of disturbance associated with grading, access, lighting, stormwater and erosion and sediment control BMP's, utilities, and landscaping within the 50' Wetland Buffer to support the construction of a proposed trash compactor area.

(iii) LOW IMPACT DEVELOPMENT (LID) site planning and design strategies shall be used to the MEP in order to reduce the generation of the STORMWATER RUNOFF volume for both new and REDEVELOPMENT projects. An owner/APPLICANT must document why LID strategies are not appropriate if not used to manage STORMWATER.

The proposed project is designed to mimic natural topography and employs a bioretention area to meet LID criteria. As summarized in Table 3, the proposed project

reduces the generation of stormwater runoff volume from the impact of the new impervious area from the proposed development.

The stormwater management system is further designed to reduce the pre- and post-development runoff rates and reduce the surface water runoff volumes to the maximum extent practicable, per the Stormwater Management for New Development, not applicable to this project.

(iv) All proposed STORMWATER practices and measures shall be installed and maintained in accordance with manufacturers' specifications and performance specifications outlined in the NH Stormwater Management Manual Volume 2 (December 2008 or current revision) a copy of which can be found on the NHDES website.

All proposed stormwater practices including Bioretention Area #1 and the Sediment Forebay have been designed accordingly. Please refer to Appendix C for the BMP Worksheet for Bioretention Area #1 and Appendix D for Rip Rap Calculations.

(v) All storage facilities for fuel, chemicals, chemical or industrial wastes, and biodegradable raw materials shall meet the regulations of the NHDES including but not limited to those involving underground storage tanks, above ground storage tanks, hazardous waste and BEST MANAGEMENT PRACTICES for Groundwater Protection (ENV-Wa 401).

No storage facilities will be located within the proposed project.

(vi) Salt and other de-icing materials shall be stored under cover or located such that no direct DISCHARGES to receiving waters are possible. Snow storage areas shall be located such that no direct DISCHARGES to receiving waters are possible. See NHDES guidance fact sheet on road salt and snow disposal.

Salt or other de-icing materials shall not be stored within the limits of the proposed project. Snow and ice shall be stored in area that do not directly discharge to receiving waters and are pretreated by Bioretention Area #1.

(vii) The use of sodium chloride-based materials for winter maintenance shall be the minimum necessary for safety. The use of sodium chloride-based materials is discouraged within the groundwater protection districts.

The use of salt or other de-icing materials shall be the minimum necessary for safety. Alternative methods to salt are encouraged for use within the project limits which is within the Groundwater Protection District.

(viii) IMPERVIOUS surfaces for parking areas and roads shall be minimized to the extent possible.

Impervious surfaces for parking and driveway areas have been minimized for functionality and access to the site to the maximum extent practicable.

(ix) STORMWATER RUNOFF from new IMPERVIOUS surfaces shall be directed to a BEST MANAGEMENT PRACTICE for flow MITIGATION, treatment and/or INFILTRATION.

All stormwater runoff from proposed impervious surfaces are designed to be captured by Bioretention Area #1 for flow mitigation and treatment. As summarized in Table 2, the stormwater management system is designed to reduce the pre- and post-development runoff rates.

6.0 – CONCLUSION

The proposed project meets and exceeds the Minimum Protections and Management Standards as required by the Site Development Criteria per the City of Dover Site Review Regulations. The proposed design and stormwater management system mitigates the proposed impervious area and disturbances associated with the project. The proposed bioretention areas will treat the impervious cover and control the stormwater runoff rates and volumes. Appropriate erosion and sediment control practices will be implemented to reduce possible erosion and siltation. Best Management Practices will be developed in accordance with the *New Hampshire Stormwater Manual, Volumes Two and Three, December 2008* to formulate a plan that assures stormwater quality both during and after construction.

Submitted by,
TFMoran, Inc.

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APPENDIX A – EXTREME PRECIPITATION **TABLE**

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Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.903 degrees West
Latitude	43.178 degrees North
Elevation	0 feet
Date/Time	Mon, 05 Nov 2018 17:28:32 -0500

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.03	1yr	0.70	0.98	1.20	1.54	1.99	2.60	2.85	1yr	2.30	2.74	3.14	3.87	4.44	1yr
2yr	0.32	0.49	0.61	0.81	1.01	1.28	2yr	0.87	1.17	1.50	1.91	2.44	3.14	3.49	2yr	2.78	3.35	3.85	4.58	5.21	2yr
5yr	0.37	0.57	0.72	0.96	1.23	1.58	5yr	1.06	1.44	1.85	2.38	3.07	3.97	4.47	5yr	3.51	4.29	4.91	5.79	6.54	5yr
10yr	0.40	0.63	0.80	1.09	1.42	1.84	10yr	1.22	1.69	2.18	2.82	3.65	4.74	5.39	10yr	4.19	5.18	5.91	6.91	7.77	10yr
25yr	0.46	0.74	0.94	1.29	1.72	2.26	25yr	1.48	2.09	2.69	3.52	4.60	5.99	6.91	25yr	5.30	6.65	7.56	8.74	9.77	25yr
50yr	0.51	0.83	1.06	1.48	1.99	2.66	50yr	1.72	2.45	3.17	4.17	5.48	7.16	8.35	50yr	6.34	8.03	9.10	10.44	11.62	50yr
100yr	0.58	0.93	1.20	1.70	2.31	3.11	100yr	2.00	2.88	3.73	4.94	6.52	8.57	10.09	100yr	7.58	9.70	10.97	12.49	13.83	100yr
200yr	0.64	1.04	1.35	1.94	2.69	3.66	200yr	2.32	3.39	4.41	5.88	7.78	10.25	12.19	200yr	9.07	11.72	13.22	14.94	16.46	200yr
500yr	0.75	1.24	1.61	2.34	3.28	4.52	500yr	2.83	4.21	5.47	7.35	9.80	13.00	15.67	500yr	11.50	15.07	16.92	18.93	20.75	500yr

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.24	0.37	0.45	0.60	0.74	0.90	1yr	0.64	0.88	0.91	1.25	1.56	2.06	2.48	1yr	1.83	2.38	2.91	3.34	4.04	1yr
2yr	0.31	0.49	0.60	0.81	1.00	1.18	2yr	0.86	1.16	1.36	1.83	2.36	3.04	3.39	2yr	2.69	3.26	3.74	4.46	5.05	2yr
5yr	0.35	0.54	0.67	0.91	1.16	1.40	5yr	1.00	1.37	1.61	2.15	2.78	3.70	4.12	5yr	3.28	3.96	4.59	5.40	6.11	5yr
10yr	0.38	0.59	0.73	1.02	1.32	1.60	10yr	1.14	1.57	1.82	2.45	3.13	4.27	4.78	10yr	3.78	4.60	5.31	6.24	7.01	10yr
25yr	0.44	0.66	0.83	1.18	1.55	1.91	25yr	1.34	1.87	2.11	2.85	3.66	5.01	5.79	25yr	4.44	5.57	6.48	7.56	8.43	25yr
50yr	0.48	0.73	0.91	1.31	1.76	2.19	50yr	1.52	2.14	2.35	3.20	4.12	5.74	6.69	50yr	5.08	6.44	7.53	8.74	9.68	50yr
100yr	0.54	0.81	1.02	1.47	2.02	2.51	100yr	1.74	2.45	2.63	3.59	4.60	6.56	7.72	100yr	5.81	7.43	8.76	10.09	11.09	100yr
200yr	0.60	0.90	1.14	1.65	2.30	2.87	200yr	1.98	2.81	2.93	4.02	5.15	7.50	8.92	200yr	6.64	8.57	10.18	11.66	12.73	200yr
500yr	0.70	1.04	1.33	1.94	2.76	3.46	500yr	2.38	3.38	3.40	4.66	5.99	8.91	10.77	500yr	7.89	10.35	12.42	14.14	15.21	500yr

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.43	0.53	0.71	0.87	1.08	1yr	0.75	1.05	1.23	1.74	2.21	2.84	3.06	1yr	2.51	2.94	3.39	4.19	4.77	1yr
2yr	0.33	0.51	0.62	0.84	1.04	1.25	2yr	0.90	1.22	1.48	1.95	2.50	3.26	3.60	2yr	2.88	3.46	3.97	4.72	5.40	2yr
5yr	0.39	0.60	0.75	1.03	1.31	1.58	5yr	1.13	1.55	1.85	2.49	3.19	4.22	4.81	5yr	3.74	4.63	5.24	6.19	6.95	5yr
10yr	0.46	0.70	0.87	1.21	1.57	1.92	10yr	1.35	1.87	2.23	3.04	3.84	5.20	6.00	10yr	4.60	5.77	6.58	7.59	8.47	10yr
25yr	0.55	0.84	1.05	1.49	1.97	2.47	25yr	1.70	2.41	2.87	3.95	4.93	6.97	8.04	25yr	6.17	7.74	8.77	9.99	11.04	25yr
50yr	0.64	0.97	1.21	1.74	2.34	2.98	50yr	2.02	2.92	3.48	4.81	5.98	8.61	10.07	50yr	7.62	9.68	10.92	12.28	13.50	50yr
100yr	0.74	1.12	1.41	2.03	2.78	3.60	100yr	2.40	3.52	4.22	5.89	7.27	10.63	12.60	100yr	9.41	12.11	13.60	15.12	16.51	100yr
200yr	0.86	1.29	1.64	2.37	3.31	4.36	200yr	2.85	4.27	5.13	7.20	8.81	13.17	15.79	200yr	11.65	15.18	16.94	18.60	20.23	200yr
500yr	1.05	1.56	2.01	2.92	4.15	5.60	500yr	3.58	5.48	6.63	9.42	11.40	17.50	21.27	500yr	15.49	20.45	22.66	24.50	26.48	500yr

APPENDIX B – SITE SOILS REPORT & TEST PIT LOGS

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United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Strafford County, New Hampshire



October 18, 2018

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Strafford County, New Hampshire
Survey Area Data: Version 18, Sep 5, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Jun 26, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol		Map Unit Name	Acres in AOI	Percent of AOI
Be	234	Biddeford silty clay loam	0.4	21.8%
ScA	233	Scantic silt loam, 0 to 3 percent slopes	1.3	78.2%
Totals for Area of Interest			1.7	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Strafford County, New Hampshire

Be—Biddeford silty clay loam

Map Unit Setting

National map unit symbol: 9d6m
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Biddeford and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Biddeford

Setting

Landform: Marine terraces
Parent material: Glaciomarine

Typical profile

H1 - 0 to 7 inches: silty clay loam
H2 - 7 to 26 inches: silty clay
H3 - 26 to 41 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water storage in profile: Moderate (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Not named wet

Percent of map unit: 10 percent
Landform: Marine terraces
Hydric soil rating: Yes

Scantic

Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

ScA—Scantic silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 9d8s

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Farmland of local importance

Map Unit Composition

Scantic and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scantic

Setting

Landform: Marine terraces

Typical profile

H1 - 0 to 13 inches: silt loam

H2 - 13 to 23 inches: silty clay loam

H3 - 23 to 40 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Poorly drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Moderate (about 6.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4w

Hydrologic Soil Group: C/D

Hydric soil rating: Yes

Minor Components

Not named wet

Percent of map unit: 5 percent

Landform: Marine terraces

Hydric soil rating: Yes

Swanton

Percent of map unit: 5 percent

Custom Soil Resource Report

Landform: Marine terraces

Hydric soil rating: Yes

Biddeford

Percent of map unit: 5 percent

Landform: Marine terraces

Hydric soil rating: Yes

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Custom Soil Resource Report

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Soil Field Data Sheet

Soil Profile: TP-1

Date, Time, Weather: 11/28/2018, 9:30am, Cloudy.

Top Elevation: 91 ft ±

Base Elevation: 86.2 ft ±

Horizon	Depth	Texture	Rock Fragments	Structure	Consistence	Permeability	Matrix Color	Color Redox Features	pH	Roots	Notes
N/A	0"-18"	silt loam	∅	blocky	friable	slow	10YR 6/4	∅	∅	common v. f. - fine	FILL
N/A	18"-58"	si-y cl loam	∅	platy	firm	slow	10YR 7/4	common medium	∅	few very fine	FILL w/ free water at 58".

Soil Formation Process: Alluvium Re-Worked (FILL)

Land Position and Parent Material: Floodplains

Vegatative Cover: Grass Field

Redoximorphic Features Depth: Relic and New at Elevation 89.5 ft ±

High Seasonal Water Table Depth: Elevation 89.5 ft ±

Restrictive Layers: Silty Clay Loam at Elevation 89.5 ft ±

Drainage Class and Land Use Potential: Building Site Development

Notes: Elevations estimated from "Test Pit Location Plan" prepared by MSC and dated November 15, 2018.

Soil Field Data Sheet

Soil Profile: TP-2

Date, Time, Weather: 11/28/2018, 9:08am, Cloudy.

Top Elevation: 91 ft ±

Base Elevation: 85.9 ft ±

Horizon	Depth	Texture	Rock Fragments	Structure	Consistence	Permeability	Matrix Color	Color Redox Features	pH	Roots	Notes
N/A	0"-18"	silt loam	∅	blocky	friable	slow	10YR 6/4	∅	∅	common v. f. - fine	FILL
N/A	18"-58"	si-y cl loam	∅	blocky	firm	slow	10YR 7/4	common medium	∅	few very fine	FILL w/ free water at 61".

Soil Formation Process: Alluvium Re-Worked (FILL)

Land Position and Parent Material: Floodplains

Vegatative Cover: Grass Field

Redoximorphic Features Depth: Relic and New at Elevation 89.5 ft ±

High Seasonal Water Table Depth: Elevation 89.5 ft ±

Restrictive Layers: Silty Clay Loam at Elevation 89.5 ft ±

Drainage Class and Land Use Potential: Building Site Development

Notes: Elevations estimated from "Test Pit Location Plan" prepared by MSC and dated November 15, 2018.

Soil Field Data Sheet

Soil Profile: TP-3

Date, Time, Weather: 11/28/2018, 8:04am, Partly Cloudy.

Top Elevation: 91 ft ±

Base Elevation: 86.1 ft ±

Horizon	Depth	Texture	Rock Fragments	Structure	Consistence	Permeability	Matrix Color	Color Redox Features	pH	Roots	Notes
N/A	0"-9"	silt loam	∅	blocky	friable	slow	10YR 4/2	∅	∅	common v. f. - fine	FILL
N/A	9"-42"	silt loam	∅	blocky	friable	slow	10YR 6/4	∅	∅	few/com v. f. - f.	FILL
Ob	42"-59"	si-y cl loam	∅	platy	firm	slow	10YR 3/2	common m. to coarse	∅	∅	Free water at 61".

Soil Formation Process: Alluvium Re-Worked (FILL)

Land Position and Parent Material: Floodplains

Vegatative Cover: Grass Field

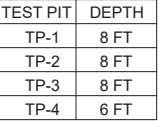
Redoximorphic Features Depth: Relic and New at Elevation 87.5 ft ±

High Seasonal Water Table Depth: Elevation 87.5 ft ±

Restrictive Layers: Silty Clay Loam at Elevation 87.5 ft ±

Drainage Class and Land Use Potential: Building Site Development

Notes: Elevations estimated from "Test Pit Location Plan" prepared by MSC and dated November 15, 2018.



NOTE:

- TEST PITS DEPTHS LISTED ARE MINIMUM DEPTHS. IF SEASONAL HIGH WATER IS ENCOUNTERED, THE TEST PITS CAN BE STOPPED.
- COORDINATE WITH ENGINEER ON-SITE TO PROVIDE INFILTRATION TESTING AT ALL TEST PIT LOCATIONS PER ENV-WQ 1500.14(d) AND AT LEAST 1 FOOT ABOVE SEASONAL HIGH WATER, UNLESS OTHERWISE DIRECTED.

TAX MAP H LOT 35-D-0
TEST PIT LOCATION PLAN
LILAC GARDEN TRASH COMPACTOR SITE
LILAC LANE
DOVER, NEW HAMPSHIRE

OWNED BY
LILAC GARDEN, LLC

SCALE, 1" = 20' (22X34)
1" = 40' (11X17)

NOVEMBER 15, 2018

FILE	47123.00	DR	RCK	FB	47123.00_Test_Pits.dwg	
		CK	JPL	CADFILE		




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TP-1



TP-2



TP-3



OVERALL SITE

APPENDIX C – BMP WORKSHEET

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FILTRATION PRACTICE DESIGN CRITERIA (Env-Wq 1508.07)

Type/Node Name: _____

Bioretention #1

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable

		Have you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.07(a)?	
0.25	ac	A = Area draining to the practice	
0.08	ac	A _I = Impervious area draining to the practice	
0.34	decimal	I = percent impervious area draining to the practice, in decimal form	
0.35	unitless	R _v = Runoff coefficient = 0.05 + (0.9 x I)	
0.09	ac-in	WQV = 1" x R _v x A	
318	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
80	cf	25% x WQV (check calc for sediment forebay volume)	
239	cf	75% x WQV (check calc for surface sand filter volume)	
		Method of Pretreatment? (not required for clean or roof runoff)	
382	cf	V _{SED} = sediment forebay volume, if used for pretreatment	← ≥ 25%WQV
627	sf	A _{SA} = surface area of the practice	
-	iph	K _{sat} _{DESIGN} = design infiltration rate ¹	
Yes	Yes/No	If K _{sat} (prior to factor of safety) is < 0.50 iph, has an underdrain been provided?	
-	hours	T _{DRAIN} = drain time = V / (A _{SA} * I _{DESIGN})	← ≤ 72-hrs
86.25	feet	E _{FC} = elevation of the bottom of the filter course material ²	
85.58	feet	E _{UD} = invert elevation of the underdrain (UD), if applicable	
87.50	feet	E _{SHWT} = elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
86.10	feet	E _{ROCK} = elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
0.67	feet	D _{FC to UD} = depth to UD from the bottom of the filter course	← ≥ 1'
0.15	feet	D _{FC to ROCK} = depth to bedrock from the bottom of the filter course	← ≥ 1'
(1.25)	feet	D _{FC to SHWT} = depth to SHWT from the bottom of the filter course	← ≥ 1'
89.57	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
90.15	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	← yes

If a surface sand filter or underground sand filter is proposed:

YES	ac	Drainage Area check.	← < 10 ac
	cf	V = volume of storage ³ (attach a stage-storage table)	← ≥ 75%WQV
	inches	D _{FC} = filter course thickness	← 18", or 24" if within GPA
Sheet		Note what sheet in the plan set contains the filter course specification	
Yes/No		Access grate provided?	← yes

If a bioretention area is proposed:

YES	ac	Drainage Area no larger than 5 ac?	← yes
2,391	cf	V = volume of storage ³ (attach a stage-storage table)	← ≥ WQV
18.0	inches	D _{FC} = filter course thickness	← 18", or 24" if within GPA
Sheet	C-09	Note what sheet in the plan set contains the filter course specification	
3.0	:1	Pond side slopes	← ≥3:1
Sheet	C-05	Note what sheet in the plan set contains the planting plans and surface cover	

If porous pavement is proposed:

	Type of pavement proposed (concrete? Asphalt? Pavers? Etc)	
acres	A_{SA} = surface area of the pervious pavement	
#DIV/0! :1	ratio of the contributing area to the pervious surface area	← 5:1
inches	D_{FC} = filter course thickness	← 12", or 18" if within GPA
Sheet	Note what sheet in the plan set contains the filter course spec.	← 304.1 sand

1. Rate of the limiting layer (either the filter course or the underlying soil). K_{sat_design} includes factor of safety. See Env-Wq 1504.14 for guidance on determining the infiltration rate.
2. See lines 34, 40 and 48 for required depths of filter media.
3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet structure, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes:

[illegible]

47123.00_POST

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Type III 24-hr 50 Year Rainfall=7.16"

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Stage-Area-Storage for Pond PP-1: Bioretention Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
85.00	627	0
85.10	627	38
85.20	627	75
85.30	627	107
85.40	627	132
85.50	627	157
85.60	627	182
85.70	627	207
85.80	627	232
85.90	627	257
86.00	627	282
86.10	627	307
86.20	627	332
86.30	627	351
86.40	627	364
86.50	627	376
86.60	627	389
86.70	627	401
86.80	627	414
86.90	627	426
87.00	627	439
87.10	627	451
87.20	627	464
87.30	627	477
87.40	627	489
87.50	627	502
87.60	627	514
87.70	627	527
87.80	627	539
87.90	627	552
88.00	627	564
88.10	647	628
88.20	667	694
88.30	687	761
88.40	707	831
88.50	727	903
88.60	747	976
88.70	767	1,052
88.80	787	1,130
88.90	807	1,210
89.00	827	1,291
89.10	849	1,375
89.20	872	1,461
89.30	894	1,550
89.40	917	1,640
89.50	940	1,733
89.60	962	1,828
89.70	985	1,925
89.80	1,007	2,025
89.90	1,030	2,127
90.00	1,052	2,231
90.10	1,076	2,337

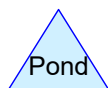
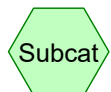
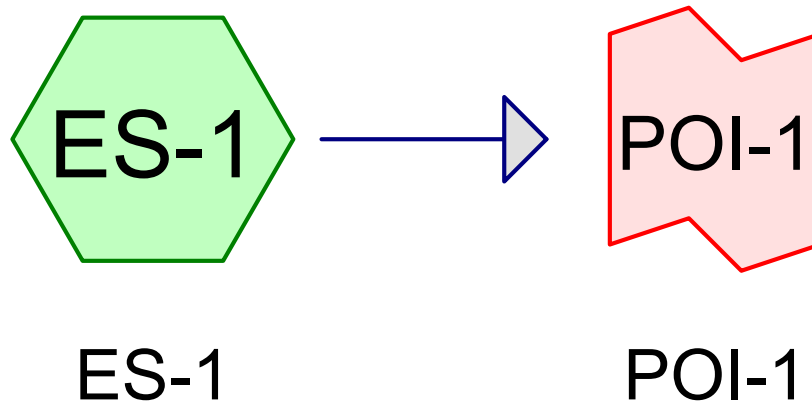
APPENDIX D – RIP RAP CALUCLATIONS

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Job # 47123.00										
Lilac Garden										
12/31/2018										
			<u>RIPRAP OUTLET PROTECTION</u>							
			Location:	TYPICAL CULVERT OUTLET						
						Design Flow =	Q =	0.27	cfs	
						Tailwater =	Tw =	0.222	feet	
						Pipe Dia.=	Do =	0.333	feet	
			La = Length = $3Q/Do^{(3/2)} + 7Do =$		7	feet				
			W = Width = $3Do+(0.4)(La)=$		4	feet	(or Width of Channel)			
			D = Depth = $(1.5)(1.5d50)=$		6	inches	(or Min. 6")			
			d50 = $(.02)(Q)^{(4/3)}/(Tw*Do)=$		0.75	inches				
<u>Rock Riprap Gradation</u>										
<u>% of weight smaller than the given size.</u>						<u>Size of stone (inches)</u>				
	100					1.13	-	1.50		
	85					0.98	-	1.35		
	50					0.75	-	1.13		
	15					0.23	-	0.38		

APPENDIX E – PRE DRAINAGE

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
14,694	74	>75% Grass cover, Good, HSG C (ES-1)
11,641	70	Woods, Good, HSG C (ES-1)
26,335	72	TOTAL AREA

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
26,335	HSG C	ES-1
0	HSG D	
0	Other	
26,335		TOTAL AREA

47123.00_PRE

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Type III 24-hr 2 Year Rainfall=3.14"

Printed 12/30/2018

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment ES-1: ES-1

Runoff Area=26,335 sf 0.00% Impervious Runoff Depth=0.89"

Flow Length=106' Slope=0.0280 '/' Tc=19.9 min CN=72 Runoff=0.39 cfs 1,959 cf

Link POI-1: POI-1

Inflow=0.39 cfs 1,959 cf

Primary=0.39 cfs 1,959 cf

Total Runoff Area = 26,335 sf Runoff Volume = 1,959 cf Average Runoff Depth = 0.89"
100.00% Pervious = 26,335 sf 0.00% Impervious = 0 sf

Summary for Subcatchment ES-1: ES-1

Runoff = 0.39 cfs @ 12.31 hrs, Volume= 1,959 cf, Depth= 0.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.14"

Area (sf)	CN	Description
14,694	74	>75% Grass cover, Good, HSG C
11,641	70	Woods, Good, HSG C
26,335	72	Weighted Average
26,335		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.9	106	0.0280	0.09		Sheet Flow, Woods Woods: Light underbrush n= 0.400 P2= 3.14"

Summary for Link POI-1: POI-1

Inflow Area = 26,335 sf, 0.00% Impervious, Inflow Depth = 0.89" for 2 Year event

Inflow = 0.39 cfs @ 12.31 hrs, Volume= 1,959 cf

Primary = 0.39 cfs @ 12.31 hrs, Volume= 1,959 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

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Type III 24-hr 10 Year Rainfall=4.74"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment ES-1: ES-1

Runoff Area=26,335 sf 0.00% Impervious Runoff Depth=2.00"

Flow Length=106' Slope=0.0280 '/' Tc=19.9 min CN=72 Runoff=0.94 cfs 4,388 cf

Link POI-1: POI-1

Inflow=0.94 cfs 4,388 cf

Primary=0.94 cfs 4,388 cf

Total Runoff Area = 26,335 sf Runoff Volume = 4,388 cf Average Runoff Depth = 2.00"
100.00% Pervious = 26,335 sf 0.00% Impervious = 0 sf

Summary for Subcatchment ES-1: ES-1

Runoff = 0.94 cfs @ 12.29 hrs, Volume= 4,388 cf, Depth= 2.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Rainfall=4.74"

Area (sf)	CN	Description
14,694	74	>75% Grass cover, Good, HSG C
11,641	70	Woods, Good, HSG C
26,335	72	Weighted Average
26,335		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.9	106	0.0280	0.09		Sheet Flow, Woods Woods: Light underbrush n= 0.400 P2= 3.14"

Summary for Link POI-1: POI-1

Inflow Area = 26,335 sf, 0.00% Impervious, Inflow Depth = 2.00" for 10 Year event
Inflow = 0.94 cfs @ 12.29 hrs, Volume= 4,388 cf
Primary = 0.94 cfs @ 12.29 hrs, Volume= 4,388 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

47123.00_PRE

Type III 24-hr 25 Year Rainfall=5.99"

Prepared by TFMoran

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment ES-1: ES-1

Runoff Area=26,335 sf 0.00% Impervious Runoff Depth=2.99"

Flow Length=106' Slope=0.0280 '/' Tc=19.9 min CN=72 Runoff=1.42 cfs 6,551 cf

Link POI-1: POI-1

Inflow=1.42 cfs 6,551 cf

Primary=1.42 cfs 6,551 cf

Total Runoff Area = 26,335 sf Runoff Volume = 6,551 cf Average Runoff Depth = 2.99"
100.00% Pervious = 26,335 sf 0.00% Impervious = 0 sf

Summary for Subcatchment ES-1: ES-1

Runoff = 1.42 cfs @ 12.28 hrs, Volume= 6,551 cf, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Rainfall=5.99"

Area (sf)	CN	Description
14,694	74	>75% Grass cover, Good, HSG C
11,641	70	Woods, Good, HSG C
26,335	72	Weighted Average
26,335		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.9	106	0.0280	0.09		Sheet Flow, Woods Woods: Light underbrush n= 0.400 P2= 3.14"

Summary for Link POI-1: POI-1

Inflow Area = 26,335 sf, 0.00% Impervious, Inflow Depth = 2.99" for 25 Year event
Inflow = 1.42 cfs @ 12.28 hrs, Volume= 6,551 cf
Primary = 1.42 cfs @ 12.28 hrs, Volume= 6,551 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

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Type III 24-hr 50 Year Rainfall=7.16"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment ES-1: ES-1

Runoff Area=26,335 sf 0.00% Impervious Runoff Depth=3.97"

Flow Length=106' Slope=0.0280 '/' Tc=19.9 min CN=72 Runoff=1.89 cfs 8,703 cf

Link POI-1: POI-1

Inflow=1.89 cfs 8,703 cf

Primary=1.89 cfs 8,703 cf

Total Runoff Area = 26,335 sf Runoff Volume = 8,703 cf Average Runoff Depth = 3.97"
100.00% Pervious = 26,335 sf 0.00% Impervious = 0 sf

Summary for Subcatchment ES-1: ES-1

Runoff = 1.89 cfs @ 12.28 hrs, Volume= 8,703 cf, Depth= 3.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Year Rainfall=7.16"

Area (sf)	CN	Description
14,694	74	>75% Grass cover, Good, HSG C
11,641	70	Woods, Good, HSG C
26,335	72	Weighted Average
26,335		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.9	106	0.0280	0.09		Sheet Flow, Woods Woods: Light underbrush n= 0.400 P2= 3.14"

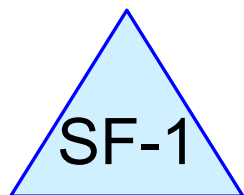
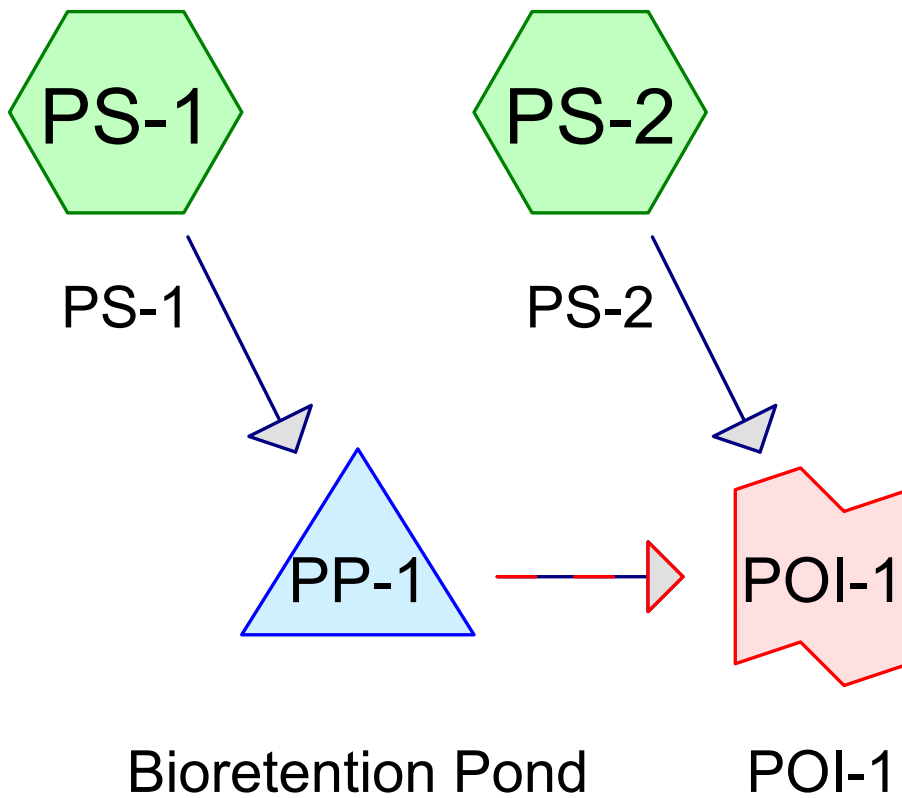
Summary for Link POI-1: POI-1

Inflow Area = 26,335 sf, 0.00% Impervious, Inflow Depth = 3.97" for 50 Year event
Inflow = 1.89 cfs @ 12.28 hrs, Volume= 8,703 cf
Primary = 1.89 cfs @ 12.28 hrs, Volume= 8,703 cf, Atten= 0%, Lag= 0.0 min

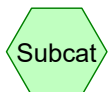
Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

APPENDIX F – POST DRAINAGE

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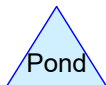
Sediment Forebay



Subcat



Reach



Pond



Link

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
13,243	74	>75% Grass cover, Good, HSG C (PS-1, PS-2)
3,643	98	Paved parking, HSG C (PS-1)
9,449	70	Woods, Good, HSG C (PS-2)
26,335	76	TOTAL AREA

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Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
26,335	HSG C	PS-1, PS-2
0	HSG D	
0	Other	
26,335		TOTAL AREA

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Type III 24-hr 2 Year Rainfall=3.14"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PS-1: PS-1

Runoff Area=10,799 sf 33.73% Impervious Runoff Depth=1.49"
Flow Length=100' Tc=10.6 min CN=82 Runoff=0.37 cfs 1,341 cf

Subcatchment PS-2: PS-2

Runoff Area=15,536 sf 0.00% Impervious Runoff Depth=0.89"
Flow Length=99' Slope=0.0280 '/' Tc=18.8 min CN=72 Runoff=0.23 cfs 1,156 cf

Pond PP-1: Bioretention Pond

Peak Elev=88.17' Storage=673 cf Inflow=0.37 cfs 1,341 cf
Primary=0.06 cfs 775 cf Secondary=0.00 cfs 0 cf Outflow=0.06 cfs 775 cf

Pond SF-1: Sediment Forebay

Peak Elev=0.00' Storage=0 cf

Link POI-1: POI-1

Inflow=0.23 cfs 1,930 cf
Primary=0.23 cfs 1,930 cf

Total Runoff Area = 26,335 sf Runoff Volume = 2,497 cf Average Runoff Depth = 1.14"
86.17% Pervious = 22,692 sf 13.83% Impervious = 3,643 sf

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Type III 24-hr 2 Year Rainfall=3.14"

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Summary for Subcatchment PS-1: PS-1

Runoff = 0.37 cfs @ 12.15 hrs, Volume= 1,341 cf, Depth= 1.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.14"

Area (sf)	CN	Description
7,156	74	>75% Grass cover, Good, HSG C
3,643	98	Paved parking, HSG C
10,799	82	Weighted Average
7,156		66.27% Pervious Area
3,643		33.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	67	0.0220	0.11		Sheet Flow, Grass
					Grass: Dense n= 0.240 P2= 3.14"
0.5	33	0.0200	1.09		Sheet Flow, Driveway
					Smooth surfaces n= 0.011 P2= 3.14"
10.6	100	Total			

Summary for Subcatchment PS-2: PS-2

Runoff = 0.23 cfs @ 12.29 hrs, Volume= 1,156 cf, Depth= 0.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.14"

Area (sf)	CN	Description
6,087	74	>75% Grass cover, Good, HSG C
9,449	70	Woods, Good, HSG C
15,536	72	Weighted Average
15,536		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.8	99	0.0280	0.09		Sheet Flow, Woods
					Woods: Light underbrush n= 0.400 P2= 3.14"

Summary for Pond PP-1: Bioretention Pond

Inflow Area = 10,799 sf, 33.73% Impervious, Inflow Depth = 1.49" for 2 Year event
 Inflow = 0.37 cfs @ 12.15 hrs, Volume= 1,341 cf
 Outflow = 0.06 cfs @ 12.78 hrs, Volume= 775 cf, Atten= 83%, Lag= 37.3 min
 Primary = 0.06 cfs @ 12.78 hrs, Volume= 775 cf
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

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Type III 24-hr 2 Year Rainfall=3.14"

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Peak Elev= 88.17' @ 12.78 hrs Surf.Area= 661 sf Storage= 673 cf

Flood Elev= 90.15' Surf.Area= 1,088 sf Storage= 2,391 cf

Plug-Flow detention time= 254.5 min calculated for 774 cf (58% of inflow)

Center-of-Mass det. time= 142.3 min (983.8 - 841.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	85.00'	2,391 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
85.00	627	0.0	0	0
85.25	627	60.0	94	94
86.25	627	40.0	251	345
87.75	627	20.0	188	533
88.00	627	20.0	31	564
89.00	827	100.0	727	1,291
90.00	1,052	100.0	940	2,231
90.15	1,088	100.0	161	2,391

Device	Routing	Invert	Outlet Devices
#1	Device 3	85.58'	4.0" Vert. Orifice/Grate C= 0.600
#2	Device 3	89.50'	8.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	88.00'	4.0" Round Culvert L= 61.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 88.00' / 87.35' S= 0.0107 ' / ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#4	Secondary	89.90'	10.0' long x 5.0' 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) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.06 cfs @ 12.78 hrs HW=88.17' TW=0.00' (Dynamic Tailwater)↑ **3=Culvert** (Inlet Controls 0.06 cfs @ 1.40 fps)↑ **1=Orifice/Grate** (Passes 0.06 cfs of 0.17 cfs potential flow)↑ **2=Grate** (Controls 0.00 cfs)**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=85.00' TW=0.00' (Dynamic Tailwater)↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)**Summary for Pond SF-1: Sediment Forebay**

Volume	Invert	Avail.Storage	Storage Description
#1	87.50'	382 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

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Type III 24-hr 2 Year Rainfall=3.14"

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Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
87.50	62	0.0	0	0
88.00	113	100.0	44	44
89.00	258	100.0	186	229
89.50	351	100.0	152	382

