



TOWN OF HUDSON

Planning Board

Glen Della-Monica, Chairman



12 School Street · Hudson, New Hampshire 03051 · Tel: 603-886-6008 · Fax: 603-594-1142

PUBLIC MEETING TOWN OF HUDSON, NH AUGUST 10, 2016

The Town of Hudson Planning Board will hold a regularly scheduled meeting on Wednesday, August 10, 2016 at 7:00 p.m. in the “Buxton Community Development Conference Room” at Town Hall. The following items will be on the agenda:

- I. CALL TO ORDER BY CHAIRPERSON AT 7:00 P.M.
- II. PLEDGE OF ALLEGIANCE
- III. ROLL CALL
- IV. SEATING OF ALTERNATES
- V. MINUTES OF PREVIOUS MEETING(S)
- VI. CASES REQUESTED FOR DEFERRAL
- VII. CORRESPONDENCE
- VIII. PERFORMANCE SURETIES

- IX. ZBA INPUT ONLY

A. Miara Transportation
ZI# 02-16

12 Bockes Road
Map 136/Lot 001

Purpose of Petition: The project proposes a vehicle loading and storage expansion area of approximately 56,000-sf, due west of the existing development, in the rear of the property. The proposed expansion area will impact a wetland area in order to provide access and maneuverability for trucks and other company vehicles throughout the site, including the proposed storage areas. In addition to the site expansion, a 2,430-sf maintenance building addition is also proposed directly adjacent to the existing maintenance building. The proposed design will provide a full stormwater management system in accordance with Local, State, and Federal codes and guidelines, as well as landscaping, lighting, and other site appurtenances.

- X. PUBLIC HEARINGS
- XI. OLD BUSINESS/PUBLIC HEARINGS
- XII. DESIGN REVIEW PHASE
- XIII. CONCEPTUAL REVIEW ONLY
- XIV. NEW BUSINESS/PUBLIC HEARINGS

I. OTHER BUSINESS

- A. Zoning Ordinance Review Committee (ZORC) – Update on the Committee’s efforts to update the Zoning Ordinance.
- B. Update on Planning and Economic Development Issues Concerning Hudson and the Region.

II. ADJOURNMENT

All plans and applications are available for review in the Planning Office. Comments may be submitted in writing until 10:00 a.m. on the Tuesday prior to the day of the meeting.

The public is invited to attend.

John M. Cashell
Town Planner

POSTED: Town Hall, Library & Post Office – 07-29-16

Miara Transportation ZBA Input Only

Staff Report

13 April 2016

SITE: 12 Bockes Road -- Map 136/Lot 001 -- ZI# 02-16

ZONING: R-2

PURPOSE OF PETITION: The project proposes a vehicle loading and storage expansion area of approximately 56,000-sf, due west of the existing development, in the rear of the property. The proposed expansion area will impact a wetland area in order to provide access and maneuverability for trucks and other company vehicles throughout the site, including the proposed storage areas. In addition to the site expansion, a 2,430-sf maintenance building addition is also proposed directly adjacent to the existing maintenance building. The proposed design will provide a full stormwater management system in accordance with Local, State, and Federal codes and guidelines, as well as landscaping, lighting, and other site appurtenances.

PLANS UNDER REVIEW ENTITLED: Wetland & Wetland Buffer Impact Plan Miara Transportation, Map 136 Lot 1, 12 Bockes Road, Hudson, New Hampshire, , prepared by Keach-Nordstrom Associates, Inc. dated: 2 JUN 2016, last revised 23 JUN 2016, consisting of Sheets 1 – 6, together with Notes 1 – 12 on Sheet 2 of 6 (said plans are attached hereto).

ATTACHMENTS:

1. ZBA Input Only Application, Project Narrative & Site Photos, date stamped 19 JUL 2016 – Attachment “A”.
2. Zoning Determination by Zoning Admin., Bruce Buttrick, dated 1 AUG 16 – “B”.
3. Con. Comm. ZBA Input Motion to Recommend a Wetland Special Exception, dated 11 JUL 16 – “C”

OUTSTANDING ISSUES:

As described in the project narrative, this application involves the request to build “...a vehicle loading and storage expansion area of approximately 56,000-sf, due west of the existing development, in the rear of the property. The proposed expansion area will impact a wetland area in order to provide access and maneuverability for trucks and other company vehicles throughout the site, including the proposed storage areas. In addition to the site expansion, a 2,430-sf maintenance building addition is also proposed directly adjacent to the existing maintenance building. The proposed design will provide a full stormwater management system in accordance with Local, State, and Federal codes and guidelines, as well as landscaping, lighting, and other site appurtenances.”

In regard to the above-described project, the Conservation Commission, conducted their required ZBA Input hearing, which also included a site inspection, and voted unanimously in favor of recommending to the ZBA the granting of the Wetland & Wetland Buffer Impact Special Exceptions. Please see the Con. Comm’s. Motion to Recommend a Wetland Special Exception “C”, with conditions.

Please note, in addition to seeking a Wetland & Wetland Buffer Impact Special Exception, the proposed expansion to the existing “Legal Nonconforming” use is located in an R-2 zoning district, and as such, and in accordance with the Zoning Administrator’s attached Zoning Determination “B”, the applicant will

also have to apply for: (i) a use variance with the ZBA, and (ii) a Site Plan with the Planning Board. In regard to the pending Site Plan application submission, and looking at the plans included, herewith, specifically Sheet 2 of 6, it would, perhaps, be a good idea to advise the Applicant at Wednesday night's to start thinking (if they haven't already) about submitting a traffic study with Site Plan application. The foregoing concern infers that the number of tractor-trailers shown on said sheet poses a concern, relative to the nearby main access to this site, that being the intersection of Rte. 111/Lawrence Rd./Bockes Rd.

APPLICATION TRACKING:

- 19 JUL 16 – ZBA Input application submitted.
- 10 AUG 16 – ZBA Input Only hearing scheduled.

RECOMMENDATION:

For this ZBA Input Only hearing, staff recommends for the board to hear Tony Basso's project presentation, and in regard to board action, staff prepared DRAFT MOTIONS below for consideration.

DRAFT MOTIONS:

I move to accept the ZBA "Input Only" application for the Miara Transportation facility, located at 12 Bockes Road, Map 136/Lot 001:

Motion by: _____ Second: _____ Carried/Failed: _____ >

I move for the Planning Board to forward the following "Input Only" recommendation to the ZBA, concerning the Wetland & Wetland Buffer Impact application, as it relates to Planning Board concerns on the proposed vehicle loading and storage expansion area of approximately 56,000-sf and construction of a 2,340 sf maintenance building at the Miara Transportation facility, located at 12 Bockes Road, Map 136/Lot 001:

The Planning Board will review the Site Plan Review related features of the proposed expansion of the subject facility, i.e., upon receipt of a Site Plan Review application; said review will include, but not be limited to, proposed on and offsite traffic improvement elements, proposed parking/storage area construction and proposed surface materials (e.g., gravel v. bituminous concrete), landscaping, building placement location, exterior lighting, etc.

Motion by: _____ Second: _____ Carried/Failed: _____.

**ZBA INPUT ONLY
APPLICATION FOR REVIEW
TOWN OF HUDSON, NEW HAMPSHIRE**



Date of Application: 7/18/2016 Tax Map # 136 Lot # 1

Name of Project: Miara Transportation

Zoning District: _____ General Zoning ID# 02-14
(For Office Use) (For Office Use)

ZBA Action: Wetland Special Exception

PROPERTY OWNER:

DEVELOPER:

Name:	<u>Joseph A. Miara Jr., Trustee, Granite Realty Trust</u>	_____
Address:	<u>12 Bockes Road</u>	_____
Address:	<u>Hudson, NH 03051</u>	_____
Telephone #	<u>978-658-3616</u>	_____
Fax #	<u>978-658-4038</u>	_____
Email:	<u>joe@jamiara.com</u>	_____

PROJECT ENGINEER

Name:	<u>Keach-Nordstrom Associates, Inc.</u>	Telephone #	<u>603-627-2881</u>
Address:	<u>10 Commerce Park North, Suite 3</u>	Fax #	<u>603-627-2915</u>
Address:	<u>Bedford, NH 03110</u>	Email:	<u>pchisholm@keachnordstrom.com</u>

PURPOSE OF PLAN:

The project proposes a vehicle loading and storage expansion area of approximately 56,000-sf, due west of the existing development, in the rear of the property. The proposed expansion area will impact a wetland finger in order to provide access for the large vehicles to maneuver throughout the site and access the proposed storage areas. In addition to the site expansion, a 2,430-sf maintenance building addition is also proposed directly adjacent to the existing maintenance building. The proposed design will provide a full stormwater management system in accordance with Local, State, and Federal codes and guidelines, as well as landscaping, lighting, and other site appurtenances.

(For Office Use)

Plan Routing Date: _____ Plan Date: _____

_____ I have no comments _____ I have comments (attach to form)

_____ Title: _____ Date: _____

(Initials)

Department:

_____ Zoning _____ Engineering _____ Assessor _____ Police _____ Fire _____ Planning

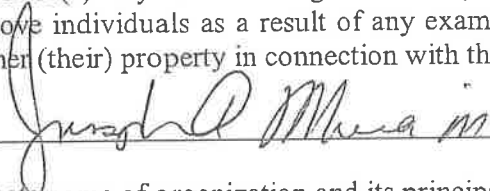
_____ Highway _____ Consultant Review _____ Fees Paid

**APPLICATION FOR ZBA INPUT ONLY REVIEW
TOWN OF HUDSON, NEW HAMPSHIRE**

I hereby apply for ZBA Input Only Review and acknowledge I will comply with all of the Ordinances of the Town of Hudson, New Hampshire State Laws, as well as any stipulations of the Planning Board, in development and construction of this project. I understand that if any of the items listed under the *ZBA Input Only* specifications or application form are incomplete, the application will be considered rejected.

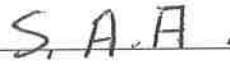
Pursuant to RSA 674:1-IV, the owner(s), by the filing of this application as indicated above, hereby give permission for any member of the Hudson Planning Board, the Town Engineer, the Conservation Commission and such agents or employees of the Town or other persons as the Planning Board may authorize, to enter upon the property which is the subject of this application at all reasonable times for the purpose of such examinations, surveys, tests and inspections as may be appropriate. The owner(s) release(s) any claim or right he/she (they) may now or hereafter possess against any of the above individuals as a result of any examinations, surveys, tests and inspections conducted on his/her (their) property in connection with this applications.

Signature of Owner: _____



- ❖ If other than an individual, indicate name of organization and its principal owner, partners, or corporate officers.

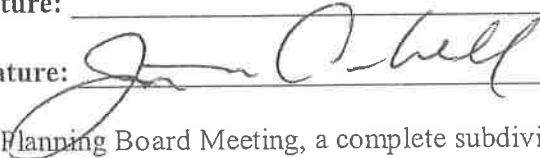
Signature of Developer: _____



- ❖ The developer/individual in charge must have control over all project work and be available to the Code Enforcement Officer/Building Inspector during the construction phase of the project. The individual in charge of the project must notify the Code Enforcement Officer/Building Inspector within two (2) working days of any change.

Technical Review Signature: _____

Planner Approval Signature: _____



Twenty-one days prior to the scheduled Planning Board Meeting, a complete subdivision, or site plan application including all supporting materials/documents must be submitted in final form to the Town Planner's Office.

- ❖ Please schedule an appointment with the Town Planner for initial plan submittal.
- ❖ Revisions are due on Tuesday the week prior to the Planning Board deferral date by 10:00AM. Any application/materials received after that time will be deferred until the next available meeting date.



Miara Transportation
12 Bockes Road
Tax Map 136; Lot1
KNA Project No. 16-0223-1

July 18, 2016

Project Location

The subject property is located at 12 Bockes Road and referenced as Hudson Tax Map 136 as Lot 1.

Project Intent

The project proposes a vehicle loading and storage expansion area of approximately 56,000-sf (280-ft by 200-ft), due west of the existing development, in the rear of the property. The proposed expansion area will impact a wetland finger in order to provide access for the large vehicles to maneuver throughout the site and access the proposed storage areas. In addition to the site expansion, a 2,430-sf maintenance building addition is also proposed directly adjacent to the existing maintenance building. The proposed design will provide a full stormwater management system in accordance with Local, State, and Federal codes and guidelines, as well as landscaping, lighting, and other site appurtenances.

Existing Conditions

The subject property is 9.216-acres in total area and partially developed with the existing Miara Transportation site. The developed portion is situated in the northeasterly corner of the parcel, with undeveloped areas to the west and south of the development. Two separate wetland complexes exist onsite and are located in the undeveloped portion of the property to the west and south. There are a total of three buildings onsite and the largest of which has a footprint of approximately 23,188-sf. Parking is located along the frontage of Bockes Road, east of the main building, while the rear of the parcel is utilized for vehicle storage and loading. Undeveloped portions of the site are covered by woodlands, with topography sloping from west to east.

Soil data and information was taken from the NRCS Web Soil Survey. The predominant on-site soil types are identified as Deerfield loamy fine sand, 3-8% slopes, Hinckley loamy sand, 8-15% slopes, Windsor loamy sand, 3-8% slopes, and Scituate stony fine sandy loam, 3-8% slopes. Windsor, Hinckley, and Deerfield are Hydrologic Group 'A' soils and Scituate is a Type 'C' soil.

Site Research

The New Hampshire Natural Heritage Bureau (NHB) was contacted and asked to check their database for records of threatened or endangered species, and species of special concern within or around the project area. The NHB determined that the project will not affect any species of concern.

Storm Water Management

In general, the 2-year, 10-year, 25-year and 50-year frequency storms will be analyzed as required by the Town of Hudson and the State of New Hampshire design guidelines as well as common engineering practice. Proposed treatment practices will be provided following the recommended design practices outlined in the publication entitled New Hampshire Department of Environmental Services Best Management Practices for Stormwater Management and Erosion and Sediment Control. The conceptual plan proposes a wetland type treatment pond that will be fully vetted during the final design phase of this project. Proper mitigation and treatment will ensure no adverse downstream impacts to sensitive wetland areas and abutting lands.

Erosion and Sediment Control

As an integral part of the engineering design of this site, an erosion and sedimentation control plan will be developed with the intent of limiting the potential for soil loss and associated receiving water quality degradation, both during and after the construction period. Traditional temporary erosion and sedimentation control devices and practices, such as siltation fencing, check dams, and seeding will be specified. Again, reference is made to the Stormwater Management and Erosion and Sediment Control Handbook for Urban and Developing Areas in New Hampshire manual to appropriately provide and design for erosion control practices. Also, in an effort to account for abnormal adverse building conditions, common engineering practices attempt to further protect all affected areas through caution to the future contractor that any indicated erosion control practices are a minimum standard and serve as a guide only. Notes to this effect are typically added to the design plans and further state more extensive erosion control measures are, by mention, incorporated as field conditions warrant or as directed by the appropriate Local or State authority.

Finally, efforts protecting all affected areas are provided via site specific construction sequencing sensitive to limiting soil loss due to erosion as well as giving consideration to potential associated water quality degradation. It is important for the contractor to recognize that proper judgment in the implementation of work will be essential if erosion is to be limited and protection of completed work is to be realized. Moreover, any specific changes in sequence and/or field conditions affecting the ability of specific erosion control measures to adequately serve their intended purpose are immediately remedied with alternative means.

Wetland Impacts

Michele F. Grenier (C.W.S. #102) mapped two onsite jurisdictional wetlands in April, 2016, which were field located by this office during on ground survey efforts. The site has a bordering vegetated wetland located along the southwest property line that runs through the property and continues offsite. This wetland is a palustrine system, non tidal. The dominant wetland species include trees, shrubs, and persistent emergent. The predominant wetland species include red maple (*Acer rubrum*), highbush blueberry (*Vaccinium corymbosom*) and cinnamon fern (*Osmunda cinnamomea*).

An offsite wetland system crosses the western property line as a finger like projection. This wetland is also a palustrine (non tidal) and dominated by red maple (*Acer rubrum*). As the

attached Wetland and Wetland Buffer Impact Plans depict, the proposed site improvements require 5,550 square feet of permanent wetland impact along with 31,700 square feet of permanent buffer impact.

Wetland Function-Value Evaluation Form

Wetland ID: WD-1
 Latitude: 42° 47' 31" N Longitude: 71° 22' 15.80 W
 Prepared by: MFG Date: 7/1/16
 Wetland Impact: Type: Fill Area: 6,550

Evaluation based on: Office Field
 Corps manual wetland delineation completed? Y N

Total area of wetland: 5,550 Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No
 Adjacent land use: Forest, Commercial Distance to nearest roadway or other development: 100'
 Dominant wetland systems present: PFO Contiguous undeveloped buffer zone present: YES

Is the wetland a separate hydraulic system? YES If not, where does the wetland lie in the drainage basin? _____
 How many tributaries contribute to the wetland? NONE Wildlife & vegetation diversity/abundance (see attached list) _____

Function/Value	Suitability Y/N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	N	4, 5		the area is small and hydric soils marginal wetland at impact does not store floodwater.
Fish and Shellfish Habitat	NA			
Sediment/Toxicant Retention	N	4, 9		No transportation of sediments occur in this wetland. Low flow velocity
Nutrient Removal	N	8		No activity in this area affects nutrient removal.
Production Export	N	7		Overflow is constricted, NO transport occurs via wildlife.
Sediment/Shoreline Stabilization	N/A			
Wildlife Habitat	Y	5		only song birds, black capped chickadee
Recreation	N	13		no hatch observed in this area.
Educational/Scientific Value	N	13		this wetland is not easily accessible and area is small and of no no educational or scientific value.
Uniqueness/Heritage	N	1		No archaeological or prehistoric artifacts
Visual Quality/Aesthetics	N	12		this wetland is not seen from the road.
Endangered Species Habitat	N	NONE		None found or known to occur on site.
Other				

* Refer to backup list of numbered considerations.

Photo No. 2: View of the existing Miara Transportation facility from the access drive located off Bockes Road.



Photo No. 3: Looking southwest at the site conditions in the proposed stormwater management area.



Photo No. 4: View of the existing onsite wetlands to be disturbed.