Summary for Link POI-1: POI-1

Inflow Area = 26,335 sf, 13.83% Impervious, Inflow Depth = 0.88" for 2 Year event

Inflow = 0.23 cfs @ 12.29 hrs, Volume= 1,930 cf

Primary = 0.23 cfs @ 12.29 hrs, Volume= 1,930 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PS-1: PS-1

Runoff Area=10,799 sf 33.73% Impervious Runoff Depth=2.85"
Flow Length=100' Tc=10.6 min CN=82 Runoff=0.70 cfs 2,563 cf

Subcatchment PS-2: PS-2

Runoff Area=15,536 sf 0.00% Impervious Runoff Depth=2.00"
Flow Length=99' Slope=0.0280 '/' Tc=18.8 min CN=72 Runoff=0.57 cfs 2,589 cf

Pond PP-1: Bioretention Pond

Peak Elev=88.65' Storage=1,017 cf Inflow=0.70 cfs 2,563 cf
Primary=0.27 cfs 1,996 cf Secondary=0.00 cfs 0 cf Outflow=0.27 cfs 1,996 cf

Pond SF-1: Sediment Forebay

Peak Elev=0.00' Storage=0 cf

Link POI-1: POI-1

Inflow=0.82 cfs 4,585 cf
Primary=0.82 cfs 4,585 cf

Total Runoff Area = 26,335 sf Runoff Volume = 5,151 cf Average Runoff Depth = 2.35"
86.17% Pervious = 22,692 sf 13.83% Impervious = 3,643 sf

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Type III 24-hr 10 Year Rainfall=4.74"

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Summary for Subcatchment PS-1: PS-1

Runoff = 0.70 cfs @ 12.15 hrs, Volume= 2,563 cf, Depth= 2.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Rainfall=4.74"

Area (sf)	CN	Description
7,156	74	>75% Grass cover, Good, HSG C
3,643	98	Paved parking, HSG C
10,799	82	Weighted Average
7,156		66.27% Pervious Area
3,643		33.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	67	0.0220	0.11		Sheet Flow, Grass
					Grass: Dense n= 0.240 P2= 3.14"
0.5	33	0.0200	1.09		Sheet Flow, Driveway
					Smooth surfaces n= 0.011 P2= 3.14"
10.6	100	Total			

Summary for Subcatchment PS-2: PS-2

Runoff = 0.57 cfs @ 12.27 hrs, Volume= 2,589 cf, Depth= 2.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Rainfall=4.74"

Area (sf)	CN	Description
6,087	74	>75% Grass cover, Good, HSG C
9,449	70	Woods, Good, HSG C
15,536	72	Weighted Average
15,536		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.8	99	0.0280	0.09		Sheet Flow, Woods
					Woods: Light underbrush n= 0.400 P2= 3.14"

Summary for Pond PP-1: Bioretention Pond

Inflow Area = 10,799 sf, 33.73% Impervious, Inflow Depth = 2.85" for 10 Year event
 Inflow = 0.70 cfs @ 12.15 hrs, Volume= 2,563 cf
 Outflow = 0.27 cfs @ 12.48 hrs, Volume= 1,996 cf, Atten= 61%, Lag= 19.6 min
 Primary = 0.27 cfs @ 12.48 hrs, Volume= 1,996 cf
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

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Type III 24-hr 10 Year Rainfall=4.74"

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Peak Elev= 88.65' @ 12.48 hrs Surf.Area= 758 sf Storage= 1,017 cf

Flood Elev= 90.15' Surf.Area= 1,088 sf Storage= 2,391 cf

Plug-Flow detention time= 155.7 min calculated for 1,994 cf (78% of inflow)

Center-of-Mass det. time= 75.6 min (898.4 - 822.8)

Volume	Invert	Avail.Storage	Storage Description	
#1	85.00'	2,391 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
85.00	627	0.0	0	0
85.25	627	60.0	94	94
86.25	627	40.0	251	345
87.75	627	20.0	188	533
88.00	627	20.0	31	564
89.00	827	100.0	727	1,291
90.00	1,052	100.0	940	2,231
90.15	1,088	100.0	161	2,391

Device	Routing	Invert	Outlet Devices
#1	Device 3	85.58'	4.0" Vert. Orifice/Grate C= 0.600
#2	Device 3	89.50'	8.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	88.00'	4.0" Round Culvert L= 61.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 88.00' / 87.35' S= 0.0107 ' / ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#4	Secondary	89.90'	10.0' long x 5.0' 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) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.27 cfs @ 12.48 hrs HW=88.65' TW=0.00' (Dynamic Tailwater)↑ **3=Culvert** (Barrel Controls 0.27 cfs @ 3.12 fps)↑ **1=Orifice/Grate** (Passes 0.27 cfs of 0.34 cfs potential flow)↑ **2=Grate** (Controls 0.00 cfs)**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=85.00' TW=0.00' (Dynamic Tailwater)↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)**Summary for Pond SF-1: Sediment Forebay**

Volume	Invert	Avail.Storage	Storage Description
#1	87.50'	382 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

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Type III 24-hr 10 Year Rainfall=4.74"

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Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
87.50	62	0.0	0	0
88.00	113	100.0	44	44
89.00	258	100.0	186	229
89.50	351	100.0	152	382

Summary for Link POI-1: POI-1

Inflow Area = 26,335 sf, 13.83% Impervious, Inflow Depth = 2.09" for 10 Year event

Inflow = 0.82 cfs @ 12.28 hrs, Volume= 4,585 cf

Primary = 0.82 cfs @ 12.28 hrs, Volume= 4,585 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PS-1: PS-1

Runoff Area=10,799 sf 33.73% Impervious Runoff Depth=3.98"
Flow Length=100' Tc=10.6 min CN=82 Runoff=0.98 cfs 3,580 cf

Subcatchment PS-2: PS-2

Runoff Area=15,536 sf 0.00% Impervious Runoff Depth=2.99"
Flow Length=99' Slope=0.0280 '/' Tc=18.8 min CN=72 Runoff=0.86 cfs 3,865 cf

Pond PP-1: Bioretention Pond

Peak Elev=89.15' Storage=1,418 cf Inflow=0.98 cfs 3,580 cf
Primary=0.34 cfs 3,013 cf Secondary=0.00 cfs 0 cf Outflow=0.34 cfs 3,013 cf

Pond SF-1: Sediment Forebay

Peak Elev=0.00' Storage=0 cf

Link POI-1: POI-1

Inflow=1.17 cfs 6,878 cf
Primary=1.17 cfs 6,878 cf

Total Runoff Area = 26,335 sf Runoff Volume = 7,444 cf Average Runoff Depth = 3.39"
86.17% Pervious = 22,692 sf 13.83% Impervious = 3,643 sf

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Type III 24-hr 25 Year Rainfall=5.99"

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Summary for Subcatchment PS-1: PS-1

Runoff = 0.98 cfs @ 12.15 hrs, Volume= 3,580 cf, Depth= 3.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Rainfall=5.99"

Area (sf)	CN	Description
7,156	74	>75% Grass cover, Good, HSG C
3,643	98	Paved parking, HSG C
10,799	82	Weighted Average
7,156		66.27% Pervious Area
3,643		33.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	67	0.0220	0.11		Sheet Flow, Grass
					Grass: Dense n= 0.240 P2= 3.14"
0.5	33	0.0200	1.09		Sheet Flow, Driveway
					Smooth surfaces n= 0.011 P2= 3.14"
10.6	100	Total			

Summary for Subcatchment PS-2: PS-2

Runoff = 0.86 cfs @ 12.27 hrs, Volume= 3,865 cf, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Rainfall=5.99"

Area (sf)	CN	Description
6,087	74	>75% Grass cover, Good, HSG C
9,449	70	Woods, Good, HSG C
15,536	72	Weighted Average
15,536		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.8	99	0.0280	0.09		Sheet Flow, Woods
					Woods: Light underbrush n= 0.400 P2= 3.14"

Summary for Pond PP-1: Bioretention Pond

Inflow Area = 10,799 sf, 33.73% Impervious, Inflow Depth = 3.98" for 25 Year event
 Inflow = 0.98 cfs @ 12.15 hrs, Volume= 3,580 cf
 Outflow = 0.34 cfs @ 12.51 hrs, Volume= 3,013 cf, Atten= 66%, Lag= 21.4 min
 Primary = 0.34 cfs @ 12.51 hrs, Volume= 3,013 cf
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

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Type III 24-hr 25 Year Rainfall=5.99"

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Peak Elev= 89.15' @ 12.51 hrs Surf.Area= 861 sf Storage= 1,418 cf

Flood Elev= 90.15' Surf.Area= 1,088 sf Storage= 2,391 cf

Plug-Flow detention time= 133.3 min calculated for 3,010 cf (84% of inflow)

Center-of-Mass det. time= 68.2 min (881.5 - 813.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	85.00'	2,391 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
85.00	627	0.0	0	0
85.25	627	60.0	94	94
86.25	627	40.0	251	345
87.75	627	20.0	188	533
88.00	627	20.0	31	564
89.00	827	100.0	727	1,291
90.00	1,052	100.0	940	2,231
90.15	1,088	100.0	161	2,391

Device	Routing	Invert	Outlet Devices
#1	Device 3	85.58'	4.0" Vert. Orifice/Grate C= 0.600
#2	Device 3	89.50'	8.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	88.00'	4.0" Round Culvert L= 61.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 88.00' / 87.35' S= 0.0107 ' / Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#4	Secondary	89.90'	10.0' long x 5.0' 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) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.34 cfs @ 12.51 hrs HW=89.15' TW=0.00' (Dynamic Tailwater)↑ **3=Culvert** (Barrel Controls 0.34 cfs @ 3.84 fps)↑ **1=Orifice/Grate** (Passes 0.34 cfs of 0.45 cfs potential flow)↑ **2=Grate** (Controls 0.00 cfs)**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=85.00' TW=0.00' (Dynamic Tailwater)↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)**Summary for Pond SF-1: Sediment Forebay**

Volume	Invert	Avail.Storage	Storage Description
#1	87.50'	382 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

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Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
87.50	62	0.0	0	0
88.00	113	100.0	44	44
89.00	258	100.0	186	229
89.50	351	100.0	152	382

Summary for Link POI-1: POI-1

Inflow Area = 26,335 sf, 13.83% Impervious, Inflow Depth = 3.13" for 25 Year event

Inflow = 1.17 cfs @ 12.27 hrs, Volume= 6,878 cf

Primary = 1.17 cfs @ 12.27 hrs, Volume= 6,878 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

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Type III 24-hr 50 Year Rainfall=7.16"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PS-1: PS-1

Runoff Area=10,799 sf 33.73% Impervious Runoff Depth=5.07"
Flow Length=100' Tc=10.6 min CN=82 Runoff=1.23 cfs 4,559 cf

Subcatchment PS-2: PS-2

Runoff Area=15,536 sf 0.00% Impervious Runoff Depth=3.97"
Flow Length=99' Slope=0.0280 '/' Tc=18.8 min CN=72 Runoff=1.14 cfs 5,134 cf

Pond PP-1: Bioretention Pond

Peak Elev=89.57' Storage=1,799 cf Inflow=1.23 cfs 4,559 cf
Primary=0.38 cfs 3,993 cf Secondary=0.00 cfs 0 cf Outflow=0.38 cfs 3,993 cf

Pond SF-1: Sediment Forebay

Peak Elev=0.00' Storage=0 cf

Link POI-1: POI-1

Inflow=1.50 cfs 9,127 cf
Primary=1.50 cfs 9,127 cf

Total Runoff Area = 26,335 sf Runoff Volume = 9,694 cf Average Runoff Depth = 4.42"
86.17% Pervious = 22,692 sf 13.83% Impervious = 3,643 sf

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Type III 24-hr 50 Year Rainfall=7.16"

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Summary for Subcatchment PS-1: PS-1

Runoff = 1.23 cfs @ 12.15 hrs, Volume= 4,559 cf, Depth= 5.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Year Rainfall=7.16"

Area (sf)	CN	Description
7,156	74	>75% Grass cover, Good, HSG C
3,643	98	Paved parking, HSG C
10,799	82	Weighted Average
7,156		66.27% Pervious Area
3,643		33.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	67	0.0220	0.11		Sheet Flow, Grass
					Grass: Dense n= 0.240 P2= 3.14"
0.5	33	0.0200	1.09		Sheet Flow, Driveway
					Smooth surfaces n= 0.011 P2= 3.14"
10.6	100	Total			

Summary for Subcatchment PS-2: PS-2

Runoff = 1.14 cfs @ 12.26 hrs, Volume= 5,134 cf, Depth= 3.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Year Rainfall=7.16"

Area (sf)	CN	Description
6,087	74	>75% Grass cover, Good, HSG C
9,449	70	Woods, Good, HSG C
15,536	72	Weighted Average
15,536		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.8	99	0.0280	0.09		Sheet Flow, Woods
					Woods: Light underbrush n= 0.400 P2= 3.14"

Summary for Pond PP-1: Bioretention Pond

Inflow Area = 10,799 sf, 33.73% Impervious, Inflow Depth = 5.07" for 50 Year event
 Inflow = 1.23 cfs @ 12.15 hrs, Volume= 4,559 cf
 Outflow = 0.38 cfs @ 12.53 hrs, Volume= 3,993 cf, Atten= 69%, Lag= 23.0 min
 Primary = 0.38 cfs @ 12.53 hrs, Volume= 3,993 cf
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

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Type III 24-hr 50 Year Rainfall=7.16"

Printed 12/30/2018

Page 18

Peak Elev= 89.57' @ 12.53 hrs Surf.Area= 955 sf Storage= 1,799 cf

Flood Elev= 90.15' Surf.Area= 1,088 sf Storage= 2,391 cf

Plug-Flow detention time= 124.3 min calculated for 3,993 cf (88% of inflow)

Center-of-Mass det. time= 67.7 min (874.1 - 806.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	85.00'	2,391 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
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Primary OutFlow Max=0.38 cfs @ 12.53 hrs HW=89.57' TW=0.00' (Dynamic Tailwater)↑ **3=Culvert** (Barrel Controls 0.38 cfs @ 4.35 fps)↑ **1=Orifice/Grate** (Passes < 0.53 cfs potential flow)↑ **2=Grate** (Passes < 0.12 cfs potential flow)**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=85.00' TW=0.00' (Dynamic Tailwater)↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)**Summary for Pond SF-1: Sediment Forebay**

Volume	Invert	Avail.Storage	Storage Description
#1	87.50'	382 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

47123.00_POST*Type III 24-hr 50 Year Rainfall=7.16"*

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Page 19

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
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88.00	113	100.0	44	44
89.00	258	100.0	186	229
89.50	351	100.0	152	382

Summary for Link POI-1: POI-1

Inflow Area = 26,335 sf, 13.83% Impervious, Inflow Depth = 4.16" for 50 Year event

Inflow = 1.50 cfs @ 12.27 hrs, Volume= 9,127 cf

Primary = 1.50 cfs @ 12.27 hrs, Volume= 9,127 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

APPENDIX G – PRE & POST DRAINAGE PLANS

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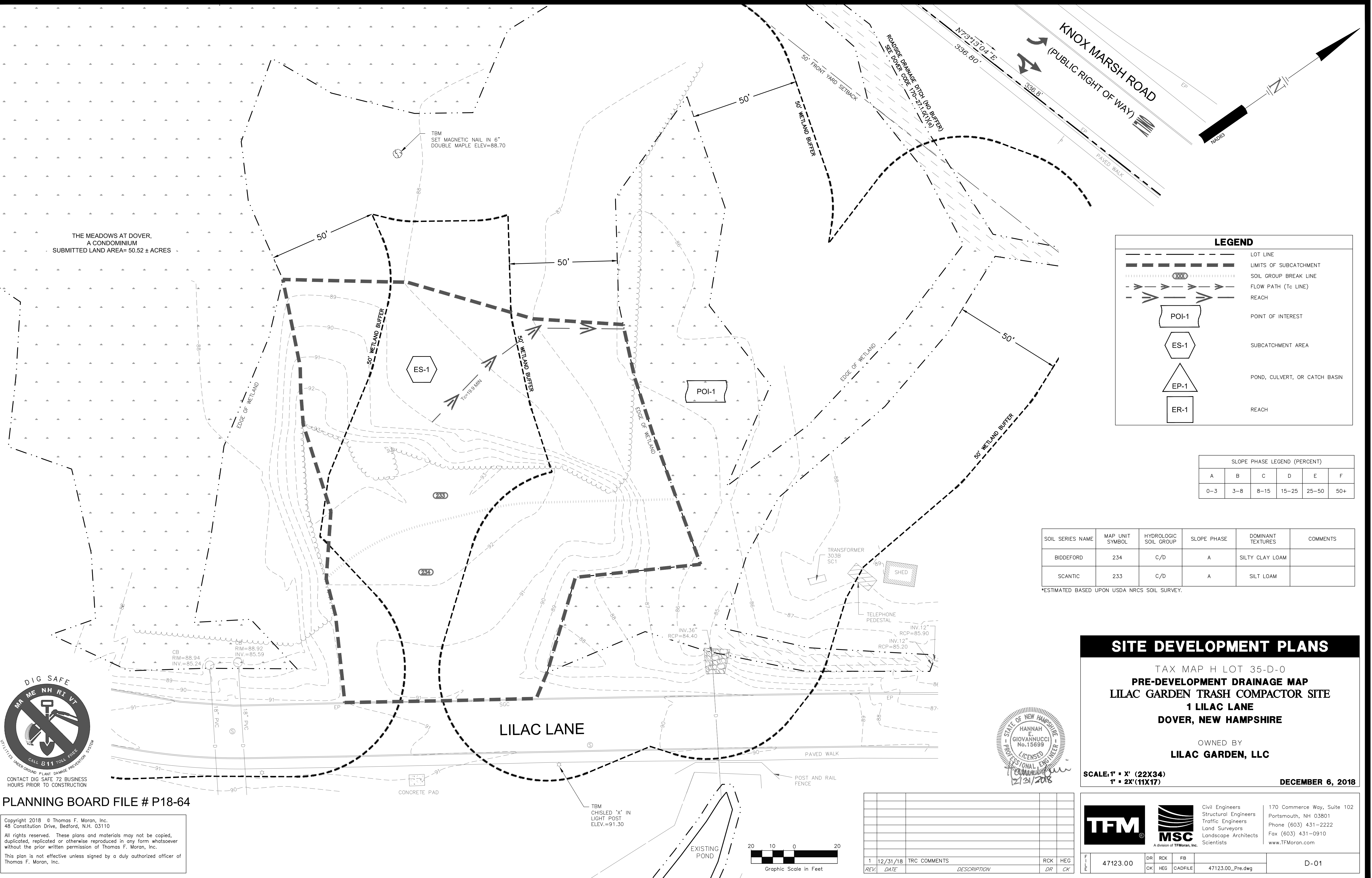
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CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

PLANNING BOARD FILE # P18-64

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SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0
PRE-DEVELOPMENT DRAINAGE MAP
LILAC GARDEN TRASH COMPACTOR SITE
1 LILAC LANE
DOVER, NEW HAMPSHIRE

OWNED BY
LILAC GARDEN, LLC

SCALE: 1" = 1' (22X34)
1" = 2' (11X17)

DECEMBER 6, 2018



Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

170 Commerce Way, Suite 102
Portsmouth, NH 03801
Phone (603) 431-2222
Fax (603) 431-0910
www.TFMoran.com

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REV.	DATE	DESCRIPTION	DR	CK
1	12/31/18	TRC COMMENTS	RCK	HEG



Dec 31, 2018 - 3:07am
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GENERAL INFORMATION

OWNER/APPLICANT

MAP H LOT 35-D-0
LILAC GARDEN, LLC
21 CONTINENTAL BOULEVARD, SUITE 101
MERRIMACK, NH 03054

RESOURCE LIST

PLANNING DEPARTMENT
288 CENTRAL AVENUE
DOVER, NH 03820
603-516-6008
CHRISTOPHER PARKER, PLANNING DIRECTOR

BUILDING DEPARTMENT

262 SIXTH STREET
DOVER, NH 03820
603-516-6038
JAMES MAXFIELD, BUILDING OFFICIAL

PUBLIC WORKS

271 MAST ROAD
DOVER, NH 03820
603-516-6450
JOHN STORER, COMMUNITY SERVICES DIRECTOR

POLICE DEPARTMENT

46 CHESTNUT STREET
DOVER, NH 03820
603-742-4646
WILLIAM BREAUULT, POLICE CHIEF

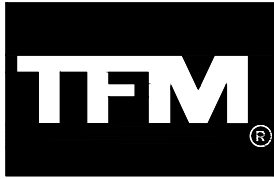
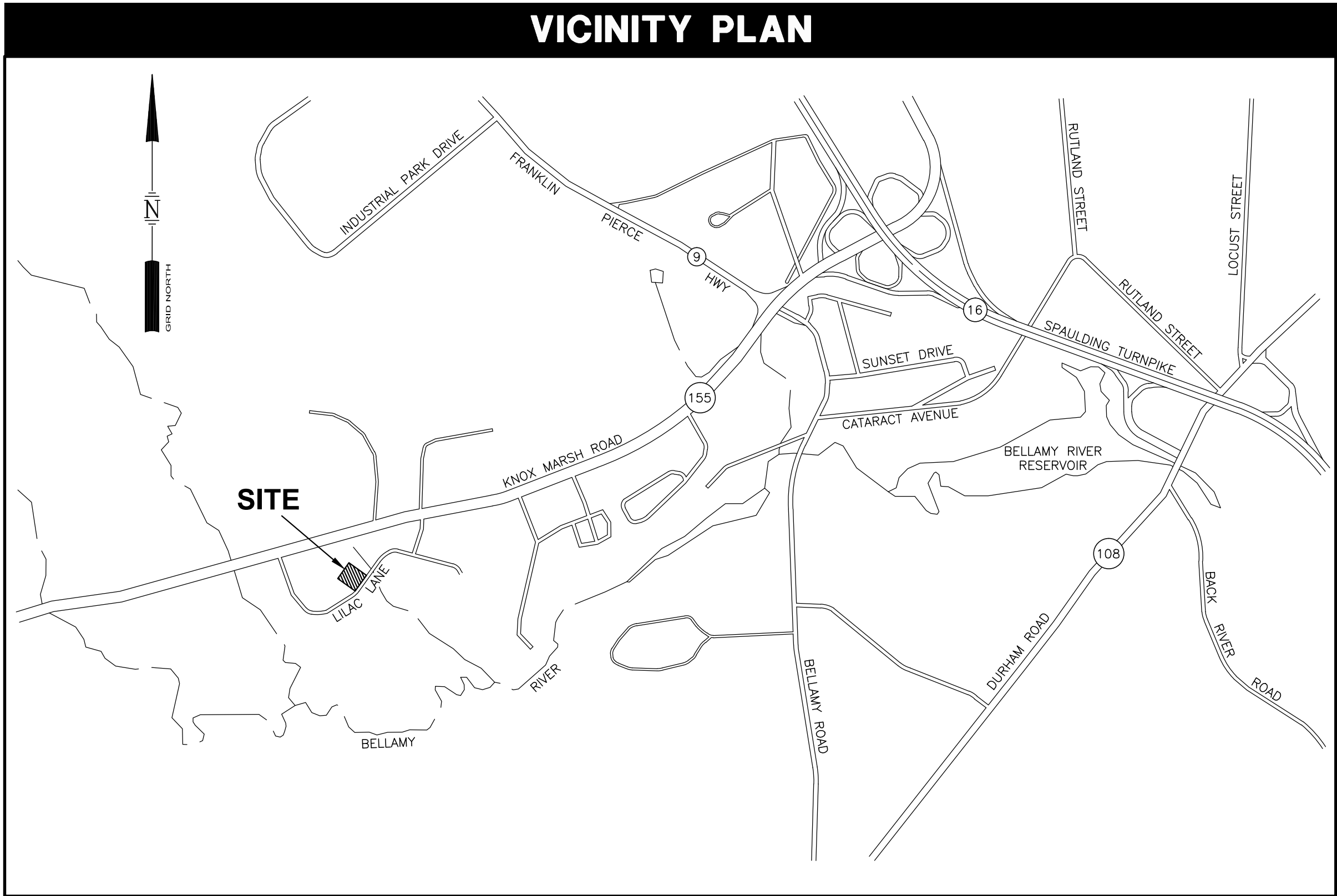
FIRE DEPARTMENT

262 SIXTH STREET
DOVER, NH 03820
603-516-6148
ERIC HAGMAN, FIRE CHIEF

LILAC GARDEN
TRASH COMPACTOR SITE

1 LILAC LANE
DOVER, NEW HAMPSHIRE

LAST REVISED DECEMBER 31, 2018



Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
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170 Commerce Way, Suite 102
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INDEX OF SHEETS

SHEET	SHEET TITLE
C-00	COVER
S-01	OVERALL PLAN
S-02	EXISTING CONDITIONS PLAN
C-01	MISCELLANEOUS NOTES
C-02	SITE & LAYOUT PLAN
C-03	GRADING, DRAINAGE, & EROSION CONTROL PLAN
C-04	UTILITY PLAN
C-05	LANDSCAPE PLAN
C-06	LANDSCAPE DETAILS
C-07	EROSION CONTROL NOTES & DETAILS
C-08 TO C-09	DETAILS
C-10	TRUCK MANEUVERING PLAN
CUP-01	CONDITIONAL USE PERMIT IMPACTS SUMMARY PLAN
SL1	SITE LIGHTING -LIGHTING PLAN, SCHEDULES AND SPECIFICATIONS

PERMITS/APPROVALS

NUMBER	APPROVED	EXPIRES
DOVER CONDITIONAL USE PERMIT FOR WETLAND PROTECTION DISTRICT PER ZONING CHAPTER 170-27.1(E)	--	PENDING --

WAIVERS

THE FOLLOWING WAIVERS FROM THE CITY OF DOVER SITE REVIEW REGULATIONS ARE BEING REVIEWED BY THE PLANNING BOARD:

- DOVER SITE REVIEW REGULATIONS SECTION 149-14(D)(6)(b) - TWO WAY INTERNAL ACCESSWAYS SHALL BE A MINIMUM OF 24 FEET IN WIDTH.

THESE PLANS ARE PERMIT DRAWINGS ONLY AND HAVE NOT BEEN DETAILED FOR CONSTRUCTION OR BIDDING.

SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

COVER

LILAC GARDEN TRASH COMPACTOR SITE

1 LILAC LANE

DOVER, NEW HAMPSHIRE

OWNED BY

LILAC GARDEN, LLC

STEPHEN FEE, OWNER

DECEMBER 6, 2018

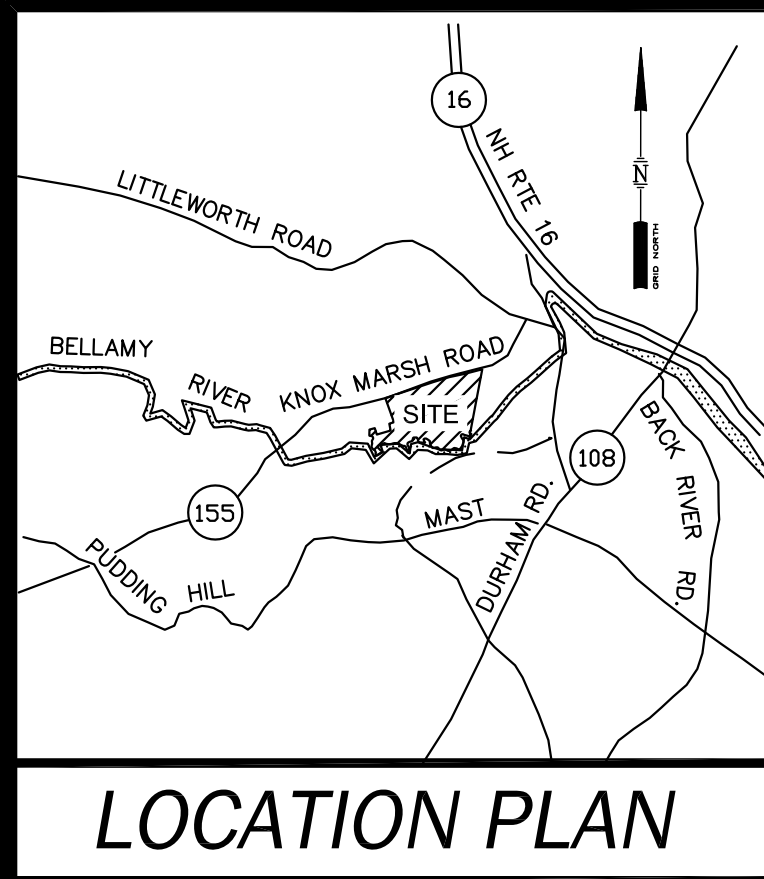


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1	12/31/18	TRC COMMENTS	RCK	HEG
REV.	DATE	DESCRIPTION	DR	CK

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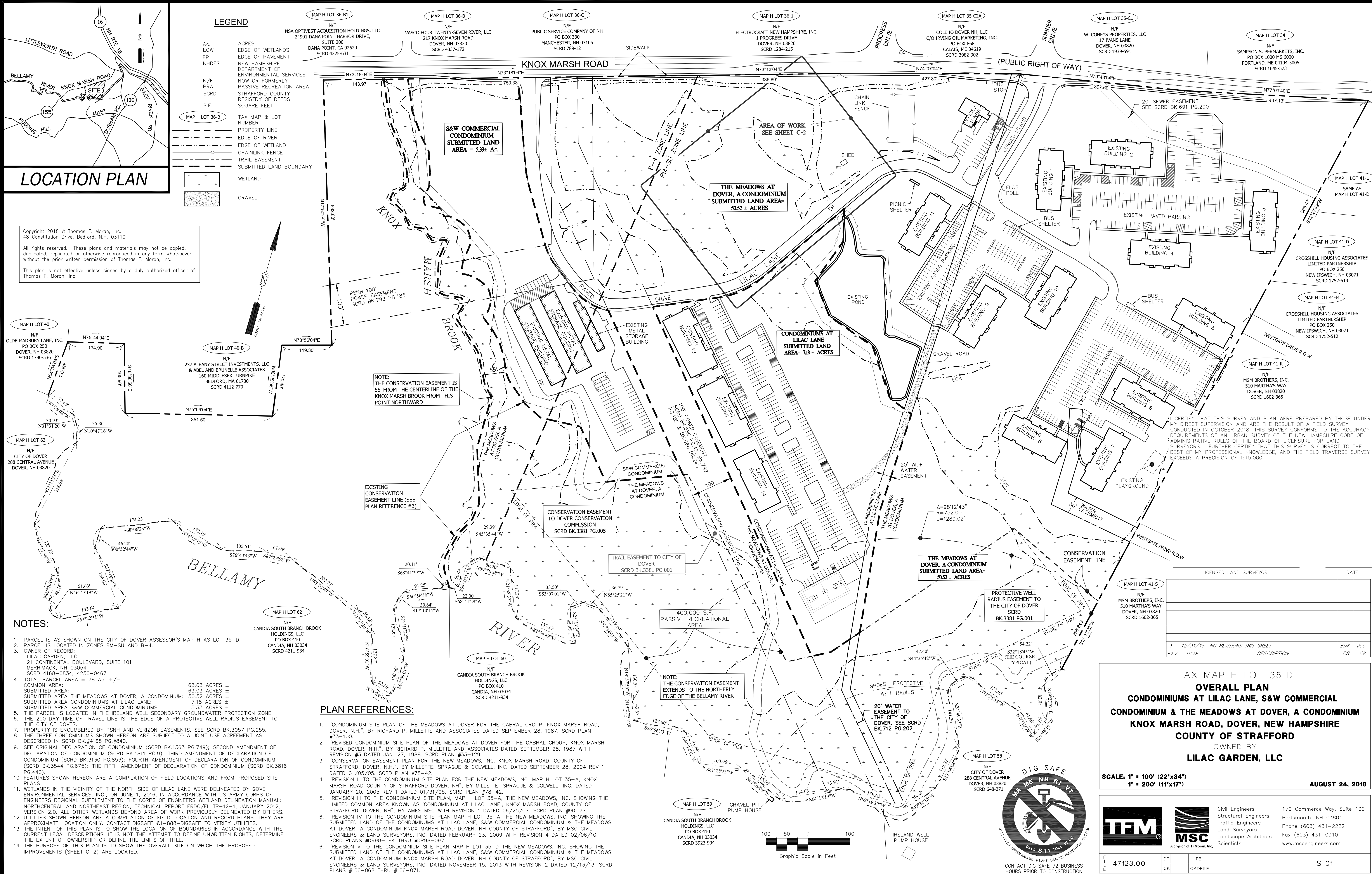


LOCATION PLAN

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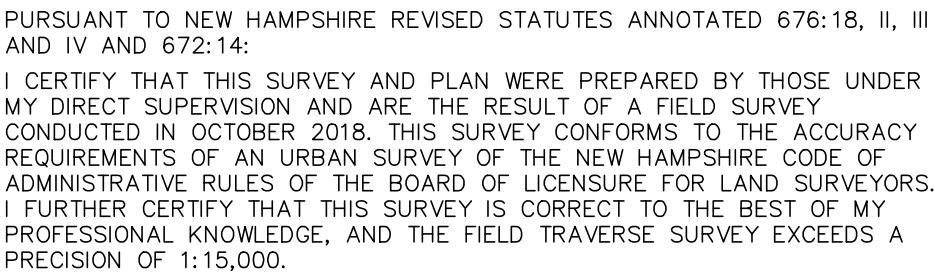


SCALE: 1" = 100' (22"x34")
1" = 200' (11"x17")

AUGUST 24, 2018

		Civil Engineers Structural Engineers Traffic Engineers Land Surveyors Landscape Architects Scientists	170 Commerce Way, Suite 102 Portsmouth, NH 03801 Phone (603) 431-2222 Fax (603) 431-0910 www.msceingineers.com
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FILE	47123.00	DR		FB		S-01
		CK		CADILLAC		



DATE _____

CATCH BASIN	
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
INV.	INVERT
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
SGC	SLOPED GRANITE CURB
SMH	SEWER MANHOLE
TBM	TEMPORARY BENCHMARK
—	BOUNDARY LINE
86 - - -	EXISTING CONTOUR
S —	EXISTING SEWER LINE
D —	EXISTING DRAIN LINE
~~~~~	EDGE OF WOODS
• • •	EDGE OF WETLAND
— □ —	POST AND RAIL FENCE
☆	LIGHT POLE
WV	WATER VALVE
⊗	HYDRANT
⊙	SEWER MANHOLE
□	CATCH BASIN
— + —	WETLANDS (WITH BUFFER)
— \ / \ / \ / —	ROADSIDE DRAINAGE DITCH (NO BUFFER)
— \ / \ / \ / —	RIPRAP
— [     ] —	PAVEMENT

AUGUST 24, 2018

170 Commerce Way, Suite 102  
Portsmouth, NH 03801  
Phone (603) 431-2222  
Fax (603) 431-0910  
[www.msceengineers.com](http://www.msceengineers.com)

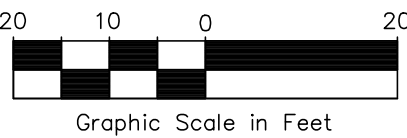
S-02

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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-12-1, JANUARY 2012, VERSION 2.0.
2. FIELD 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: NATIONAL WETLAND PLANT LIST, CURRENT VERSION.















CONTACT DIG SAFE 72 BUSINESS  
HOURS PRIOR TO CONSTRUCTION

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1	12/31/18	TRC COMMENTS		RCK	HEG
<i>REV.</i>	<i>DATE</i>	<i>DESCRIPTION</i>		<i>DR</i>	<i>CK</i>

 Civil Engineers Structural Engineers Traffic Engineers Land Surveyors Landscape Architects Scientists  A Division of TFMoran, Inc.   170 Commerce Way, Suite 102 Portsmouth, NH 03801 Phone (603) 431-2222 Fax (603) 431-0910 <a href="http://www.TFMoran.com">www.TFMoran.com</a>			
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Dec 31, 2018 - 3:09am  
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LEGEND

INV

● LP

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PE

INVERT

PROPOSED LIGHT POLE BASE

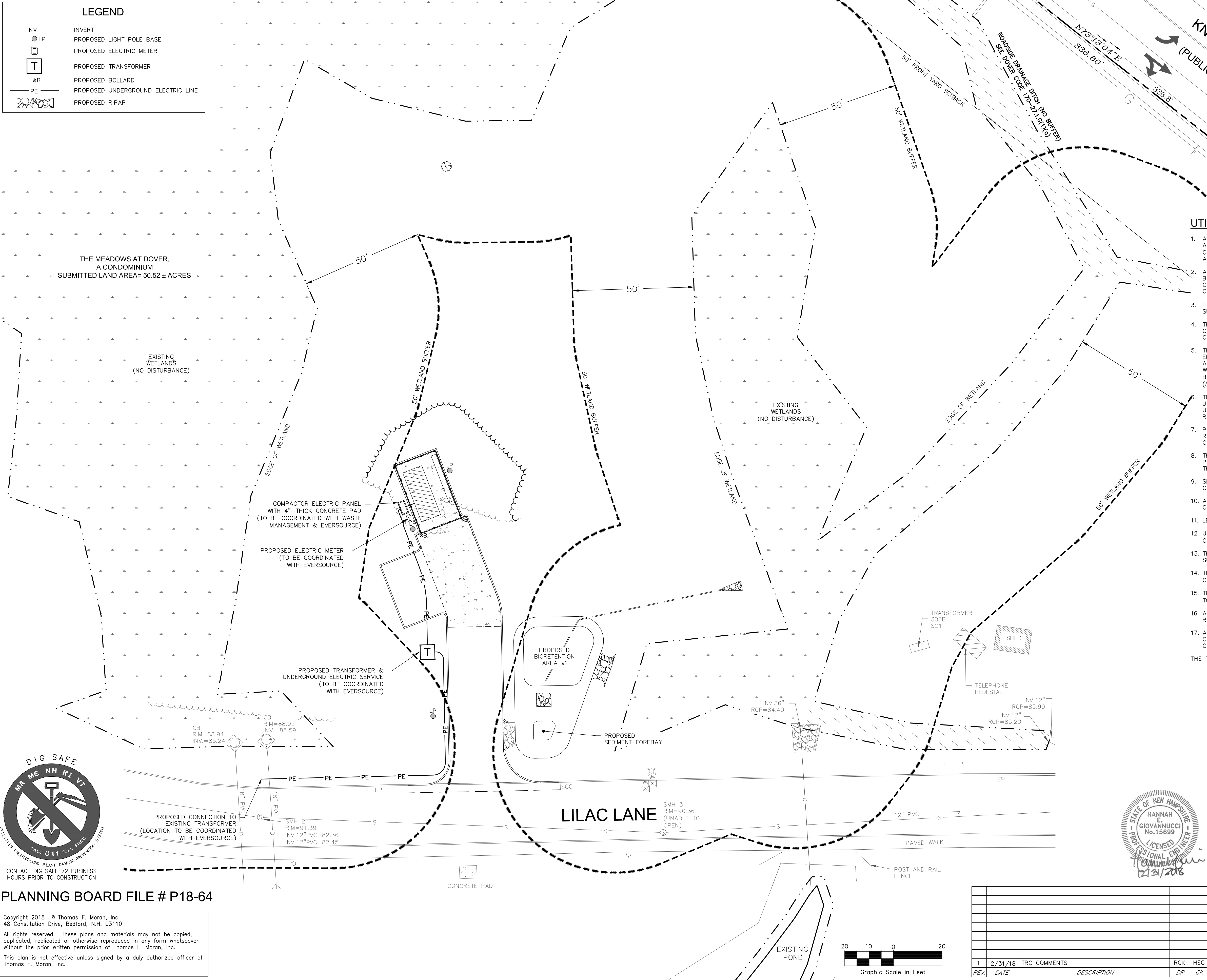
PROPOSED ELECTRIC METER

PROPOSED TRANSFORMER

PROPOSED BOLLARD

PROPOSED UNDERGROUND ELECTRIC LINE

PROPOSED RIPAP



UTILITY NOTES

- ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE CITY OF DOVER, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. COORDINATE ALL WORK WITHIN THE RIGHT-OF-WAY WITH APPROPRIATE CITY, COUNTY AND/OR STATE AGENCY.
  - ALL PROPOSED UTILITY WORK, INCLUDING MATERIAL, INSTALLATION, TERMINATION, EXCAVATION, BEDDING, BACKFILL, COMPACTION, TESTING, CONNECTIONS, AND CONSTRUCTION SHALL BE COORDINATED WITH AND COMPLETED IN ACCORDANCE WITH THE APPROPRIATE REQUIREMENTS, CODES AND STANDARDS OF ALL CORRESPONDING UTILITY ENTITIES AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
  - IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE SITE AND ALL SURROUNDING CONDITIONS.
  - THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR THE CONDITIONS AT THE SITE. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND REPORT DISCREPANCIES TO THE ENGINEER.
  - 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 BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT "DIGSAFE" (811) AT LEAST 72 HOURS BEFORE DIGGING.
  - THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE AS NECESSARY WITH THE UTILITY COMPANIES OF SAID UTILITIES. THE PROTECTION OR RELOCATION OF UTILITIES IS ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR.
  - PROVIDE PERMANENT PAVEMENT REPAIR FOR ALL UTILITY TRENCHES IN EXISTING ROAD OR PAVEMENT TO REMAIN. SAW CUT TRENCH, PAVEMENT AND GRANULAR BASE THICKNESS TO MATCH EXISTING PAVEMENT. OBTAIN ALL PERMITS REQUIRED FOR TRENCHING.
  - THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER THE UTILITY INSTALLATION COMPLETE AND OPERATIONAL.
  - SEE EXISTING FEATURES PLAN FOR ANY KNOWN EXISTING UTILITY EASEMENTS. CONTACT ALL EASEMENT OWNERS PRIOR TO COMMENCING ANY WORK WITHIN THE EASEMENT.
  - ALL UTILITY STRUCTURES IN PAVEMENT SHALL BE SET TO FINISH GRADE REGARDLESS OF ANY ELEVATIONS OTHERWISE SHOWN.
  - LENGTH OF PIPE IS FOR CONVENIENCE ONLY. ACTUAL PIPE LENGTH SHALL BE DETERMINED IN THE FIELD.
  - UNLESS OTHERWISE SPECIFIED, ALL UNDERGROUND STRUCTURES, PIPES, CHAMBERS, ETC. SHALL BE COVERED WITH A MINIMUM OF 18" OF COMPACTED SOIL BEFORE EXPOSURE TO VEHICLE LOADS.
  - THE CONTRACTOR SHALL ARRANGE AND PAY FOR ALL INSPECTIONS, TESTING AND RELATED SERVICES AND SUBMIT COPIES OF ACCEPTANCE TO THE OWNER, UNLESS OTHERWISE INDICATED.
  - THE EXACT LOCATION OF NEW UTILITY CONNECTIONS SHALL BE DETERMINED BY THE CONTRACTOR IN COORDINATION WITH UTILITY COMPANY, COUNTY AGENCY AND/OR PRIVATE UTILITY COMPANY.
  - THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CONDUIT AND WIRING TO ALL SIGNS AND LIGHTS. CONDUIT TO BE A MINIMUM OF 24" BELOW FINISH GRADE.
  - ALL PROPOSED UTILITIES SHALL BE UNDERGROUND. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES.
  - ALL UTILITY COMPANIES REQUIRE INDIVIDUAL CONDUITS. CONTRACTOR TO COORDINATE WITH ELECTRIC COMPANY REGARDING NUMBER, SIZE AND TYPE OF CONDUITS REQUIRED PRIOR TO INSTALLATION OF ANY CONDUIT.
- THE PROPERTY WILL BE SERVICED BY THE FOLLOWING:
- |                               |                                           |
|-------------------------------|-------------------------------------------|
| DRAINAGE<br>ELECTRIC<br>WASTE | PRIVATE<br>EVERSOURCE<br>WASTE MANAGEMENT |
|-------------------------------|-------------------------------------------|



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SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

UTILITY PLAN

LILAC GARDEN TRASH COMPACTOR SITE

1 LILAC LANE

DOVER, NEW HAMPSHIRE

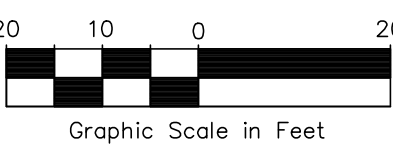
OWNED BY

LILAC GARDEN, LLC

STEPHEN FEE, OWNER

SCALE: 1" = 20' (22X34)  
1" = 40' (11X17)

DECEMBER 6, 2018



REV.	DATE	DESCRIPTION	DR	CK
1	12/31/18	TRC COMMENTS	RCK	HEG

TFM

MSC  
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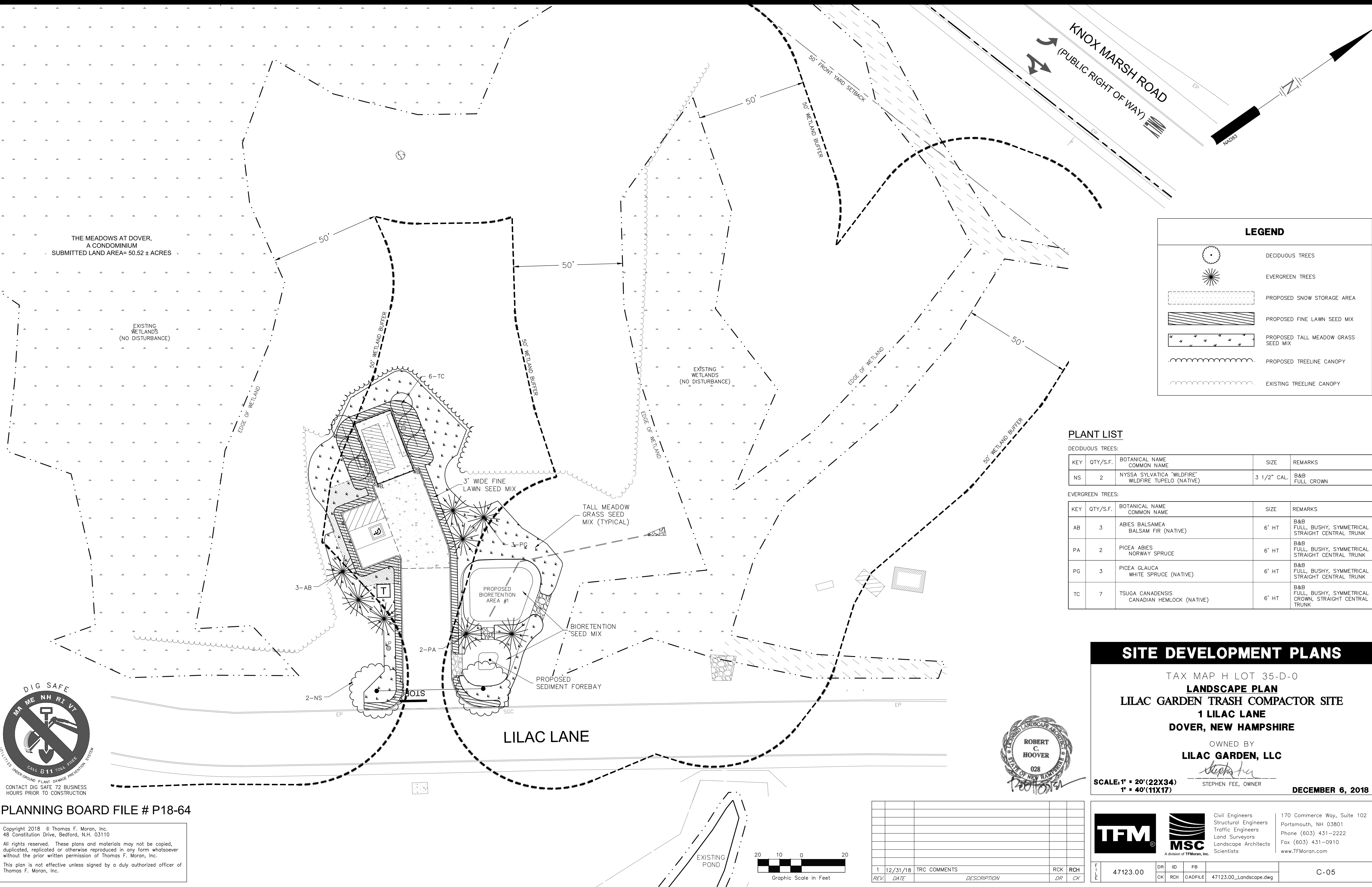
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CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

## PLANNING BOARD FILE # P18-64

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LEGEND	
	DECIDUOUS TREES
	EVERGREEN TREES
	PROPOSED SNOW STORAGE AREA
	PROPOSED FINE LAWN SEED MIX
	PROPOSED TALL MEADOW GRASS SEED MIX
	PROPOSED TREELINE CANOPY
	EXISTING TREELINE CANOPY

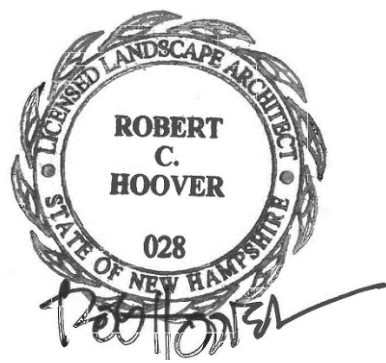
### PLANT LIST

DECIDUOUS TREES:

KEY	QTY/S.F.	BOTANICAL NAME COMMON NAME	SIZE	REMARKS
NS	2	NYSSA SYLVATICA 'WILDFIRE' WILDFIRE TUPELO (NATIVE)	3 1/2" CAL.	B&B FULL CROWN

EVERGREEN TREES:

KEY	QTY/S.F.	BOTANICAL NAME COMMON NAME	SIZE	REMARKS
AB	3	ABIES BALSAMEA BALSAM FIR (NATIVE)	6' HT	B&B FULL, BUSHY, SYMMETRICAL STRAIGHT CENTRAL TRUNK
PA	2	PICEA ABIES NORWAY SPRUCE	6' HT	B&B FULL, BUSHY, SYMMETRICAL STRAIGHT CENTRAL TRUNK
PG	3	PICEA GLAUCA WHITE SPRUCE (NATIVE)	6' HT	B&B FULL, BUSHY, SYMMETRICAL STRAIGHT CENTRAL TRUNK
TC	7	TSUGA CANADENSIS CANADIAN HEMLOCK (NATIVE)	6' HT	B&B FULL, BUSHY, SYMMETRICAL CROWN, STRAIGHT CENTRAL TRUNK



## SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

### LANDSCAPE PLAN

LILAC GARDEN TRASH COMPACTOR SITE

1 LILAC LANE

DOVER, NEW HAMPSHIRE

OWNED BY

LILAC GARDEN, LLC

*Stephen Fee*  
STEPHEN FEE, OWNER

SCALE: 1" = 20' (22X34)  
1" = 40' (11X17)

DECEMBER 6, 2018

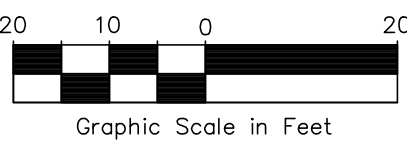


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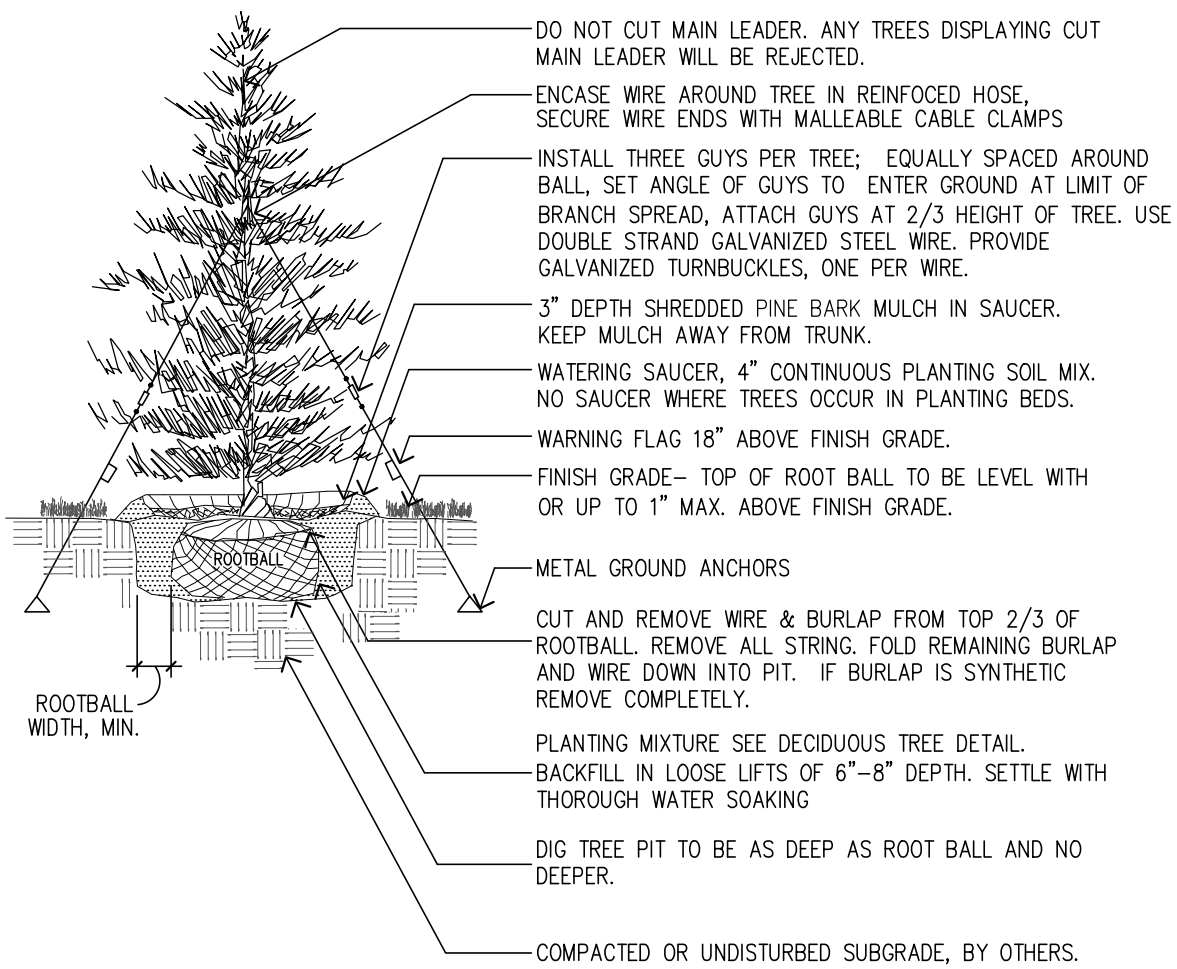
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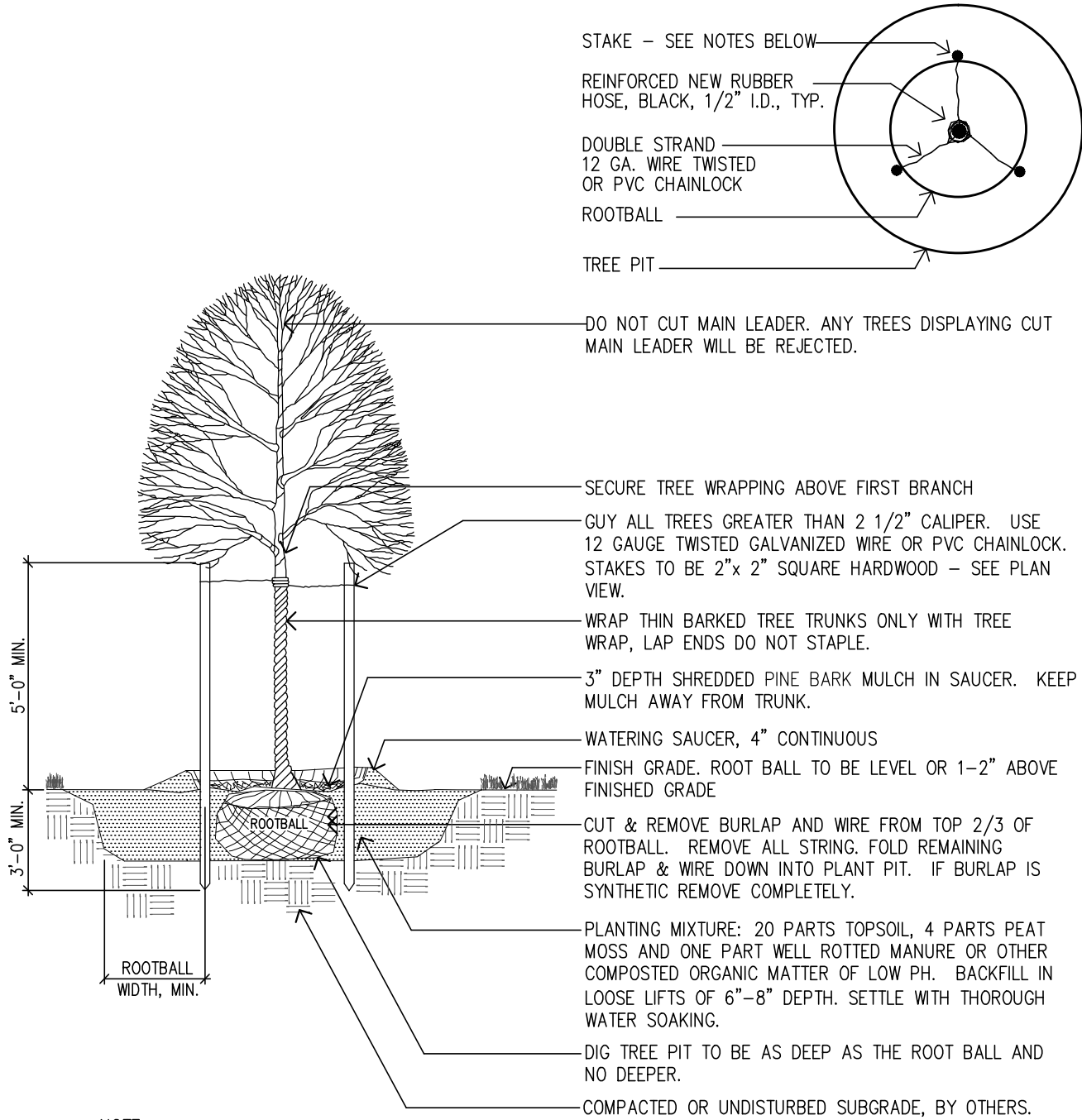


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### EVERGREEN TREE PLANTING

NOT TO SCALE

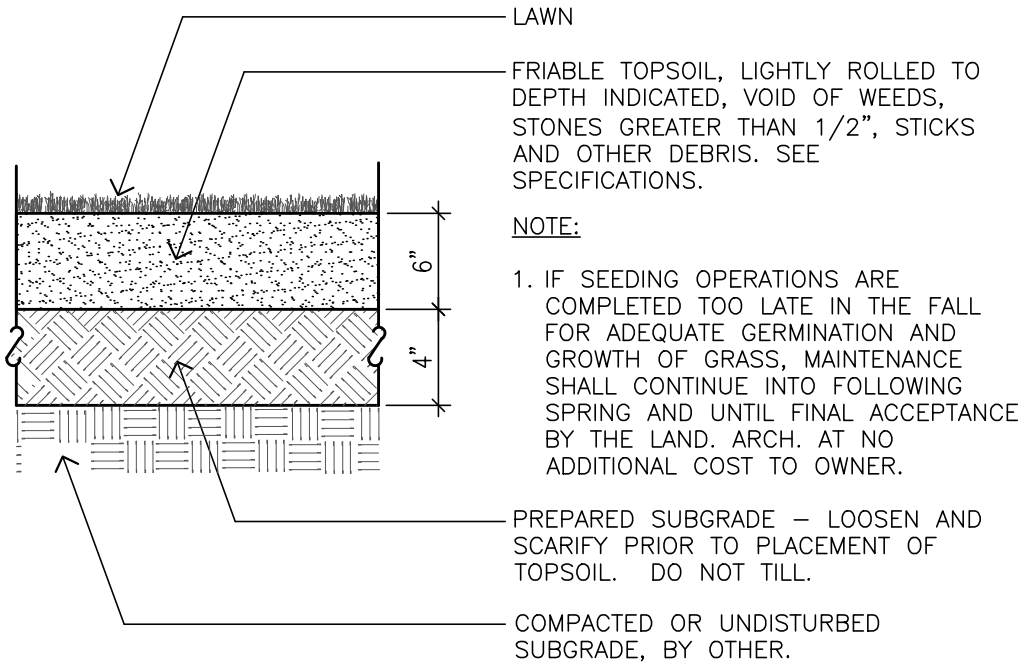


NOTE:

1. PROVIDE ALL DECIDUOUS TREES WITH "IRREGATOR" 20 GALLON IRRIGATION BAGS.

### DECIDUOUS TREE PLANTING

NOT TO SCALE



### LAWNS AND LOAM

NOT TO SCALE

### WATERING PLAN

1. CONTRACTOR WILL WATER ALL NEW PLANTS INCLUDING LAWNS THAT ARE NOT IRRIGATED VIA PERMANENT IRRIGATION SYSTEM FOR THE FIRST TWO GROWING SEASONS. CONTRACTOR WILL BE RESPONSIBLE FOR ALL MEANS, METHODS AND TECHNIQUES REQUIRED FOR WATERING THESE AREAS. IF RAIN IS INSUFFICIENT WATER AT LEAST TWO TIMES PER WEEK. A MINIMUM OF ONE (1) INCH OF WATER PER MONTH (1/3" PER WEEK) IS REQUIRED DURING THE SPRING AND FALL. A MINIMUM OF TWO (2) INCH OF WATER PER MONTH (2/3" PER WEEK) IS REQUIRED DURING THE SUMMER. CONTRACTOR SHALL PROVIDE WRITTEN WEEKLY RECORDS TO OWNER OF WATERING - WHEN, WHERE, HOW MUCH.
2. CONTRACTOR SHALL BEGIN WATERING IMMEDIATELY AFTER PLANTING. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS AND METHODS OF WATERING. PLANTINGS ARE TO BE THOROUGHLY WATERED AT LEAST TWICE IN THE FIRST 48 HRS.

### MAINTENANCE PLAN

1. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS PLANTING PLAN WITHOUT THE EXPRESS APPROVAL OF THE DOVER PLANNING BOARD OR REPRESENTATIVE.
2. THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS SHALL BE RESPONSIBLE FOR THE MAINTENANCE, REPAIR AND REPLACEMENT OF ALL LAWNS.
3. ALL REQUIRED PLANT MATERIALS SHALL BE TENDED AND MAINTAINED IN A HEALTHY GROWING CONDITION, REPLACED WHEN NECESSARY, AND KEPT FREE OF REFUSE AND DEBRIS. ALL FENCES AND WALLS SHALL BE MAINTAINED IN GOOD REPAIR. THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS, SHALL BE RESPONSIBLE TO REMOVE AND REPLACE DEAD OR DISEASED PLANT MATERIALS IMMEDIATELY WITH THE SAME TYPE, SIZE AND QUANTITY OF PLANT MATERIALS AS PER PLAN, UNLESS ALTERNATIVE PLANTINGS ARE REQUESTED, JUSTIFIED AND APPROVED BY THE DOVER PLANNING BOARD OR REPRESENTATIVE.

### LANDSCAPE NOTES

1. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. NO SUBSTITUTIONS WILL BE PERMITTED UNLESS APPROVED BY OWNER. ALL PLANTS SHALL BE NURSERY GROWN. SHOULD ANY DISCREPANCIES BETWEEN TABLE OF QUANTITIES AND PLAN EXIST, THE GREATER NUMBER SHALL OVERRIDE FOR PRICING. VERIFY WITH LANDSCAPE ARCHITECT OR ENGINEER PRIOR TO PLACING PURCHASE ORDER.
2. PLANTS SHALL BE IN ACCORDANCE WITH THE CURRENT "AMERICAN ASSOCIATION FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
3. PLANT STOCK SHALL BE GROWN WITHIN THE HARDINESS ZONES 4 THRU 7 ESTABLISHED BY THE PLANT HARDINESS ZONE MAP, MISCELLANEOUS PUBLICATIONS NO. 814, AGRICULTURAL RESEARCH SERVICE, UNITED STATES DEPARTMENT OF AGRICULTURE, LATEST REVISION.
4. ALL PLANTS MUST BE MOVED WITH THE ROOT SYSTEMS AS SOLID UNITS WITH BALLS OF EARTH FIRMLY WRAPPED WITH BURLAP. NO PLANT SHALL BE ACCEPTED WHEN THE BALL OF EARTH SURROUNDING ITS ROOTS HAS BEEN BADLY CRACKED OR BROKEN BEFORE PLANTING. ALL PLANTS SHALL BE FRESHLY DUG. ALL PLANTS THAT CANNOT BE PLANTED AT ONCE MUST BE HEELED-IN BY SETTING IN THE GROUND, AND COVERING THE BALLS WITH SOIL AND THEN WATERING. DURING TRANSPORT, ALL PLANT MATERIALS SHALL BE WRAPPED WITH WIND PROOF COVERING.
5. PLANT MATERIAL SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL PLANTING GRADE PRIOR TO DIGGING.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE THE APPROPRIATE ARRANGEMENTS TO PROVIDE ALL PLANTS AND MATERIALS TO ACCOMMODATE PLANTINGS WITHIN THE TIME ALLOWED BY THE CONSTRUCTION SCHEDULE.
7. THE CONTRACTOR SHALL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWNWORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES SHALL IMMEDIATELY BE REPORTED TO THE OWNER SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED, SHALL RECEIVE SIX (6) INCH LOAM AND SEED AT THE DIRECTION OF THE PROJECT LANDSCAPE ARCHITECT OR ENGINEER.
9. TREE STAKES AND WRAP SHALL REMAIN IN PLACE FOR NO LESS THAN 6 MONTHS AND NO MORE THAN 1 YEAR.
10. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 15TH. NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT.
11. TREES SHALL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 "TREES, SHRUBS AND OTHER WOOD PLANT MAINTENANCE STANDARD PRACTICES".
12. EXISTING TREES SHOWN ON THE PLAN ARE TO REMAIN UNDISTURBED. ALL EXISTING TREES SHOWN TO REMAIN ARE TO BE PROTECTED WITH A 4-FOOT SNOW FENCE PLACED AT THE DRIP LINE OF THE BRANCHES OR AT 8 FEET MINIMUM FROM THE TREE TRUNK.
13. THE CONTRACTOR SHALL MAINTAIN AND GUARANTEE ALL PLANTINGS TO BE IN GOOD HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT, SHOW LESS THAN 80% HEALTHY GROWTH AT THE END OF (1) YEAR PERIOD SHALL BE REPLACED BY THE CONTRACTOR.
14. PROPOSED TREES OVERHANGING SIDEWALKS, ROADS, OR PARKING SHALL BEGIN BRANCHING NATURALLY (NOT PRUNED) AT 6' HEIGHT.

## SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

### LANDSCAPE DETAILS

LILAC GARDEN TRASH COMPACTOR SITE

1 LILAC LANE

DOVER, NEW HAMPSHIRE

OWNED BY

LILAC GARDEN, LLC

STEPHEN FEE, OWNER

SCALE: NTS

DECEMBER 6, 2018



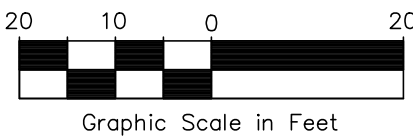
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

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Civil Engineers  
Structural Engineers  
Traffic Engineers  
Land Surveyors  
Landscape Architects  
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SOIL CHARACTERISTICS

THE SOIL IN THE VICINITY OF THE SITE CONSIST OF BIDDEFORD AND SCANTIC, THE MAJORITY OF THE SOIL IS HSG TYPE C/D

DISTURBED AREA

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 11,150 SQUARE FEET, 0.256 ACRES.

CRITICAL NOTE: THIS DRAWING IS PROVIDED FOR GENERAL GUIDANCE. ALL SPECIAL EROSION CONTROL MEASURES MUST BE EXECUTED IN ACCORDANCE WITH CURRENT STATE AND LOCAL REGULATIONS, AND PERMIT REQUIREMENTS.

SEQUENCE OF MAJOR ACTIVITIES

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE AND TEMPORARY EROSION CONTROL MEASURES PER APPROVED SWPPP IF REQUIRED.
2. DEMOLISH EXISTING SITE WORK DESIGNATED FOR REMOVAL.
3. COMPLETE MAJOR GRADING OF SITE.
4. CONSTRUCT BUILDING PAD, STORMWATER SYSTEM, AND SITE UTILITIES.
5. CONSTRUCT PARKING LOT.
6. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND SITE IS STABILIZED, REMOVE ALL INLET PROTECTION, SILT BARRIERS AND SEDIMENT THAT HAS BEEN TRAPPED BY THESE DEVICES.

EROSION AND SEDIMENT CONTROLS AND STABILIZATION PRACTICES

STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES AND DISTURBED AREAS WHERE CONSTRUCTION ACTIVITY WILL NOT OCCUR FOR MORE THAN TWENTY ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE. AN AREA SHALL BE CONSIDERED STABLE IF 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 RIPRAP HAS BEEN INSTALLED; OR
4. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH SILT BARRIERS. ALL STORM DRAIN INLETS SHALL BE PROVIDED WITH BARRIER FILTERS. STONE RIPRAP SHALL BE PROVIDED AT THE OUTLETS OF DRAINAGE PIPES WHERE EROSION VELOCITIES ARE ENCOUNTERED.

OFF SITE VEHICLE TRACKING

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED.

INSTALLATION, MAINTENANCE AND INSPECTION OF EROSION AND SEDIMENT CONTROLS

A. GENERAL

THESE ARE THE GENERAL INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO IMPLEMENT THE PLAN.

1. STABILIZATION OF ALL SWALES, DITCHES AND PONDS IS REQUIRED PRIOR TO DIRECTING FLOW TO THEM.
2. THE SMALLEST PRACTICAL PORTION OF THE SITE WILL BE DENUDED AT ONE TIME. (5 AC MAX)
3. ALL CONTROL MEASURES WILL BE INSPECTED AT LEAST ONCE EACH WEEK AND FOLLOWING ANY STORM EVENT OF 0.10 INCHES OR GREATER.
4. ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.
5. BUILT UP SEDIMENT WILL BE REMOVED FROM SILT BARRIER WHEN IT HAS REACHED ONE THIRD THE HEIGHT OF THE BARRIER.
6. ALL DIVERSION DIKES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.
7. TEMPORARY SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND UNHEALTHY GROWTH.
8. A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION.
9. THE CONTRACTOR'S SITE SUPERINTENDENT WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.

B. FILTERS / BARRIERS

1. SILT SOCKS
  - A. KNOTTED MESH NETTING MATERIAL SHALL BE DELIVERED TO SITE IN A 5 MIL CONTINUOUS, TUBULAR, HDPE 8" MATERIAL, FILLED WITH COMPOST CONFORMING TO THE FOLLOWING REQUIREMENTS:

PHYSICAL PROPERTY	TEST	REQUIREMENTS
PH	TMECC 04.11-A	5.0 TO 8.0
PARTICLE SIZE	TMECC 02.02-B	2" SIEVE AND MIN. 60% GREATER THAN THE 8" SIEVE
MOISTURE CONTENT		STND TESTING < 60%

MATERIAL SHALL BE RELATIVELY FREE OF INERT OR FOREIGN MAN-MADE MATERIALS  
MATERIAL SHALL BE WEED FREE AND DERIVED FROM A WELL-DECOMPOSED SOURCE OF ORGANIC MATTER, FREE FROM ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH.