Photo No. 5: Looking northeast at a typical section of wetland area.



Photo No. 6: View of the existing site conditions within the wetland buffer area.



Photo No. 7: Looking southwest at a typical section of the wetland buffer area to be disturbed.





"B"

TOWN OF HUDSON

FIRE DEPARTMENT

INSPECTIONAL SERVICES DIVISON



12 SCHOOL STREET, HUDSON, NEW HAMPSHIRE 03051

Emergency 911
Business 603-886-6005
Fax 603-594-1142

Robert M. Buxton
Chief of Department

Zoning Determination

August 1, 2016

#16-85

Paul Chisholm P.E.
Keach-Nordstrom Associates, Inc
Suite 3
10 Commerce Park North
Bedford, NH 03110

Re: 12 Bockes Road 136/001-000
District: Residential Two - (R-2)

Dear Mr. Chisholm:

Your request for zoning review and determination of a yard expansion and new structure at this address has been completed.

Zoning Review / Determination:

The requested expansion of an existing non-conforming use is not allowed except by variance from the Zoning Board of Adjustment (§ 334-29).

Any construction activity within the wetland and wetland buffer would require a special exception from the Zoning Board of Adjustment (§ 334-35C). The Special exception includes a review by the Conservation Commission and the Planning Board prior to the Special Exception hearing (§ 334-35B).

This activity would also need Site Plan Approval from the Hudson Planning Board:

" § 334-16.1 Site plan approval. [Added 3-4-2000] No person, persons, partnership, proprietorship, company, trust or corporation shall commence a new use, change a use or commence any site development activity (other than one- or two-family residential activity) without first securing site plan approval from the Hudson Planning Board pursuant to this chapter."

Please feel free to contact me if you have any further questions regarding this matter.

NOTE: this determination may be appealed to the Hudson Zoning Board of Adjustment within 30 days of the receipt of this letter.

Sincerely,

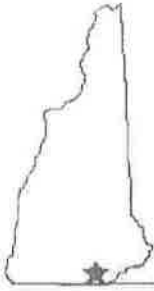
Bruce Buttrick, MCP

Zoning Administrator/Code Enforcement Officer

(603) 816-1275

bbuttrick@hudsonnh.gov

cc: Zoning Board of Adjustment
J.Michaud, Town Assessor
J.Cashell, Town Planner
Chief Buxton
Deputy O'Brien
File



COMMUNITY DEVELOPMENT DEPARTMENT

12 School Street
Hudson, NH 03051
(603)886-6005
www.hudsonnh.gov



Town of Hudson

REQUEST FOR ZONING and/or PLANNING INFORMATION / DETERMINATION

Date of request 07/13/2016

#16-85

Property Location 12 Bockes Road

Map 136 Lot 1

Zoning District if known R-2

Type of Request

- Zoning District Determination
- Use Determination
- Set-Back Requirements
- Process for Subdivision/ Site Plan if required
- Other

Description of request / determination: (Please attach all relevant documentation)

The project proposes a gravel 'yard' expansion in the westerly portion of the site for trailer storage that will impact 5,550-sf of wetlands area and 31,700-sf of wetlands buffer area. Additionally, a 2,430-sf vehicle maintenance building is also proposed. We are seeking a determination as to what action from the Zoning Board will be required for this project.

Applicant Contact Information:

Name: Paul Chisholm
Address: 10 Commerce Park North, Ste3, Bedford, NH 03110
Phone Number: 603-627-2881

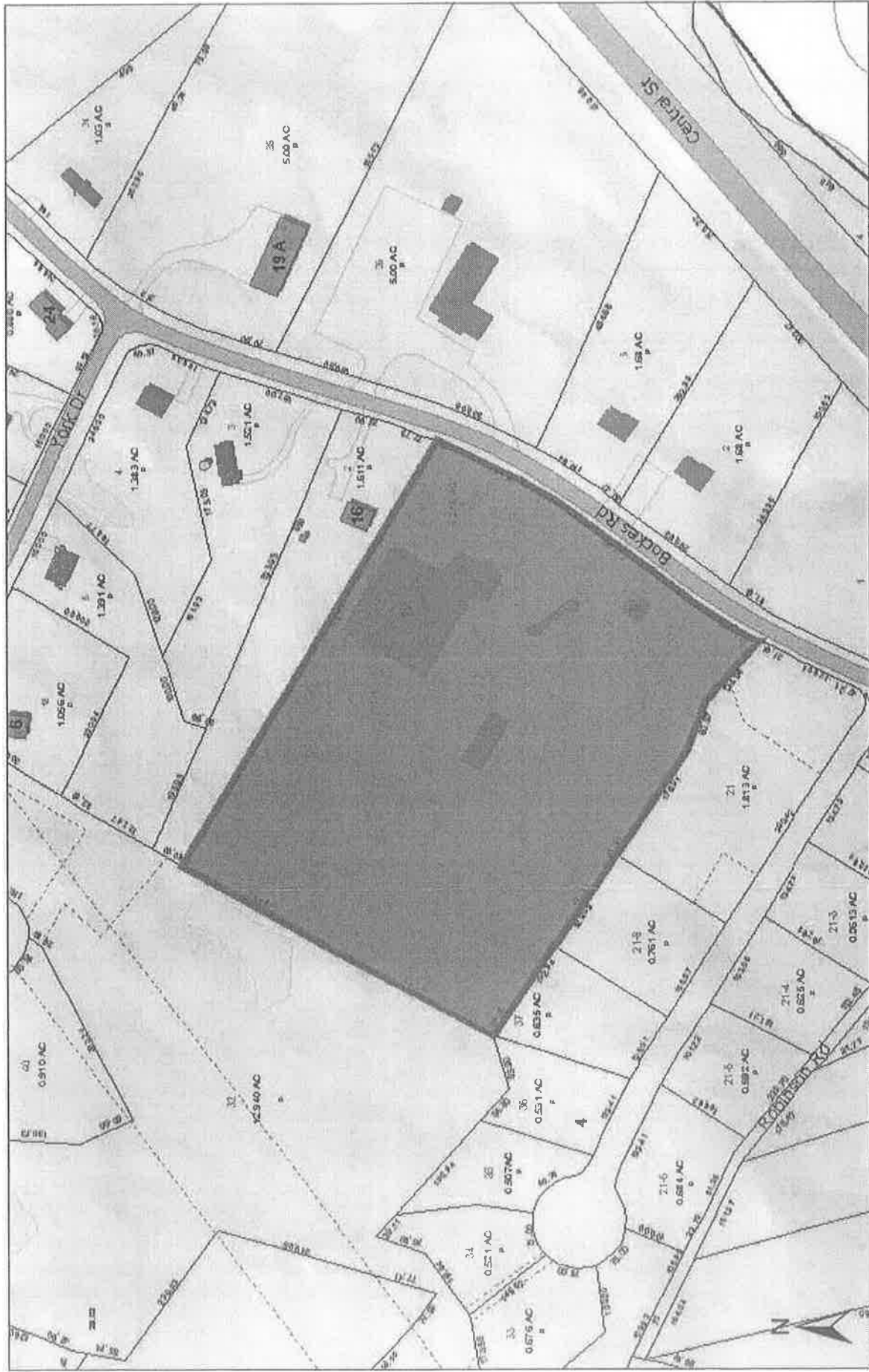
For Office use

ATTACHMENTS: TAX CARD GIS

NOTES: _____

ZONING DETERMINATION LETTER SENT DATE: 8-1-16

12 Bockes Road



July 18, 2016

----- Easement_Lines

□ Parcels

1 inch = 205 feet

0 225 450 Feet





TOWN OF HUDSON

Conservation Commission

Handwritten mark resembling a stylized 'C' with two small 'n' characters above it.



Ken Dickinson, Chairman

Pat Nichols, Selectmen Liaison

12 School Street • Hudson, New Hampshire 03051 • Tel: 603-886-6008 • Fax: 603-816-1291

Motion to Recommend a Wetlands Special Exception

Date: July 11, 2016

Case: Miara Transportation
12 Bockes Road
Hudson, New Hampshire
Map 136, Lot 1 Zone R2

Description of work to be performed: The project proposes a vehicle and storage expansion area of approximately 56,000-sf in the rear of the property. The project also entails expanding an existing maintenance building by 2,430-sf along with improvements to the existing storm-water management, lighting and landscaping.

Members Present: Ken Dickinson, James Battis, Michael Tranfaglia, Raimundo Matos, William Collins, Jeff Beland and Randy Brownrigg

Conservation Members Stepping Down: None

Alternates Seated: None

Motion is to recommend approval of the Wetlands Special Exception Application filed by Joseph A. Miara Jr., Trustee Granite Realty Trust. This approval is for the permanent wetlands buffer impact of approximately 31,700 square feet and permanent wetland impact of approximately 5,500 square feet as shown on the Wetland & Wetland Buffer Impact Plan, Miara Transportation Map 136 lot 1, 12 Bockes Road, Hudson, New Hampshire Hillsborough County. Project No: 16-0233-1 sheet 3 of 6 dated June 2, 2016 and revised June 23, 2016 with the following stipulations.

1. Construction and restoration shall comply with: BEST MANAGEMENT PRACTICES TO CONTROL NON-POINT SOURCE POLLUTION: A GUIDE FOR CITIZENS AND TOWN OFFICIALS (NH Department of Environmental Services-Current Issue.)
2. During construction and restoration erosion control barriers shall be installed and maintained to the satisfaction of the Town Engineer.
3. Install approved "Do not cut/Do not disturb" Town conservation markers along the conservation district boundaries.

(“Miara Transportation Wetlands Special Exception” motion stipulations continued from page 1)

4. All notes found on the Construction Detail sheets 4 through 6 that pertain to alteration of terrain and storm-water runoff and management will be strictly adhered to during all phases of construction.

Motion By: J. Battis

Second By: R. Brownrigg

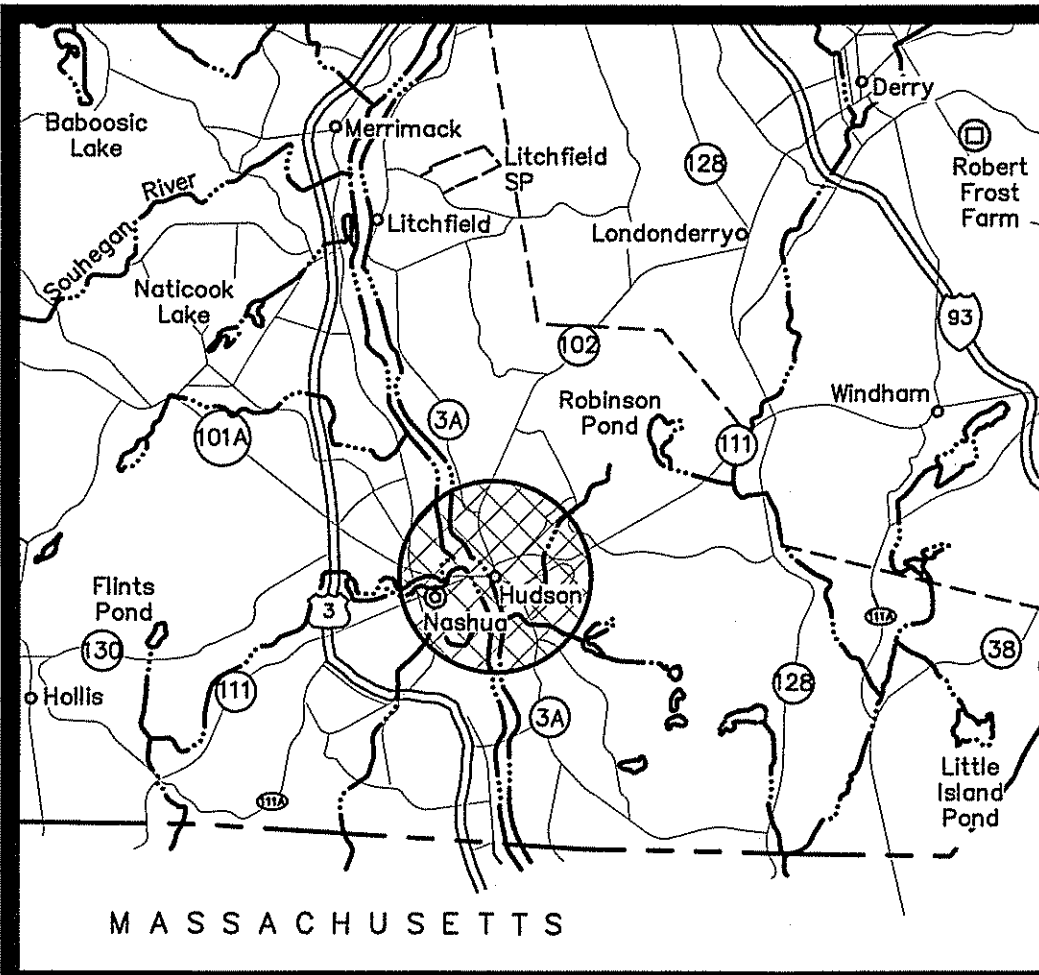
Vote: Favorable: 7 Unfavorable: 0 Abstaining: 0

Dissent Reason(s): None

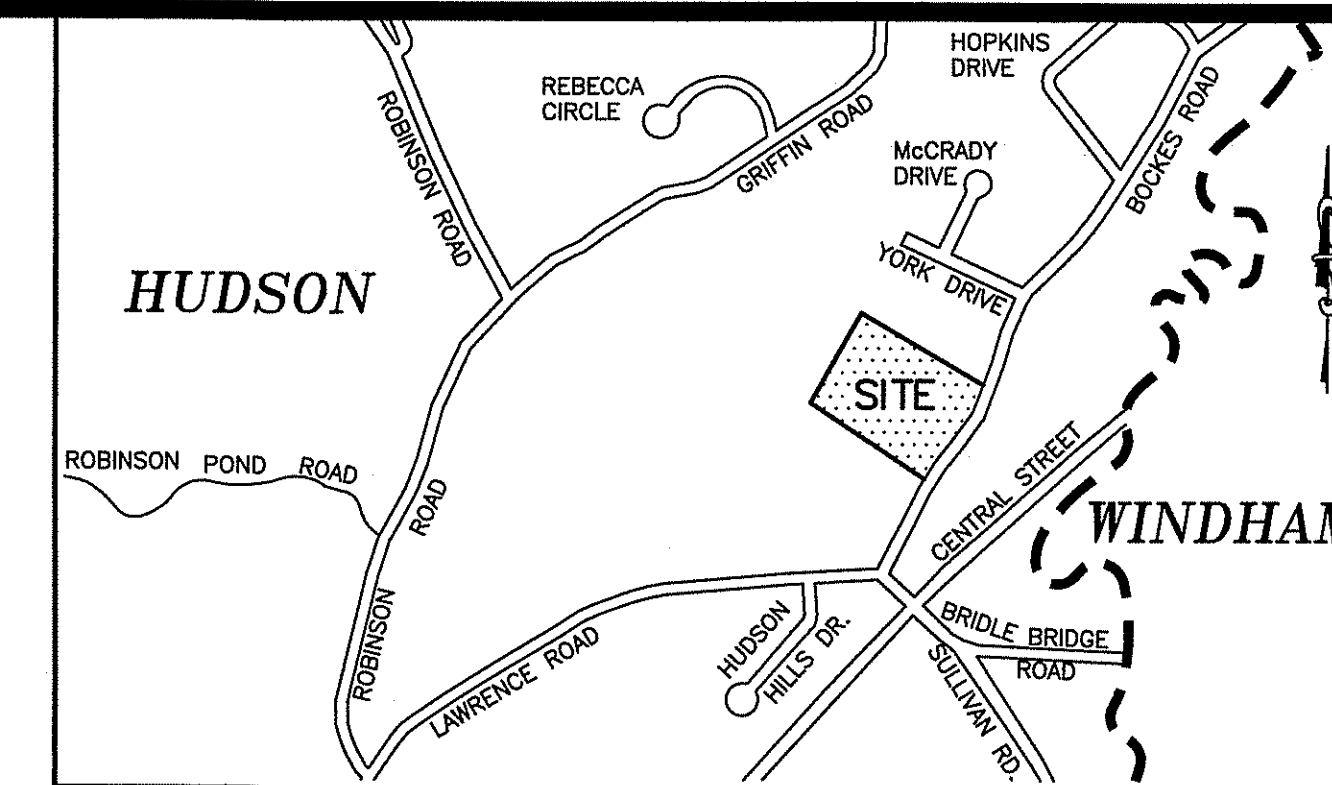
Approved,

A handwritten signature in cursive script that reads "Ken Dickinson".