  - B. SEDIMENT COLLECTED AT THE BASE OF THE SILT SOCK SHALL BE REMOVED ONCE IT HAS REACHED 1/3 OF THE EXPOSED HEIGHT OF THE SILT SOCK.
  - C. SILT BARRIER 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. SILT BARRIERS SHALL BE INSPECTED WEEKLY AND 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 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 BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFIRM 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.  
THIS IS APPLICABLE WHEN WORKING WITHIN 100 FEET OF WETLANDS. IT WILL BE NECESSARY TO CLOSELY MONITOR WEATHER PREDICTIONS, USUALLY BY CONTACTING THE NATIONAL WEATHER SERVICE, 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 AN AREA, WHERE THE LENGTH OF TIME VARIES WITH SITE CONDITIONS. PROFESSIONAL JUDGMENT 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. 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.
3. 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.

D. VEGETATIVE PRACTICE

1. AFTER ROUGH GRADING OF THE SUBGRADE HAS BEEN COMPLETED AND APPROVED, THE SUB GRADE SURFACE SHALL BE SCARIFIED TO A DEPTH OF FOUR INCHES. THEN, FURNISH AND INSTALL A LAYER OF LOAM PROVIDING A ROLLED THICKNESS AS SPECIFIED IN THESE PLANS. ANY DEPRESSIONS WHICH MAY OCCUR DURING ROLLING SHALL BE FILLED WITH ADDITIONAL LOAM, REGRADED AND REROLLED UNTIL THE SURFACE IS TRUE TO THE FINISHED LINES AND GRADES. ALL LOAM NECESSARY TO COMPLETE THE WORK UNDER THIS SECTION SHALL BE SUPPLIED BY THE SITE SUBCONTRACTOR.
2. ALL LARGE STIFF CLODS, LUMPS, BRUSH, ROOTS, DEBRIS, GLASS, STUMPS, LITTER AND OTHER FOREIGN MATERIAL, AS WELL AS STONES OVER ONE INCH IN DIAMETER, SHALL BE REMOVED FROM THE LOAM AND DISPOSED OF OFF SITE. THE LOAM SHALL BE RAKED SMOOTH AND EVEN.
3. THE LOAM SHALL BE PREPARED TO RECEIVE SEED BY REMOVING STONES, FOREIGN OBJECTS AND GRADING TO ELIMINATE WATER POCKETS AND IRREGULARITIES PRIOR TO PLACING SEED. FINISH GRADING SHALL RESULT IN STRAIGHT UNIFORM GRADES AND SMOOTH, EVEN SURFACES WITHOUT IRREGULARITIES TO LOW POINTS.
4. SHAPE THE AREAS TO THE LINES AND GRADES REQUIRED. THE SITE SUBCONTRACTOR'S ATTENTION IS DIRECTED TO THE SCHEDULING OF LOAMING AND SEEDING OF GRADED AREAS TO PERMIT SUFFICIENT TIME FOR THE STABILIZATION OF THESE AREAS. IT SHALL BE THE SITE SUBCONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE AREAS DURING THE CONSTRUCTION PERIOD AND REGRADE, LOAM AND RESEED ANY DAMAGED AREAS.
5. ALL AREAS DISTURBED BY CONSTRUCTION WITHIN THE PROPERTY LINES AND NOT COVERED BY STRUCTURES, PAVEMENT, OR MULCH SHALL BE LOAMED AND SEEDDED.
6. LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF 2 TONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5.
7. FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 500 POUNDS PER ACRE OF 10-20-20 FERTILIZER.
8. SOIL CONDITIONERS AND FERTILIZER SHALL BE APPLIED AT THE RECOMMENDED RATES AND SHALL BE THOROUGHLY WORKED INTO THE LOAM. LOAM SHALL BE RAKED UNTIL THE SURFACE IS FINELY PULVERIZED, SMOOTH AND EVEN, AND THEN COMPACTED TO AN EVEN SURFACE CONFORMING TO THE REQUIRED LINES AND GRADES WITH APPROVED ROLLERS WEIGHING BETWEEN 4 1/2 POUNDS AND 5 1/2 POUNDS PER INCH OF WIDTH.
9. SEED SHALL BE SOWN AT THE RATE SHOWN BELOW. SOWING SHALL BE DONE ON A CALM, DRY DAY, PREFERABLY BY MACHINE, BUT IF BY HAND, ONLY BY EXPERIENCED WORKMEN. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH.
10. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AT A RATE OF 1.5 TO 2 TONS PER ACRE. MULCH THAT BLOWS OR WASHES AWAY SHALL BE REPLACED IMMEDIATELY AND ANCHORED USING APPROPRIATE TECHNIQUES FROM THE EROSION AND SEDIMENT CONTROL HANDBOOK.
11. THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED WITH GRASS SHALL BE RESEEDDED, AND ALL NOXIOUS WEEDS REMOVED.
12. THE SITE SUBCONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDDED AREAS UNTIL ACCEPTED, INCLUDING CUTTING, AS SPECIFIED HEREIN AFTER UNDER MAINTENANCE AND PROTECTION.
13. UNLESS OTHERWISE APPROVED, SEEDING SHALL BE DONE DURING THE APPROXIMATE PERIODS OF EARLY SPRING TO SEPTEMBER 30, WHEN SOIL CONDITIONS AND WEATHER ARE SUITABLE FOR SUCH WORK. IN NO CASE SHALL THE WEED CONTENT EXCEED 1 PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. FOR TEMPORARY PLANTINGS AFTER SEPTEMBER 30, TO EARLY SPRING AND FOR TEMPORARY PROTECTION OF DISTURBED AREAS:
  - A. FOLLOW ABOVE SLOPE, LOAM DEPTH AND GRADING REQUIREMENTS.
  - B. FERTILIZER SHALL BE SPREAD AND WORKED INTO THE SURFACE AT A RATE OF 300 POUNDS PER ACRE.

MULCHING AND SEEDING SHALL BE APPLIED AT THE FOLLOWING RATES:

WINTER RYE (FALL SEEDING)	2.5 LBS/1,000 SF
OATS (SPRING SEEDING)	2.0 LBS/1,000 SF
MULCH	1.5 TONS/ACRE

E. CATCH BASIN INLET PROTECTION

1. INLET BASKET STRUCTURE
  - A. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY PRIOR TO DISTURBING PAVEMENT AND SHALL REMAIN IN PLACE AND MAINTAINED UNTIL PAVEMENT BINDER COURSE IS COMPLETE.
  - B. MOLD 6X6, 42 LB. WIRE SUPPORT AROUND INLET FRAME AND GRATE AND EXTEND 6" BEYOND SIDES. SECURE FILTER FABRIC TO WIRE SUPPORT.
  - C. THE FILTER FABRIC SHALL BE A GEOTEXTILE FABRIC; POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE OR POLYVINYLIDENE CHLORIDE MEETING THE FOLLOWING SPECIFICATIONS:  
GRAB STRENGTH: 45 LB. MINIMUM IN ANY PRINCIPAL DIRECTION (ASTM D1682)  
MULLEN BURST STRENGTH: MIN. 60PSI (ASTM D774)
  - D. THE FABRIC SHALL HAVE AN OPENING NO GREATER THAN A NUMBER 20 U.S. STANDARD SIEVE AND A MINIMUM PERMEABILITY OF 120 GPM.
  - E. THE INLET PROTECTION SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING EXTENDED PERIODS OF PRECIPITATION. REPAIRS SHALL BE MADE IMMEDIATELY, AS NECESSARY, TO PREVENT PARTICLES FROM REACHING THE DRAINAGE SYSTEM AND/OR CAUSING SURFACE FLOODING.
  - F. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT, OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED.

F. WINTER CONSTRUCTION SEQUENCE

1. ALL PROPOSED POST-DEVELOPMENT LANDSCAPED 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 EVENT.
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, ALL TRAVEL SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3-INCHES OF CRUSHED GRAVEL PER NHTD ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOWFALL AFTER EACH STORM EVENT.

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, SILT BARRIERS SHALL BE INSTALLED PRIOR TO COMMENCING ANY CLEARING OR GRADING. ALL EROSION CONTROL 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 BARRIERS AND ANY EARTH/DIKES WILL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.

WASTE DISPOSAL

1. 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. CONSTRUCTION WASTE MATERIALS WILL BE BURIED ON SITE. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
2. 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.
3. 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

1. 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:
  - A. AN EFFORT WILL BE MADE TO STORE ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB.
  - B. 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.
  - C. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
  - D. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS.
  - E. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
  - F. WHENEVER POSSIBLE ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
2. PRODUCT SPECIFICATION PRACTICES  
THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ON SITE:
  - HAZARDOUS PRODUCTS:  
THE FOLLOWING PRACTICES WILL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
    - A. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
    - B. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION.
    - C. SURPLUS PRODUCT THAT MUST BE DISPOSED OF WILL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.
  - 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 SPILLS.
  - PAINTS:  
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 DESIGNATED ON SITE.



REV.	DATE	DESCRIPTION	DR	CK
1	12/31/18	TRC COMMENTS	RCK	HEG

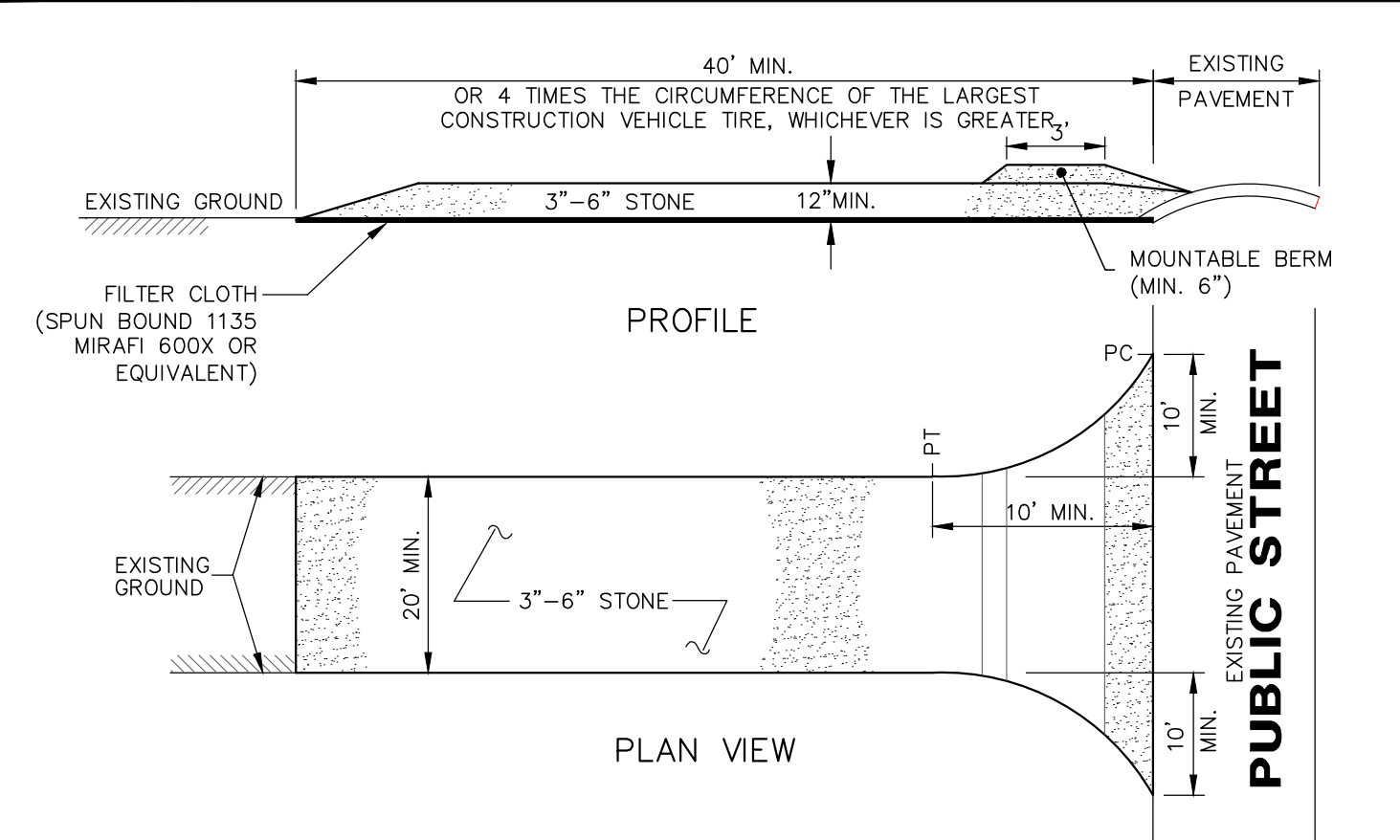
SPILL CONTROL PRACTICES

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:

- A. 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.
- B. 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.
- C. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
- D. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
- E. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.
- F. 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.
- G. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.

DUST CONTROL

THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL METHODS SHALL INCLUDE, BUT NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING. DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ABUTTING AREAS.



NOTES

1. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE SURFACE.
2. WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
3. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
4. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
5. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN STORM EVENT.

STABILIZED CONSTRUCTION ENTRANCE  
NOT TO SCALE

SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0  
**EROSION CONTROL NOTES & DETAILS**  
**LILAC GARDEN TRASH COMPACTOR SITE**  
**1 LILAC LANE**  
**DOVER, NEW HAMPSHIRE**

OWNED BY  
**LILAC GARDEN, LLC**

*Stephen Fee*  
STEPHEN FEE, OWNER

DECEMBER 6, 2018

SCALE: NTS



Civil Engineers  
Structural Engineers  
Traffic Engineers  
Land Surveyors  
Landscape Architects  
Scientists

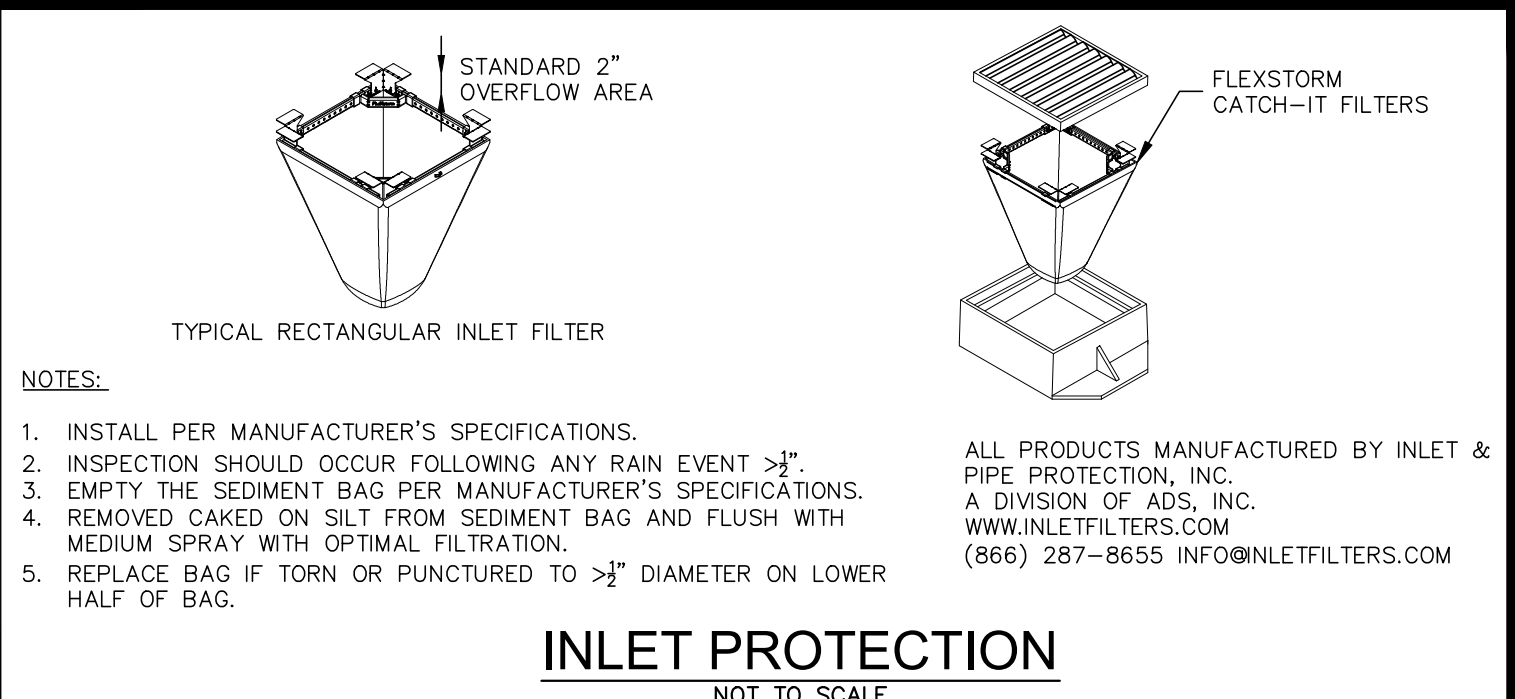
170 Commerce Way, Suite 102  
Portsmouth, NH 03801  
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Fax (603) 431-0910  
www.TFMoran.com

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Dec 31, 2018 - 3:10am  
F:\MSC Projects\47123 - Knox Marsh Road - Dover\47123.00 - Monument Garden TRASH COMPACTOR Design\Production Drawings\47123.00_Details.dwg

PLANNING BOARD FILE # P18-64



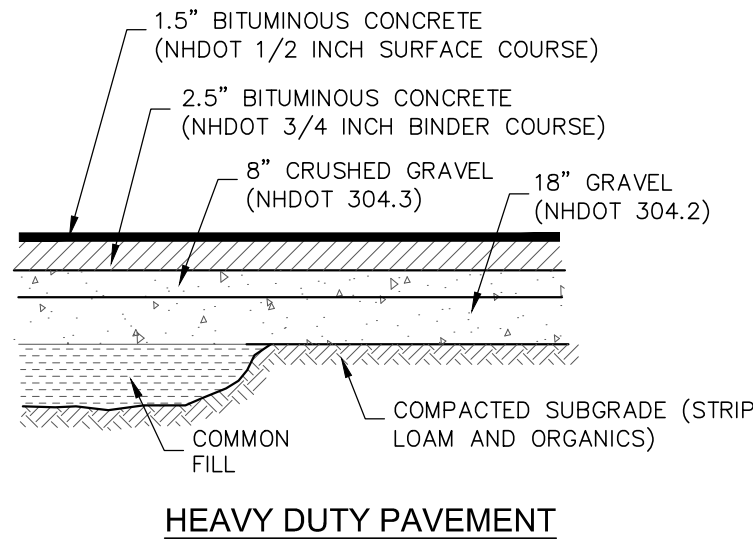
NOTES:

1. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
2. INSPECTION SHOULD OCCUR FOLLOWING ANY RAIN EVENT >1".
3. EMPTY THE SEDIMENT BAG PER MANUFACTURER'S SPECIFICATIONS.
4. REMOVED CAKED ON SILT FROM SEDIMENT BAG AND FLUSH WITH MEDIUM SPRAY WITH OPTIMAL FILTRATION.
5. REPLACE BAG IF TORN OR PUNCTURED TO >1/2" DIAMETER ON LOWER HALF OF BAG.

ALL PRODUCTS MANUFACTURED BY INLET & PIPE PROTECTION, INC.  
A DIVISION OF ADS, INC.  
WWW.INLETFILTERS.COM  
(866) 287-8655 INFO@INLETFILTERS.COM

INLET PROTECTION  
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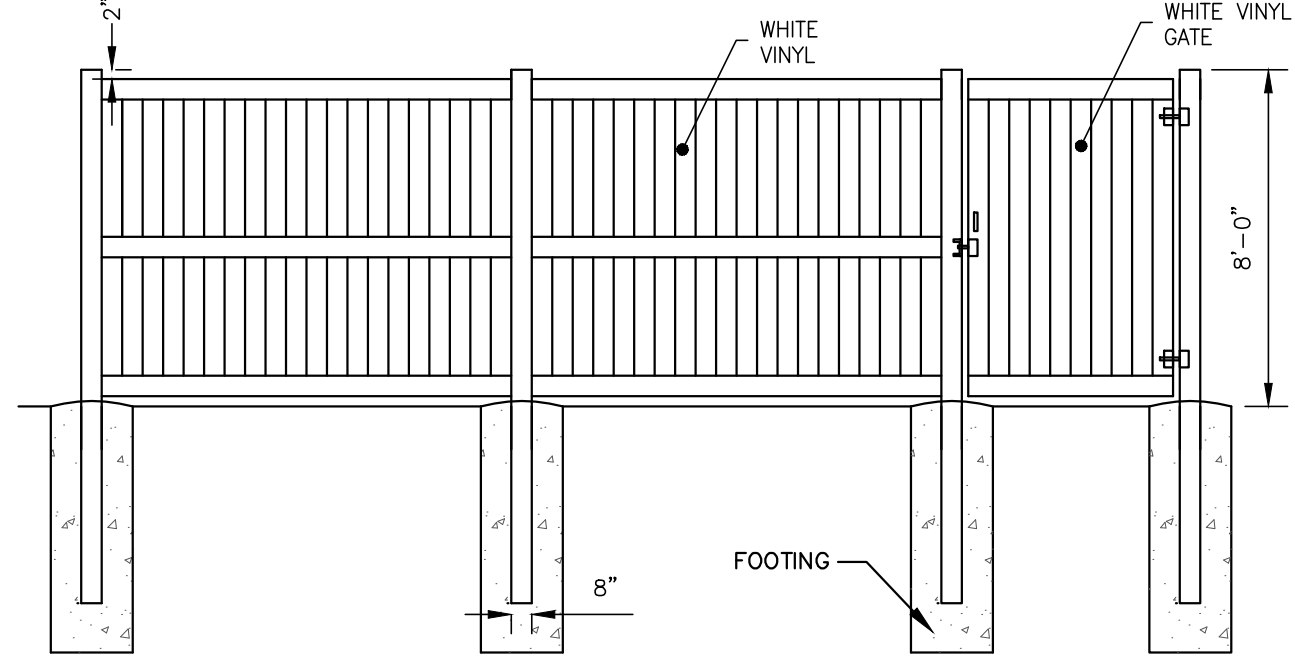


NOTES

- SEE GRADING & EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
- PROVIDE CLEAN BUTT TO EXISTING PAVEMENT- USE TACK COAT. A TACK COAT SHALL ALSO BE PLACED BETWEEN GRAVEL COURSE AND SUCCESSIVE LAYERS OF BITUMINOUS CONCRETE. SPECIFICALLY, A TACK COAT SHALL BE PLACED ATOP THE BINDER COURSE PAVEMENT PRIOR TO PLACING THE WEARING COURSE.
- REMOVE ALL LOAM AND/OR YIELDING MATERIAL BELOW PAVEMENT.
- BITUMINOUS MATERIALS SHALL CONFORM TO NHDOT SPECIFICATION SECTION 401.
- BITUMINOUS CONCRETE SHALL BE COMPACTED TO AT LEAST 92.5% OF THEORETICAL MAXIMUM DENSITY AS DETERMINED BY ASTM D2041 OR AASHTO T209. PLACEMENT TEMPERATURES OF BITUMINOUS CONCRETE MIXES, IN GENERAL, RANGE BETWEEN 270 AND 310 DEGREES FAHRENHEIT.
- PAVEMENT BASE COURSE AGGREGATE SHALL CONFORM TO NHDOT SPECIFICATION SECTION 304, ITEM 304.3 AND COMPACTED TO A MINIMUM OF 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY.
- PAVEMENT SUBBASE COURSE AGGREGATE AND AGGREGATE FOR SUBGRADE REPAIR AREAS SHALL BE SUITABLE FOR USE AS STRUCTURAL FILL AND BE PROOF ROLLED AND COMPACTED TO 95% MODIFIED PROCTOR MAXIMUM DRY DENSITY.
- THE EXPOSED SOIL SUBGRADE SHOULD BE PROOF ROLLED PRIOR TO THE PLACEMENT OF SUBBASE GRAVEL, AND SOFT AREAS SHOULD BE REPAIRED AND REPLACED.

PAVEMENT SECTIONS

NOT TO SCALE

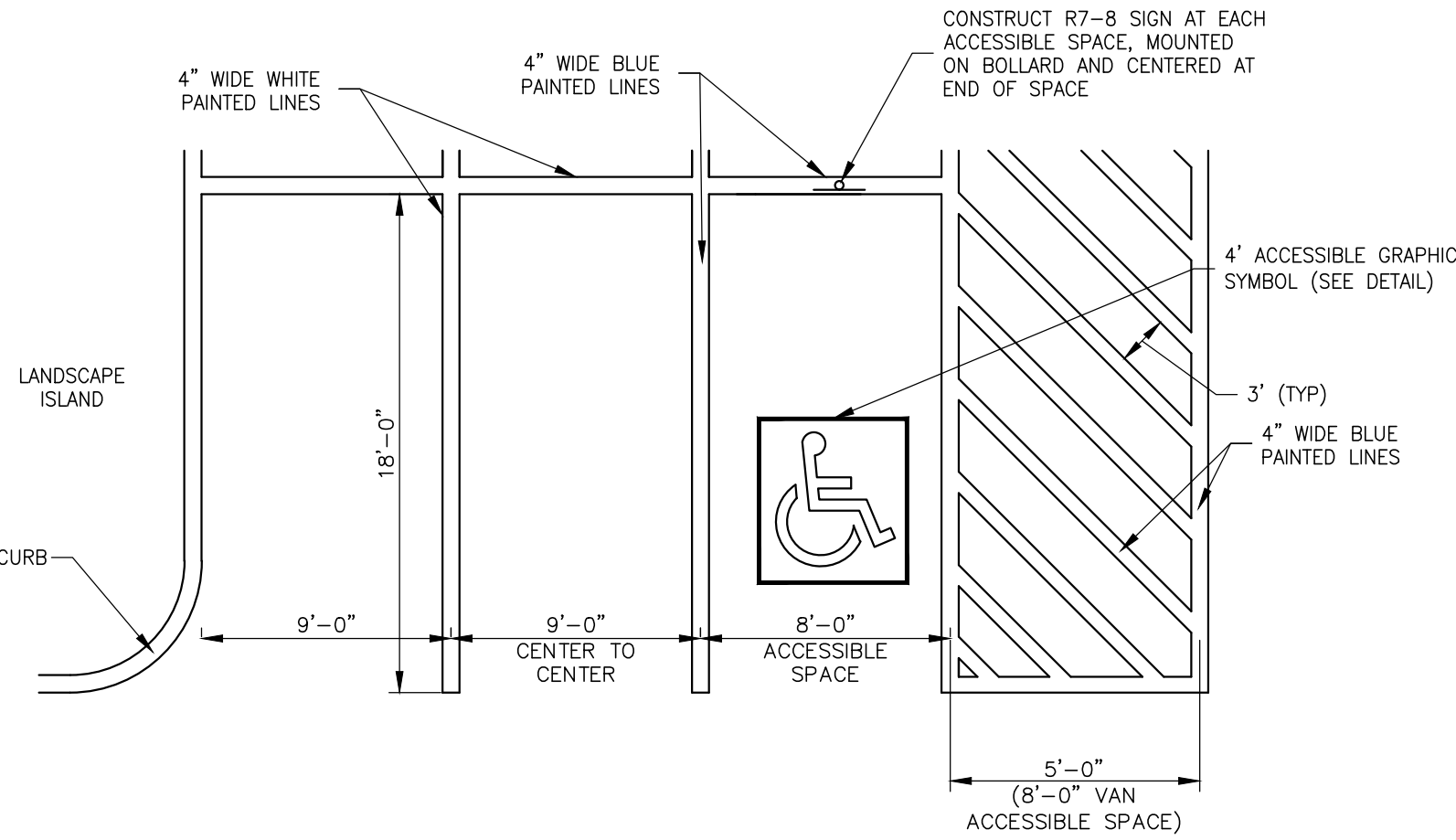


NOTES:

- ALL FOOTINGS SHALL INSTALLED PER MANUFACTURER'S RECOMMENDATION.
- VINYL FENCE SHOWN IS PROTOTYPICAL.
- CONTRACTOR TO CHOOSE 8 FOOT HIGH FENCE TO MATCH THE EXISTING FENCE TO EXTENT POSSIBLE.
- FENCES GREATER THAN 6' REQUIRE A BUILDING PERMIT IN ACCORDANCE WITH THE STATE ADOPTED BUILDING CODE. BUILDING PERMIT REQUIRED TO BE OBTAINED FROM INSPECTION SERVICES PRIOR TO INSTALLATION.

VINYL FENCE

NOT TO SCALE

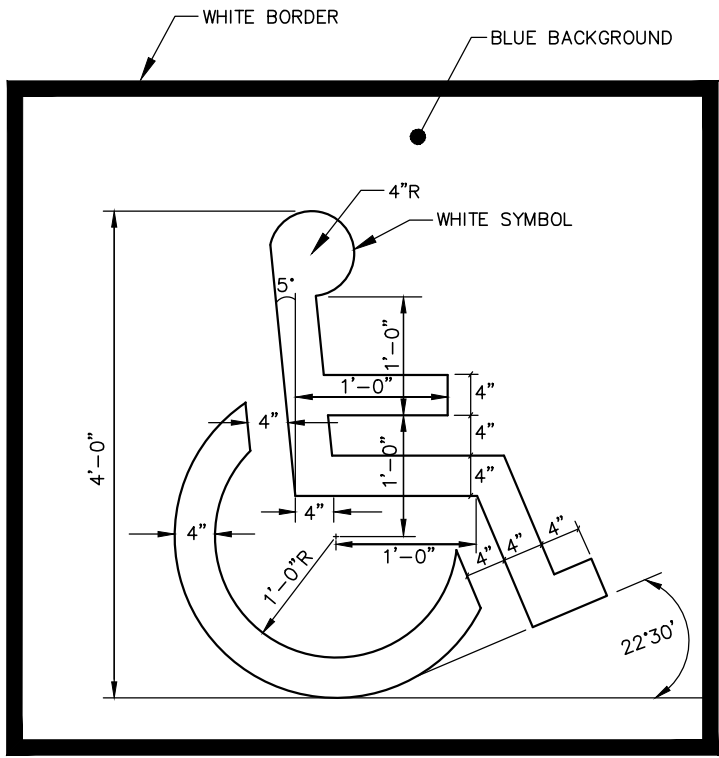


NOTE

- TRAFFIC PAINT SHALL BE APPLIED AS SPECIFIED BY THE MANUFACTURER AND SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F". APPLY TWO COATS.
- SYMBOLS & PARKING STALLS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT, LATEST EDITION.
- ALL PAINTED ISLANDS SHALL BE 4" WIDE DIAGONAL LINES AT 3'-0" OC BORDERED BY 4" WIDE LINES.
- 2% MAXIMUM CROSS SLOPE ALLOWED IN ACCESSIBLE PARKING SPACES AND ACCESS AISLES.

TYPICAL PARKING LAYOUT

NOT TO SCALE

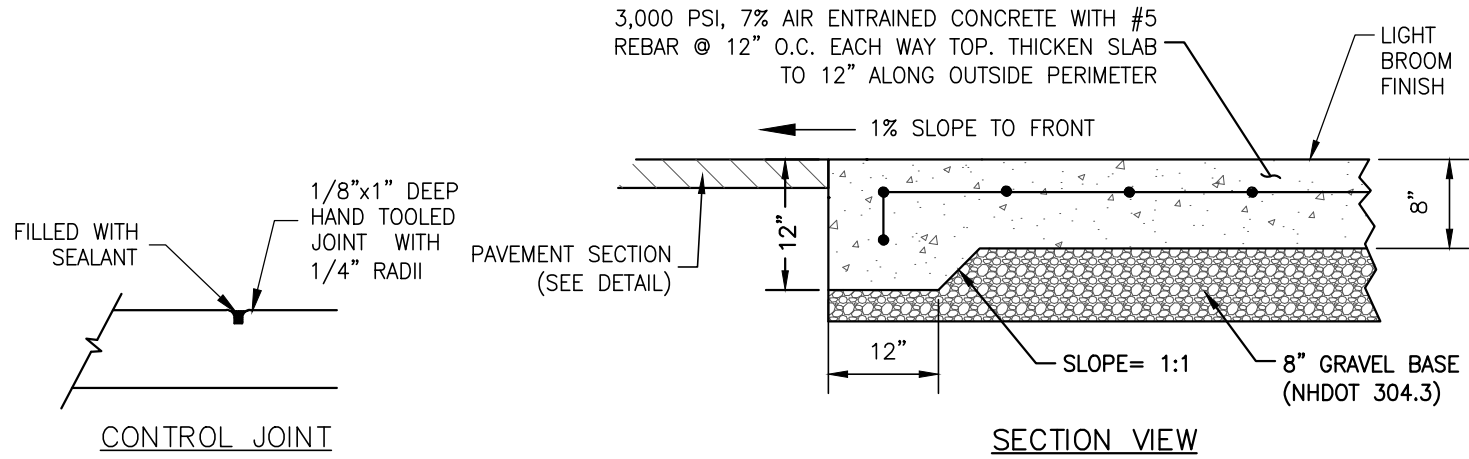


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- SYMBOLS AND PARKING STALLS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT, LATEST EDITION.

ACCESSIBLE GRAPHIC SYMBOL

NOT TO SCALE

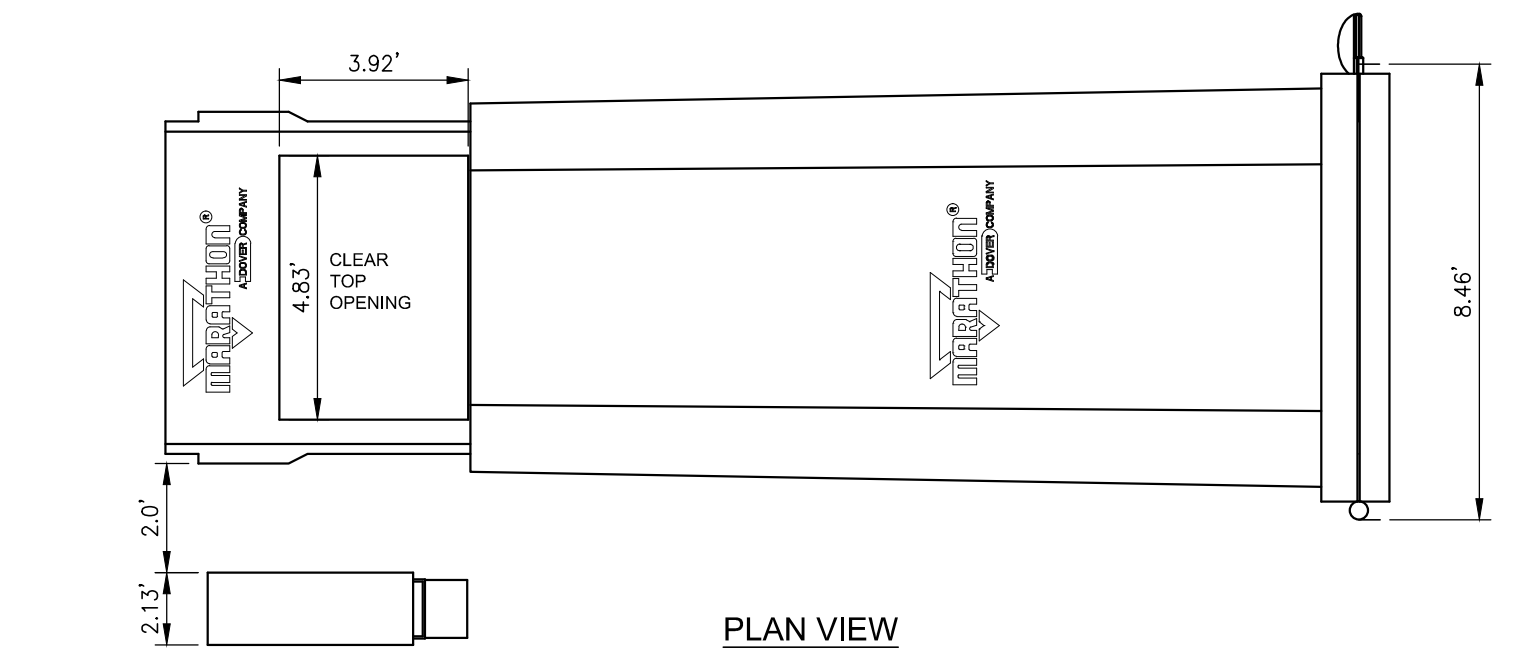


NOTES

- PROVIDE CLEAN BUTT TO EXISTING PAVEMENT - USE TACK COAT.
- CONCRETE PAD IS PROTOTYPICAL. CONSULT WITH COMPACTOR PROVIDER FOR ACTUAL DIMENSIONS

CONCRETE PAD

NOT TO SCALE

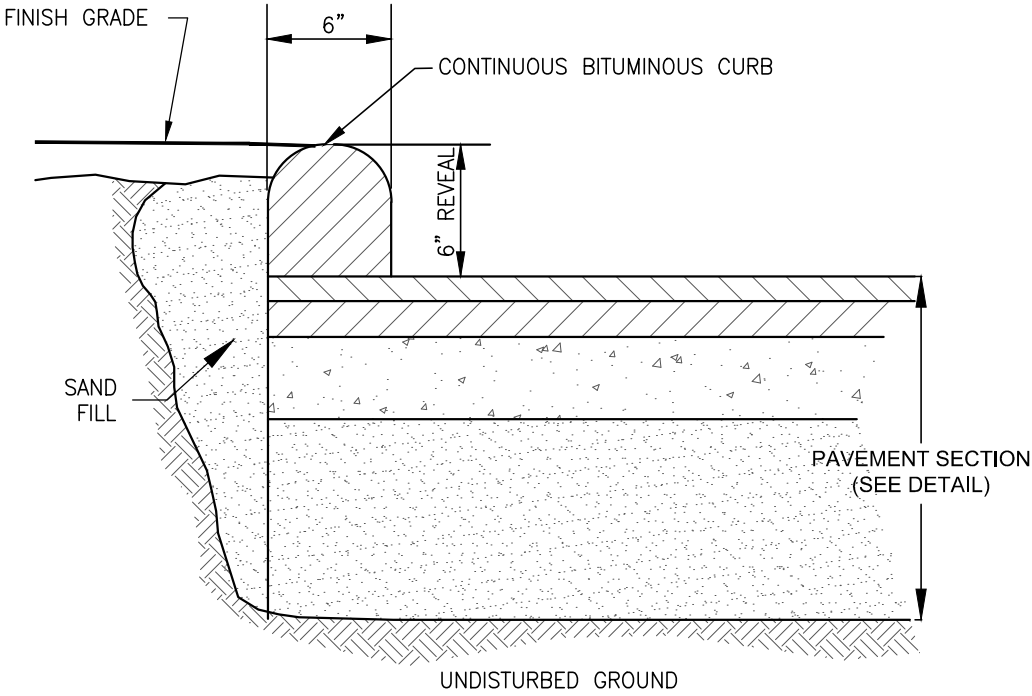


NOTES

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- SYMBOLS AND PARKING STALLS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT, LATEST EDITION.

STOP BAR & LEGEND

NOT TO SCALE

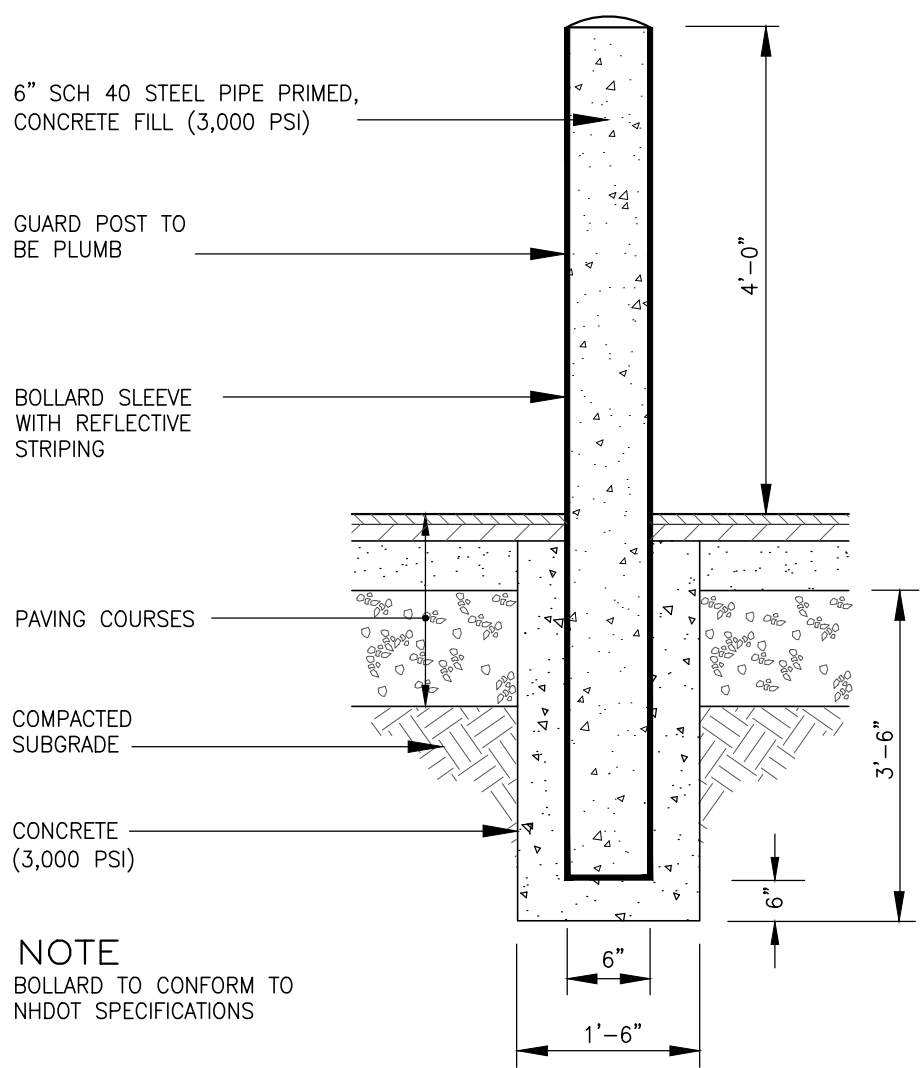


NOTE

- ALL MATERIALS SHALL MEET NHDOT SPECIFICATIONS.

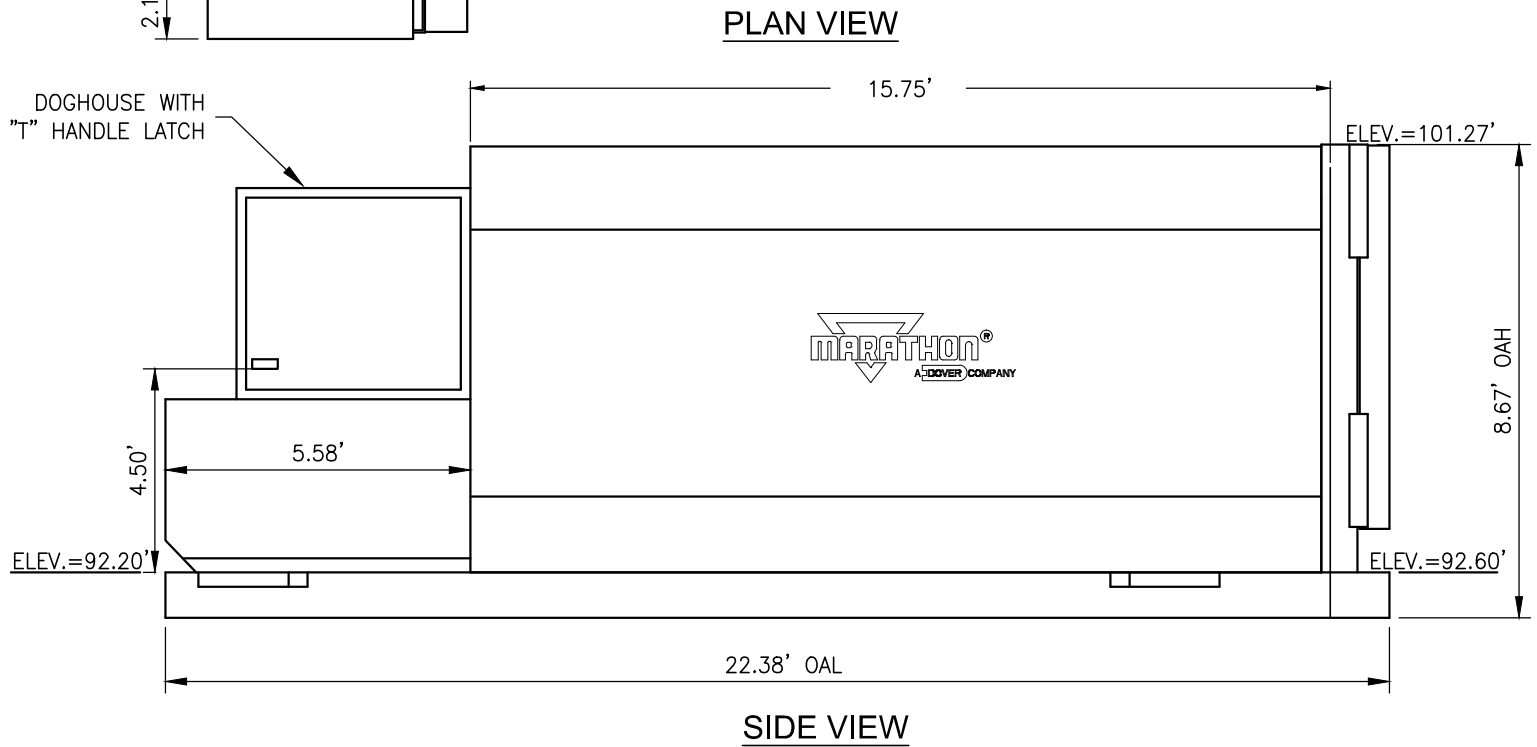
BITUMINOUS CURB

NOT TO SCALE



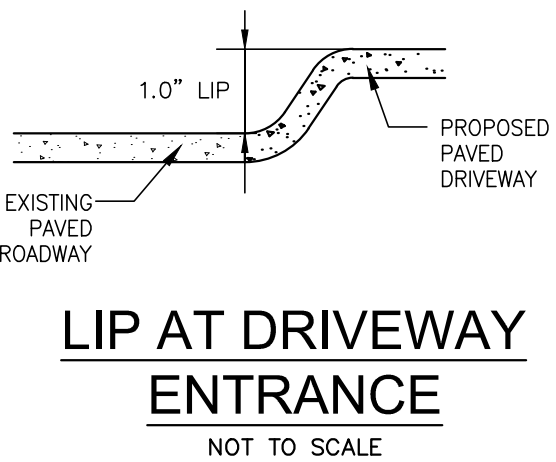
BOLLARD

NOT TO SCALE



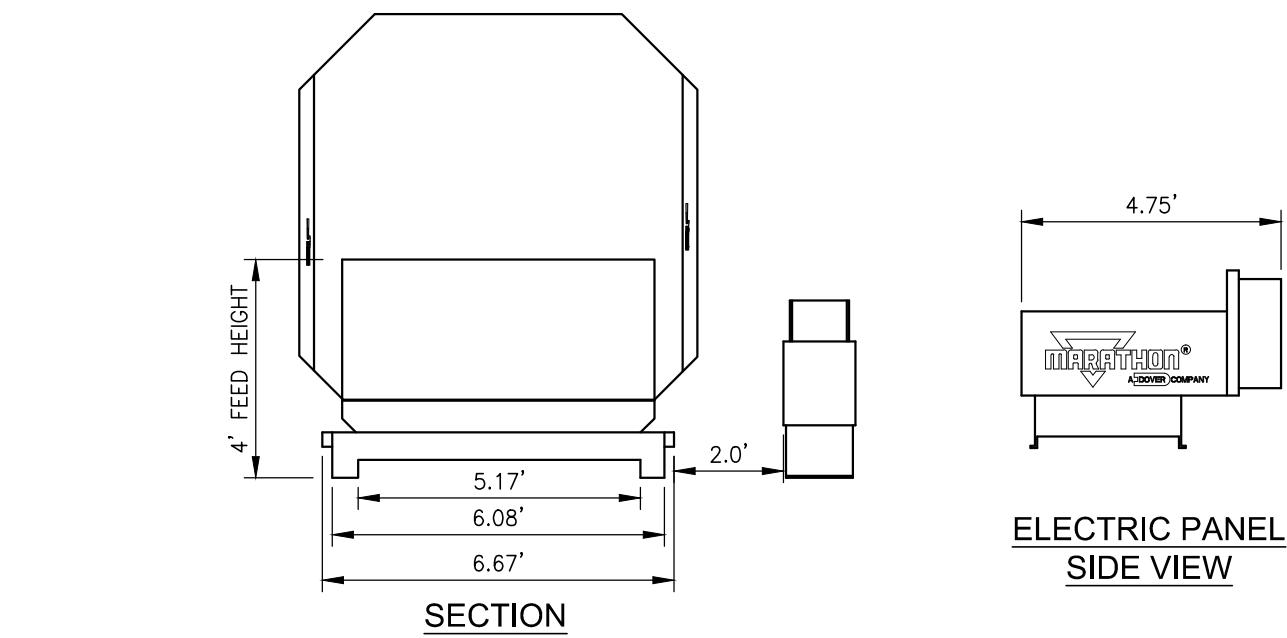
PAVEMENT PATCH

NOT TO SCALE



LIP AT DRIVEWAY ENTRANCE

NOT TO SCALE



NOTES:

- COMPACTOR SHALL BE A MARATHON RJ-250SC DEPU 34 CY 48 FH AND INCLUDE DOGHOUSE.
- CONCRETE PAD REQUIREMENTS: 18' WIDE AND A LENGTH OF 5' GREATER THAN THE OVERALL UNIT LENGTH. MINIMUM 3000 PSI CONCRETE, STEEL REINFORCED, 6" THICK. PAD SHOULD BE FLUSH WITH THE SURROUNDING GROUND LEVEL. UNITS WITH 4 GROUND ROLLERS MUST BE INSTALLED ON A LEVEL PAD. PAD SHOULD BE POSITIONED TO ALLOW 2' 4" MINIMUM BETWEEN UNIT AND NEAREST OBSTACLE. ALLOW A MINIMUM OF 45' OF CLEAR SPACE FROM THE END OF PAD FOR CONTAINER HANDLING VEHICLE. CLEARANCES GIVEN ARE MINIMUMS.
- MARATHON RECOMMENDS 24" CLEARANCE ON SIDES AND REAR OF POWER UNIT TO FACILITATE SERVICING POWER UNIT. THE NEC REQUIRES: A 42" CLEARANCE IN FRONT OF PANEL BOX. PANEL BOX DOOR MUST OPEN AT LEAST 90 DEGREES. POWER UNIT MUST HAVE A 6'6" OVERHEAD CLEARANCE.
- WASTE MANAGEMENT SHALL INSTALL COMPACTOR TO MEET ALL SAFETY AND OSHA REQUIREMENTS.

SELF-CONTAINED COMPACTOR

NOT TO SCALE

SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

DETAILS

LILAC GARDEN TRASH COMPACTOR SITE

1 LILAC LANE

DOVER, NEW HAMPSHIRE

OWNED BY

LILAC GARDEN, LLC

STEPHEN FEE, OWNER

DECEMBER 6, 2018

SCALE: NTS



Civil Engineers  
Structural Engineers  
Traffic Engineers  
Land Surveyors  
Landscape Architects  
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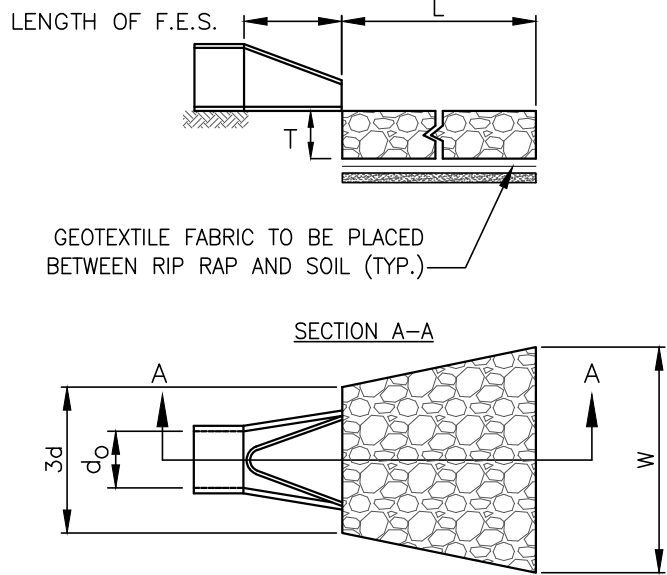


MAINTENANCE:

THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIP RAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT 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.

CONSTRUCTION SPECIFICATIONS:

1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK OR GRAVEL USED FOR FILTER OR RIP RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP RAP. 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 REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12".
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. ADD ANIMAL SCREEN TO FLARED END SECTION OUTLET.

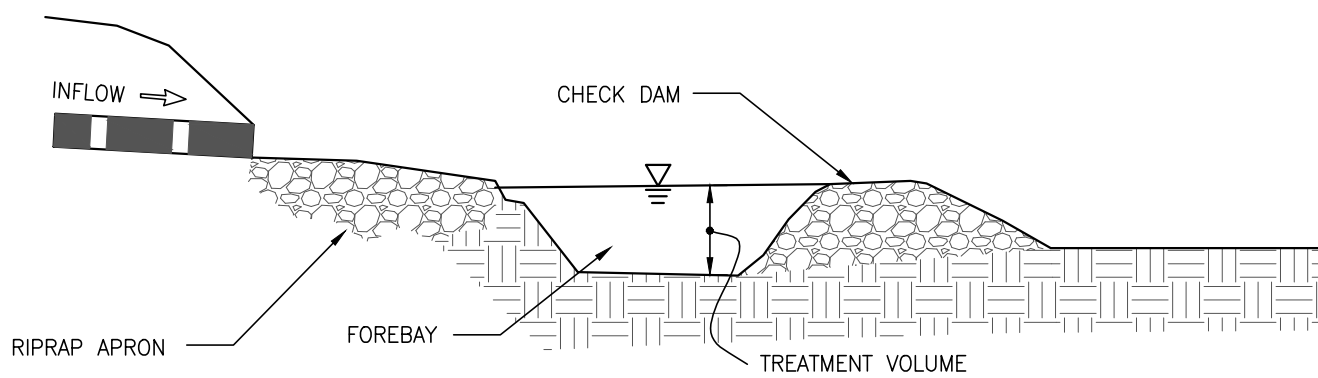


RIP RAP DIMENSIONS					