Ken Dickinson, Chairman



VICINITY PLAN
NOT TO SCALE



LOCUS PLAN
SCALE: 1"=1,000'

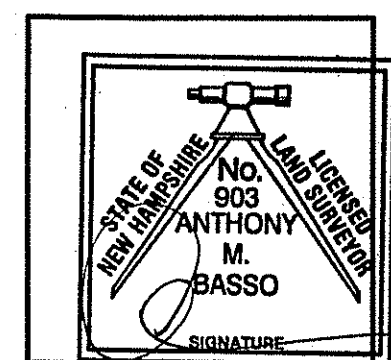
WETLAND & WETLAND BUFFER IMPACT PLAN

MIARA TRANSPORTATION

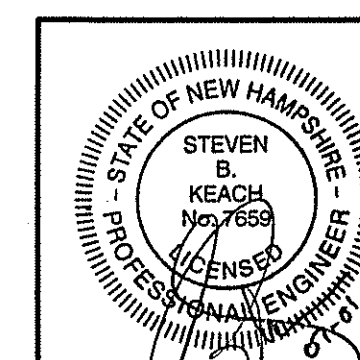
MAP 136 LOT 1 12 BOCKES ROAD HUDSON, NEW HAMPSHIRE

OWNER/APPLICANT:
JOSEPH A. MIARA JR., TRUSTEE
GRANITE REALTY TRUST
12 BOCKES ROAD
HUDSON, NEW HAMPSHIRE 03051

PREPARED BY:
KEACH-NORDSTROM ASSOCIATES, INC.
10 COMMERCE PARK NORTH, SUITE 3
BEDFORD, NEW HAMPSHIRE 03110
(603) 627-2881



7/1/16



KMA
 KEACH-NORDSTROM ASSOCIATES, INC.
 Civil Engineering Land Surveying Landscape Architecture
 10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

JUNE 2, 2016

LAST REVISED: JUNE 23, 2016

PROJECT NO. 16-0223-1

SHEET TITLE

EXISTING CONDITIONS PLAN
 CONCEPTUAL LAYOUT PLAN
 WETLAND & WETLAND BUFFER IMPACT PLAN
 CONSTRUCTION DETAILS

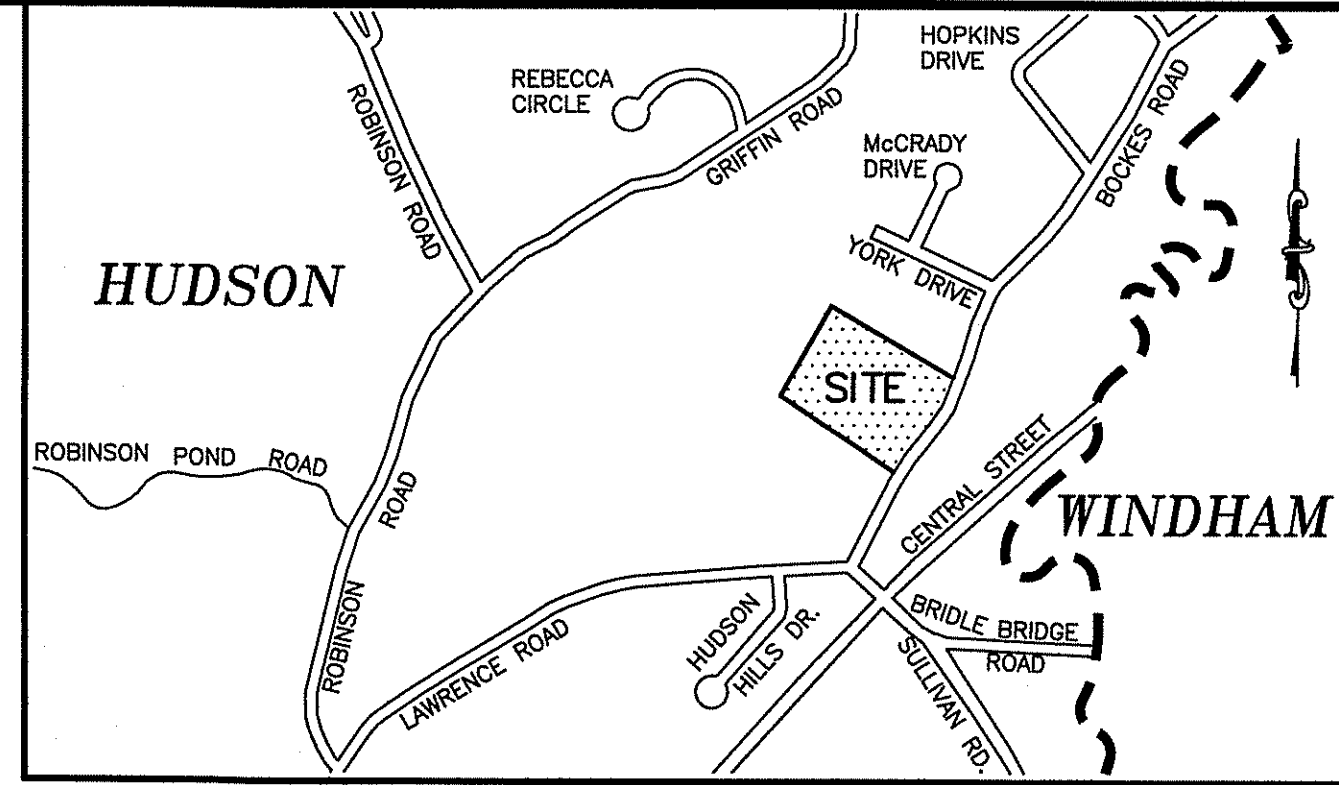
SHEET No.

1
 2
 3
 4 - 6

LEGEND

○ IPIN-F	IRON PIN FOUND	---	ABUTTER LINE
⊙ DH-F	DRILL HOLE FOUND	---	PROPERTY LINE
□	UTILITY POLE	---	WETLAND
+	SIGN	---	STOCKADE FENCE
*	LIGHT	---	EDGE OF PAVEMENT
⊙	WELL	---	EDGE OF GRAVEL
⊙	SEWER MANHOLE	---	10' CONTOUR
⊙	DRAINAGE MANHOLE	---	2' CONTOUR
⊙	CATCH BASIN	---	STONEWALL
⊙	OVERHEAD UTILITIES	---	SCS SOIL LINE
---	DRAINAGE LINE	---	BUILDING SETBACK
---	TREELINE	---	WETLAND BUFFER
---	RETAINING WALL	---	EASEMENT

MAP 136 LOT 2
 PETER J. & TAMMY L. MORRIS
 16 BOCKES ROAD
 HUDSON, NH 03051
 ZONING DISTRICT: R-2
 H.C.R.D. BK. 6422 PG. 0916



LOCUS PLAN
 SCALE: 1"=1,000'

REFERENCE PLANS:

- "SUBDIVISION PLAN OF LAND, PREPARED FOR, BERTHA A. MOONEY, HUDSON, NH," SCALE: 1"=50', DATED: MAY 29, 1984, PREPARED BY RONALD R. BURD, INC. H.C.R.D. PLAN NO. 19106.
- "BOUNDARY PLAN OF MAP 36 LOT 27 & 28, LOCATED ON: BOCKES ROAD, HUDSON, N.H.," SCALE: 1"=100', DATED: NOV. 16, 1987, PREPARED BY GEORGE F. KELLER INC. H.C.R.D. PLAN NO. 21586.
- "AS-BUILT SITE PLAN: TAX MAP 36 LOT 29-2, ABC MOVING AND STORAGE CO., c/o FRANK FISHER, BOCKES ROAD, HUDSON, N.H.," SCALE: 1"=50', DATED: JANUARY 15, 1990, WITH REVISIONS THROUGH 11/12/90, PREPARED BY GEORGE F. KELLER INC.

NOTES:

- THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING CONDITIONS PRESENT ON TAX MAP 136 LOT 1 AS OF THE DATE OF FIELD SURVEY.
- TOTAL LOT AREA = 401,449 SF, OR 9.216 ACRES.
- MAP 136 LOT 1 INDICATES TOWN OF HUDSON TAX ASSESSOR'S MAP AND LOT NUMBERS.
- OWNER OF RECORD:
 JOSEPH A. MIARA JR., TRUSTEE
 GRANITE REALTY TRUST
 12 BOCKES ROAD
 HUDSON, NH 03051
 H.C.R.D. BK. 8410 PG. 2473
- THE SUBJECT PARCEL IS LOCATED WITHIN THE RESIDENTIAL 2 DISTRICT (R-2). DIMENSIONAL REQUIREMENTS ARE AS FOLLOWS FOR LOTS NOT SERVICED WITH MUNICIPAL SEWER AND WATER:
 - MINIMUM LOT AREA: 60,000 SF
 - MINIMUM LOT FRONTAGE: 120 FT
 - MINIMUM BUILDING SETBACKS:
 - FRONT: 50
 - REAR: 15
 - SIDE: 15
- TOPOGRAPHIC AND BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON REFERENCE PLAN #1 AND AN ACTUAL FIELD SURVEY PERFORMED BY THIS OFFICE DURING MARCH OF 2016.
- HORIZONTAL DATUM IS NAD 83. VERTICAL DATUM IS NGVD 29.
- THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS APPROXIMATE. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF THE UTILITIES SHOWN. UTILITIES SHOWN HEREON ARE ONLY THOSE FOUND WITHIN THE AREA OF KNA FIELD SURVEY AND ARE SOLELY BASED UPON VISIBLE SURFACE EVIDENCE. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG-SAFE AT 811.
- EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) FOR THE TOWN OF HUDSON MAP NUMBER 330920536D, PANEL 536 OF 701, EFFECTIVE DATE: SEPTEMBER 25, 2009 INDICATES THAT NO PORTION OF THE SUBJECT PARCEL IS LOCATED WITHIN A DESIGNATED FLOOD HAZARD AREA.
- EASEMENTS, RIGHTS AND RESTRICTIONS SHOWN OR IDENTIFIED HEREON ARE THOSE FOUND DURING RESEARCH AT THE HILLSBOROUGH COUNTY REGISTRY OF DEEDS. OTHER EASEMENTS, RIGHTS, AND RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF THE SUBJECT PREMISES MAY DETERMINE.



SCS SOILS LEGEND

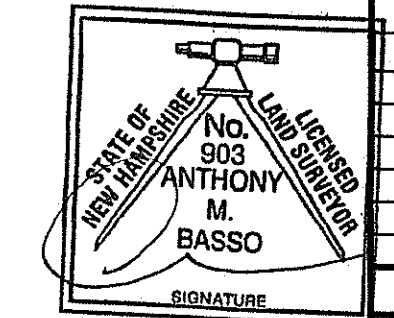
CsC	CHATFIELD-HOLLIS COMPLEX, 8-15% SLOPES
DeB	DEERFIELD LOAMY FINE SAND, 3-8% SLOPES
HsC	HINCKLEY LOAMY SAND, 8-15% SLOPES
StB	SCITUATE STONY FINE SANDY LOAM, 3-8% SLOPES
WdB	WINDSOR LOAMY SAND, 3-8% SLOPES

SOURCE: USDA-SCS WEB SOIL SURVEY

EXISTING CONDITIONS PLAN
MIARA TRANSPORTATION
 MAP 136 LOT 1
 12 BOCKES ROAD
 HUDSON, NEW HAMPSHIRE
 HILLSBOROUGH COUNTY

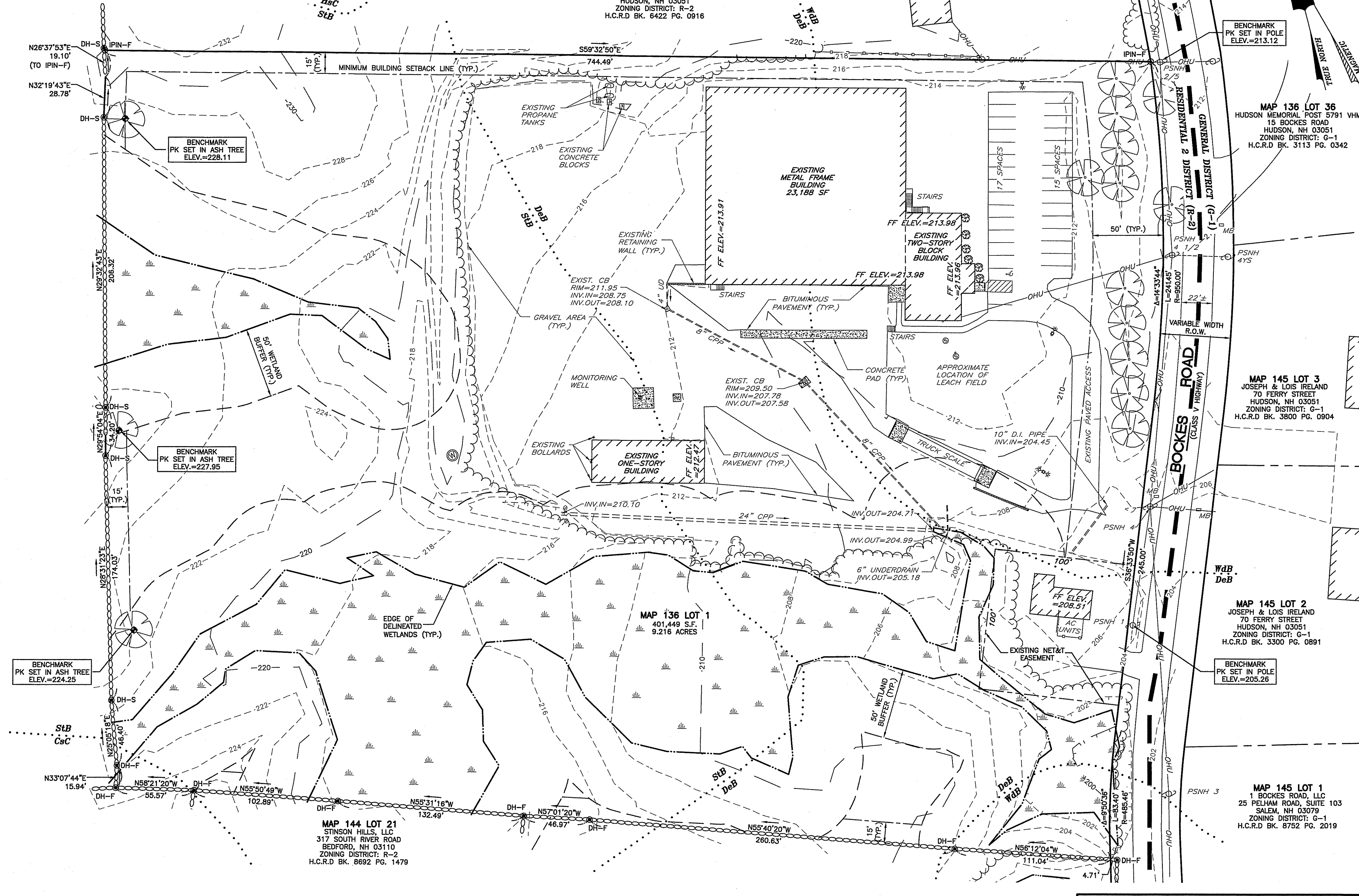
OWNER OF RECORD: JOSEPH A. MIARA JR., TRUSTEE GRANITE REALTY TRUST 12 BOCKES ROAD HUDSON, NH 03051 H.C.R.D. BK. 8410 PG. 2473	APPLICANT: JOSEPH A. MIARA JR., TRUSTEE GRANITE REALTY TRUST 12 BOCKES ROAD HUDSON, NH 03051
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KNA KEACH-NORDSTROM ASSOCIATES, INC.
 Civil Engineering Land Surveying Landscape Architecture
 10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

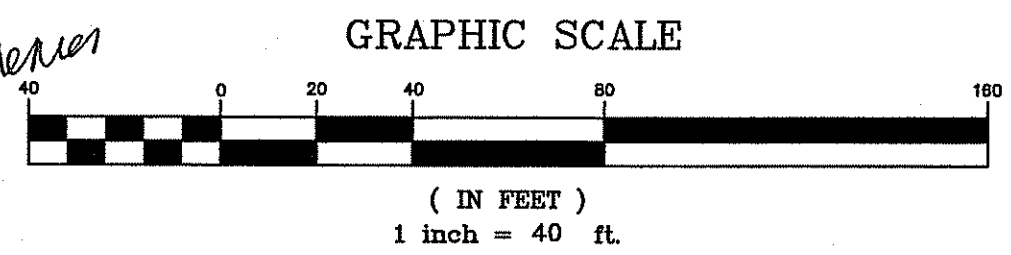


REVISIONS			
No.	DATE	DESCRIPTION	BY
1	06/23/16	REVISED DRAINAGE & EROSION CONTROL	PDC

DATE: JUNE 2, 2016 SCALE: 1" = 40'
 PROJECT NO: 16-0223-1 SHEET 1 OF 6



MICHELE F. GRENIER, CERTIFIED WETLAND SCIENTIST #102, PERFORMED THE WETLAND MAPPING IN APRIL 2016 ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, NORTH-CENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS.

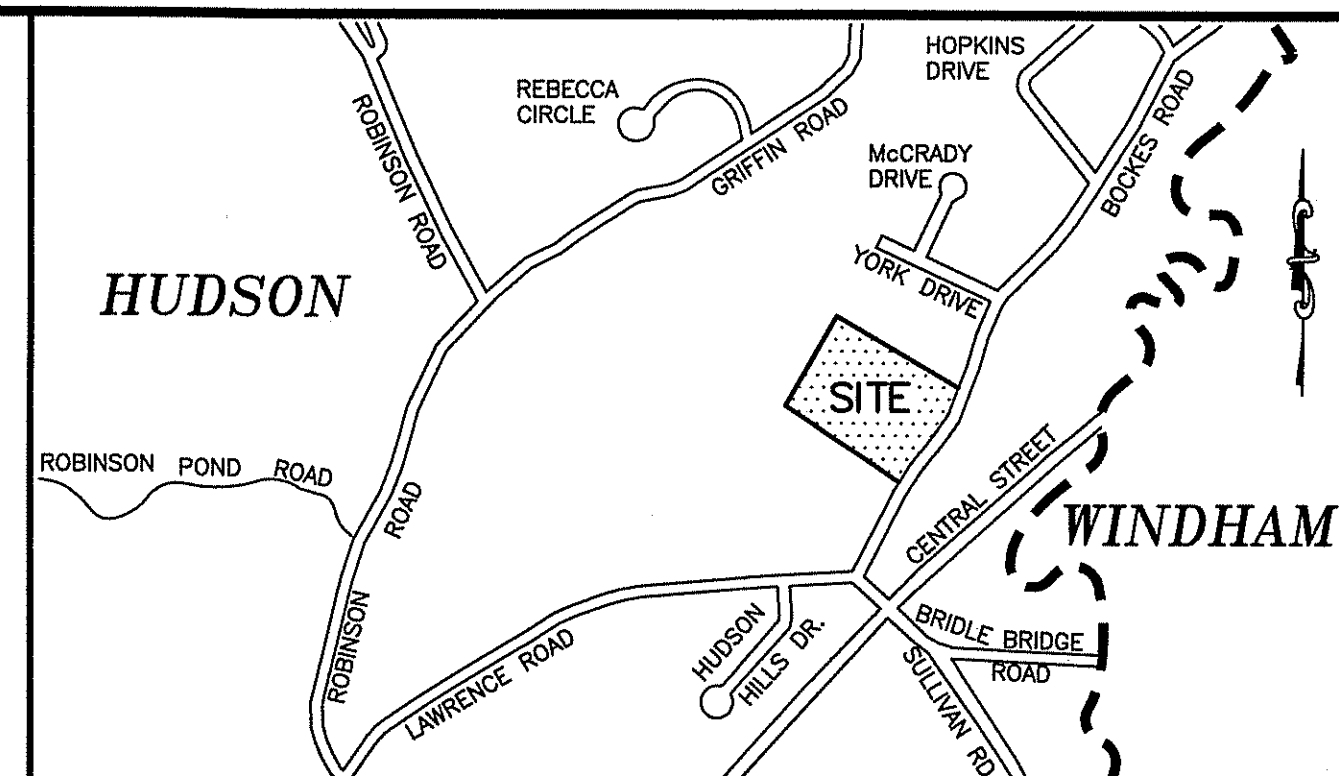


CERTIFICATION:
 I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION. FURTHER, THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY MADE BY THIS OFFICE DURING MARCH OF 2016. SAID SURVEY HAS A RELATIVE ERROR OF CLOSURE OF ONE PART IN TEN THOUSAND (1:10,000) OR BETTER.

[Signature]
 LICENSED LAND SURVEYOR
 DATE: 7/1/16

LEGEND

- IPIN-F IRON PIN FOUND
- DH-F DRILL HOLE FOUND
- UTILITY POLE
- SIGN
- LIGHT
- WELL
- SEWER MANHOLE
- DRAINAGE MANHOLE
- CATCH BASIN
- OVERHEAD UTILITIES
- TREELINE
- RETAINING WALL
- ABUTTER LINE
- PROPERTY LINE
- WETLAND
- STOCKADE FENCE
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- STONEWALL
- BUILDING SETBACK
- WETLAND BUFFER
- EASEMENT
- PROPOSED EDGE OF GRAVEL



LOCUS PLAN
SCALE: 1"=1,000'

- REFERENCE PLANS:**
- "SUBDIVISION PLAN OF LAND, PREPARED FOR, BERTHA A. MOONEY, HUDSON, NH," SCALE: 1"=50', DATED: MAY 29, 1984, PREPARED BY RONALD R. BURD, INC. H.C.R.D. PLAN NO. 19106.
 - "BOUNDARY PLAN OF MAP 36 LOT 27 & 28, LOCATED ON, BOCKES ROAD, HUDSON, N.H.," SCALE: 1"=100', DATED: NOV. 16, 1987, PREPARED BY GEORGE F. KELLER INC. H.C.R.D. PLAN NO. 21586.
 - "AS-BUILT SITE PLAN: TAX MAP 36 LOT 29-2, ABC MOVING AND STORAGE CO., c/o FRANK FISHER, BOCKES ROAD, HUDSON, N.H.," SCALE: 1"=50', DATED: JANUARY 15, 1990, WITH REVISIONS THROUGH 11/12/99, PREPARED BY GEORGE F. KELLER INC.
- NOTES:**
- THE PURPOSE OF THIS PLAN IS TO DEPICT A CONCEPTUAL SITE PLAN FOR THE PROPOSED SITE PLAN EXPANSION ON TAX MAP 136 LOT 1.
 - TOTAL LOT AREA = 401,449 SF, OR 9.216 ACRES.
 - MAP 136 LOT 1 INDICATES TOWN OF HUDSON TAX ASSESSOR'S MAP AND LOT NUMBERS.
 - OWNER OF RECORD:
JOSEPH A. MIARA JR., TRUSTEE
GRANITE REALTY TRUST
12 BOCKES ROAD
HUDSON, NH 03051
H.C.R.D. BK. 8410 PG. 2473
 - THE SUBJECT PARCEL IS LOCATED WITHIN THE RESIDENTIAL 2 DISTRICT (R-2). DIMENSIONAL REQUIREMENTS ARE AS FOLLOWS FOR LOTS NOT SERVICED WITH MUNICIPAL SEWER AND WATER:
- MINIMUM LOT AREA 60,000 SF
- MINIMUM LOT FRONTAGE 120 FT
- MINIMUM BUILDING SETBACKS:
 - FRONT 50
 - SIDE 15
 - REAR 15
 - TOPOGRAPHIC AND BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON REFERENCE PLAN #1 AND AN ACTUAL FIELD SURVEY PERFORMED BY THIS OFFICE DURING MARCH OF 2016.
 - HORIZONTAL DATUM IS NAD 83. VERTICAL DATUM IS NGVD 29.
 - THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS APPROXIMATE. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF THE UTILITIES SHOWN. UTILITIES SHOWN HEREON ARE ONLY THOSE FOUND WITHIN THE AREA OF KNA FIELD SURVEY AND ARE SOLELY BASED UPON VISIBLE SURFACE EVIDENCE. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG-SAFE AT 811.
 - EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) FOR THE TOWN OF HUDSON MAP NUMBER 3300920536D, PANEL 536 OF 701, EFFECTIVE DATE: SEPTEMBER 25, 2009 INDICATES THAT NO PORTION OF THE SUBJECT PARCEL IS LOCATED WITHIN A DESIGNATED FLOOD HAZARD AREA.
 - TOTAL PERMANENT WETLAND IMPACT = 5,550 SF
TOTAL PERMANENT WETLAND BUFFER IMPACT = 31,700 SF
 - OPEN SPACE REQUIRED = 35%
OPEN SPACE PROPOSED = 86.4%
 - CATCH BASINS TO BE REPLACED IF FOUND NOT TO HAVE 3' SUMPS OR PROPOSED OIL/GAS SEPARATORS DO NOT FIT IN STRUCTURE.

- MAP 136 LOT 2**
PETER J. & TAMMY L. MORRIS
16 BOCKES ROAD
HUDSON, NH 03051
ZONING DISTRICT: R-2
H.C.R.D. BK. 6422 PG. 0916
- MAP 136 LOT 36**
HUDSON MEMORIAL POST 5791 VHM
15 BOCKES ROAD
HUDSON, NH 03051
ZONING DISTRICT: G-1
H.C.R.D. BK. 3113 PG. 0342
- MAP 145 LOT 3**
JOSEPH & LOIS IRELAND
70 FERRY STREET
HUDSON, NH 03051
ZONING DISTRICT: G-1
H.C.R.D. BK. 3800 PG. 0904
- MAP 145 LOT 2**
JOSEPH & LOIS IRELAND
70 FERRY STREET
HUDSON, NH 03051
ZONING DISTRICT: G-1
H.C.R.D. BK. 3300 PG. 0891
- MAP 145 LOT 1**
1 BOCKES ROAD, LLC
25 PELHAM ROAD, SUITE 103
SALEM, NH 03079
ZONING DISTRICT: G-1
H.C.R.D. BK. 8752 PG. 2019



CONCEPTUAL LAYOUT PLAN
MIARA TRANSPORTATION
MAP 136 LOT 1
12 BOCKES ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

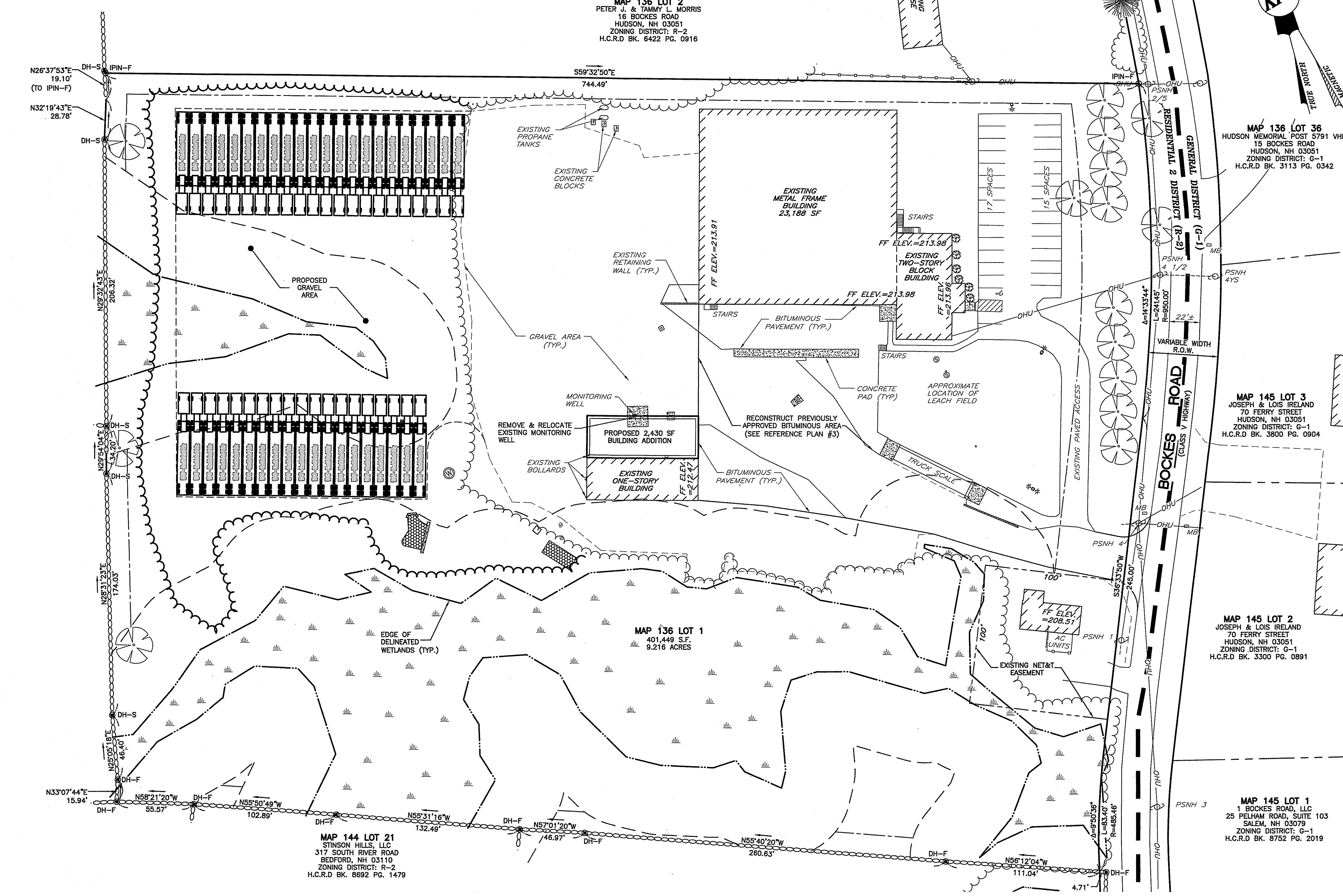
OWNER OF RECORD:
JOSEPH A. MIARA JR., TRUSTEE
GRANITE REALTY TRUST
12 BOCKES ROAD
HUDSON, NH 03051
H.C.R.D. BK. 8410 PG. 2473

APPLICANT:
JOSEPH A. MIARA JR., TRUSTEE
GRANITE REALTY TRUST
12 BOCKES ROAD
HUDSON, NH 03051

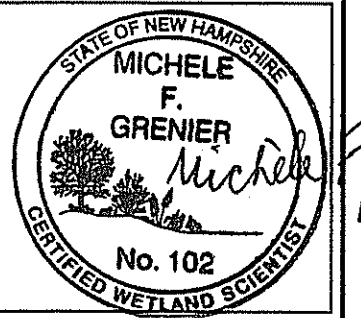
KNA
KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-8881

REVISIONS			
No.	DATE	DESCRIPTION	BY
1	06/23/16	REVISED DRAINAGE & EROSION CONTROL	PDC

DATE: JUNE 2, 2016 SCALE: 1" = 40'
PROJECT NO: 16-0223-1 SHEET 2 OF 6

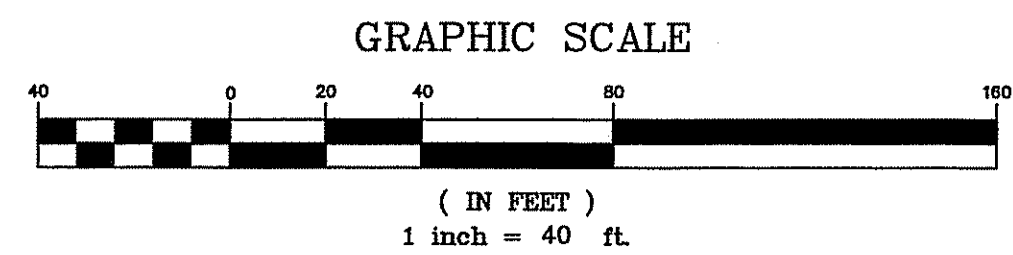


MICHELE F. GRENIER, CERTIFIED WETLAND SCIENTIST #102, PERFORMED THE WETLAND MAPPING IN APRIL 2016 ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL - NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS.



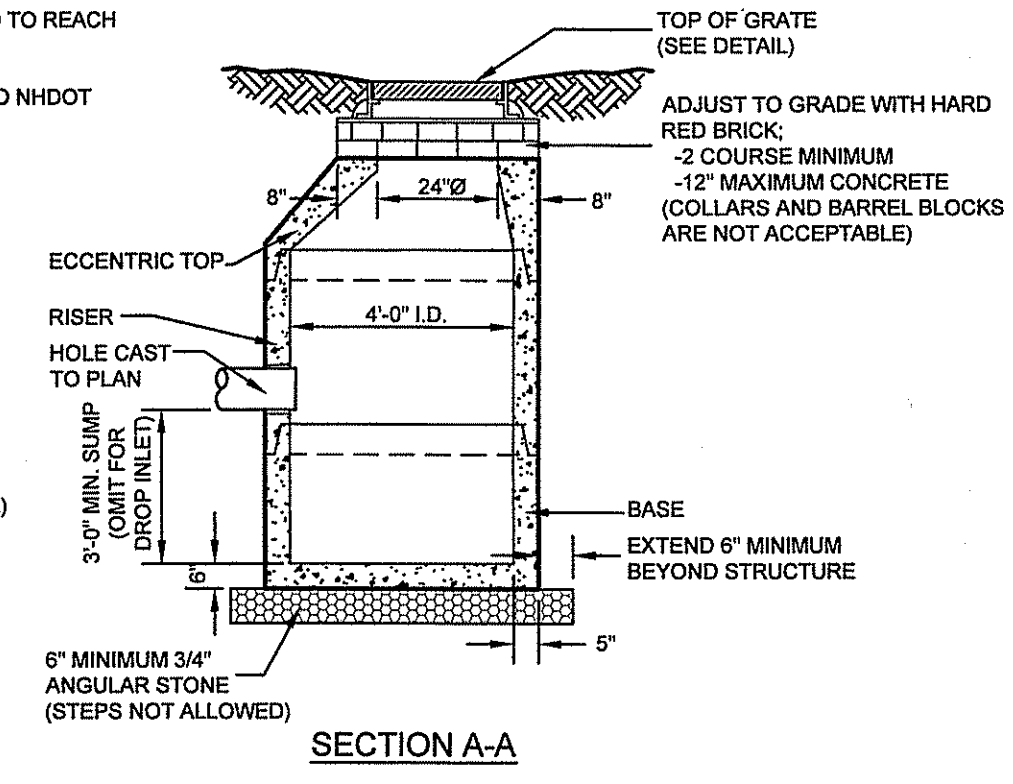
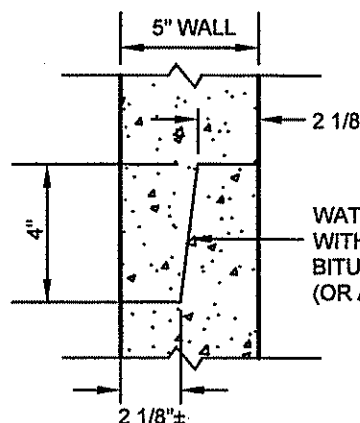
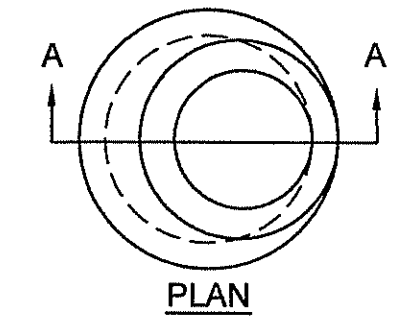
HUDSON CONSERVATION COMMISSION CHAIRMAN

DATE

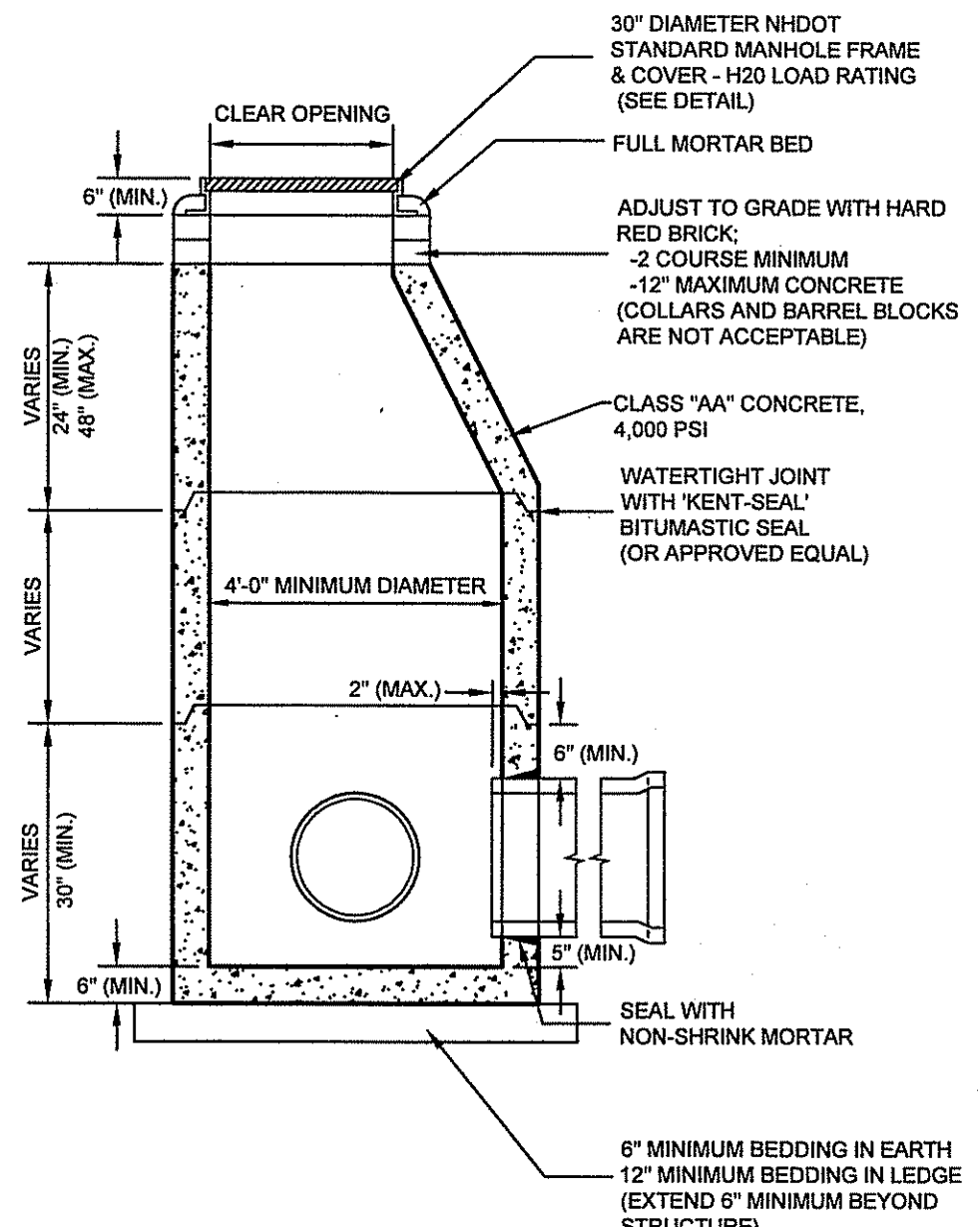


NOTES:

1. ALL SECTIONS SHALL BE CONCRETE CLASS AA(4000 PSI). CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCH PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
2. THE TONGUE OR GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCH PER LINEAR FOOT.
3. RISER OF 1", 2", 3" & 4" CAN BE USED TO REACH DESIRED DEPTH.
4. MATERIALS AND CONSTRUCTION TO NHDOT STANDARDS.