LOCATION	d50 STONE SIZE	LENGTH OF APRON (L)	WIDTH OF APRON (W)	WIDTH OF APRON (3d)	DEPTH OF RIP RAP
FES-2	0.75"	7'	4'	1'	6"

% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE (INCHES)
100	1.15 TO 1.50
85	1.00 TO 1.35
50	0.75 TO 1.15
15	0.25 TO 0.40

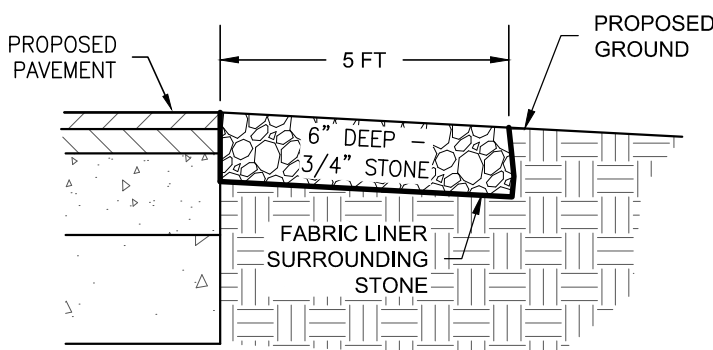
RIP RAP AND FLARED END SECTION WITH OUTLET PROTECTION

NOT TO SCALE



SEDIMENT FOREBAY

NOT TO SCALE

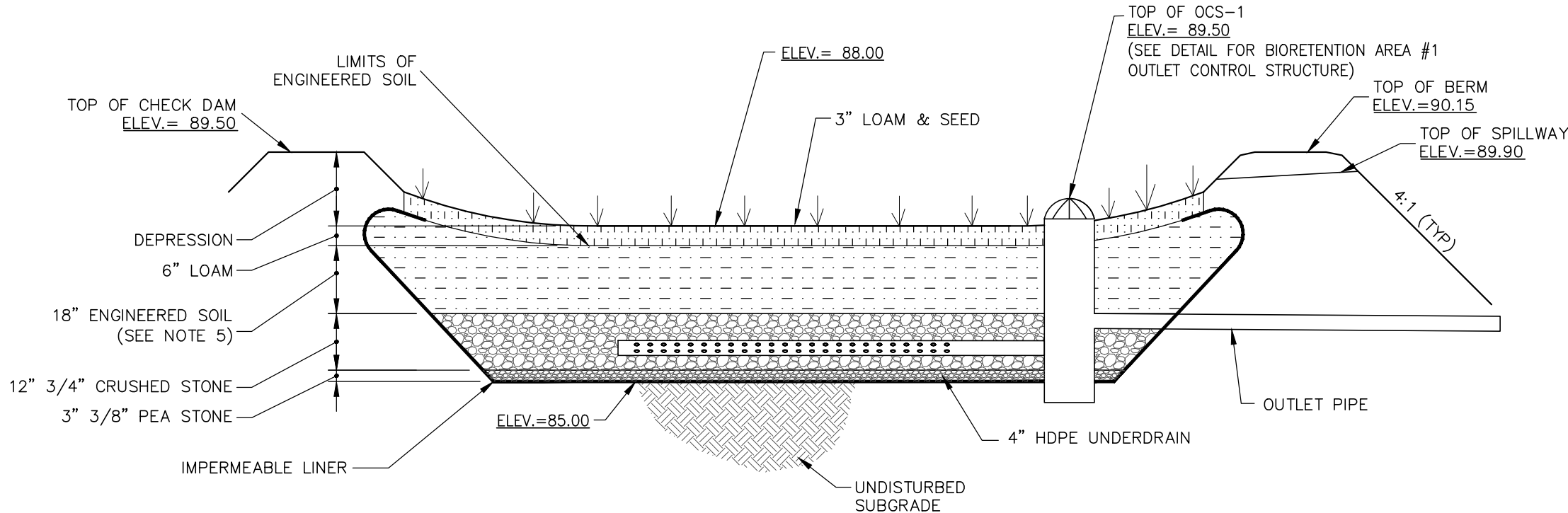


NOTE:

1. STONE EDGE PROTECTION SHALL BE PROVIDED AT LOW SPOTS AS SHOWN ON PLAN.

STONE EDGE PROTECTION

NOT TO SCALE



RAIN GARDEN AREA MAINTENANCE

MAINTENANCE SCHEDULE TO BEGIN AFTER CONSTRUCTION IS FINISHED AND BASIN STABILIZATION IS COMPLETE

1. VEGETATION – THE VEGETATED AREAS SHALL BE PROTECTED FROM DAMAGE BY TRAFFIC AND DENSE WEED GROWTH. A MINIMUM OF 2 TONS PER ACRE OF AGRICULTURAL LIMESTONE AND 500 LBS. PER ACRE OF 10–20–20 FERTILIZER SHALL BE APPLIED.
2. SEDIMENT – SEDIMENT SHALL BE CONTINUALLY CHECKED IN BIORETENTION AREAS. WHEN SEDIMENT ACCUMULATIONS LINE THE BOTTOM OF THE FACILITY, THEN THE SEDIMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF.
3. PLANTINGS – SHALL BE INSPECTED SEASONALLY TO DETERMINE HEALTH. IF DETERMINED TO BE NOT IN ADEQUATE SHAPE THE PLANTING SHALL BE REMOVED AND REPLANTED WITH THE SAME SPECIES. PROPER MAINTENANCE OF PLANTS SHALL BE CARRIED OUT AS NEEDED.
4. GRASS TO BE TRIMMED TWICE A YEAR.
5. REPAIR ANY ERODED AREA OF THE BIORETENTION AREA BOTTOMS WITH APPROPRIATE LOAM AND SEED AS NECESSARY.

SEEDING

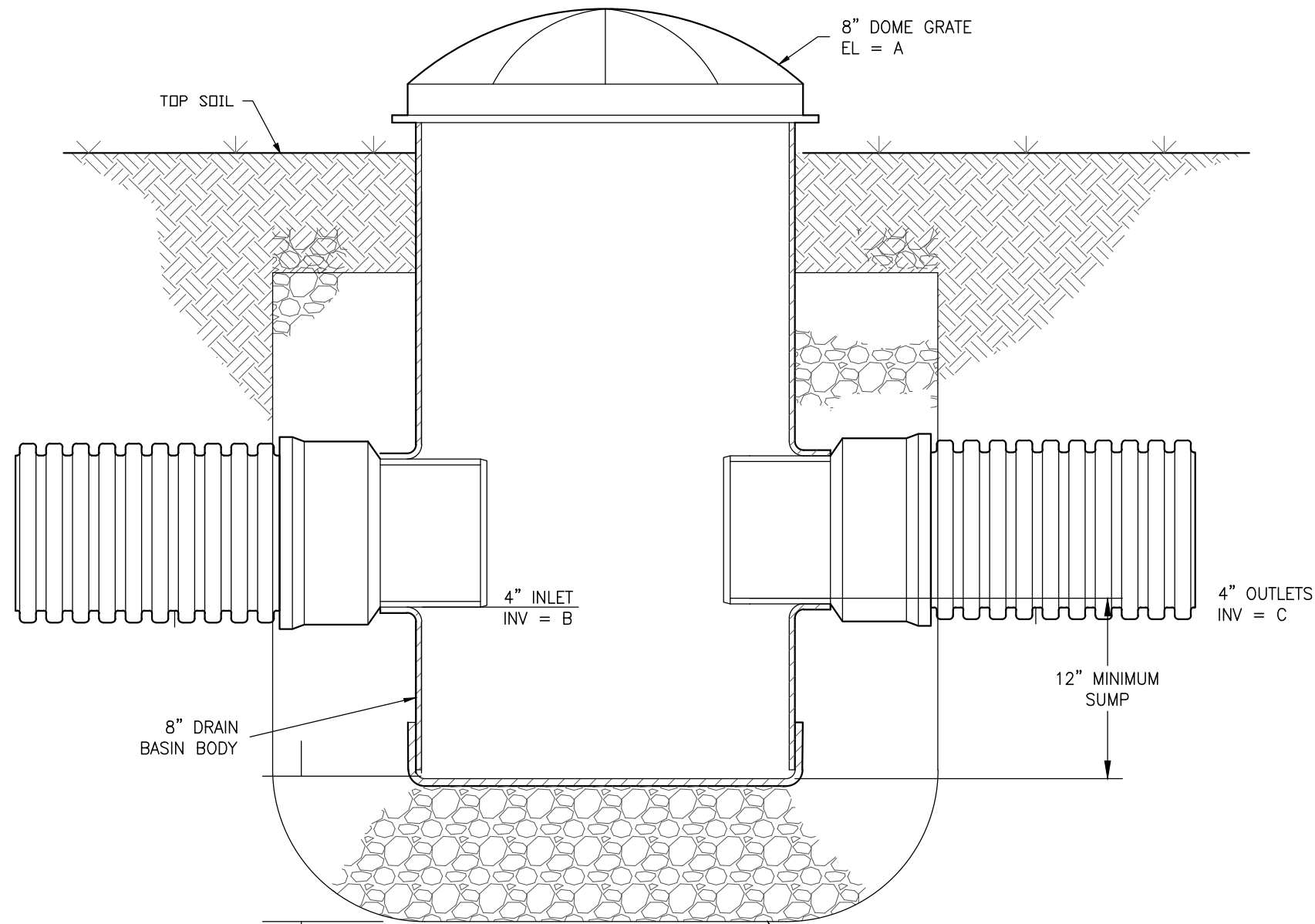
1. USE NEW ENGLAND EROSION CONTROL/RESTORATION MIX BY NEW ENGLAND WETLAND PLANTS, INC. OR EQUIVALENT.
2. SEED AT A RATE OF 1LB/1250SF. APPLY TO BARE SOIL. LIGHTLY MULCH WITH CLEAN WEED FREE STRAW.

RAIN GARDEN AREA CONSTRUCTION

1. CLEAR AND GRUB THE AREA WHERE THE BIORETENTION AREAS ARE TO BE LOCATED. STOCKPILE LOAM FOR REUSE ON SLOPES.
2. GRADE BIORETENTION AREAS ACCORDING TO PLAN AND DETAILS. SIDE SLOPES SHALL HAVE 6" LOAM AND SEED AND A SLOPE NOT TO EXCEED 3:1. BOTTOM OF BIORETENTION AREAS TO BE CONSTRUCTED WITH MANUFACTURED SOIL (SEE BIORETENTION AREA CONSTRUCTION DETAIL).
3. BIORETENTION AREA SOIL MIXTURE SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES EXCLUDING SHREDDED BARK OR WOOD FIBERS. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVIDE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATION.
4. THE USDA TEXTURAL CLASSIFICATION OF THE SANDY SOIL SHALL BE LOAMY SAND OR SANDY LOAM.
5. 50% TO 55% BY VOLUME SAND ALSO IDENTIFIED AS ASTM C-33 CONCRETE SAND, 20% TO 30% BY VOLUME OF LOAMY SAND TOPSOIL WITH 15% TO 25% FINES PASSING THE NUMBER 200 SIEVE, AND 20% TO 30% BY VOLUME MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH WITH LESS THAN 5% PASSING THE NUMBER 200 SIEVE.
6. THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT EQUIPMENT & VEHICLE TRAFFIC FROM DRIVING IN THE AREA OF THE PROPOSED BIORETENTION AREA AREA DURING CONSTRUCTION.

BIORETENTION AREA #1

NOT TO SCALE



SECTION VIEW

THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

ELEVATION TABLE	
BIORETENTION AREA #1	
A	89.50
B	85.60
D	88.00

BIORETENTION AREA #1 OUTLET CONTROL STRUCTURE

NOT TO SCALE

SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

DETAILS

LILAC GARDEN TRASH COMPACTOR SITE

1 LILAC LANE

DOVER, NEW HAMPSHIRE

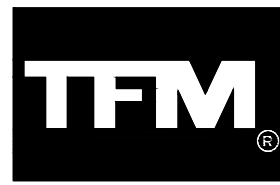
OWNED BY

LILAC GARDEN, LLC

STEPHEN FEE, OWNER

DECEMBER 6, 2018

SCALE:NTS



Civil Engineers  
Structural Engineers  
Traffic Engineers  
Land Surveyors  
Landscape Architects  
Scientists

170 Commerce Way, Suite 102  
Portsmouth, NH 03801  
Phone (603) 431-2222  
Fax (603) 431-0910  
www.TFMoran.com

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REV.	DATE	DESCRIPTION	DR	CK
1	12/31/18	TRC COMMENTS	RCK	HEG

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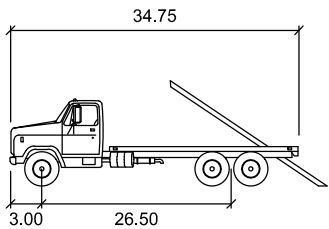
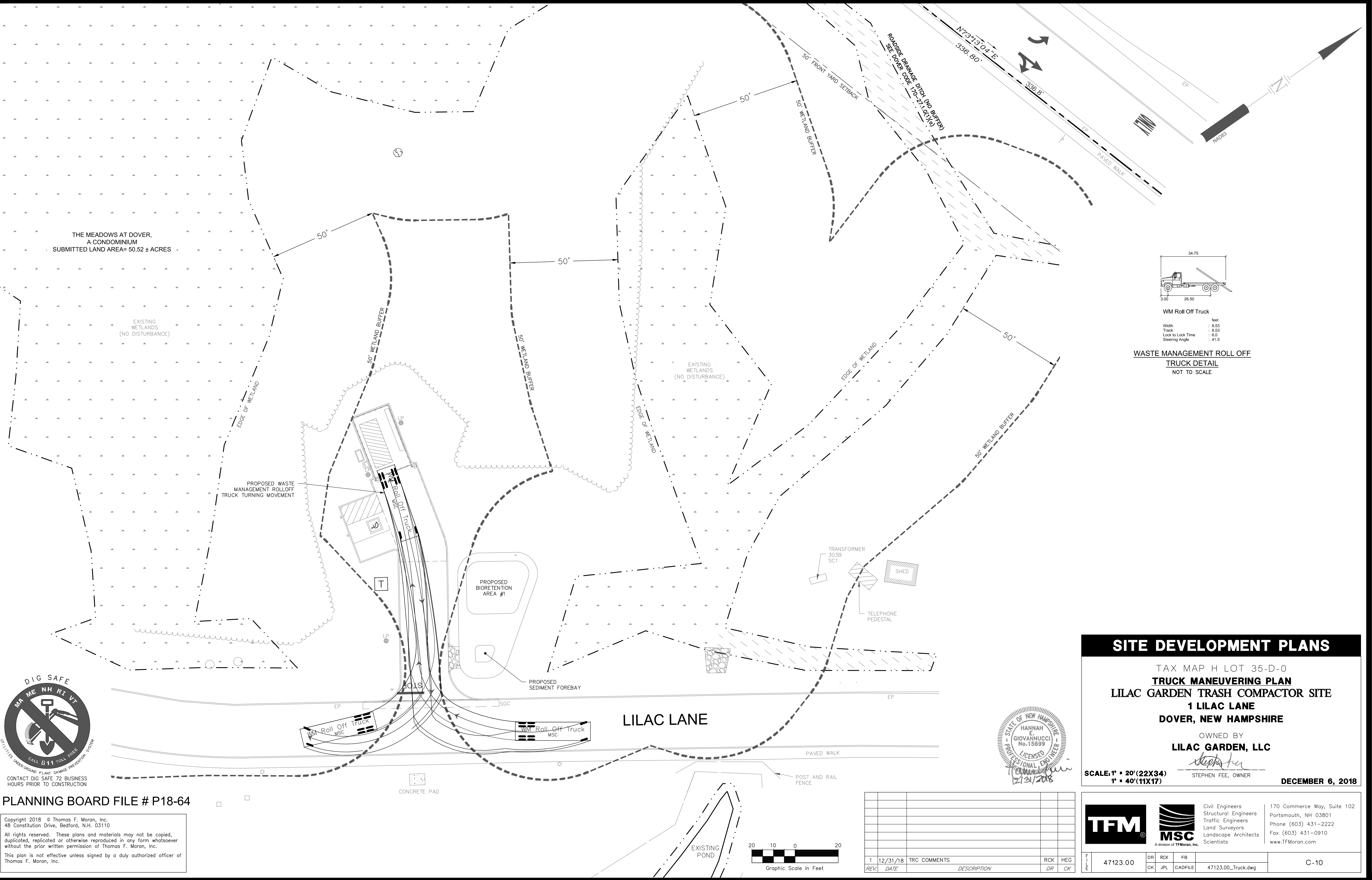


Dec 31, 2018 - 3:10am  
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WM Roll Off Truck  
Width : 8.53  
Track : 8.53  
Lock to Lock Time : 6.0  
Steering Angle : 41.5

WASTE MANAGEMENT ROLL OFF  
TRUCK DETAIL  
NOT TO SCALE

## SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0  
**TRUCK MANEUVERING PLAN**  
**LILAC GARDEN TRASH COMPACTOR SITE**  
**1 LILAC LANE**  
**DOVER, NEW HAMPSHIRE**

OWNED BY  
**LILAC GARDEN, LLC**

STEPHEN FEE, OWNER

DECEMBER 6, 2018

SCALE: 1" = 20' (22X34)  
1" = 40' (11X17)



Civil Engineers  
Structural Engineers  
Traffic Engineers  
Land Surveyors  
Landscape Architects  
Scientists

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CK	JPL	CADFILE				

REV.	DATE	DESCRIPTION	DR	CK
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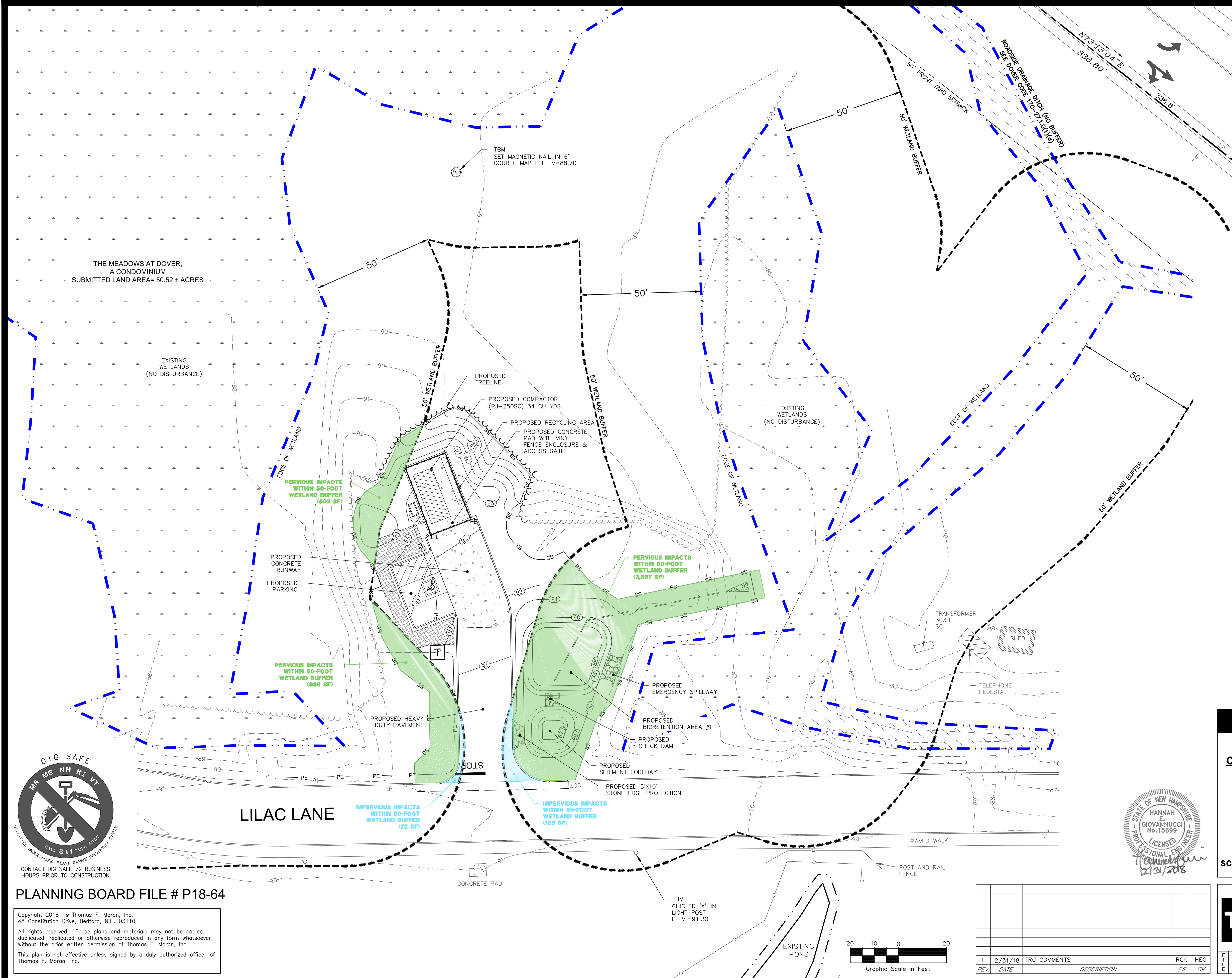
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CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

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#### WETLAND PROTECTION DISTRICT

1. WETLANDS WERE DELINEATED BY GOVE ENVIRONMENTAL SERVICES, INC., CERTIFIED WETLAND SCIENTIST, CERTIFICATION NUMBER 00051, IN ACCORDANCE WITH CHAPTER 170-27.1 OF THE ZONING ORDINANCE, ON JUNE 1, 2016
2. ACCORDING TO THE CITY OF DOVER ZONING BYLAW SECTION 170-27.1E(1), THE PROPOSED USE IS ALLOWED WITHIN THE WETLANDS PROTECTION OVERLAY DISTRICT IF A CONDITIONAL USE PERMIT IS APPROVED.
3. SECTION 170-27.1F(1) STATES THAT A CONDITIONAL USE PERMIT MAY BE GRANTED BY THE PLANNING BOARD FOR CONSTRUCTION INCLUDING BUT NOT LIMITED TO ACCESSWAY, UTILITIES AND LIGHTING, STORMWATER BEST MANAGEMENT PRACTICES, LANDSCAPING, AND GRADING, PROVIDED THAT THE PROPOSED CONSTRUCTION COMPLIES WITH STANDARDS 170-27.1F(1)(a)-(d). THE PROPOSED PROJECT HAS BEEN DESIGNED TO BE IN ACCORDANCE WITH THESE REGULATIONS.
4. THE PROJECT PROPOSES STORMWATER BEST MANAGEMENT PRACTICES, RECONTOURING AND GRADING, REMOVAL OF STUMPS AND ROOTS, AND INSTALLATION OF UNDERGROUND ELECTRIC WITHIN A WETLAND BUFFER WHICH ARE USES ALLOWED ONLY WITH A CONDITIONAL USE PERMIT, SEE SECTION 170-27.1G(1)(d)(iv)&(v).
5. THE PROJECT PROPOSES 5,294 SQUARE FEET OF DISTURBANCE WITHIN THE 50-FOOT MINIMUM WETLAND BUFFER.

#### LEGEND:

- IMPERVIOUS IMPACTS WITHIN 50-FOOT WETLAND BUFFER
- PERVIOUS IMPACTS WITHIN 50-FOOT WETLAND BUFFER
- WETLAND
- GRADING LIMITS
- LIMIT OF WETLANDS

### SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0  
**CONDITIONAL USE PERMIT IMPACTS SUMMARY PLAN**  
**LILAC GARDEN TRASH COMPACTOR SITE**  
**1 LILAC LANE**  
**DOVER, NEW HAMPSHIRE**

OWNED BY  
**LILAC GARDEN, LLC**

STEPHEN FEE, OWNER

SCALE: 1" = 20' (22X34)  
1" = 40' (11X17)

DECEMBER 6, 2018



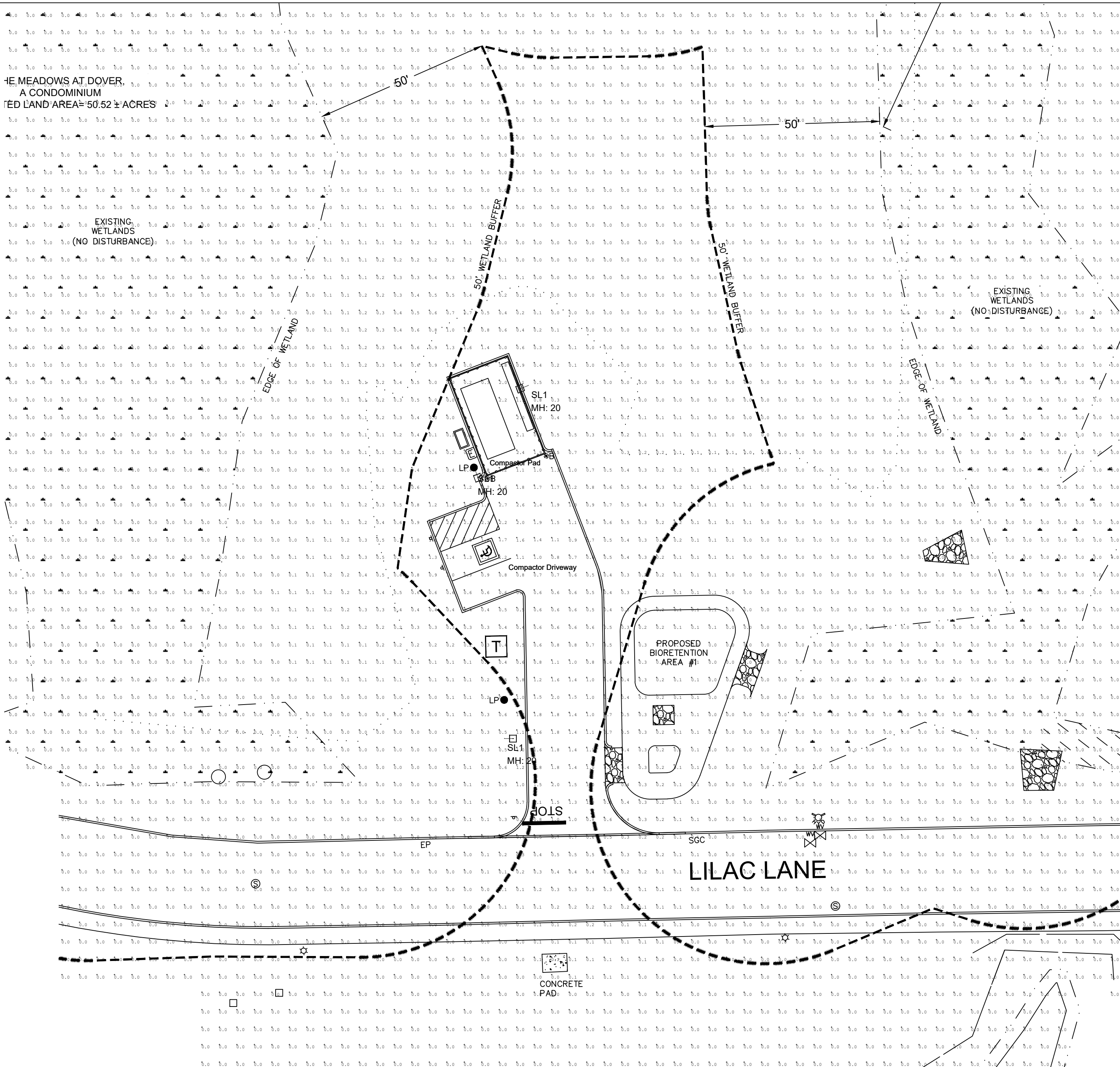
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REV.	DATE	DESCRIPTION	DR	CK		

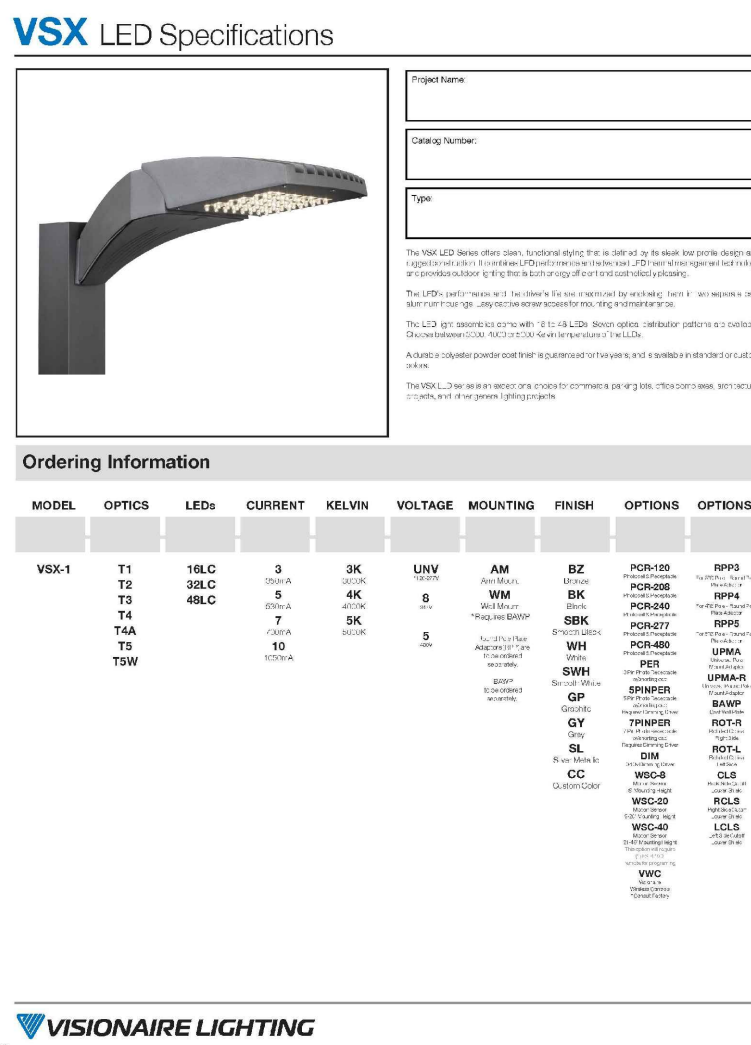
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REV.	DATE	DESCRIPTION	DR	CK



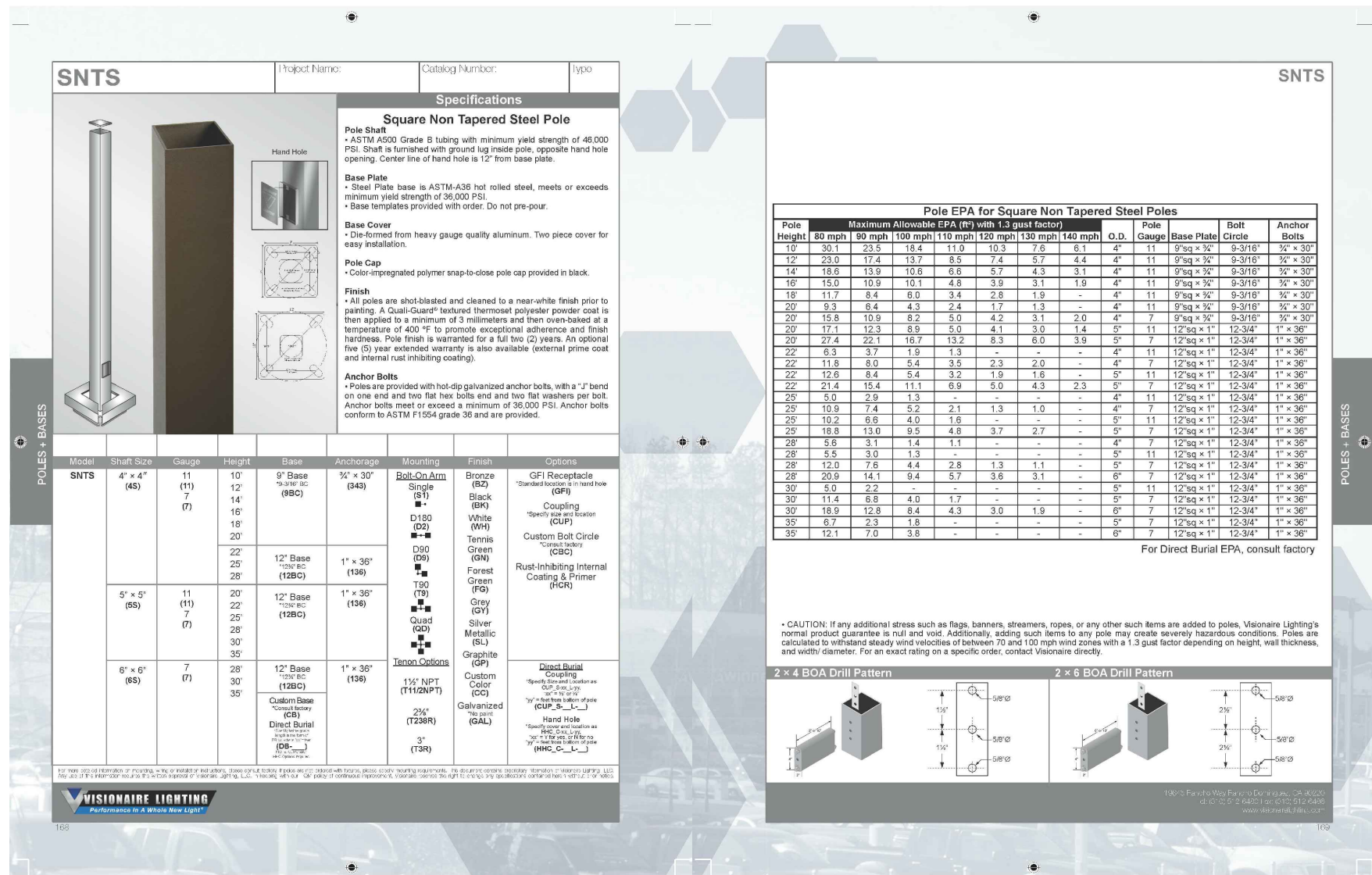


Luminaire Schedule								
Symbol	Qty	Label	Description	Arrangement	LLF	Lum. Lumens	Lum. Watts	BUG Rating
	3	SL1	Visionaire # VSX-1-T3-32LC-3-4K-UNV-AM-BK-CLS	SINGLE	0.850	3987	37	B1-U0-G2

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Site Points	Illuminance	Fc	0.05	2.7	0.0	N.A.	N.A.
Compactor Driveway	Illuminance	Fc	1.17	2.7	0.3	3.90	9.00
Compactor Pad	Illuminance	Fc	1.46	2.4	0.2	7.30	12.00

[illegible]

## 1 Fixture Specification- Visionaire VSX



## 2 Pole Specification- Visionaire SNTS

ABBREVIATIONS:

Avg= Average  
 AFG= Above Finished Grade  
 CF = Compact Fluorescent  
 CV= Coefficient of variation  
 fc = Footcandles  
 HPS = High Pressure Sodium  
 LLF= Light Loss Factor  
 MH = Mounting Height  
 NTS = Not to Scale  
 PSMH = Pulse Start Metal Halide  
 SF = Square foot  
 W = Watts

NOTES:

- A. CALCULATION POINTS INDICATED ARE BASED ON MAINTAINED FOOTCANDLE (FC) LEVELS AFTER A LIGHT LOSS FACTOR (LLF) IS APPLIED TO FIXTURE. REFER TO SCHEDULES FOR LLF AND LUMEN INFORMATION.
- B. REFER TO PLAN FOR FIXTURE MOUNTING HEIGHTS.
- C. CALCULATION POINTS TAKEN AT GRADE.

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T - 781-821-1700  
[www.skandassociates.com](http://www.skandassociates.com)

20/22 Carver Circle  
Canton, MA 02021

PROJECT NAME

***Lilac Garden  
Trash Compactor  
Site- Lilac Lane,  
Dover NH***

*CLIENT*

**MSC a division of  
TFMoran, Inc.**  
170 Commerce Way, Suite 102  
Portsmouth, NH 03801

170 Commerce Way, Suite 102  
Portsmouth, NH 03801

SEAL

## REVISIONS

No.	Description	Date
5.		
4.		
3.		
2.		
1.	Layout Update	12/28/18

Issue Date: December 4, 2018

Project #: 18206

Drawn:

Checked:

*Approved:*

Scale: 1"=15'-0"

DRAWING NAME

### Site List

### Lighting

### Schedule

## Schedule

### Specific

DRAWING NUMBER

**CI**

SL

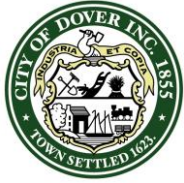
11

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Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
H035D-000811	811 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H035D-000812	812 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H035D-000813	813 LILAC LN	DE BOER SASKER		13 COPELAND DR	ROCHESTER	NH	03867-3468
H035D-000814	814 LILAC LN	LILAC GARDEN LLC		21 CONTINENTAL BLVD STE 101	MERRIMACK	NH	03054
H035D-000815	815 LILAC LN	LILAC GARDEN LLC		1 LILAC LN	DOVER	NH	03820
H035D-000816	816 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H035D-000817	817 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVEFR	NH	03820
H035D-000818	818 LILAC LN	LILAC GARDEN LLC		1 LILAC LN	DOVER	NH	03820
H035D-000821	821 LILAC LN	KGW LLC		8 GIFFORD FARM RD	STRATHAM	NH	03885
H035D-000822	822 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H035D-000823	823 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H035D-000824	824 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H035D-000825	825 LILAC LN	ONKARAM VENKATESWARLU &	BADABAGNI SUJATHA	12 LEE RD	MADBURY	NH	03823
H035D-000826	826 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H035D-000827	827 LILAC LN	ONKARAM VENKATESWARLU &	BADABAGNI SUJATHA	12 LEE RD	MADBURY	NH	03823
H035D-000828	828 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H035D-000831	831 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H035D-000832	832 LILAC LN	KGW LLC		8 GIFFORD FARM RD	STRATHAM	NH	03885
H035D-000833	833 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H035D-000834	834 LILAC LN	ONKARAM VENKATESWARLU &	BADABAGNI SUJATHA	12 LEE RD	MADBURY	NH	03823
H035D-000835	835 LILAC LN	ONKARAM VENKATESWARLU &	BADABAGNI SUJATHA	12 LEE RD	MADBURY	NH	03823
H035D-000836	836 LILAC LN	YUAN HEPING &	HOU TIANHANG	322 PORTSMOUTH AVE	GREENLAND	NH	03840-2220
H035D-000837	837 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
H035D-000838	838 LILAC LN	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
	711 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
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	721 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
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	723 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
	724 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
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	727 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
	728 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
	729 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
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	732 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
	733 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
	734 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
	735 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
	736 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
	737 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
	618 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
	628 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
	637 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
	627 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
	635 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
	636 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
	637 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
	626 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
	634 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
	937 LILAC LANE	LILAC GARDEN LLC		1 LILAC LN OFC	DOVER	NH	03820
		LILAC GARDEN LLC	C/O STEPHEN FEE	21 CONTINENTAL BOULEVARD, SUITE 101	MERRIMACK	NH	03054
		TFMORAN, INC	C/O HANNAH GIOVANNUCCI, PE	170 COMMERCE WAY, SUITE 102	PORTSMOUTH	NH	03801
		S.W. COLE ENGINEERING INC	NATHAN COTE, PE	10 CENTRE ROAD	SOMERSWORTH	NH	03878





**CITY OF DOVER**

## PLANNING BOARD - STAFF MEMO FILE #P19-02

Application Type: Conditional Use Permit for Review  
Applicant(s): Donald R and Dawn M. Barker  
Owner(s): Donald R and Dawn M. Barker  
Location: 94 County Farm Cross Road (Assessor's Map B, Lot 12-B)  
Meeting Date: January 22, 2019

**INTENT:** Proposal is to replace a failed septic system with a new septic system within 48.8' of a wetland when 75' is required.

**LOTS/UNITS PROPOSED:** N/A

**AGENDA ITEM #:** 4-E

**ACREAGE:** 0.73 acres

**ZONING DISTRICT:** R-40

**EXISTING LAND USE:** Residential

**PROPOSED LAND USE:** Residential

**SURROUNDING LAND USE:**  
Residential and Former Railroad bed

**ZBA ACTION:** None

**ATTACHMENTS:** Application materials, Conservation Commission minutes, and CUP 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  
-NHDES Septic System Permit

**WAIVERS REQUESTED:** None

### Summary of Request and Background

The applicant is requesting a Conditional Use Permit to install a new septic system within 48.8' of a wetland whereas 75' is required.

The Conservation Commission endorsed this item at their January 14, 2019 meeting.

### 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 Conditional Use Permit with the following conditions:

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

1. Provide NHDES Septic System Permit

## 94 County Farm Cross Road

**Property Information**

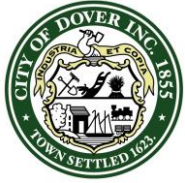
**Property ID** B0012-B00000  
**Location** 94 COUNTY FARM CROSS RD  
**Owner** BARKER DONALD RAYMOND &  
**Land Use** 101

**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 11/16/2018  
Data updated 11/18/2018





**CITY OF DOVER**

## DOVER CONSERVATION COMMISSION – MINUTES

Meeting Type: Regular Meeting  
Meeting Location: **1st Floor Conference Room** - 288 Central Avenue, Dover, NH  
Meeting Date: Monday, January 14, 2019  
Meeting Time: 5:30 pm

- E. City of Dover Conditional Use Permit for Donald R. & Dawn M. Barker, Assessor's Map B, Lot 12-B, zoned R-40, located at 94 County Farm Cross Road.

Ashley Rowe of Norway Plains Associates was present to explain the proposal for the replacement of a failed septic system with a new septic system 43.8 feet from a wetland, where 75 feet is required. There is no location on the lot that would meet the setback requirements. It is only the septic tank that is within 75 feet, not the leach field. House was built in 1965 and the existing tank is original. The tank is located behind the house. The new tank will be sealed and coated because it is too close to the well.

Hunt confirmed with Rowe that there will be a pump from the tank to the leach field.

Rowe: The leach field will be narrow and raised.

Donovan: I think you did the best you could for a location.

*Donovan made a motion to endorse the City of Dover Conditional Use Permit, Kramer-Perry seconded. Vote: 7 in favor*

### 6. REPORT FROM THE CHAIR

- A. Review of Correspondence Received From NH Department of Environmental Services: None

### 7. OTHER BUSINESS:

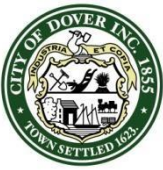
Bird: We met with Kyle Pimental from SRPC last week to discuss incorporating climate change into the criteria that OLC uses to assess properties under consideration for protection. Looking for Conservation Commission feedback. With Lyon absent, we can delay this to the February agenda for a more complete discussion.