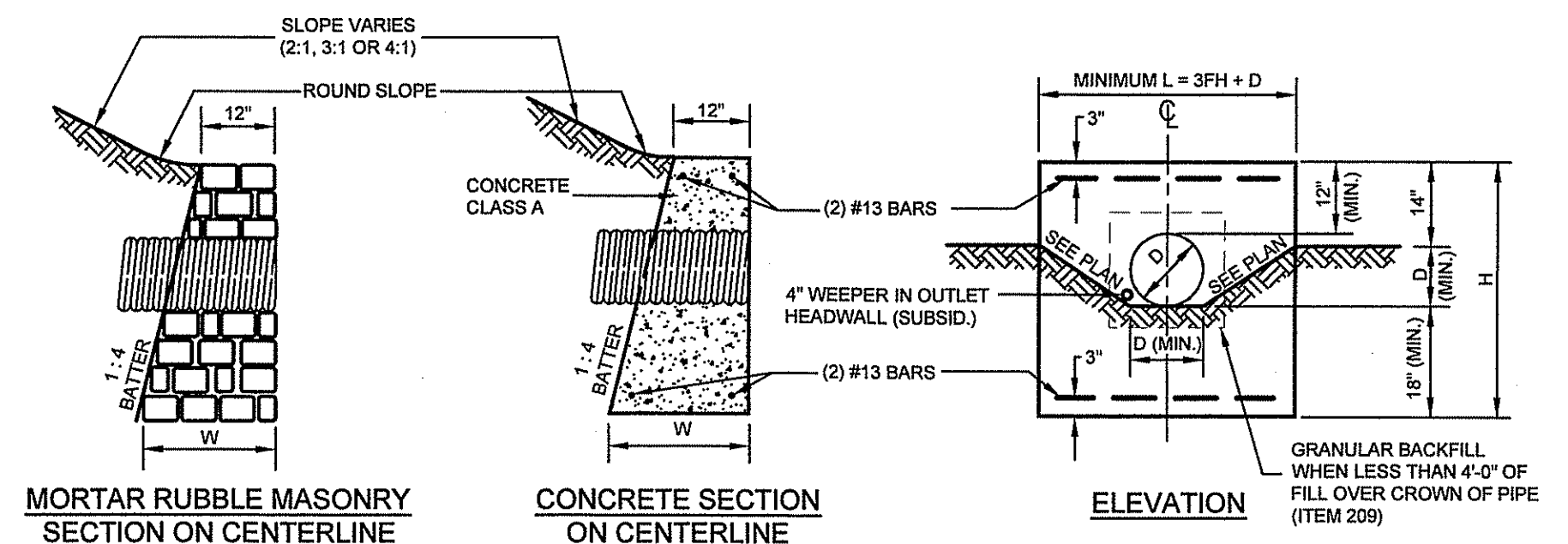
PRECAST REINFORCED CATCH BASIN
NOT TO SCALE
(MAY 2012)



NOTES:

1. STEPS ARE NOT ALLOWED.
2. ALL SECTIONS SHALL BE CONCRETE CLASS AA (4,000 PSI). CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER L.F. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER OF THE WALL.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER L.F.
4. MATERIALS AND CONSTRUCTION TO NHDOT STANDARDS.

PRECAST REINFORCED DRAIN MANHOLE DETAIL
NOT TO SCALE
(MARCH 2008)



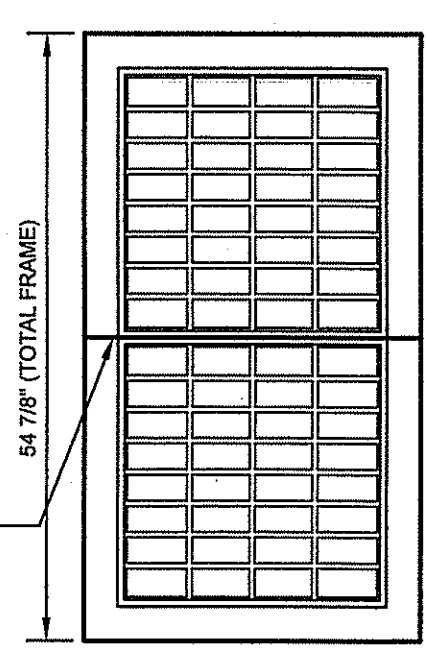
NOTE:

DIMENSIONS SHOWN ARE TO PAYMENT LINES. MORTAR RUBBLE MASONRY TO BE STEPPED OUTSIDE PAYMENT LINES ON SLOPING FACES.

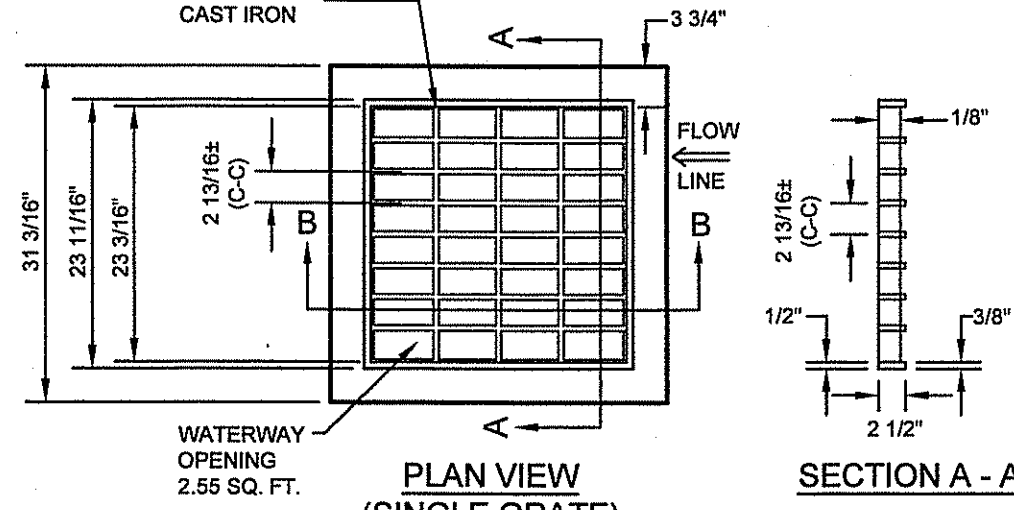
DIAMETER D (INCH)	AREA OF PIPE (SQ FT)	MASONRY PER FOOT OF WALL (CU. YD.)	MASONRY PER HOLE (CU. FT.)	MASONRY PER STANDARD HEADER (CU. YD.)	STEEL PER STANDARD HEADER (LB)	LENGTH OF BARS	PIPE EXC. 1' DEPTH (CU. YD.)	HEADER EXC. PER HEADER 1' DEPTH (CU. YD.)	ITEM 209 PER LINEAR FOOT	HEADER LENGTH L	HEADER HEIGHT H	FILL HEIGHT FH	"L" HEADWALL		
													MASONRY IN CORNER FRUSTRUM (CU. YD.)	HEADER EXC. PER HEADER 1' DEPTH (CU. YD.)	
12"	0.79	0.186	1.08	0.61	9	3'-2"	0.111	0.789	0.30	3'-6"	3'-6"	10"	1'-10 1/2"	0.28	1.057
16"	1.23	0.292	1.73	0.85	11	3'-10"	0.120	0.947	0.35	4'-6"	3'-9"	11"	1'-11 1/4"	0.31	1.232
18"	1.77	0.222	2.52	1.13	14	5'-2"	0.130	1.111	0.39	5'-6"	4'-0"	1'-4"	2'-0"	0.35	1.406
24"	3.14	0.260	4.71	1.78	20	7'-2"	0.148	1.451	0.48	7'-6"	4'-6"	1'-10"	2'-1 1/2"	0.42	1.776
30"	4.91	0.301	7.67	2.68	25	9'-2"	0.185	1.810	0.65	9'-6"	5'-0"	2'-4"	2'-3"	0.51	2.164
36"	7.07	0.344	11.49	3.53	31	11'-2"	0.222	2.167	0.85	11'-6"	5'-6"	2'-10"	2'-4 1/2"	0.61	2.572
42"	9.62	0.389	16.24	4.65	36	13'-2"	0.269	2.581	1.07	13'-6"	6'-0"	3'-4"	2'-6"	0.72	3.000
48"	12.57	0.436	21.99	5.95	42	15'-2"	0.296	3.000	1.31	15'-6"	6'-6"	3'-10"	2'-7 1/2"	0.84	3.447
54"	15.90	0.486	28.83	7.44	47	17'-2"	0.333	3.432	1.58	17'-6"	7'-0"	4'-4"	2'-9"	0.98	3.914
60"	19.63	0.538	36.82	9.13	52	19'-2"	0.370	3.882	1.87	19'-6"	7'-6"	4'-10"	2'-10 1/2"	1.12	4.401
66"	23.76	0.593	46.03	11.04	58	21'-2"	0.407	4.350	2.17	21'-6"	8'-0"	5'-4"	3'-0"	1.28	4.907
72"	28.27	0.649	56.55	13.17	63	23'-2"	0.445	4.838	2.50	23'-6"	8'-6"	5'-10"	3'-11 1/2"	1.46	5.433

NOTE: STEEL QUANTITIES ARE FOR CONCRETE HEADWALLS ONLY.

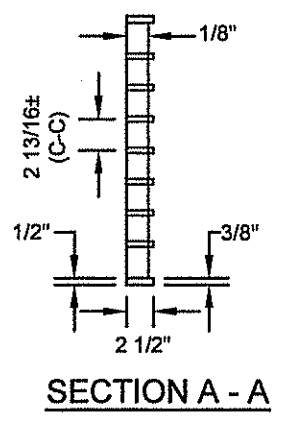
MORTAR RUBBLE MASONRY AND CONCRETE HEADWALLS
NOT TO SCALE
(MARCH 2008)



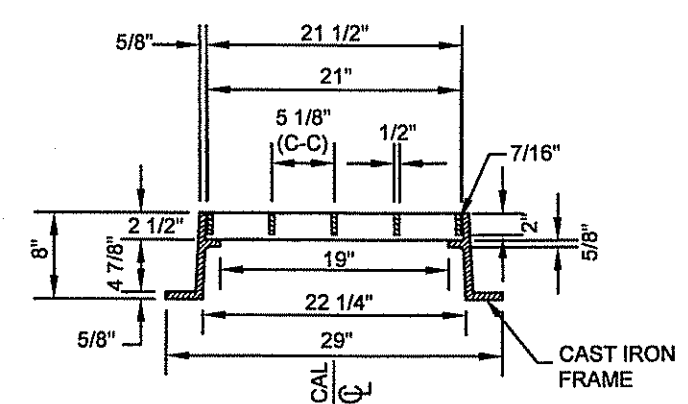
PLAN VIEW (DOUBLE GRATE)



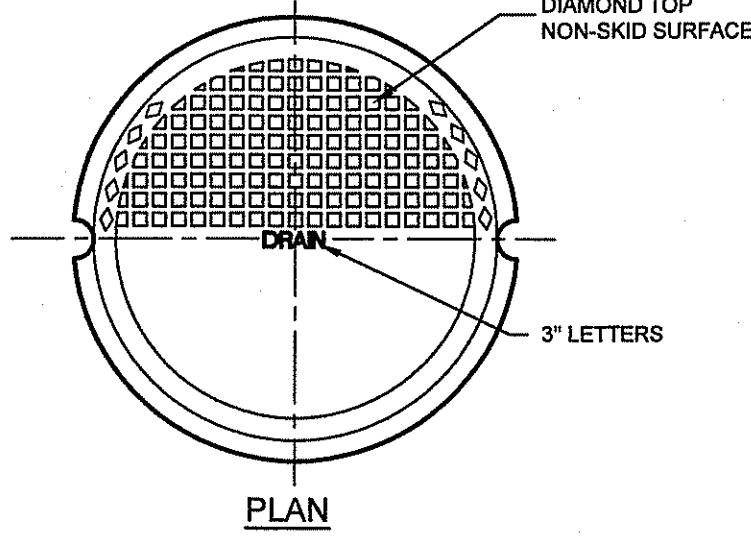
PLAN VIEW (SINGLE GRATE)



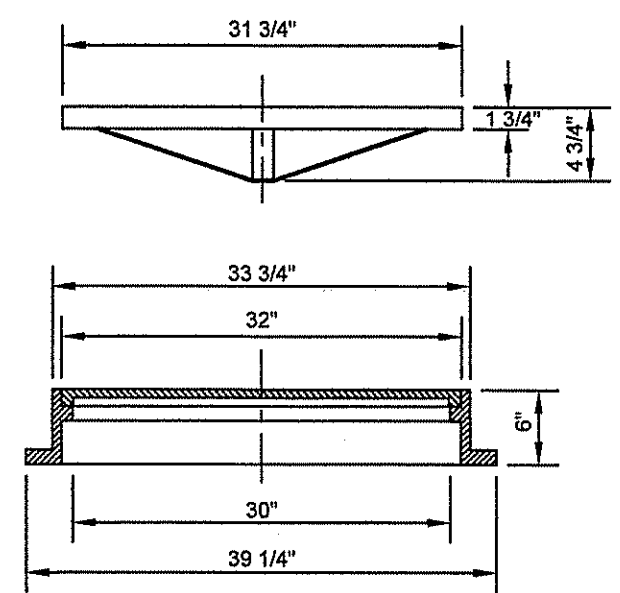
SECTION A - A



SECTION B - B
TYPE B FRAME & GRATE DETAIL
NOT TO SCALE
(MARCH 2008)



PLAN

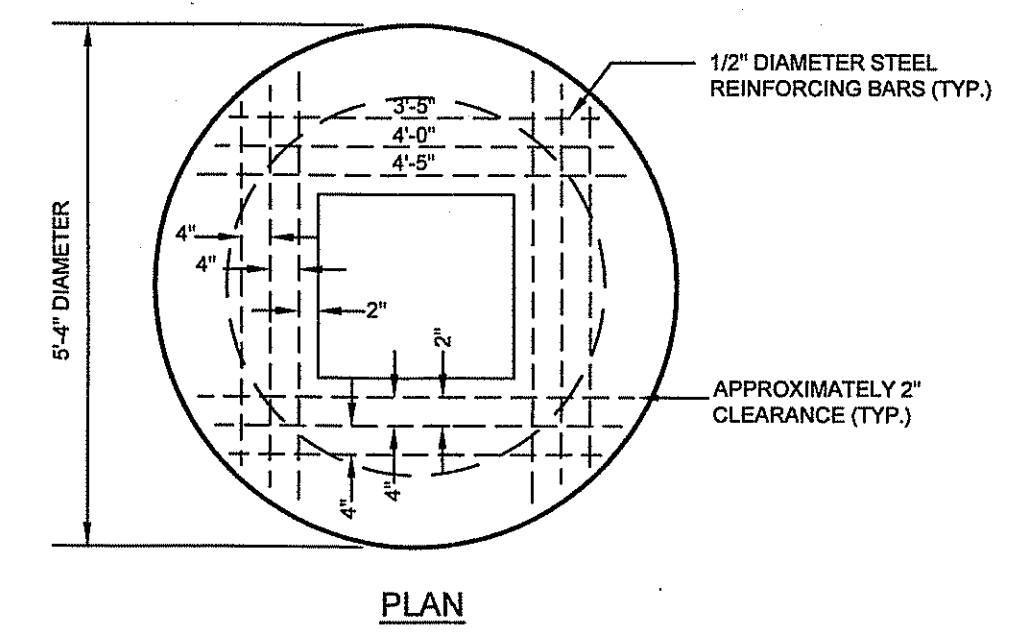


SECTION

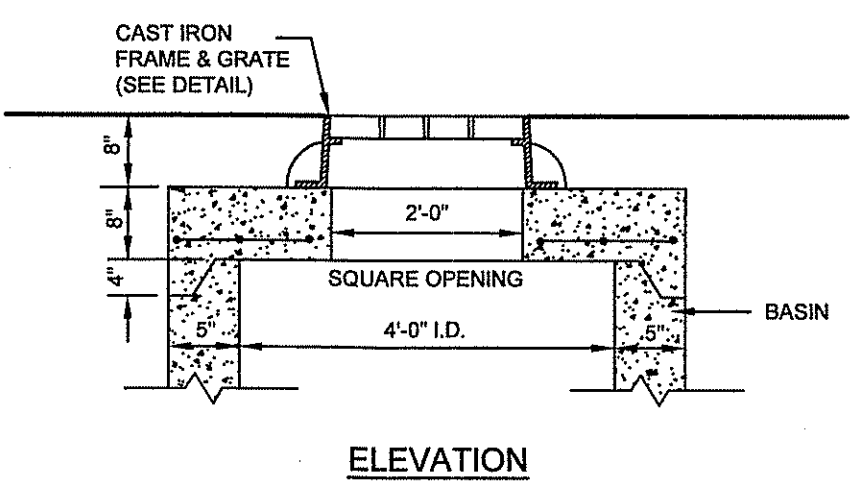
DRAIN MANHOLE FRAME AND COVER DETAIL
NOT TO SCALE
(JANUARY 2012)

NOTES:

- NEW HAMPSHIRE MAINTAINS A CLEAR OPENING DESIGNATION OF 30" FOR ITS MANHOLE CASTINGS.
- FEATURES:**
- 3" LETTERING
 - COVERS MARKED DRAIN
 - NONROCKING COVER
 - DIAMOND SURFACE DESIGN
- SPECIFICATIONS:**
- FULLY MACHINED FRAME AND COVER
 - H-20 LOAD RATED
 - GRAY CAST IRON MEETS ASTM A48 CLASS 30

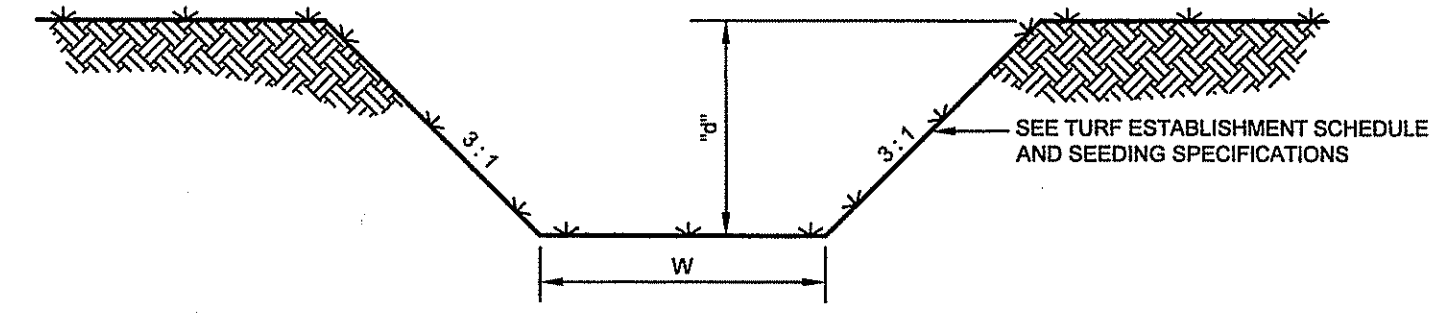


PLAN



ELEVATION

REINFORCED CONCRETE TOP SLAB (4'-0" I.D.)
NOT TO SCALE
(MARCH 2008)



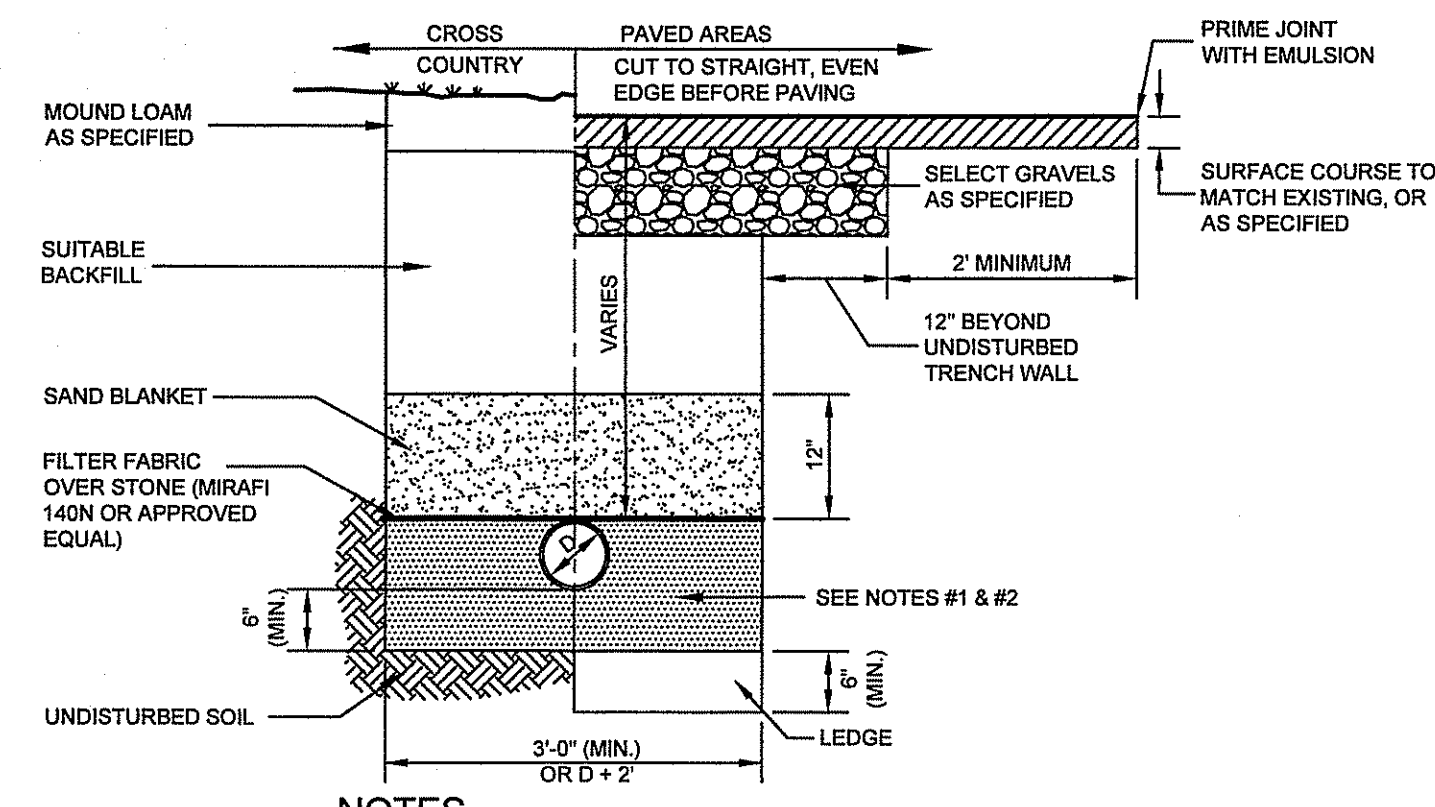
TREATMENT SWALE DETAIL
NOT TO SCALE

LOCATION	PEAK FLOW	PEAK VELOCITY	SWALE WIDTH "W"	SWALE LENGTH	SWALE SLOPE	DEPTH "d"	PEAK DEPTH OF RUNOFF
SWALE	*7.55 CFS	*3.29 FPS	4'	380'	0.010	12"	5.2'

* IN 25 YEAR STORM EVENT

MAINTENANCE

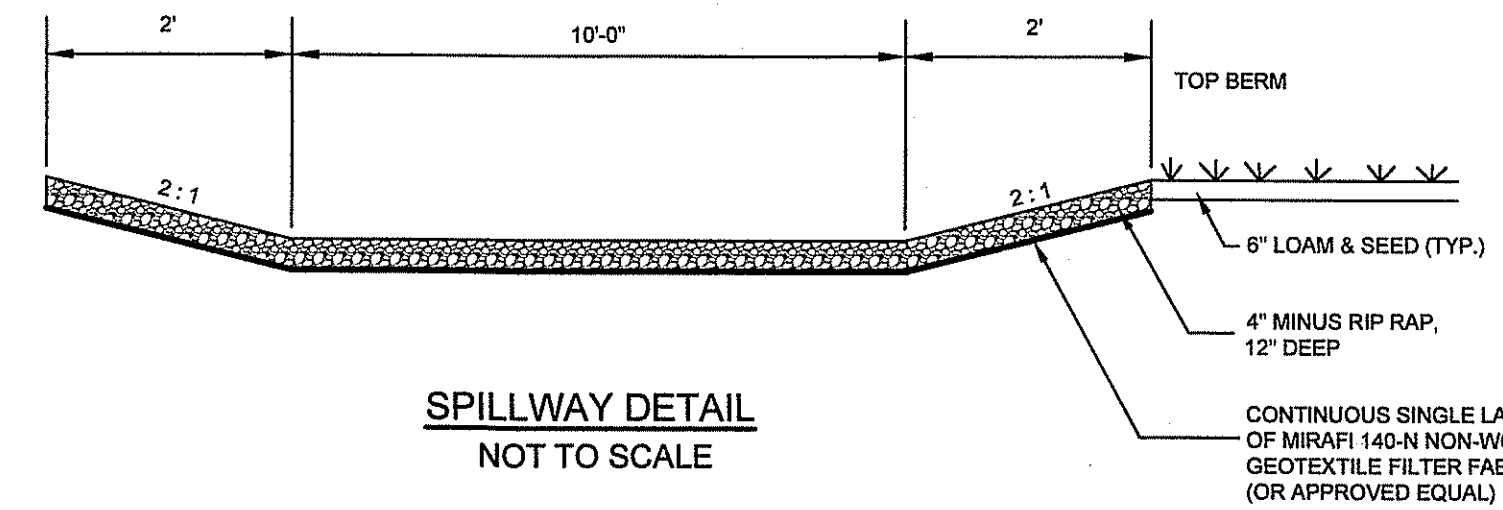
1. TIMELY MAINTENANCE IS IMPORTANT TO KEEP THE VEGETATION IN THE SWALE IN GOOD CONDITION. MOWING SHOULD BE DONE FREQUENTLY ENOUGH TO KEEP THE VEGETATION IN VIGOROUS CONDITION AND TO CONTROL ENCRUSTMENT OF WEEDS AND WOODY VEGETATION. HOWEVER IT SHOULD NOT BE MOWED TOO CLOSELY SO AS TO REDUCE THE FILTERING EFFECT. FERTILIZE ON AN "AS NEEDED" BASIS TO KEEP THE GRASS HEALTHY. OVER FERTILIZATION CAN RESULT IN THE SWALE BECOMING A SOURCE OF POLLUTION.
2. 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 RE-VEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION.



NOTES

1. THOROUGHLY COMPACTED SCREENED GRAVEL FOR RCP PIPE. SCREENED GRAVEL TO EXTEND TO SELECT FILL LINE.
2. FOR HDPE OR PVC PIPE, BEDDING SHALL BE 3/4" STONE TO THE TOP OF THE PIPE.

STORM DRAINAGE TRENCH DETAIL
NOT TO SCALE
(MARCH 2008)



SPILLWAY DETAIL
NOT TO SCALE

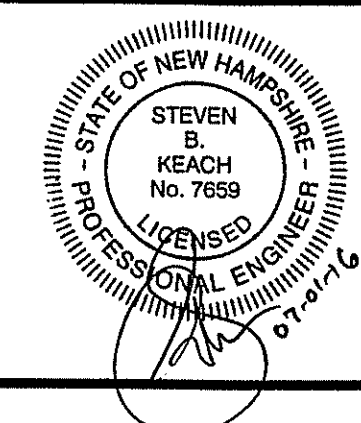
CONSTRUCTION DETAILS

MIARA TRANSPORTATION
MAP 136 LOT 1
12 BOCKES ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF RECORD:
JOSEPH A. MIARA JR., TRUSTEE
GRANITE REALTY TRUST
12 BOCKES ROAD
HUDSON, NH 03051
H.C.R.D. BK. 8410 PG. 2473

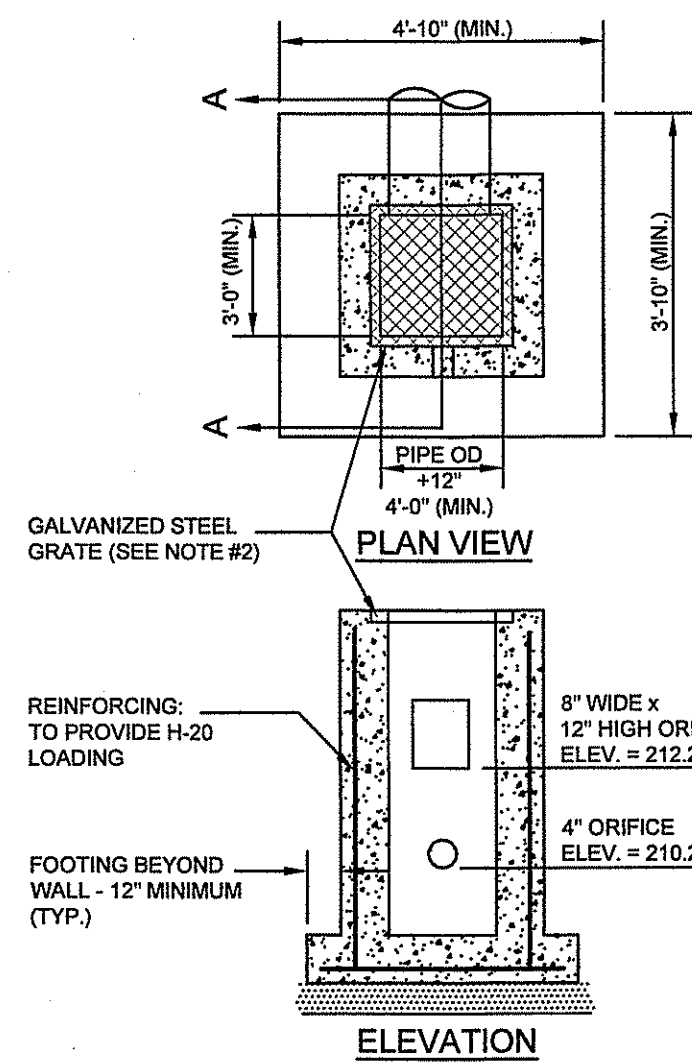
APPLICANT:
JOSEPH A. MIARA JR., TRUSTEE
GRANITE REALTY TRUST
12 BOCKES ROAD
HUDSON, NH 03051

KMA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-8881



REVISIONS			
No.	DATE	DESCRIPTION	BY
1	06/23/16	REVISED DRAINAGE & EROSION CONTROL	PDC

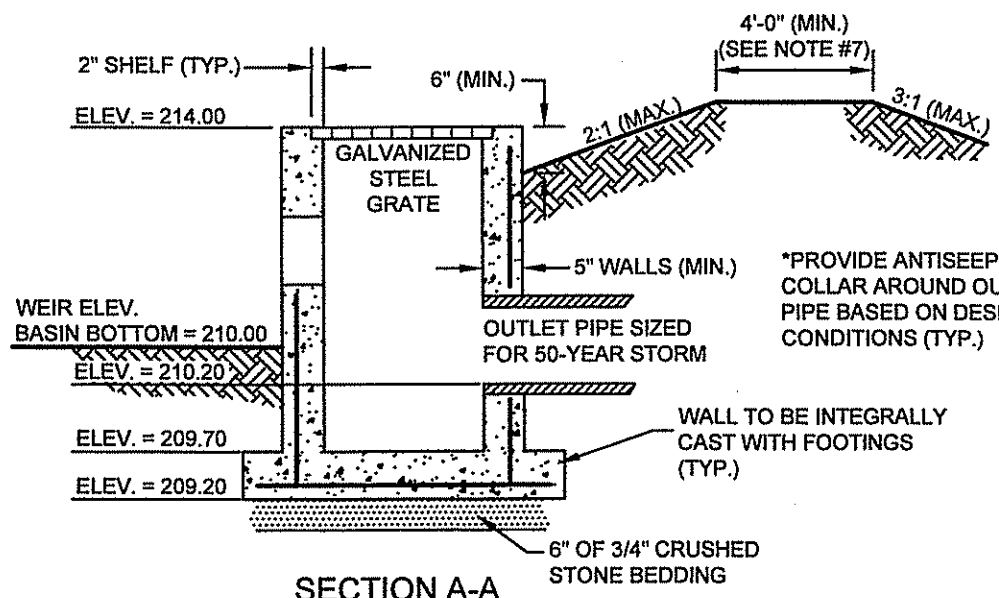
DATE: JUNE 2, 2016 SCALE: 1" = 40'
PROJECT NO: 16-0223-1 SHEET 4 OF 6



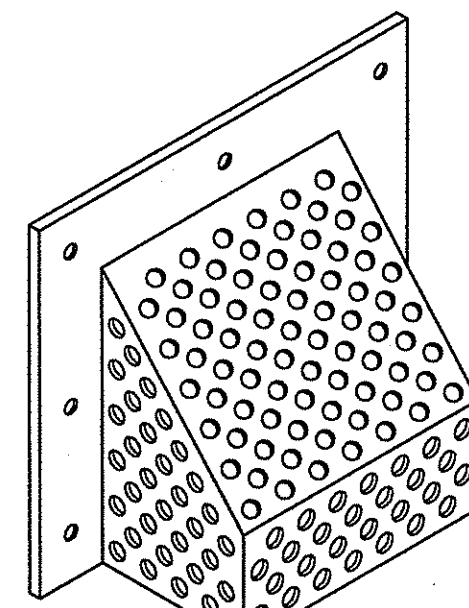
OUTLET STRUCTURE AT DETENTION BASIN
NOT TO SCALE

NOTES

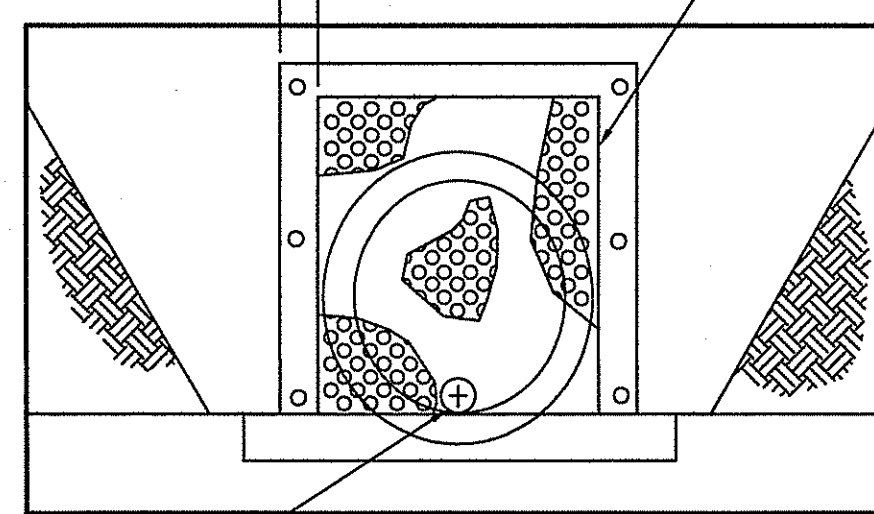
1. ALL CEMENT CONCRETE TO BE 4,000 PSI MINIMUM.
2. GALVANIZED STEEL GRATE SHALL BE BOLTED TO TOP OF STRUCTURE.
3. ALL OPENINGS CAST IN AS REQUIRED.
4. PRECAST REINFORCED CONCRETE STRUCTURE TO MEET ASTM C-478 DESIGNATION AND H-20 LOADING.