Fellows: I wanted to ask about the status of the inventory of city forest land from the last meeting.

Bird: I have not had a chance to meet with John Storer since the last meeting. However I have sent him a meeting invite for next week so we should put that topic on the next agenda.

### 8. ADJOURNMENT

The Chair declared the meeting adjourned at 6:50 pm.



# City of Dover, New Hampshire

## CONDITIONAL USE PERMIT APPLICATION

[Revision Date: May 18, 2017]

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

### APPLICANT AND OWNER INFORMATION

Name of Applicant: _____ Telephone # _____

Address of Applicant: _____

E-Mail Address: _____

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

Address of Property Owner: _____

### PROPERTY INFORMATION

Assessor's Map # _____ Lot(s) # _____

Address of Property: _____

Zoning District(s) _____ Overlay District(s) _____

Existing Use of Property: _____

### CONDITIONAL USE PERMIT INFORMATION

#### Type of Conditional Use Permit (Check All That Apply):

- |                                                      |                                                         |                                                        |
|------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------|
| <input type="checkbox"/> Conservation District       | <input type="checkbox"/> RCM Use Overlay District       | <input type="checkbox"/> I-1 District Uses             |
| <input type="checkbox"/> Groundwater Protection      | <input type="checkbox"/> Off-Street Parking and Loading | <input type="checkbox"/> Alternative Treatment Center  |
| <input type="checkbox"/> Wetland Protection District | <input type="checkbox"/> Central Business District      | <input type="checkbox"/> Heritage Residential District |

Describe Proposed Use or Activity That Requires Conditional Use Permit and Describe Any Impacts:

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List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: _____

_____

Name of Professional That Prepared Plans: _____

Address _____ Telephone #: _____

Professional License #: _____ E-mail address: _____

### **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: _____

Signature of Agent: _____ Date: _____

### **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: _____

## 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 # _____ sq. ft. = \$ _____  
Additions (new floor space) \$.10 per sq. ft. x # _____ sq. ft. = \$ _____
- IMPERVIOUS PAVED AREA (for new development) OR IMPERVIOUS PARKING LOT ADDITIONS (not to exceed \$10,000) \$.07 sq. ft. x # _____ = \$ _____
- MOTEL/HOTEL \$35.00 x # _____ per lodging unit = \$ _____
- CHANGE OF USE (not to exceed \$5,000)  
Existing floor space \$.10 per sq. ft. x # _____ sq. ft. = \$ _____
- CONDITIONAL USE PERMIT \$150.00 x # _____ per application = \$ _____
- GRAVEL PIT/ EXCAVATIONS - Application fee \$50.00 & Permit fee \$75.00 = \$ _____
- EXTENSIONS OF/AMENDMENTS TO/WAIVERS FOR AN APPROVED PLAN (\$150.00 minimum) \$50.00 x # _____ per hour of review \$ _____
- REQUEST FOR REZONING \$150.00 = \$ _____
- DRIVEWAY WAIVER – \$100.00 application fee = _____  
Letter of rejection from Engineering Department, diagram & letter from owner \$ _____

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

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

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

*(Revised October 2, 2018)*

**TOTAL FEE** \$ _____

## CITY OF DOVER CONDITIONAL USE 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

**Applicant (if different from owner):**

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

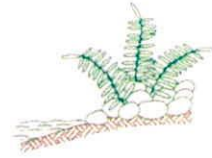
**Surveyor and/or Engineer/Professional Agent:**

NAME	COMPANY	MAILING ADDRESS

**Conservation Easement Holder:**

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

Peter Cooperdock, CSS  
Fernstone Associates  
360 Castine Road  
Castine, ME 04421



December 23, 2018

RECEIVED  
Planning Office

JAN 02 2019

Dover, New Hampshire

Ashley F. Rowe  
Norway Plains Associates, Inc.  
2 Continental Boulevard  
PO Box 249  
Rochester, NH 03866-0249

RE: Soils Review and Wetland Delineation, 94 County Farm Cross Road, Dover, NH

Dear Ashley F. Rowe,

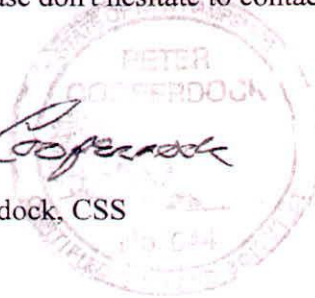
As you know, I've had the opportunity to review the soil conditions for jurisdictional wetlands on this property surrounding the existing house. This review has examined the soils according to the criteria in the rules for the Subsurface Systems Bureau of the NH Department of Environmental Services, which permits septic system placement. This examination has also been conducted according to the technical criteria outlined in the Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1 and Field Indicators for Identifying Hydric Soils in New England, which are required by the Wetlands Bureau.

A series of numbered blue flags have been used to establish the limits of poorly drained jurisdictional wetlands, as identified on December 20, 2018. These limits represent the existing wetlands both undisturbed and disturbed. A ditch, which is considered jurisdictional, has been dug from relatively undisturbed wetlands on the rear abutter's property to the disturbed wetland adjacent to the existing long driveway adjacent to this lot.

I appreciate the opportunity of working with you on this site. I have enclosed the bill for this service. If I can be of any further assistance to you, please don't hesitate to contact me.

Sincerely,

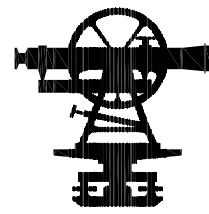
Peter Cooperdock, CSS



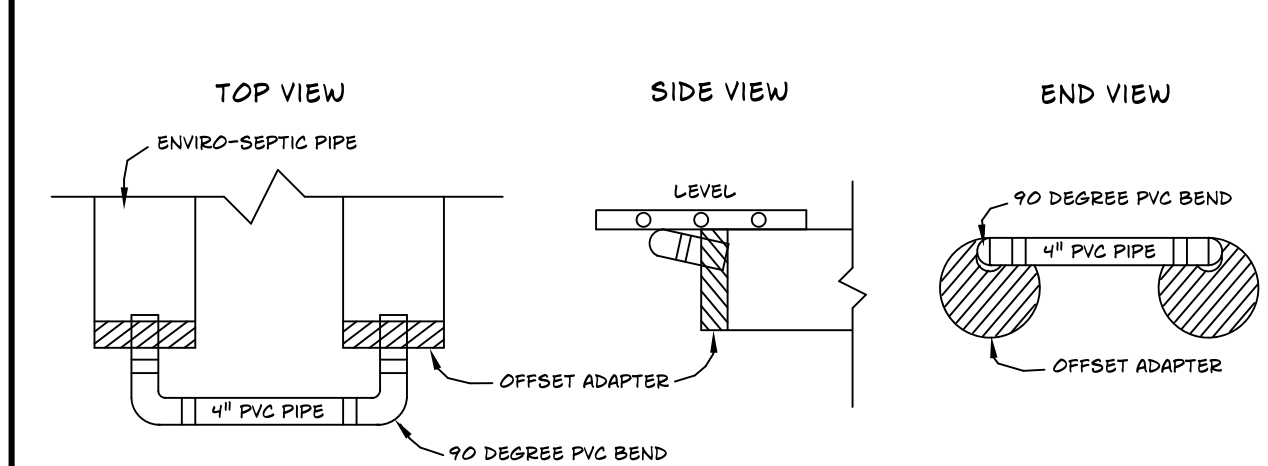
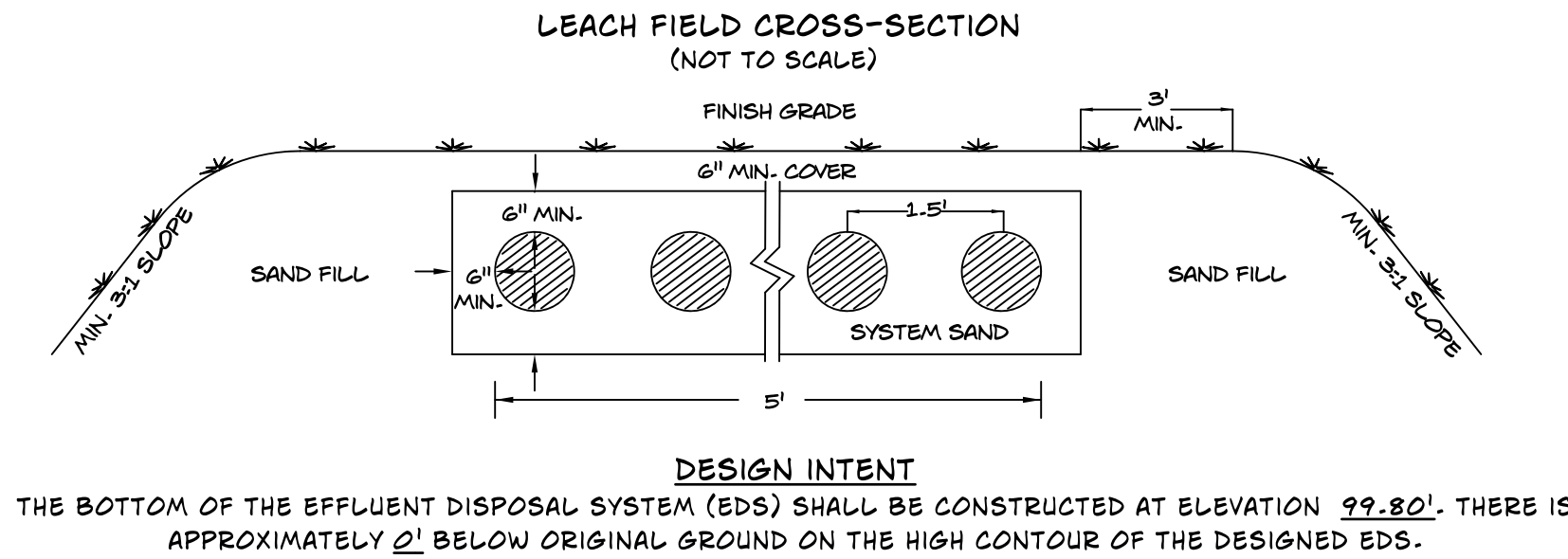
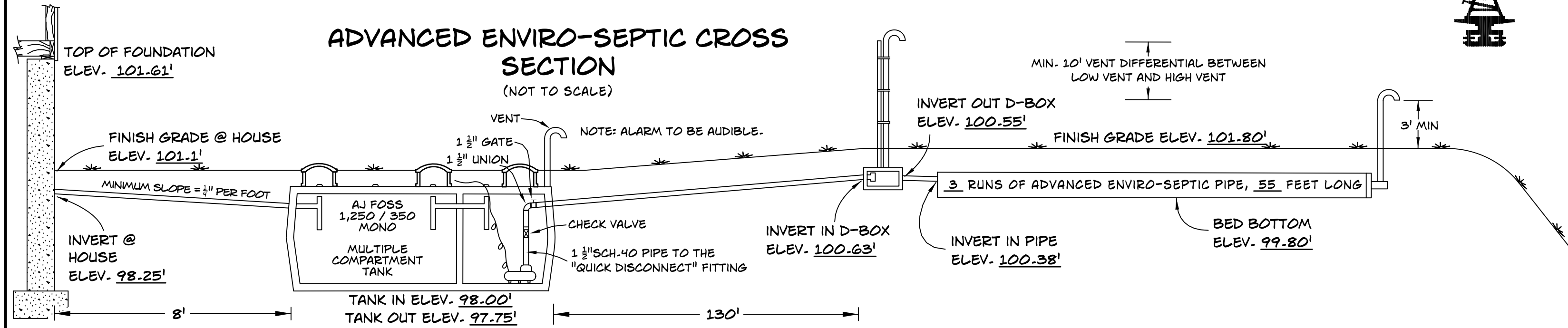
**Certified Soil Scientist   603-323-7507   Certified Wetland Scientist**  
**Site Evaluation                      Septic System Design**  
**Natural Resource Inventory**



# LAND SURVEYORS



# CIVIL ENGINEERS



WETLANDS WERE DELINEATED ON THE BASIS OF HYDROPHYTIC VEGETATION, HYDRIC SOILS, AND WETLANDS HYDROLOGY IN ACCORDANCE WITH THE TECHNIQUES OBTAINED IN THE CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1, JANUARY 1987. THE HYDRIC SOIL COMPONENT WAS DETERMINED BY USING THE FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 3, APRIL 2004. (SEE ENV-WS 1014.03 DELINEATION OF WETLANDS; HYDRIC SOILS DETERMINATION) THE WETLANDS DEPICTED ON THIS PLAN WERE DELINEATED AND FLAGGED ON DECEMBER 20TH, 2018 BY PETER COOPERDOCK (STATE OF NEW HAMPSHIRE CERTIFIED SOIL SCIENTIST #064 & CERTIFIED WETLAND SCIENTIST # 044 OF FERNSTONE ASSOCIATES.) SEE ACCOMPANYING LETTER FROM FERNSTONE ASSOCIATES.

**MAINTENANCE**

PROPER MAINTENANCE AND CARE ARE REQUIRED FOR SEPTIC SYSTEM TO FUNCTION PROPERLY. THE FOLLOWING ARE SOME ITEMS THAT MAY SHORTEN SYSTEM LIFE:

- SOME WATER SOFTENERS/PURIFIERS
- GARBAGE DISPOSAL UNITS
- EXCESSIVE USE OF WATER
- HOT TUBS
- SOME CLEANERS
- TOXIC CHEMICALS

TANK SHOULD BE INSPECTED AT LEAST ONCE A YEAR AND CLEANED WHEN NECESSARY.

UNLESS OTHERWISE SHOWN HEREON, THERE ARE NO CEMETERIES OR BURIAL GROUNDS WITHIN 100' OF ANY COMPONENT OF THE PROPOSED SYSTEM.

- SEALANT TO BE USED IS PLASTIC CEMENT.

- ENVIRO-SEPTIC PIPES TO BE LAID LEVEL.

- SYSTEM MAY BE REPLACED IN SAME LOCATION IF NECESSARY.

- DO NOT INSTALL SYSTEM ON FROZEN GROUND.

- IF SYSTEM HAS AN EXISTING BUILDING, ALL INSIDE PLUMBING MUST BE CHECKED BEFORE INSTALLATION.

- INSTALLATION OF ALL ADVANCED ENVIRO-SEPTIC SYSTEMS IS TO BE IN STRICT ACCORDANCE WITH THE ENVIRO-SEPTIC DESIGN AND INSTALLATION HANDBOOK FOR THE STATE OF NEW HAMPSHIRE.

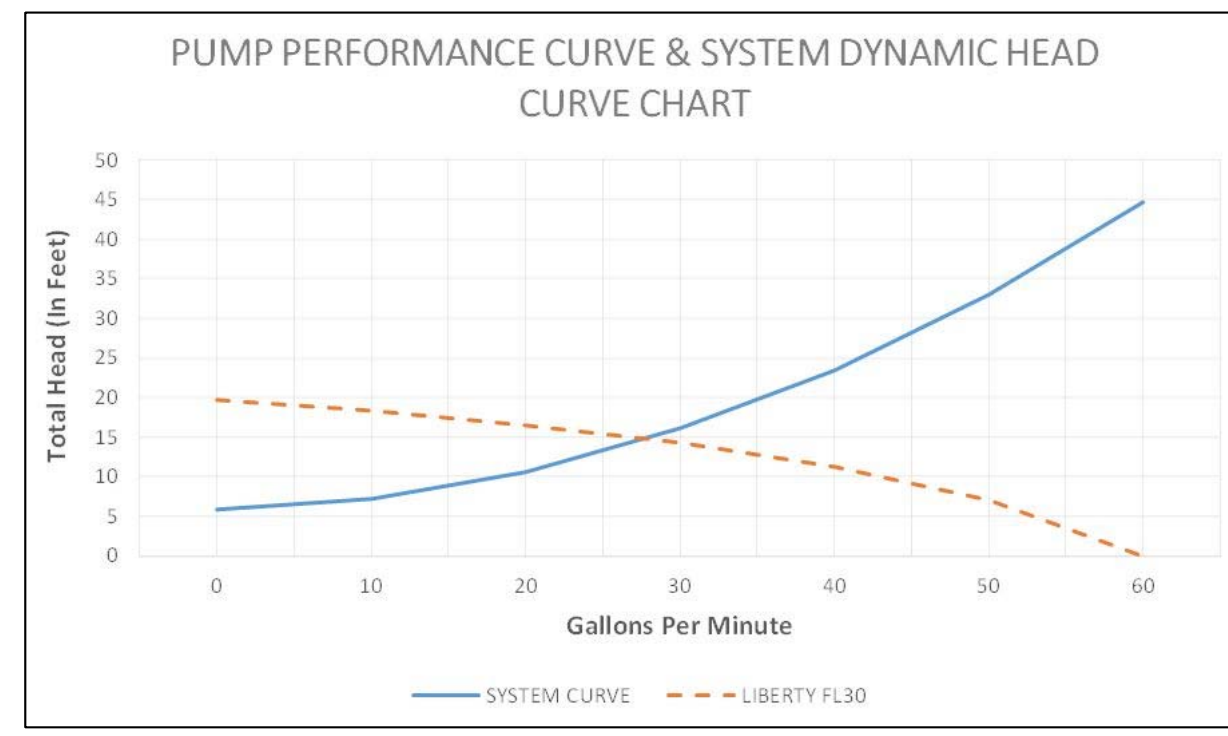
- PRESBY ENVIRONMENTAL, INC. RECOMMENDS THAT THE 4\"/>

BEFORE INSTALLATION, INSTALLER MUST VERIFY ALL ELEVATIONS AND DISTANCES. IF SYSTEM HAS EXISTING BUILDINGS, ALL PLUMBING ELEVATIONS MUST BE CHECKED.

CONTACT DESIGNER IF ANY DISCREPANCIES ARE FOUND.

ADVANCED ENVIRO-SEPTIC WASTEWATER TREATMENT SYSTEMS ARE APPROVED BY NHDES AS ITA IN ACCORDANCE WITH PART ENV-WS 1024. THE SYSTEM IS DESIGNED IN ACCORDANCE WITH THE ENVIRO-SEPTIC & SIMPLE SEPTIC LEACHING SYSTEMS DESIGN AND INSTALLATION MANUAL AND THE ENVIRO-SEPTIC WASTEWATER TREATMENT SYSTEMS DESIGN AND INSTALLATION MANUAL NEW HAMPSHIRE STATE ATTACHMENT.

ADVANCED ENVIRO-SEPTIC (AES) HAS BEEN GRANTED A NEW ITA APPROVAL TO BE INSTALLED 24\"/>



**WAIVERS REQUESTED:**

1008.04 MINIMUM DISTANCES - TO PLACE THE TANK 43.8' FROM POORLY DRAINED SOILS WHERE 50' IS REQUIRED

1008.04 MINIMUM DISTANCES - TO PLACE THE TANK 41.3' FROM AN ON SITE WELL WHERE 50' IS REQUIRED

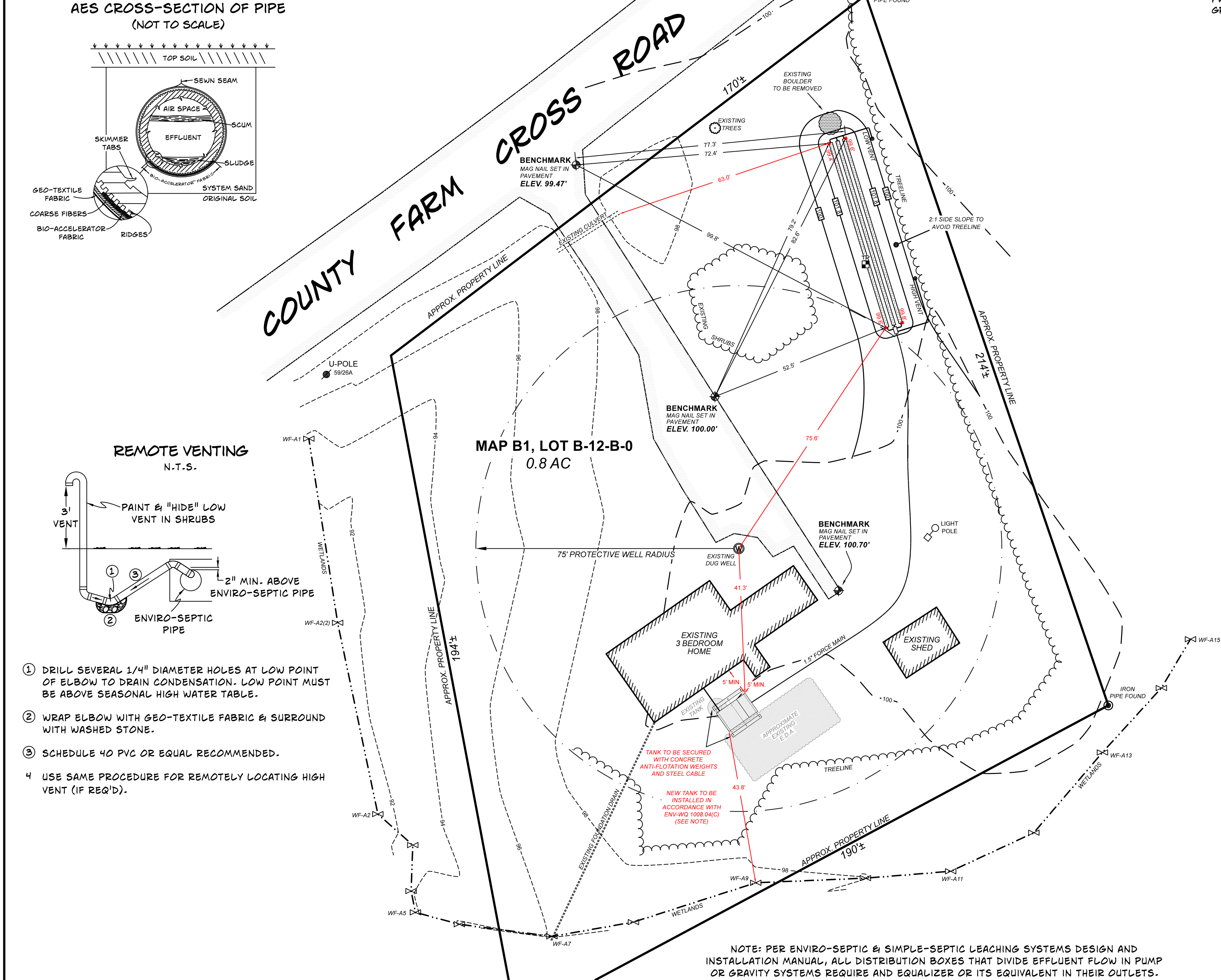
**NOTE:**

THE DISTANCES BETWEEN THE MONUMENTS ON THE GROUND DO NOT MATCH THE DISTANCE CALLS IN THE DEED, HOWEVER THEY APPEAR TO BE THE ORIGINAL MONUMENTS CALLED FOR IN THE DEED. THE APPROXIMATE PROPERTY LINES DEPICTED ON THIS PLAN ARE WITNESSED IN THE FIELD BY A PERIOD CORRECT FENCE LINE CONSTRUCTED OF NOW DETERIORATING CEDAR FENCE POSTS. THE BOUNDARY EVIDENCE AND LINES OF OCCUPATION ON THE GROUND ALL INDICATE THE APPROXIMATE PROPERTY LINES DEPICTED ON THIS PLAN ARE THE LINES HISTORICALLY RESPECTED BY LAND OWNERS. DURING AN ONSITE MEETING, TYLER BUXTON OF T & S BUILDERS WAS MADE AWARE OF THE DISCREPANCY BETWEEN THE DEED CALLS AND THE EVIDENCE ON THE GROUND. MR. BUXTON WAS ADVISED THAT HE SHOULD DISCUSS THE MATTER WITH THE OWNER OF THE NEIGHBORING PROPERTY TO ENSURE THAT THE MONUMENTS FOUND IN THE FIELD MATCH HIS UNDERSTANDING OF THE BOUNDARY LINES BEFORE PROCEEDING.

**ENV-WQ 1008.04**

(C) THE DISTANCE BETWEEN A SEPTIC TANK AND SURFACE WATER, OPEN DRAINAGE, VERY POORLY DRAINED SOIL, AN OPEN LOOP GEOTHERMAL WELL, OR A PRIVATE ON-SITE WELL MAY BE REDUCED TO 50 FEET IF:

- (1) PIPE HAVING AN SDR OF 26 OR EQUIVALENT IS USED; AND
- (2) THE TANK IS EITHER MADE FROM PLASTIC OR COATED WITH A SEALANT TO PREVENT INFILTRATION AND EXFILTRATION.



**REMOTE VENTING N.T.S.**

PAINT & "HIDE" LOW VENT IN SHRUBS

1 DRILL SEVERAL 1/4\"/>

LOAD = 450 GPD

5 DOSES PER DAY = 101.93 GALLONS PER DOSE

PUMP OFF = 94.85'

PUMP ON = 96.06'

ALARM = 96.31'

RUN TIME = 3 MINUTES, 46 SECONDS

USE LIBERTY FL30 PUMP

NOTE: ALARM MUST BE AUDIBLE. ALARM AND PUMP TO BE ON SEPERATE ELECTRICAL CIRCUITS.

PRESBY SYSTEM SAND SPECIFICATIONS	
SIEVE SIZE	PERCENT RETAINED ON SIEVE (BY WEIGHT)
3/4" (19 MM)	0
#10 (2 MM)	0-35
#35 (0.50 MM)	40-90
NOTE: NOT MORE THAN 3% ALLOWED TO PASS THE #200 SIEVE (VERIFIED BY WASHING SAMPLE PER REQUIREMENTS OF ASTM C-117)	

**30.1 SYSTEM SAND ACCEPTABLE ALTERNATIVES**

1. ASTM C-33 (CONCRETE SAND), NATURAL OR MANUFACTURED SAND, WITH NOT MORE THAN 3% PASSING THE #200 SIEVE (VERIFIED BY WASHING THE SAMPLE PER THE REQUIREMENTS OF ASTM C-117 AS NOTED IN THE ASTM C-33 SPECIFICATION) MAY BE USED AS AN ACCEPTABLE ALTERNATIVE MATERIAL FOR USE AS SYSTEM SAND.
2. SYSTEM SAND MUST BE CLEAN, GRANULAR SAND, FREE OF ORGANIC MATTER AND MUST ADHERE TO THE ABOVE FOLLOWING PERCENTAGE AND QUALITY RESTRICTIONS
3. SYSTEM SAND EXTENDS A MINIMUM OF SIX (6) INCHES ALL AROUND THE PIPE.

**SYSTEM REQUIREMENTS**

NUMBER OF BEDROOMS: 3 BEDROOMS

DAILY FLOW VOLUME: 450 GPD

TANK VOLUME NEEDED: 1,250 GALLONS

165 LINEAR FEET OF ENVIRO-SEPTIC PIPE REQUIRED.

165 LINEAR FEET OF ENVIRO-SEPTIC PIPE DESIGNED.

**PERCOLATION TEST DATA**

DATE: 12-06-2018 RATE: 10 MINUTES PER INCH @ 15 INCHES

**TEST PIT DATA**

0\"/>

SOILS PER NRCS: B2B - BUXTON SILT LOAM



**PROPOSED SEPTIC SYSTEM**

94 COUNTY FARM CROSS ROAD

DOVER, NH

FOR

DONALD R. & DAWN M. BAKER

1\"/>

**NORWAY PLAINS ASSOCIATES, INC.**

P.O. BOX 249

ROCHESTER, NH 03866

603-335-3948

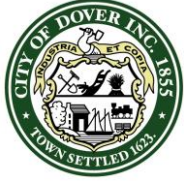
1\"/>



P19-02

94 County Farm Cross Road

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
B0010-A00000	83 COUNTY FARM CROSS RD	CHEVALIER DYANNE P		83 COUNTY FARM CROSS RD	DOVER	NH	03820
B0010-B00000	89 COUNTY FARM CROSS RD	KRAMPERT MICHELLE		89 COUNTY FARM CROSS ROAD	DOVER	NH	03820
B0010-C00001	97 COUNTY FARM CROSS RD	NOYES CHRISTOPHER R		97 COUNTY FARM CROSS RD	DOVER	NH	03820
B0010-C00002	95 COUNTY FARM CROSS RD	LABARRE MATTHEW		95 COUNTY FARM CROSS RD	DOVER	NH	03820-6007
B0010-C00003	93 COUNTY FARM CROSS RD	STENERI BRIAN &	STENERI DENISE	PO BOX 703	DOVER	NH	03821-0703
B0011-A00000	101 COUNTY FARM CROSS RD	FERRARA MICHAEL &	FERRARA JANE L	101 COUNTY FARM CROSS RD	DOVER	NH	03820
B0012-C00000	88 COUNTY FARM CROSS RD	LETENDRE ROGER G		88 COUNTY FARM CROSS RD	DOVER	NH	03820
B0013-A00000	100 COUNTY FARM CROSS RD	MERKLEY MARY B		98 COUNTY FARM CROSS ROAD	DOVER	NH	03820
B0014-000000	108 COUNTY FARM CROSS RD	ROYER RAYMOND & MARLENE TRUSTEES	ROYER RAYMOND AND MARLENE REV LIV TRUST	108 COUNTY FARM CROSS ROAD	DOVER	NH	03820
		DONALD R & DAWN M BARKER		2 WASHINGTON WAY	KINGSTON	NH	03848
		NORWAY PLAINS ASSOCIATES	ASHLEY F ROWE	PO BOX 249	ROCHESTER	NH	03866
		FERNSTONE ASSOCIATES	PETER COOPERDOCK	6 OLD ROUTE 28	OSSIPEE	NH	03864



**CITY OF DOVER**

## PLANNING BOARD - STAFF MEMO FILE #P19-01

Application Type:	Conditional Use Permit
Applicant(s):	Knox Marsh Development, LLC
Owner(s):	Knox Marsh Development, LLC
Location:	84 Silver Street (Tax Map 12, Lots 125 & 125A)
Meeting Date:	January 22, 2019

**INTENT:** Proposal is to construct a 4 unit building in addition to the existing 8 unit apartment building and to expand the existing parking lot

**LOTS/UNITS PROPOSED:** 4 new units

**AGENDA ITEM #:** 4-F

**ACREAGE:** 0.58 acres

**ZONING DISTRICT:**  
Heritage Residential (HR)

**EXISTING LAND USE:**  
Residential/Vacant

**PROPOSED LAND USE:**  
Residential

**SURROUNDING LAND USE:** Residential, Commercial, Community Trail

**ZBA ACTION:** None

**ATTACHMENT:**  
Conditional Use Permit application materials

**APPLICATION IS COMPLETE:** Yes

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

**PERMITS REQUIRED:**  
CUP

### Summary of Request and Background

The applicant proposes to construct 4 additional units in a townhouse style on lot 125A with a shared expanded parking lot with lot 125 which currently has 8 units.

Conditional Use Permits for this use in the HR do not require Technical Review Committee review.

### Consistency with Land Use Regulations

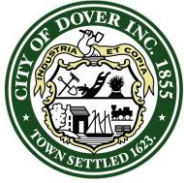
The Heritage Residential table allows for 4 dwelling units through a CUP which is granted by the Planning Board rather than the Zoning Board of Adjustment.

Chapter 170-20-B(2)&(3) of the City Code states that conditional use approval for relief from the standards may be granted by the Planning Board provided that the proposed project complies with the following standards:

- (2) (a) *The requested use shall be compatible with abutting uses and the surrounding NEIGHBORHOOD.*
- (b) *The requested use will not create undue traffic congestion, or unduly impair pedestrian safety.*
- (c) *The requested use will not result in objectionable noise or odor which would constitute a NUISANCE.*
- (3) *Conditional use approval 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*

As well as these requirements:

- A. *The specific site must have an amount of open space, either landscaped or left natural, at least equal to the average amount of open space on all developed lots in the HR District that are wholly or partly within two hundred (200) feet of the subject parcel. Existing parking areas, either gravel, paved or unpaved, shall not be considered to be open space.*
- B. *Off-street parking, in accordance with Chapter 149, Site Review, shall be provided as to avoid vehicles backing into the street. Two (2) parking spaces per unit shall be required.*
- C. *Parking lots shall be at least five (5) feet from a side property line and ten (10) feet from a front property line.*
- D. *Parking areas shall be screened from the street and from abutting lots.*
- E. *Structures shall be at least twenty (20) feet from a front property line, thirty (30) feet from a rear property line and fifteen (15) feet from a side property line unless abutting a street, in which case, the distance from the side property line shall be twenty (20) feet.*
- F. *For new construction, the building must be designed to look like a SINGLE FAMILY DWELLING. At a minimum, this shall mean that only one entrance shall be visible from a public street. For conversions, the building must retain its appearance as a SINGLE FAMILY DWELLING or a 2 family dwelling, whichever is the current use. Notwithstanding any other provision of Chapter 170, a legal or legal non-conforming accessory structure existing as of the effective date of these regulations may be converted into one or more residential units, provided that the building shall not be enlarged, nor shall any exterior improvements be made to alter its appearance as an accessory structure.*



**CITY OF DOVER**

## PLANNING BOARD - STAFF MEMO FILE #P19-01

Application Type:	Conditional Use Permit
Applicant(s):	Knox Marsh Development, LLC
Owner(s):	Knox Marsh Development, LLC
Location:	84 Silver Street (Tax Map 12, Lots 125 & 125A)
Meeting Date:	January 22, 2019

Considering the justification provided in the applicant's letter dated January 2, 2019 the Conditional Use Permit request meets these requirements as long as the conditions of approval below are added.

### **STAFF RECOMMENDATION:**

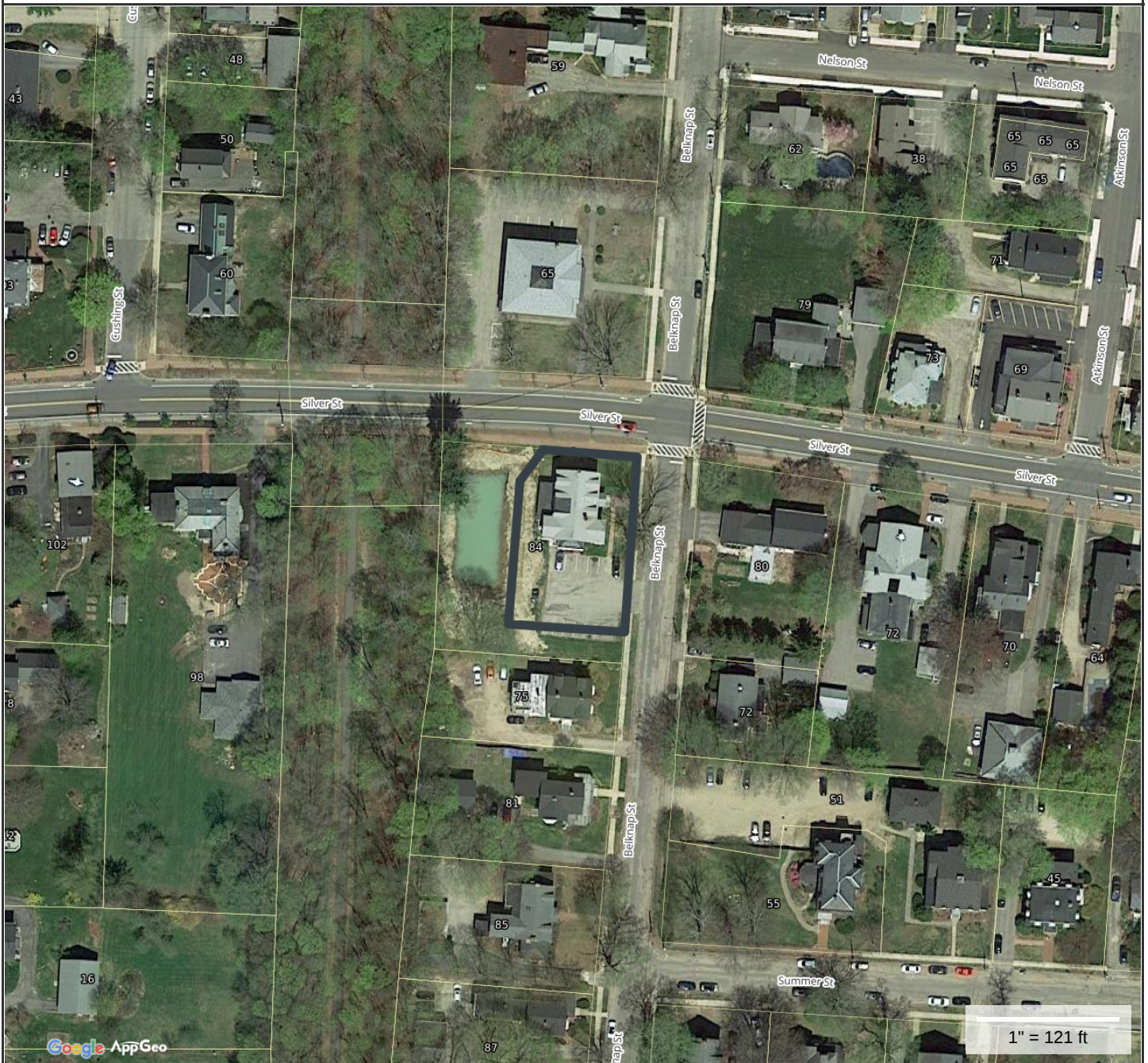
The Planning Department recommends that the Planning Board accept the application, hold the public hearing, and approve the Conditional Use Permit with the following conditions:

#### **Conditions to Be Met Prior to the Signing of the Plans:**

1. Add additional trees to screen 4 units from Silver Street and additional landscaping on Belknap Street to the satisfaction of the Assistant City Manager.
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)
3. The owner's signature shall be added to the final plan.
4. Add the Planning File Number P19-01.
5. The applicant shall provide a digital version of the final plan to the Planning Department.
6. Provide an access/parking easement plan and documentation to the satisfaction of the Assistant City Manager.
7. Add note to the plan that no natural debris or trash shall enter the Dover Community Trail area from these properties.
8. Add a note to the plan that no snow can be pushed so that it falls onto the Dover Community Trail below.
9. Indicate materials on the architectural renderings to the satisfaction of the Assistant City Manager.



## 84 Silver Street

**Property Information**

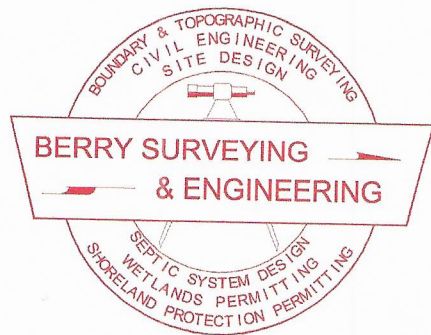
**Property ID** 12125-000000  
**Location** 84 SILVER ST  
**Owner** KNOX MARSH DEVELOPMENT LLC  
**Land Use** 111

**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 11/16/2018  
Data updated 11/18/2018





## **BERRY SURVEYING & ENGINEERING**

335 Second Crown Point Road

Barrington, NH 03825

Phone: (603) 332-2863

Fax: (603) 335-4623

[www.BerrySurveying.Com](http://www.BerrySurveying.Com)

[crberry@metrocast.net](mailto:crberry@metrocast.net)

City of Dover

Attention: Assistant City Planner Donna Benton

288 Central Ave

Dover, NH 03820

January 2, 2019

Re: Knox Marsh Development  
Conditional Use Permit  
84 Silver Street  
Dover, NH  
Tax Map 12, Lot 125A

Dear Mrs. Benton,

On behalf of our client Knox Marsh Development, Berry Surveying & Engineering (BS&E) is submitting a Conditional Use Permit to allow 4 units to be constructed on Tax Map 12, Lot 125A.

### **Background and General Narrative:**

Knox Marsh Development owns the parcel known as 84 Silver Street (Lot 125) and the adjacent parcel (Lot 125A). Berry Surveying and Engineering has conducted an on-site survey of the parcel which includes a topographic analysis as well as a wetlands analysis. Please note there are no wetlands found on the parcel. Lot 125 has an existing 8 unit apartment building with a parking lot, while Lot 125A is mostly grass with no existing buildings. Both parcels slope from Silver Street towards the rear of the lots down Belknap Street. Prior to the applicant owning the parcel, construction was started on Lot 125A.

### **The Proposal:**

The proposal is to construct a 4 unit building on Lot 125A. Each unit will be a town home style unit and have its own entrances in the front and rear of the building. Unit one, which sits closest to Silver Street, will have a front porch and brick sidewalk so that it will give the appearance of one single family home. The remaining units will have entrances on the side, so as to be less noticeable from Silver Street. In addition to the 4 unit building the applicant is also proposing to expand the existing parking lot so that it has adequate parking not only for the existing building but the proposed units. The parking lot will be constructed over the existing footprint to limit the overall increase of impervious surface. It will be 24 feet wide with the necessary ADA spaces and signage.



The existing 8 unit building will remain on City sewer and water and the current connections and services will not be altered. A portion of overhead utilities will have to be removed for the construction of the new building. It will be the applicant's responsibility to coordinate with Eversource the removal of the overhead utilities and reconnect that service to the existing building. The proposed building will also be serviced by City sewer and water, which will be connected to in Belknap Street. In addition, underground utilities will be utilized to provide service to the proposed units.

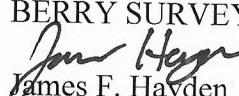
Given the natural sloping topography of the parcels, a detention area is proposed to be constructed along the southern property line at the low point of the parcels, in the position of the existing detention area. As it stands currently there is no means of storm water management on the site. The detention system will be sized to attenuate the proposed flow.

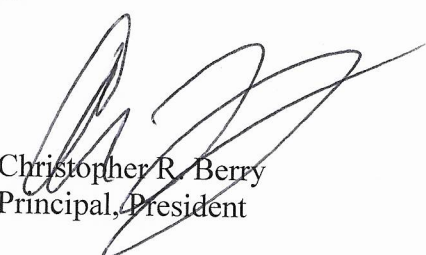
The applicant is also proposing to increase the onsite landscaping throughout the parcels. A mixture of street trees and shrubs will be planted at the front of the proposed building along Silver Street to enhance the street scape of the parcel and make it more aesthetically pleasing. There will also be landscaped buffers between the parking lot and Belknap Street in order to screen the parking lot and provide a vegetated buffer. A 6' high white vinyl fence is proposed along the southern boundary line in order to screen the parking lot and rain garden from the abutting property.

Proper erosion and sediment control measures will also be taken to ensure that no sediment runs off onto abutting lots or Belknap Street. Silt soxx will be used along the perimeter and around the rain garden to help contain the sediment during the construction process. In addition a construction entrance will be utilized to minimize the tracking onto Belknap Street.

The proposed development will require the applicant to seek a conditional use permit to allow for a 4 unit building within the Heritage Residential Zone. The proposed 4 unit building and surrounding design has met all the conditional use permit criteria. The proposed design was done so that the proposed parking lot expansion would remain in the existing footprint along the front boundary line so that there would be no expansion near Belknap Street.

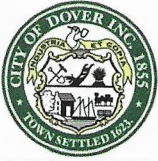
Respectfully Submitted,  
BERRY SURVEYING & ENGINEERING

  
James F. Hayden  
Engineering Technician

  
Christopher R. Berry  
Principal, President



**BERRY SURVEYING & ENGINEERING**  
335 Second Crown Pt. Rd., Barrington, NH 03825  
(603) 332-2863 / (603) 335-4623 FAX  
[www.BerrySurveying.Com](http://www.BerrySurveying.Com)



# City of Dover, New Hampshire CONDITIONAL USE PERMIT APPLICATION

[Revision Date: May 18, 2017]

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

## APPLICANT AND OWNER INFORMATION

Name of Applicant: Knox Marsh Development Telephone # 603-742-2121

Address of Applicant: 242 Central Ave, Dover, NH 03820

E-Mail Address: Robert@Centralfallsrealty.com

Name of Property Owner (if different from applicant): Knox Marsh Development Telephone # 603-742-2121

Address of Property Owner: 242 Central Ave, Dover, NH 03820

## PROPERTY INFORMATION

Assessor's Map # 12 Lot(s) # 125 & 125A

Address of Property: 84 Silver Street

Zoning District(s) Heritage Residential Overlay District(s) None

Existing Use of Property: Vacant Lot

## CONDITIONAL USE PERMIT INFORMATION

### Type of Conditional Use Permit (Check All That Apply):

- |                                                      |                                                         |                                                                   |
|------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------|
| <input type="checkbox"/> Conservation District       | <input type="checkbox"/> RCM Use Overlay District       | <input type="checkbox"/> I-1 District Uses                        |
| <input type="checkbox"/> Groundwater Protection      | <input type="checkbox"/> Off-Street Parking and Loading | <input type="checkbox"/> Alternative Treatment Center             |
| <input type="checkbox"/> Wetland Protection District | <input type="checkbox"/> Central Business District      | <input checked="" type="checkbox"/> Heritage Residential District |

Describe Proposed Use or Activity That Requires Conditional Use Permit and Describe Any Impacts:

Proposed multifamily building with 4 units.

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: None

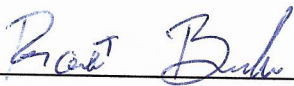
Name of Professional That Prepared Plans: Kenneth A Berry, PE, LLS

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

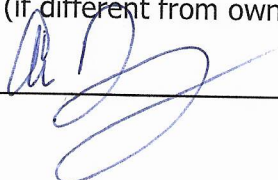
Professional License #: 14243 E-mail address: K.Berry@BerrySurveying.com

### SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner:  Date: 1-2-19.

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

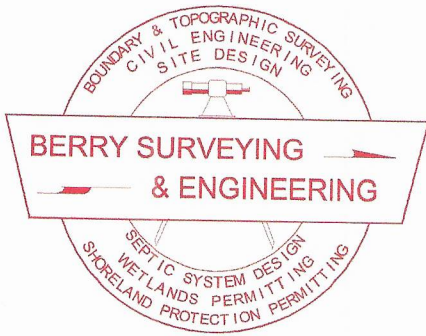
Signature of Agent:  Date: 1-2-19.

### 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: 1-2-19.





## **BERRY SURVEYING & ENGINEERING**

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Barrington, NH 03825  
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Fax: (603) 335-4623  
[www.BerrySurveying.Com](http://www.BerrySurveying.Com)

January 2, 2019

City of Dover Planning Board  
Attention: Mrs. Benton, Assistant City Planner  
288 Central Ave  
Dover, NH 03820

RE: Conditional Use Permit  
Knox Marsh Development  
84 Silver Street

Mr. Chairman and Members of the Dover Planning Board,

Pursuant to Zoning Regulations (Chapter 170-20.B (2,3) & Heritage Residential Conditional Use Permit criteria.) Berry Surveying & Engineering (BS&E,) on behalf of Knox Marsh Development, respectfully requests the City of Dover Planning Board approve the following Conditional Use Permit:

- Proposed multifamily building with 4 units within the Heritage Residential Zone.

### **1. Identification of Conditional Use Permits**

Below we show the project's compliance with the standards required to grant a Conditional Use Permit, and the justification for its approval, based on the Heritage Residential District specific criteria.

### **2. Compliance with the following standards**

- a) The specific site must have an amount of open space, either landscaped or left natural, at least equal to the average amount of open space on all developed lots in the HR District that are wholly or partly within two hundred (200) feet of the subject parcel. Existing parking areas, either gravel, paved or unpaved, shall not be considered to be open space.

- **Open space calculations were done for every developed property within 200 feet of the subject parcels. It was determined that there was on average, 57.4% open space on those abutting lots. The proposed site layout will yield 57.6% of open space on Lot 125A.**

- b) Off-street parking, in accordance with Chapter 149, Site Review, shall be provided as to avoid vehicles backing into the street. Two (2) parking spaces per unit shall be required.
- **The existing parking lot had enough spaces to service the existing building on Lot 125. With the construction of the new 4 units on Lot 125A, 10 additional spots will be added to the revised parking lot so that each of the new units will have 2 spaces available. Parking for the entire site complies with section 149-14 Site Development Design Criteria of the Site Review Regulations.**
- c) Parking lots shall be at least five (5) feet from a side property line and ten (10) feet from a front property line.
- **The parking lot expansion complies with the required setbacks.**
- d) Parking areas shall be screened from the street and from abutting lots.
- **Landscaping is proposed between the proposed parking lot and Belknap Street. This landscaping will help shield the parking arrays from Belknap Street. In addition to the proposed landscaping, a 6 foot high white vinyl fence will be added along the southern property line to shield the parking lot from abutting properties.**
- e) Structures shall be at least twenty (20) feet from a front property line, thirty (30) feet from a rear property line and fifteen (15) from a side property line unless abutting a street, in which case, the distance from the side property line shall be twenty (20) feet
- **The proposed 4 unit building is designed so that it will be at least 20 feet from the front property line and 15 feet from the side property line.**





- f) For new construction, the building must be designed to look like a SINGLE FAMILY DWELLING.
- **The proposed building is designed so that it will appear like a single family building from Silver Street, with only the front entrance of the building being visible. While the entrances to the other three units are on the side of the building. In addition, landscaping will be planted around the side and the front of the building in order to provide a street scape and a buffer for the proposed building.**

### 3. Justification for approval of Conditional Use Permit

The proposed 4 unit building and surrounding design has met all the conditional use permit criteria. The proposed design was done so that the proposed parking lot expansion would remain compliant with the regulations. Additional screening and street scape enhancements are proposed to preserve the integrity of the Heritage Residential zone.

#### 1. Identification of Conditional Use Permits

Below we show the project's compliance with the standards required to grant a Conditional Use Permit, and the justification for its approval based on Zoning Requirements 170-20.B (2) & (3).

#### 2. Compliance with the following standards

- a) The requested use shall be compatible with abutting uses and the surrounding neighborhood.
- **The proposed 4 unit building is designed so that it will conform to existing buildings on Silver Street. Multi family is present in the area of the project. A brick sidewalk will also be constructed from the proposed building to the existing brick sidewalk on Silver Street, with other street scape enhancements.**
- b) The requested use will not create undue traffic congestion, or unduly impair pedestrian safety
- **A Trip Generation Analysis was done as part of the application and it was determined that the AM and PM peak would only increase by 2 trips each. This proposed increase will not adversely affect the existing traffic on Belknap or the pedestrian safety.**



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c) The requested use will not result in objectionable noise or odor which would constitute a nuisance.

- **The proposed 4 town houses will not result in noise or odor nuisances. A proposed fence and landscaping will provide a barrier between the site and abutting lots.**