SECTION A-A

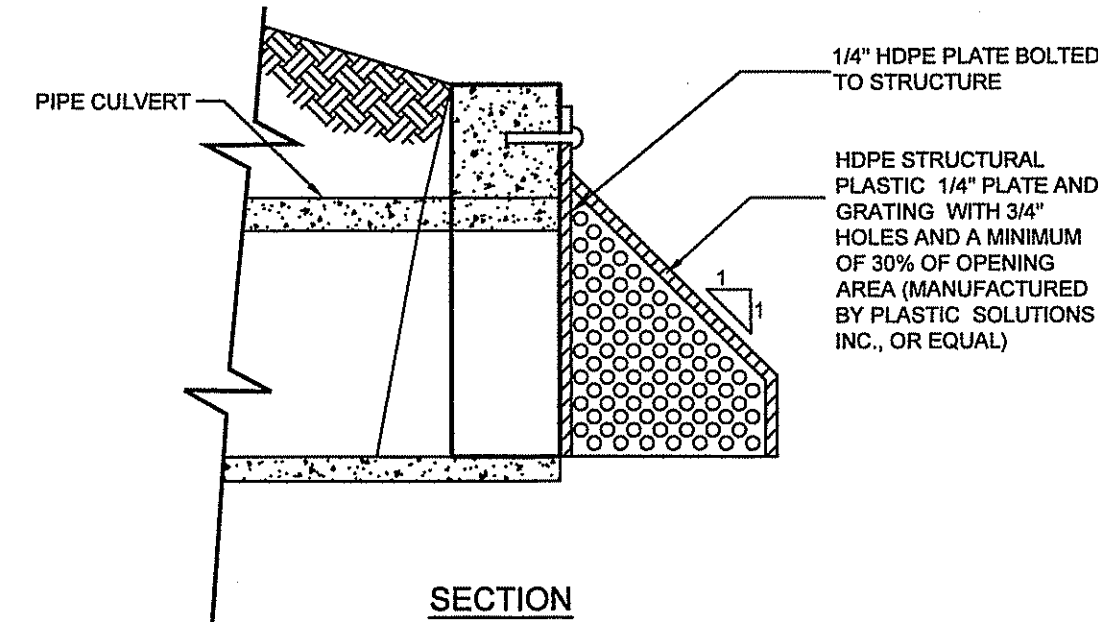


ISOMETRIC

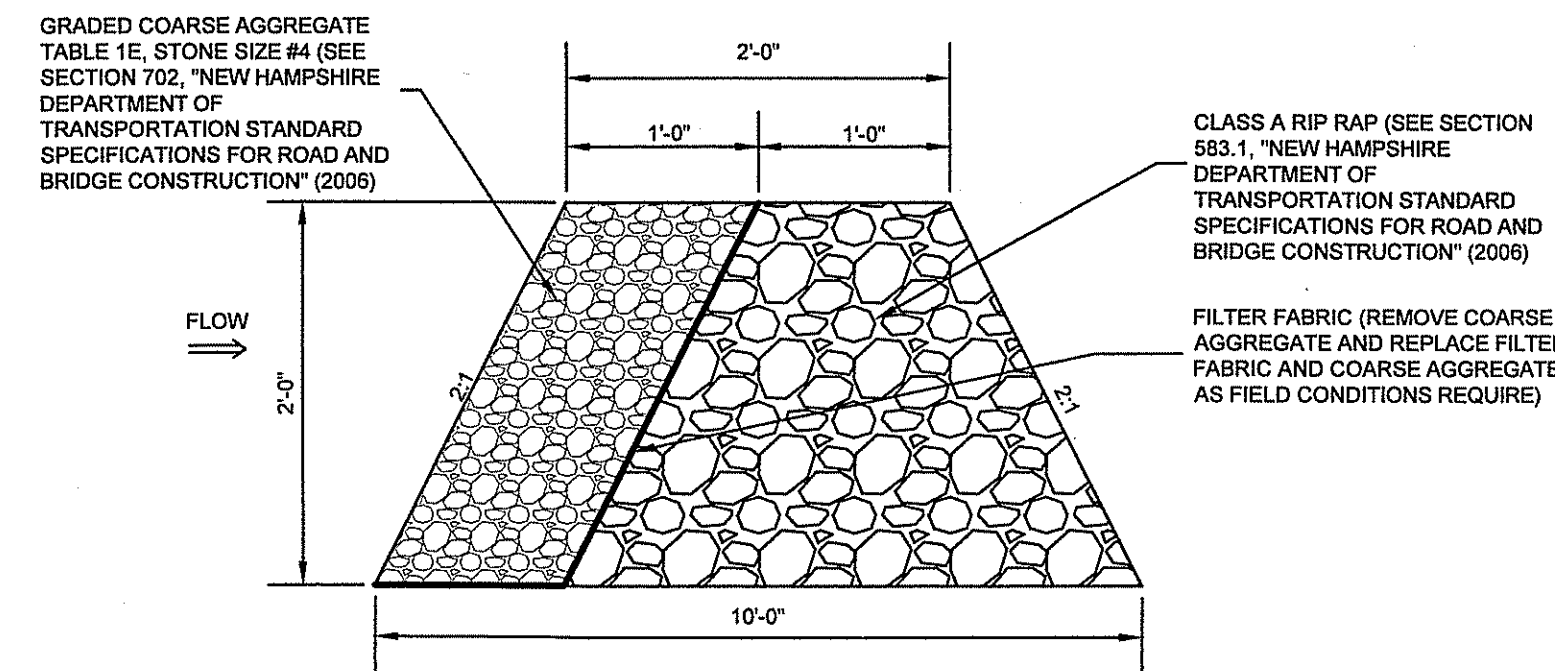


ELEVATION

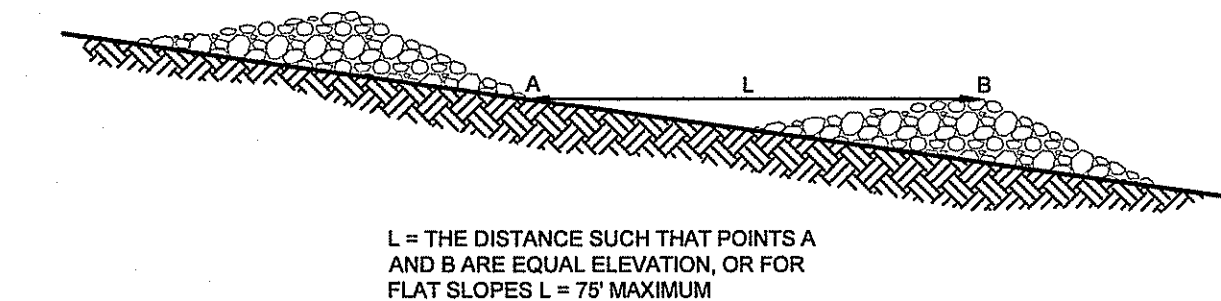
TRASH RACK DETAIL
NOT TO SCALE



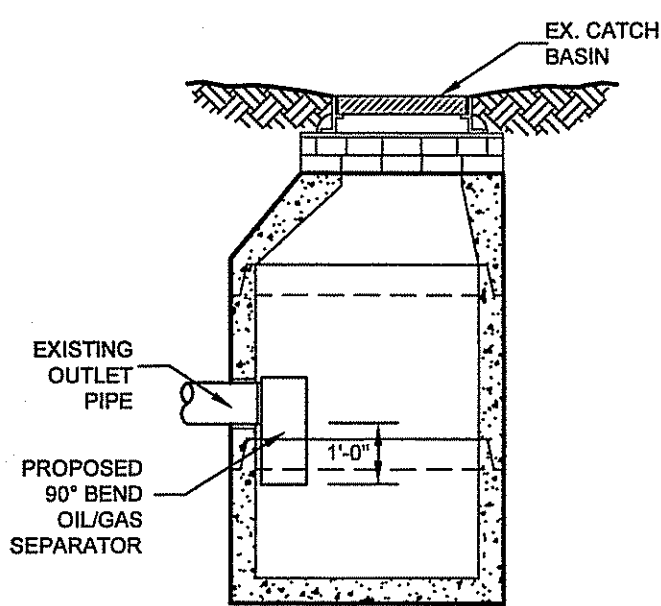
SECTION



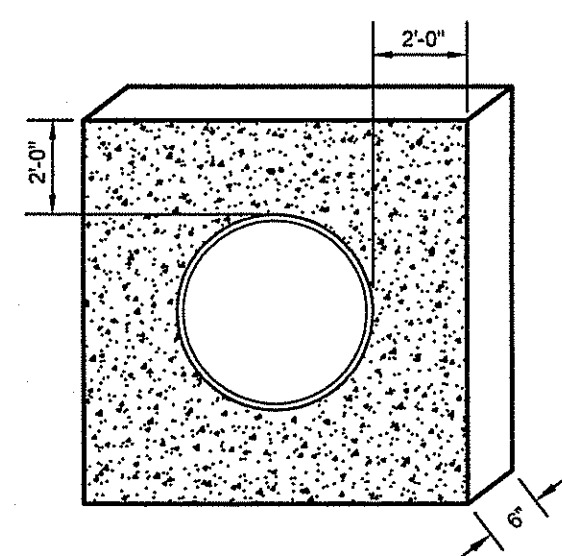
PERMANENT STONE CHECK DAM SECTION
NOT TO SCALE



STONE CHECK DAM SPACING DETAIL
NOT TO SCALE



OIL/GAS SEPARATOR
NOT TO SCALE



NOTES:

1. ANTI SEEP COLLAR TO BE PLACED IN BETWEEN PIPE RIBS.
2. 3,000 PSI POURED IN PLACE CONCRETE.

CONCRETE ANTI SEEP COLLAR/ TRENCH DAM DETAIL
NOT TO SCALE
(MARCH 2008)

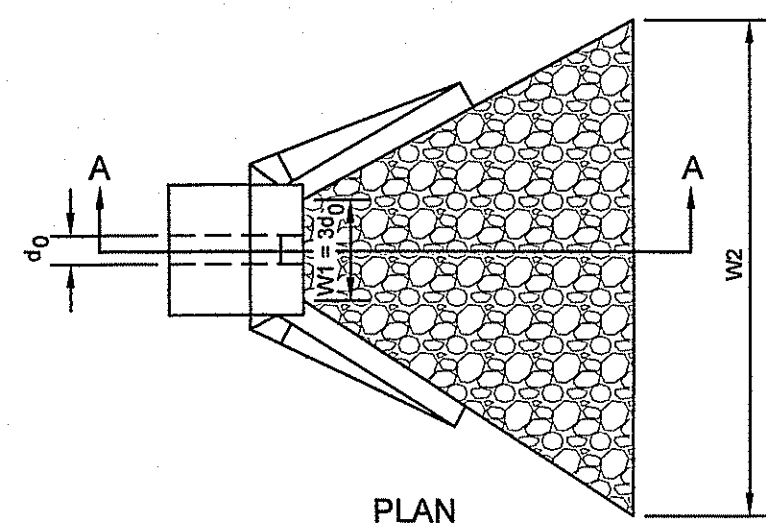
TABLE 7-24 -- RECOMMENDED RIP RAP GRADATION RANGES	
PERCENT OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE
100%	1.5 TO 2.0 d50
85%	1.3 TO 1.8 d50
50%	1.0 TO 1.5 d50
15%	0.3 TO 0.5 d50

CONSTRUCTION SPECIFICATIONS:

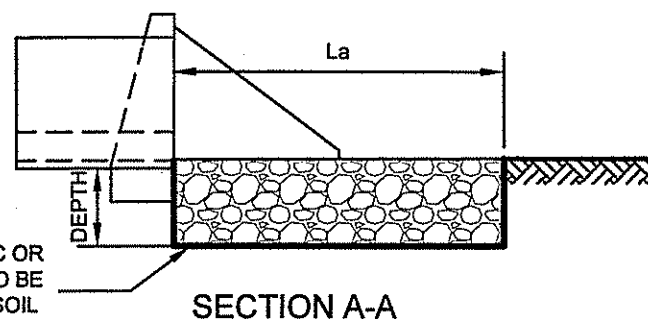
1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK OR GRAVEL USED FOR FILTER OR RIP RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE 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 INCHES.
4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

MAINTENANCE:

THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR RAIN EVENT. IF THE RIP RAP 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.



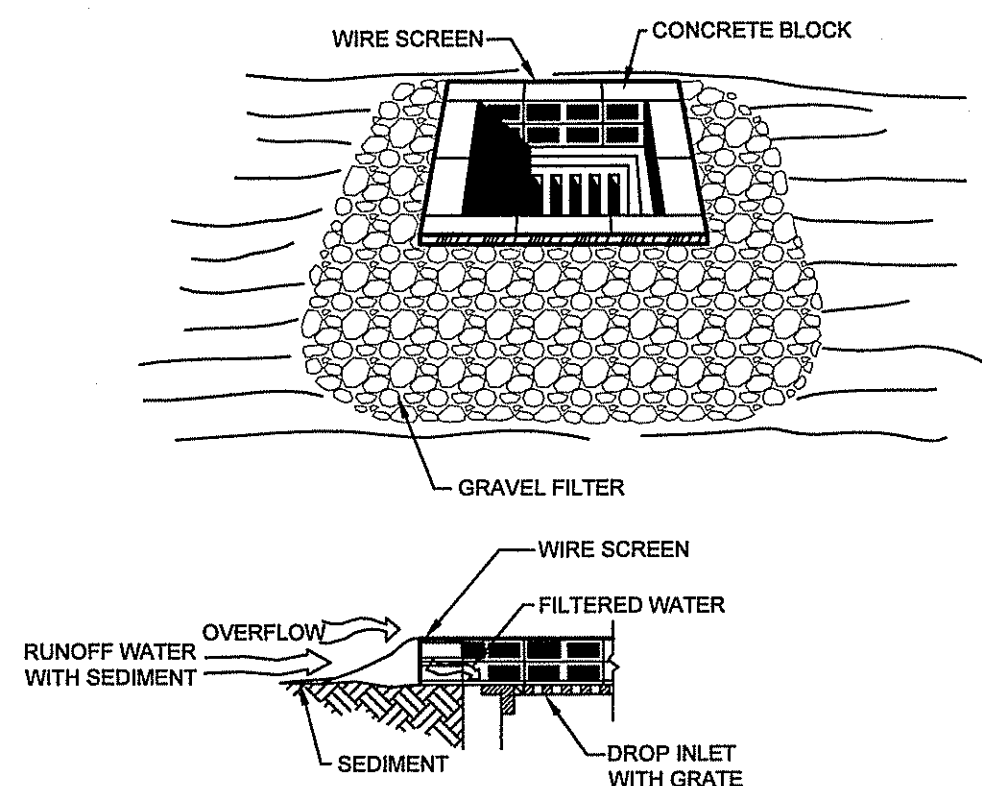
PLAN



SECTION A-A

PIPE OUTLET TO FLAT AREA WITH NO DEFINED CHANNEL
NOT TO SCALE
(MARCH 2008)

LOCATION	La	W1	W2	d50	DEPTH
PROP. HW#3	24'	SEE PLAN	SEE PLAN	6"	15"

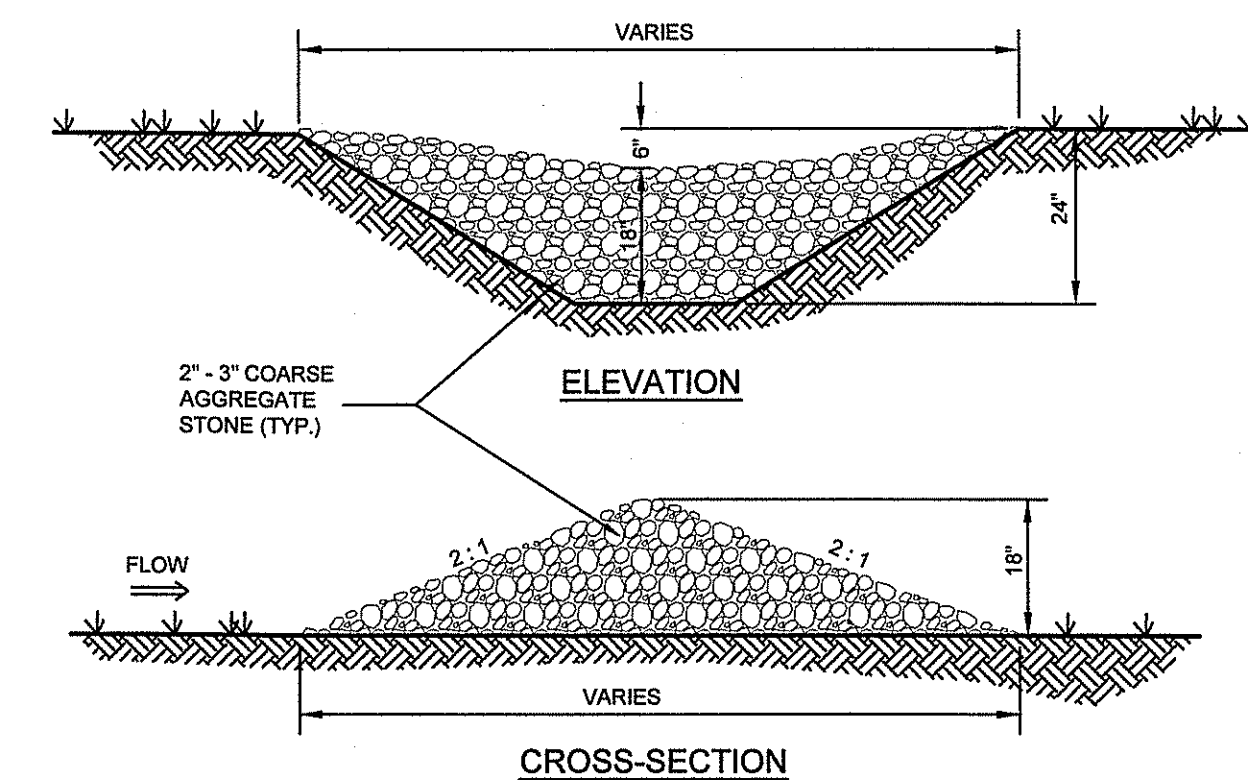


NOTES:

1. CONCRETE BLOCKS SHOULD BE PLACED LENGTHWISE ON THEIR SIDES IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET. THE ENDS OF EACH BLOCK SHOULD BE ABUTTING. THE HEIGHT OF THE BARRIER CAN BE VARIED DEPENDING ON THE DESIGN BY STACKING VARIOUS COMBINATIONS OF DIFFERENT SIZED BLOCKS. THE BARRIER SHOULD BE A MINIMUM OF 12 INCHES HIGH AND A MAXIMUM OF 24 INCHES HIGH.
2. HARDWARE CLOTH OR WIRE MESH SHOULD BE PLACED OVER OPENINGS OF THE CONCRETE BLOCKS AND EXTENDED AT LEAST 12 INCHES AROUND THE OPENING TO PREVENT AGGREGATE FROM BEING TRANSPORTED THROUGH THE OPENINGS IN THE BLOCK.
3. SEWER STONE OR OTHER CLEAN COARSE AGGREGATE SHOULD BE PLACED AGAINST THE BLOCK TO THE TOP OF THE BARRIER.