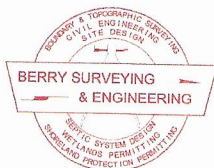
Thank you for your time and attention to this matter, and we hope you look favorably upon the request.

Respectfully Submitted,

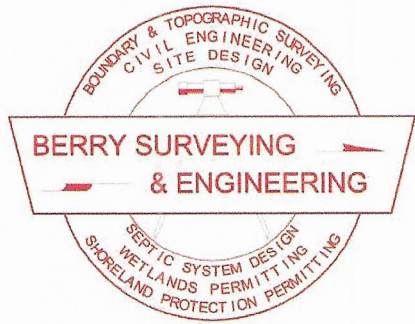
BERRY SURVEYING & ENGINEERING

  
James F. Hayden  
Engineering Technician

  
Christopher R. Berry  
Principal, President



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

January 2nd, 2019

RE: Trip Generation  
Knox Marsh Development, LLC  
84 Silver Street  
Dover, NH 03820

Mrs. Benton,

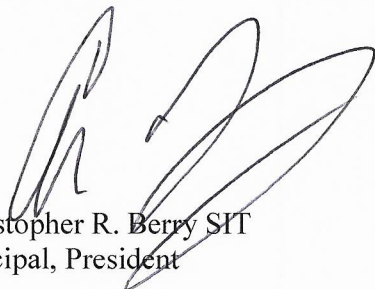
Pursuant to the City of Dover Conditional Use Permit criteria, Berry Surveying & Engineering (BS&E), on behalf of Knox Marsh Development, LLC, has prepared a trip generation analysis for the development of four new residential units at 84 Silver Street. The point of analysis is the existing driveway off from Belknap Street.

The following conclusions were reached as a result of the low volume Traffic Impact Analysis:

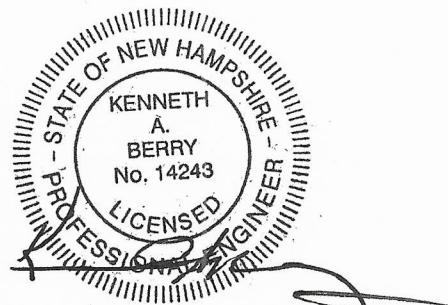
- The driveway will accommodate 12 residential units in the proposed construction.
- A total of 5 vehicle trips (1 enter/4 exit) are predicted to occur at the AM peak hour and 6 vehicle trips (4 enter/2 exit) at the PM peak hour.
- This is an increase in trip generation of 2 AM trips and 2 PM trips.
- It is recommended that the existing and surrounding infrastructure will be sufficient to handle the projected increase in vehicle trips and peak hour and all other hours.

Respectfully Submitted,

BERRY SURVEYING & ENGINEERING

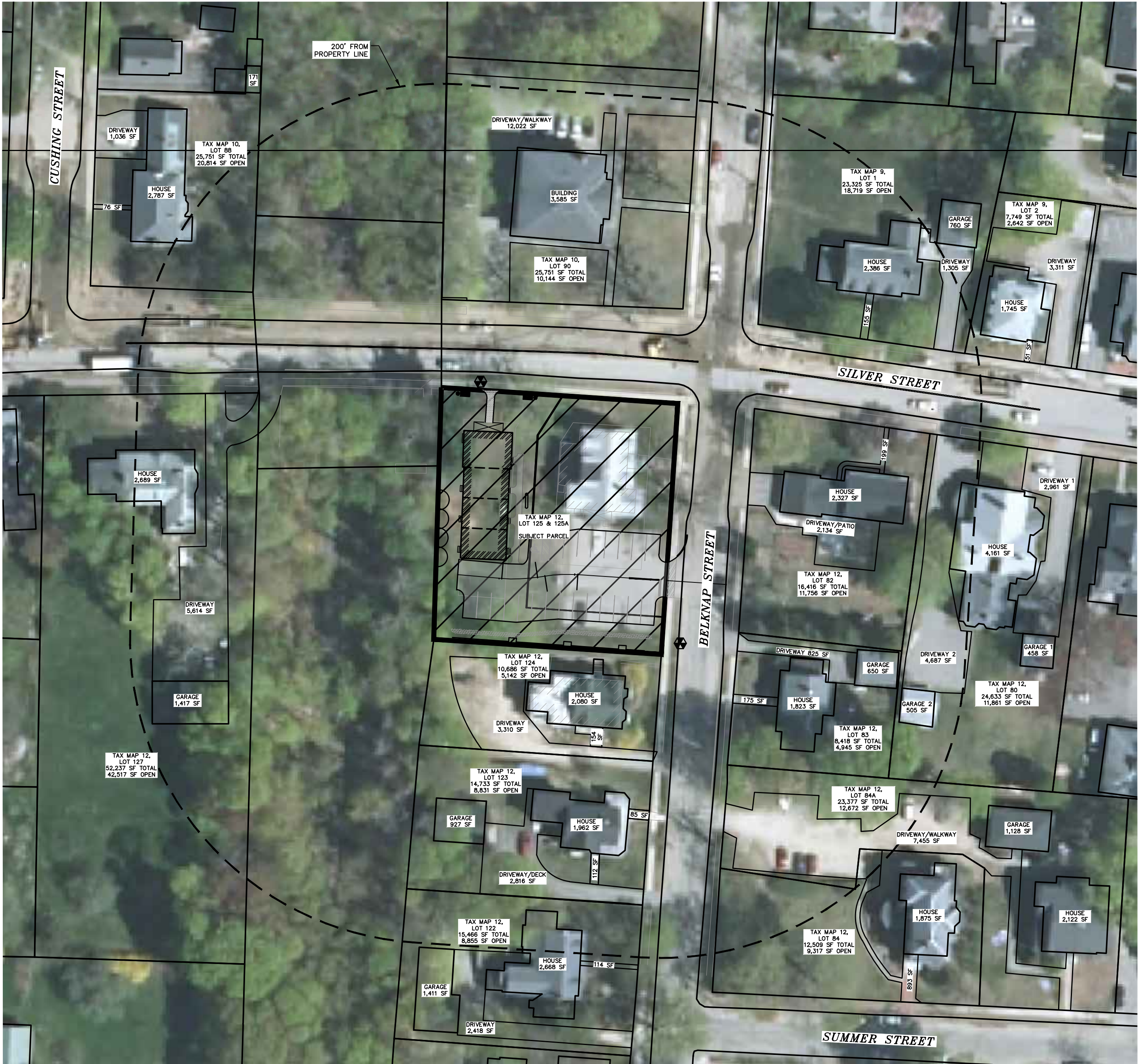
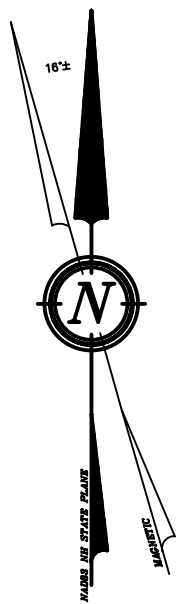


Christopher R. Berry SIT  
Principal, President



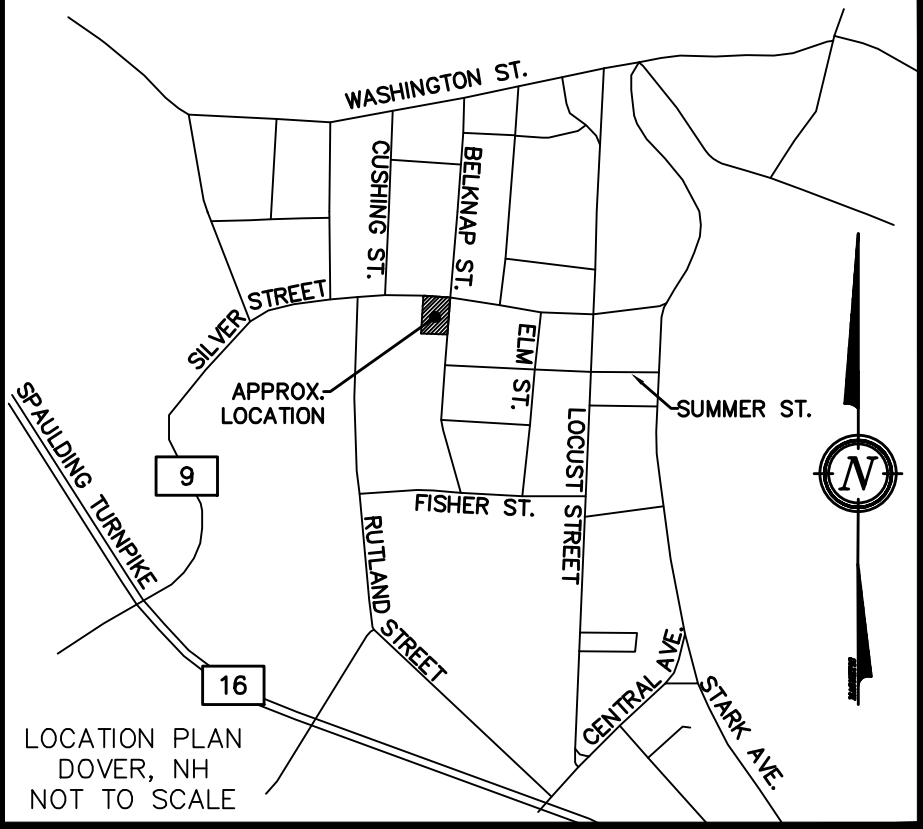
Kenneth A. Berry, PE, LLS,  
CPSWQ, CPESC, CESSWI  
Principal, VP-Technical Operations





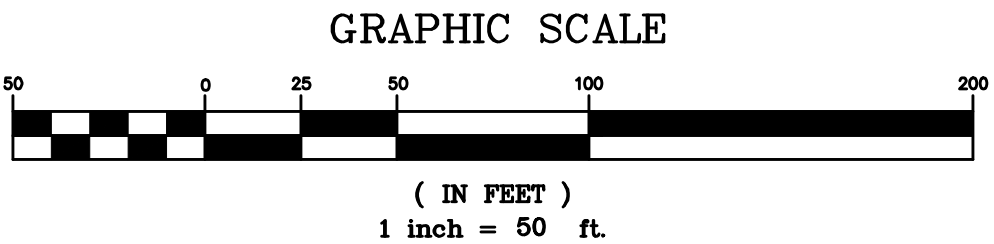
TAX MAP / LOT	TOTAL AREA	OPEN AREA	% OPEN
9 1	23,325 SF	18,719 SF	80.25%
9 2	7,749 SF	2,642 SF	34.01%
10 88	52,751 SF	20,814 SF	39.46%
10 90	25,751 SF	10,144 SF	39.39%
12 80	24,633 SF	11,861 SF	48.15%
12 82	16,416 SF	11,756 SF	71.61%
12 83	8,418 SF	4,945 SF	58.74%
12 84	12,509 SF	9,317 SF	74.48%
12 84A	23,377 SF	12,672 SF	54.21%
12 122	15,468 SF	8,855 SF	57.25%
12 123	14,733 SF	8,813 SF	59.94%
12 124	10,686 SF	5,142 SF	48.12%
12 127	52,237 SF	42,517 SF	81.39%

AVERAGE OPEN SPACE = 57.4 %  
PROPOSED OPEN SPACE LOT 125A = 57.6%



- NOTES:**
- OWNER: KNOX MARSH DEVELOPMENT, LLC  
242 CENTRAL AVE.  
DOVER, NH 03820
  - A.) TAX MAP 12, LOT 125  
B.) TAX MAP 12, LOT 125A
  - LOT AREA: A.) 12,603 Sq. Ft., 0.29 Ac.  
B.) 12,804 Sq. Ft., 0.29 Ac.
  - S.C.R.D. BOOK 4583, PAGE 406
  - ZONING: HR / HERITAGE RESIDENTIAL DISTRICT  
FRONTAGE ~ 80.0'  
MINIMUM LOT SIZE ~ 10,000 SQUARE FEET  
FRONT BUILD-TO ~ 17.2' +/- 5' (AVG. OF NEIGHBORHOOD)  
REAR SETBACK ~ 30.0'  
SIDE SETBACK ~ 15.0'  
MAX. STRUCTURE HEIGHT: 40.0'  
MAX. COVERAGE ~ 40%  
5-4 FAMILY DIMENSIONAL CONDITIONAL USE CRITERIA:  
PARKING ~ 5.0' FROM SIDE BOUNDARY  
STRUCTURE ~ 10.0' FROM FRONT BOUNDARY  
20.0' FROM REAR BOUNDARY  
30.0' FROM SIDE BOUNDARY  
15.0' FROM SIDE BOUNDARY
  - THE INTENT OF THIS PLAN IS TO SHOW THE LOT SIZE & OPEN SPACE ON ABUTTING LOTS WITHIN 200'.
  - IMPERVIOUS AREAS CALCULATED FROM CITY OF DOVER GIS & AERIAL PHOTO.

- ABUTTERS WITHIN 200':**
- N/F FASKIANOS, MARIA L. REVOCABLE TRUST  
FASKIANOS, MARIA L. TRUSTEE  
78 SILVER STREET  
DOVER, NH 03820  
**TAX MAP 9, LOT 1**  
S.C.R.D. BOOK 2031, PAGE 737
- N/F STANLEY, ELIZABETH & RAYNOR, ANDREW  
14 COTTONWOOD DRIVE  
DOVER, NH 03820  
**TAX MAP 9, LOT 2**  
S.C.R.D. BOOK 3258, PAGE 795
- N/F BROOKS FAMILY TRUST  
BROOKS, RAYMOND L. & JILL A. TRUSTEES  
60 CUSHING STREET  
DOVER, NH 03820  
**TAX MAP 10, LOT 88**  
S.C.R.D. BOOK 3481, PAGE 403
- N/F BELKNAP APARTMENTS, LLC  
35 THIRD STREET  
DOVER, NH 03820  
**TAX MAP 10, LOT 89**  
S.C.R.D. BOOK 4302, PAGE 615
- N/F MENARD, NORMAN & CLAIRE  
28 OAK RIDGE LANE  
BERWICK, ME 03901  
**TAX MAP 10, LOT 80**  
S.C.R.D. BOOK 3661, PAGE 321
- N/F PETER GEORGAKILAS LIVING REVOCABLE TRUST,  
& PAULA GEORGAKILAS LIVING REVOCABLE TRUST  
GEORGAKILAS PETER & PAULA TRUSTEES  
62 SILVER STREET  
DOVER, NH 03820  
TAX MAP 12, LOT 80  
S.C.R.D. BOOK 3650, PAGE 728
- N/F WALSH MARQUIS A. & PATRICIA R.  
80 SILVER STREET  
DOVER, NH 03820  
**TAX MAP 12, LOT 82**  
S.C.R.D. BOOK 3991, PAGE 512
- N/F KILLIAN, GRANT M. & PELOQUIN, JILL A.  
72 BELKNAP STREET  
DOVER, NH 03820  
TAX MAP 12, LOT 83  
S.C.R.D. BOOK 4020, PAGE 405
- ABUTTERS WITHIN 200' CONT.:**
- N/F KOSS, JEFFREY A.  
102 DENNETT STREET  
PORTSMOUTH, NH 03801  
**TAX MAP 12, LOT 84**  
S.C.R.D. BOOK 4108, PAGE 384
- N/F CLJR, LLC  
23 PARK AVENUE  
GREENLAND, NH 03840  
**TAX MAP 12, LOT 84A**  
S.C.R.D. BOOK 4315, PAGE 72
- N/F OCEAN TIDE PROPERTIES, LLC  
PO BOX 801  
NEW CASTLE, NH 03854  
TAX MAP 12, LOT 122  
S.C.R.D. BOOK 4560, PAGE 494
- N/F MARONI, WILLIAM J. & MARGARET M.  
81 BELKNAP STREET  
DOVER, NH 03820-3906  
TAX MAP 12, LOT 123  
S.C.R.D. BOOK 3179, PAGE 961
- N/F BROWN, AARON E. & MAUREEN E.  
38 MAST ROAD  
LEE, NH 03861  
**TAX MAP 12, LOT 124**  
S.C.R.D. BOOK 2246, PAGE 113
- N/F CITY OF DOVER  
288 CENTRAL AVENUE  
DOVER, NH 03820  
TAX MAP 12, LOT 126  
S.C.R.D. BOOK 1639, PAGE 269
- N/F CITY OF DOVER  
288 CENTRAL AVENUE  
DOVER, NH 03820  
TAX MAP 12, LOT 126A  
S.C.R.D. BOOK 3311, PAGE 694
- N/F DENNIS D. OOTHI REVOCABLE TRUST  
98 SILVER STREET  
DOVER, NH 03820-3952  
TAX MAP 12, LOT 127  
S.C.R.D. BOOK 4257, PAGE 526



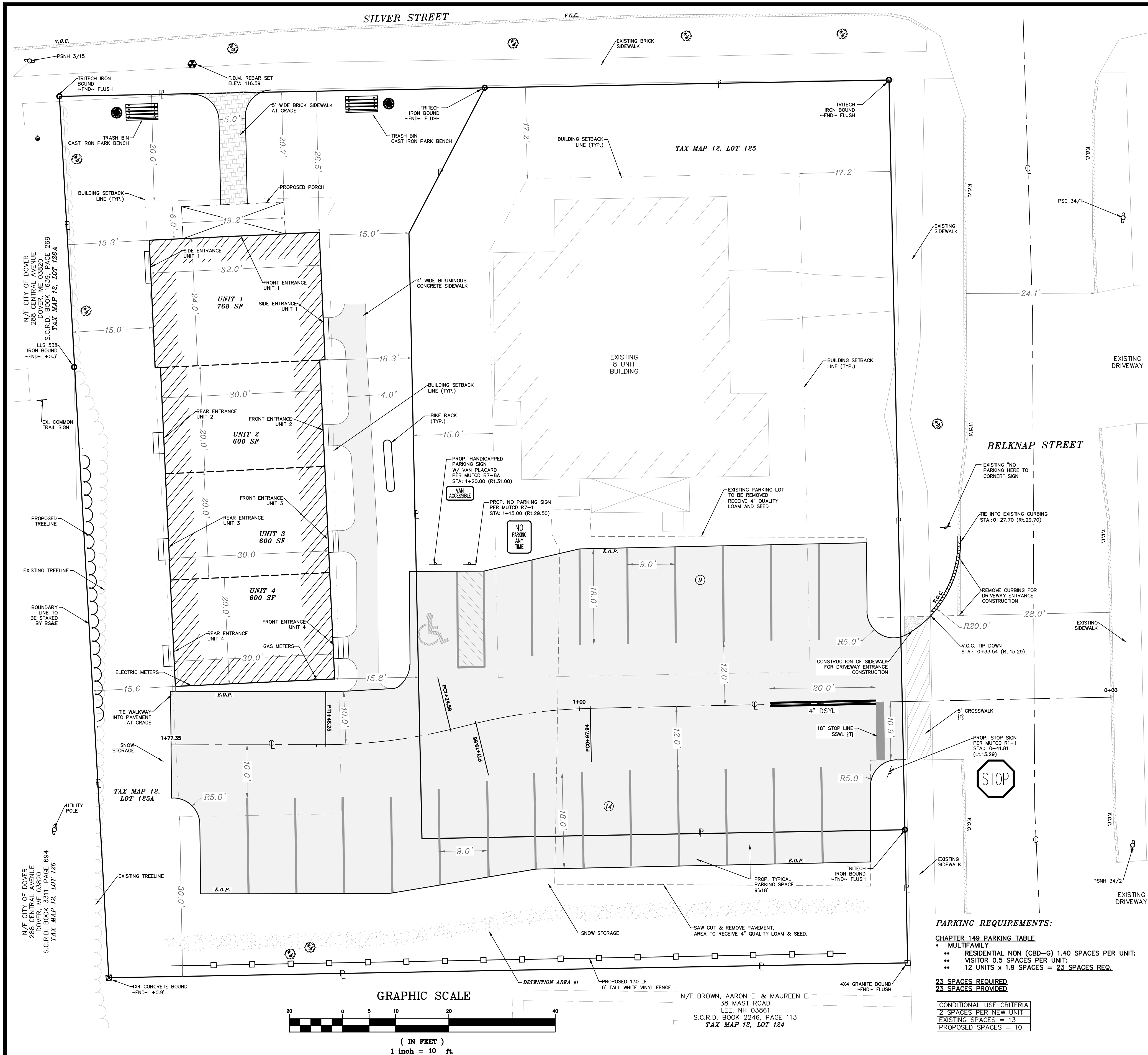
REVISION	DATE	DESCRIPTION

OPEN SPACE DEMONSTRATION PLAN  
LAND OF  
KNOX MARSH DEVELOPMENT, LLC  
84 SILVER STREET  
DOVER, NH  
**TAX MAP 12, LOTS 125 & 125A**

**BERRY SURVEYING & ENGINEERING**  
335 SECOND CROWN POINT ROAD  
BARRINGTON, NH 03825 (603)332-2863  
SCALE : 1 IN. EQUALS 50 FT.  
DATE : JANUARY 2, 2019  
FILE NO. : DB 2018 - 039

**KENNETH A. BERRY**  
No. 14243  
LICENSED PROFESSIONAL ENGINEER





- GENERAL PLAN SET NOTES:**
- OWNER: KNOX MARSH DEVELOPMENT LLC  
242 CENTRAL AVE  
DOVER, NH 03820
- TAX MAP 12, LOT 125 & 125A
  - LOT AREA: 12,603 Sq.Ft., 0.29 Ac. & 12,804 Sq.Ft., 0.29 Ac.
  - TITLE REFERENCE FOR THE PROJECT PARCEL IS THE STRAFFORD COUNTY REGISTRY OF DEEDS, BOOK NO. 4583, PAGE NO. 406.
  - HR / HERITAGE RESIDENTIAL DISTRICT  
FRONTAGE ~ 80.0'  
MINIMUM LOT SIZE ~ 10,000 SQUARE FEET  
FRONT BUILD-TO ~ 17.2' +/- 5' (AVG. OF NEIGHBORHOOD)  
REAR SETBACK ~ 30.0'  
SIDE SETBACK ~ 15.0'  
MAX. STRUCTURE HEIGHT: 40.0'  
MAX. COVERAGE ~ 40%  
3-4 FAMILY DIMENSIONAL CONDITIONAL USE CRITERIA:  
PARKING ~ 5.0' FROM SIDE BOUNDARY  
10.0' FROM FRONT BOUNDARY  
STRUCTURE ~ 20.0' FROM FRONT BOUNDARY  
30.0' FROM REAR BOUNDARY  
15.0' FROM SIDE BOUNDARY
  - THE INTENT OF THIS PLAN IS TO SHOW ENGINEERING SITE PLAN DETAIL OF 84 SILVER STREET. THE PROJECT PROPOSES TO CONSTRUCT A NEW 4 UNIT BUILDING ON TAX MAP 12, LOT 125A AND REDEVELOP THE ONSITE PARKING LOT TO SERVICE BOTH LOTS 125 & 125A.
  - PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PREFORMED BY BERRY SURVEYING AND ENGINEERING IN 2016 WITH AN ERROR OF CLOSURE GREATER THAN 1 IN 10,000.
  - I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE & BELIEF, THIS PARCEL DOES NOT FALL WITHIN THE FLOOD PLAIN FLOOD HAZARD REF.: FEMA COMMUNITY #330145, MAP #33017C0310E, DATED: SEPTEMBER 30, 2015
  - AS BUILT PLANS OF SITE SHALL BE SUBMITTED ON PAPER AND IN A DIGITAL FORMAT IN A PDF AND AUTOCAD DWG, AUTOCAD DXF OR AN ERS FORMAT TO THE CITY OF DOVER ENGINEERS OFFICE UPON COMPLETION OF PROJECT. AS-BUILT PLANS SHALL BE PREPARED AND CERTIFIED CORRECT BY A L.L.S. OR P.E. DIGITAL FILES SHALL BE GEO-REFERENCED TO NEW HAMPSHIRE STATE PLANE COORDINATES NAD83 AND SHALL BE EXPRESSED IN FEET.
  - TOPOGRAPHIC SURVEY WAS PERFORMED BY BERRY SURVEYING AND ENGINEERING IN JULY 2018.
  - VERTICAL DATUM BASED ON NAVD83 ELEVATIONS. HORIZONTAL COORDINATES BASED ON NAD83. COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS RECEIVERS.
  - EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 149-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.
  - ALL ON-SITE UTILITIES SHALL BE INSTALLED UNDERGROUND.
  - THE SUBJECT PARCEL IS SERVICED BY MUNICIPAL WATER AND SEWER.
  - ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY AND STATE CODES.
  - APPROVED BACKFLOW PREVENTORS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
  - 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 LINE, TYPE AND RATES FOR FERTILIZER, AND SEED AND MULCH MIXTURE WITH RATES OF APPLICATION.
  - THE LIMITS OF CONSTRUCTION DISTURBANCE SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO THE COMMENCEMENT OF SITE WORK. FOR THIS PROJECT SITE THE LIMITS OF DISTURBANCE WILL BE THE EXISTING LOT LINES. GRADE STAKES ARE TO BE SET EVERY 15' & ORANGE CONSTRUCTION FENCE IS TO BE INSTALLED ALONG THE BOUNDARY LINE WITH SILVER STREET, THE FORMER RAIL LINE AND THE ABUTTING BOUNDARY TO THE SOUTH.
  - ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.
  - A LETTER OF CREDIT FOR THE COST OF RE-VEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS. COORDINATE WITH CITY OF DOVER, COMMUNITY SERVICES AND ENGINEERING DEPARTMENT.
  - 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.
  - BUILDING ADDRESSES SHALL BE ASSIGNED BY THE BUILDING INSPECTOR AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
  - THE FOLLOWING FEDERAL AND STATE PERMITS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY: NONE REQUIRED
  - PROPOSED DISTURBANCE: 12,100 Sq. Ft.
  - CALL DIG SAFE PRIOR TO BEGINNING WORK (1-888-344-7233)
  - ALL CONSTRUCTION SHALL CONFORM TO THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. CONSTRUCTION SHALL ALSO CONFORM TO THE CITY OF DOVER POLICIES AND PRACTICES.
  - WRITTEN DIMENSION ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR IS TO CONFIRM ALL ELEVATIONS. CONFLICTS WILL BE REPORTED TO THE DESIGN ENGINEER PRIOR TO CONSTRUCTION.
  - THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS.
  - THE PROPOSED USE FOR THE SITE IS A 4 UNIT MULTI FAMILY BUILDING WHICH IS PERMITTED IN THE HERITAGE RESIDENTIAL ZONE BY CONDITIONAL USE PERMIT (CUP)
  - LIST ANY VARIANCES OR SPECIAL EXCEPTIONS GRANTED BY THE ZONING BOARD OF ADJUSTMENT: NONE
  - THE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7AM-6PM, SATURDAY 9 AM-4PM WITH NO SUNDAY HOURS. HOURS OF CONSTRUCTION SHALL BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH THE CONTACT INFORMATION FOR THE GENERAL CONTRACTOR.
  - COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM WITH DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DEPARTMENT.
  - THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED. SITE PLANS SHALL SHOW ANY EASEMENTS FOR THESE SERVICES.
  - FROM GROUND BREAKING THE SITE SHALL REMAIN ACCESSIBLE YEAR ROUND IN ALL WEATHER CONDITIONS.
  - THIS SITE DESIGN HAS BEEN REVIEWED FOR COMPLIANCE WITH THE APPLICABLE ACCESSIBILITY REGULATIONS IN ACCORDANCE WITH NH RSA 11-A:5.
  - THE OWNER OF RECORD SHALL RECORD AT THE REGISTRY OF DEEDS DOCUMENTATION SUFFICIENT TO PROVIDE NOTICE TO ALL PERSONS THAT MAY ACQUIRE AND 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 SHALL 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.
  - IF REQUIRED, SNOW SHALL BE REMOVED TO AN APPROVED LOCATION.  
PAVEMENT COVERAGE: 6,981 Sq. Ft.  
SNOW STORAGE: 1,164 Sq. Ft.  
6:1 RATIO PROVIDED
  - LOT 125 12,603 Sq. Ft.  
EXISTING BUILDING IMPERVIOUS AREA: 2,488 Sq. Ft. (19.7%)  
EXISTING PAVED IMPERVIOUS AREA: 3,655 Sq. Ft. (29.0%)  
TOTAL EXISTING IMPERVIOUS AREA: 6,143 Sq. Ft. (48.7%)  
PROPOSED BUILDING IMPERVIOUS AREA: 2,488 Sq. Ft. (19.7%)  
PROPOSED PAVED IMPERVIOUS AREA: 4,637 Sq. Ft. (36.8%)  
TOTAL PROPOSED IMPERVIOUS COVER IS 7,024 Sq. Ft. (56.5%)  
  
LOT 125A 12,804 Sq. Ft.  
EXISTING BUILDING IMPERVIOUS AREA: 0 Sq. Ft. (0%)  
EXISTING PAVED IMPERVIOUS AREA: 576 Sq. Ft. (4.5%)  
TOTAL EXISTING IMPERVIOUS AREA: 576 Sq. Ft. (4.5%)  
PROPOSED BUILDING IMPERVIOUS AREA: 2,684 Sq. Ft. (20.9%)  
PROPOSED PAVED IMPERVIOUS AREA: 2,740 Sq. Ft. (21.4%)  
TOTAL PROPOSED IMPERVIOUS COVER IS 5,424 Sq. Ft. (42.4%)
  - 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 2009 STATE BUILDING CODES.
  - SPRINKLER CONNECTIONS MUST BE FLUSHED IN ACCORDANCE WITH NFPA 24 AND A CONTRACTOR'S MATERIALS AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM MUST BE COMPLETED.
  - FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13.

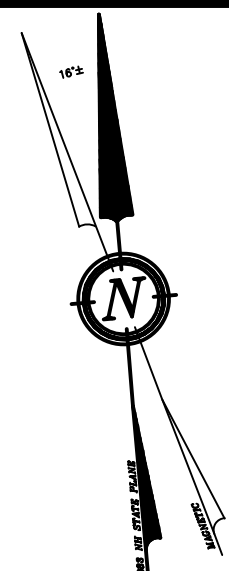
**PARKING REQUIREMENTS:**

**CHAPTER 149 PARKING TABLE**

- MULTIFAMILY
  - RESIDENTIAL NON (CBD-G) 1.40 SPACES PER UNIT.
  - VISITOR 0.5 SPACES PER UNIT.
  - 12 UNITS x 1.9 SPACES = 23 SPACES REQ.

23 SPACES REQUIRED  
23 SPACES PROVIDED

CONDITIONAL USE CRITERIA  
2 SPACES PER NEW UNIT  
EXISTING SPACES = 13  
PROPOSED SPACES = 10



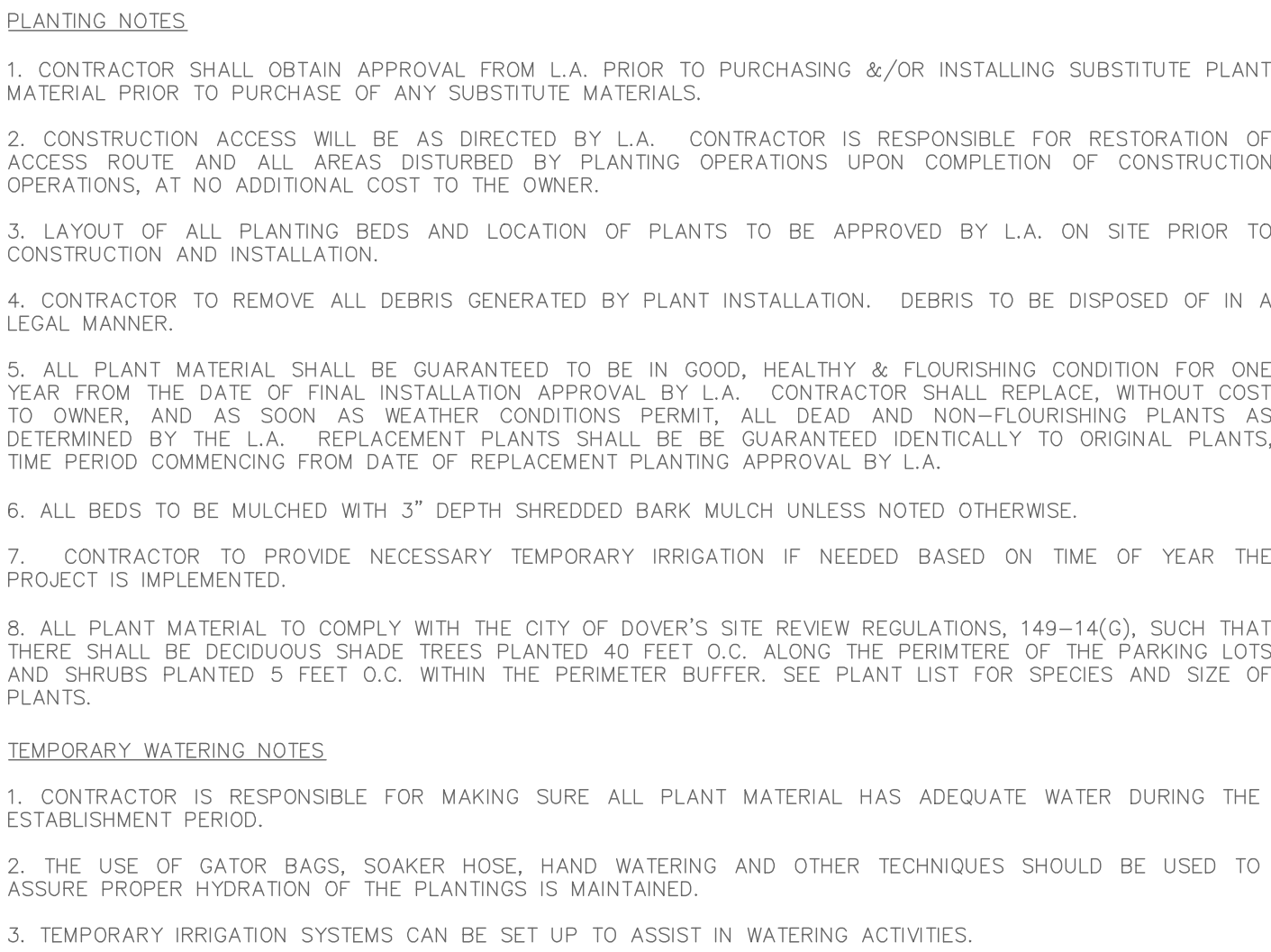
REVISION	DATE	DESCRIPTION

SITE PLAN  
LAND OF  
KNOX MARSH DEVELOPMENT, LLC  
84 SILVER STREET  
DOVER, NH  
TAX MAP 12, LOTS 125 & 125A

BERRY SURVEYING & ENGINEERING  
335 SECOND CROWN POINT ROAD  
BARRINGTON, NH 03825 (603)332-2863  
SCALE : 1 IN. EQUALS 10 FT.  
DATE : JANUARY 2, 2019  
FILE NO. : DB 2018 - 039

STATE OF NEW HAMPSHIRE  
KENNETH A. BERRY  
No. 14243  
LICENSED PROFESSIONAL ENGINEER





terrain  
planning & design llc

**General Plant Bed Maintenance:**

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

## Trees

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

### Woody Shrubs

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

### Grasses

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

### Perennials

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



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

84 SILVER  
STREET

Site Location:  
84 Silver Street  
Dover, NH  
Tax Map: 12

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

# LANDSCAPE PLAN

DATE _____

SCALE: 1" = 10'

PROJECT #: 1839

Drawn By: ID

Checked By: ERB

REVISIONS: _____ DATE: _____  
Issued for Client Review

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# L - 01

SHEET 3 OF 3





P19-01

84 Silver Street

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
09001-000000	79 SILVER ST	FASKIANOS MARIA L TRUSTEE	FASKIANOS MARIA L REVOCABLE TRUST	1100 MAXWELL LN UNIT 527	HOBOKEN	NJ	07030-6889
09002-000000	73 SILVER ST	STANLEY ELIZABETH &	RAYNOR ANDREW	14 COTTONWOOD DR	DOVER	NH	03820
10088-000000	60 CUSHING ST	BROOKS RAYMOND L & JILL A TRUSTEES	BROOKS FAMILY TRUST	60 CUSHING ST	DOVER	NH	03820-3639
10089-000000	12 1-4 FOLSOM ST	BELKNAP APARTMENTS LLC		35 THIRD ST	DOVER	NH	03820
10090-000000	65 BELKNAP ST	MENARD NORMAN &	MENARD NORMAN	28 OAK RIDGE LN	BERWICK	ME	03901
12080-000000	72 74 SILVER ST	GEORGAKILAS PETER & PAULA TRUSTEE	GEORGAKILAS PETER AND PAULA LIV REV TRU	62 SILVER ST	DOVER	NH	03820-3951
12082-000000	80 SILVER ST	WALSH MARQUIS A &	WALSH PATRICIA R	80 SILVER ST	DOVER	NH	03820
12083-000000	72 BELKNAP ST	KILLIAN GRANT M &	PELOQUIN JILL A	72 BELKNAP ST	DOVER	NH	03820
12084-000000	55 SUMMER ST	KOSS JEFFREY A		102 DENNETT ST	PORTSMOUTH	NH	03801
12084-A00000	51 SUMMER ST	CLJR LLC		23 PARK AVENUE	GREENLAND	NH	03840
12122-000000	85 BELKNAP ST	OCEAN TIDE PROPERTIES LLC		PO BOX 801	NEW CASTLE	NH	03854
12123-000000	81 BELKNAP ST	MARONI WILLIAM J &	MARONI MARGARET M	81 BELKNAP ST	DOVER	NH	03820-3906
12124-000000	75 77 BELKNAP ST	BROWN AARON E	BROWN MAUREEN E	38 MAST RD	LEE	NH	03861
12126-000000	FISHER ST	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
12126-A00000	SILVER ST	CITY OF DOVER		288 CENTRAL AV	DOVER	NH	03820
12127-000000	98 SILVER ST	CIOTTI DENNIS D TRUSTEE	CIOTTI DENNIS D REVOCABLE TRUST	98 SILVER ST	DOVER	NH	03820-3952
		BERRY SURVEYING & ENGINEERING	KENNETH A BERRY, PE, LLS	335 SECOND CROWN POINT	BARRINGTON	NH	03825
		BERRY SURVEYING & ENGINEERING	CHRISTOPHER R BERRY	335 SECOND CROWN POINT	BARRINGTON	NH	03825
		KNOX MARSH DEVELOPMENT		242 CENTRAL AVENUE	DOVER	NH	03820