BLOCK & GRAVEL DROP INLET SEDIMENT FILTER

NOT TO SCALE
(MARCH 2008)



CROSS-SECTION

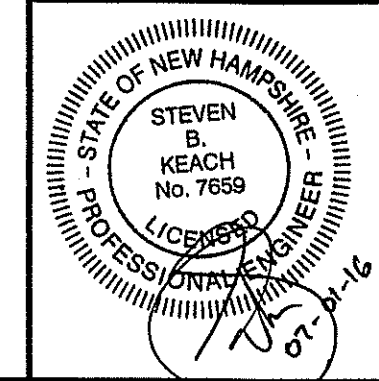
STONE CHECK DAM DETAIL
NOT TO SCALE
(MARCH 2008)

CONSTRUCTION DETAILS
MIARA TRANSPORTATION
MAP 136 LOT 1
12 BOCKES ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF RECORD:
JOSEPH A. MIARA JR., TRUSTEE
GRANITE REALTY TRUST
12 BOCKES ROAD
HUDSON, NH 03051
H.C.R.D. BK. 8410 PG. 2473

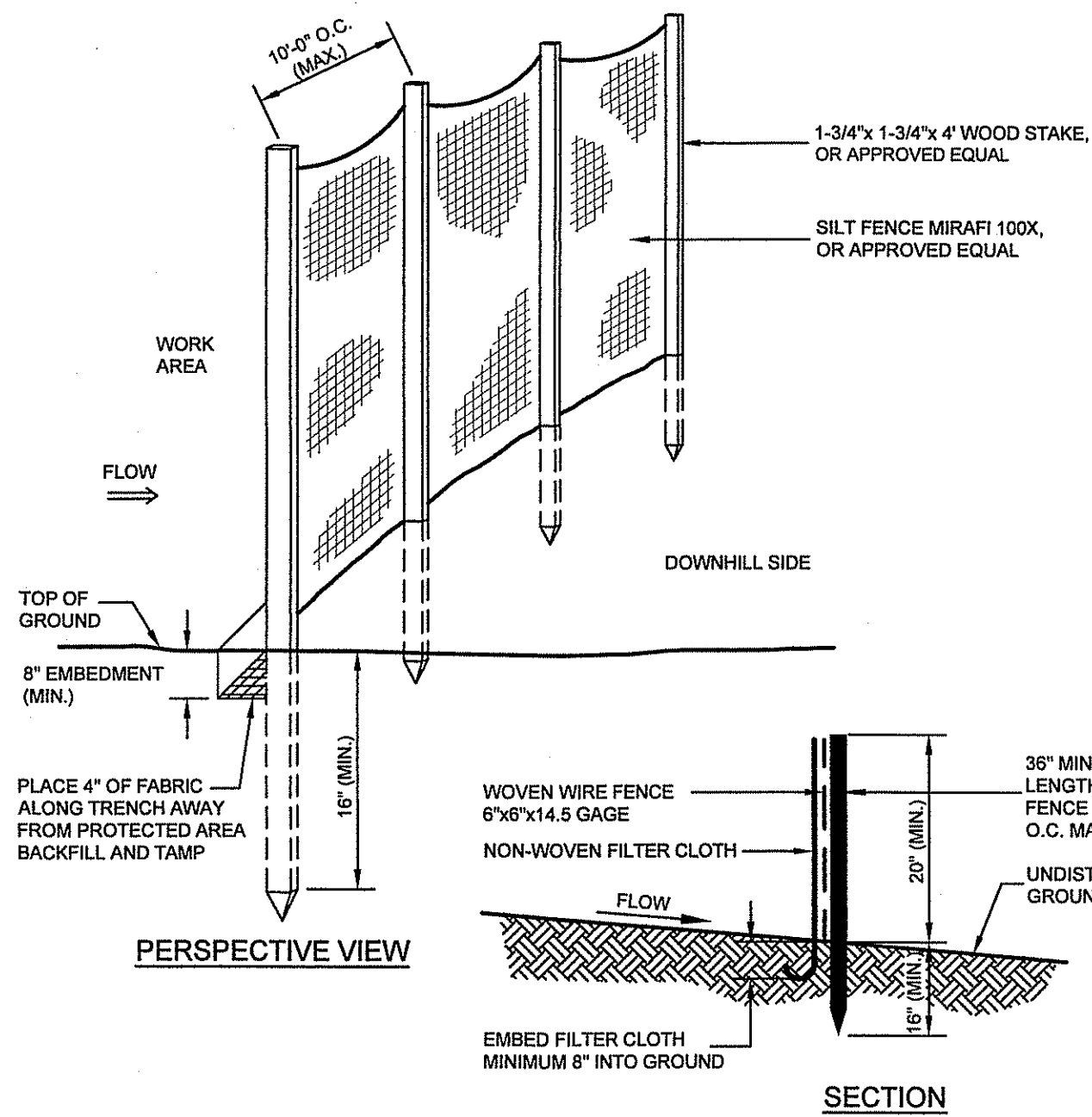
APPLICANT:
JOSEPH A. MIARA JR., TRUSTEE
GRANITE REALTY TRUST
12 BOCKES ROAD
HUDSON, NH 03051

KMA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881



REVISIONS			
No.	DATE	DESCRIPTION	BY
1	06/23/16	REVISED DRAINAGE & EROSION CONTROL	PDC

DATE: JUNE 2, 2016 SCALE: 1" = 40'
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SILT FENCE DETAIL
NOT TO SCALE
(MARCH 2008)

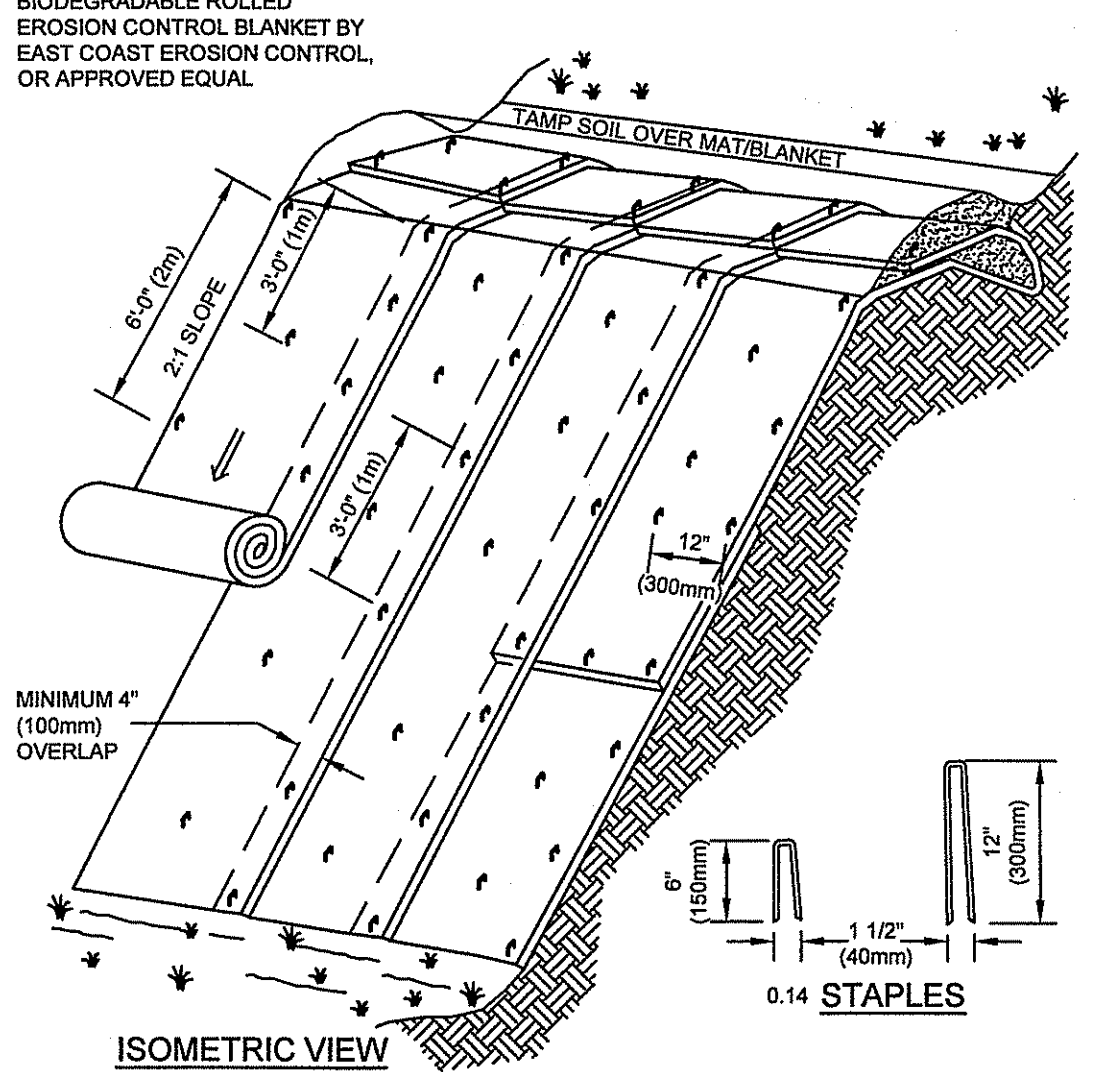
CONSTRUCTION SPECIFICATIONS:

1. THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.
2. THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
3. WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIE OR STAPLES WHERE NOTED OR AS DIRECTED BY DESIGN ENGINEER.
4. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MIDSECTION AND BOTTOM.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
6. FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 16 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

MAINTENANCE:

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

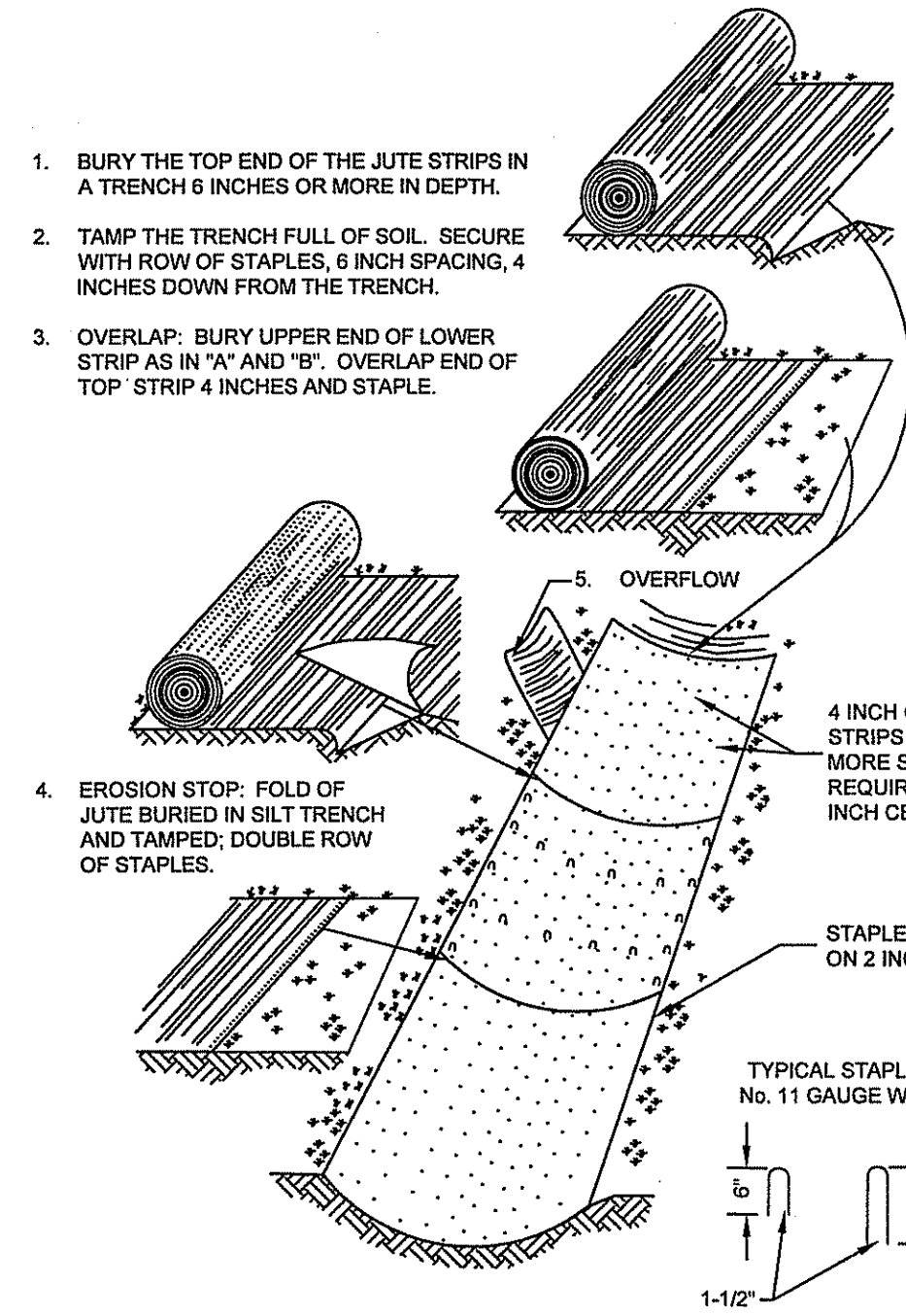
MATS/BLANKETS SHOULD BE INSTALLED VERTICALLY DOWNSLOPE AND SHALL BE DOUBLE NET COCONUT BIODEGRADABLE ROLLED EROSION CONTROL BLANKET BY EAST COAST EROSION CONTROL, OR APPROVED EQUAL



NOTES:

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

EROSION CONTROL BLANKETS - SLOPE INSTALLATION
NOT TO SCALE
(AUGUST 2011)



EROSION CONTROL BLANKETS - SWALE INSTALLATION
NOT TO SCALE
(MARCH 2008)

TURF ESTABLISHMENT SCHEDULE

PURPOSE:

TO ESTABLISH AND MAINTAIN PERMANENT AND TEMPORARY TURF AREAS, RESTORE GROWTH TO EXISTING TURF AREAS DISTURBED DURING CONSTRUCTION AND CONTROL SOIL EROSION.

PREPARATION AND EXECUTION:

1. RAKE THE SUBGRADE OF ALL AREAS TO BE LOAMED AND SEEDED TO REMOVE RUBBISH, STICKS, ROOTS AND STONES LARGER THAN 1 INCH.
2. PLACE LOAM OVER AREAS TO BE SEEDED AND SPREAD.
3. FINE GRADE SURFACE AND SUPPLEMENT WITH SUITABLE LOAM WHERE NEEDED TO CREATE A UNIFORM SURFACE ACCORDING TO THE FINISH GRADES INDICATED. TOP AND BOTTOM OF SLOPES SHALL BE ROUNDED. NO LOAM SHALL BE SPREAD IF THE SUBGRADE IS EXCESSIVELY WET OR FROZEN.
4. APPLY LIME EVENLY OVER LOAM SURFACE AND THOROUGHLY INCORPORATE LIME INTO THE LOAM BY HEAVY RAKING TO AT LEAST ONE-HALF THE DEPTH OF THE LOAM.
5. APPLY FERTILIZER AND MIX WITH THE UPPER 2 INCHES OF LOAM.
6. DETERMINE APPROPRIATE MIXTURE FOR AREA TO BE SEEDED BASED ON EXAMINATION OF PROJECT PLANS. UNIFORMLY SPREAD THE SEED BY BROADCASTING OR HYDROSEEDING. IF BROADCASTING, LIGHTLY RAKE INTO THE PREPARED SURFACE AND ROLL. IF HYDROSEEDING, USE 4 TIMES THE RECOMMENDED RATE OF INOCULANT. AFTER SEED IS SPREAD, WATER THOROUGHLY WITH A FINE SPRAY.
7. SEEDING FOR PERMANENT COVER SHALL OCCUR BETWEEN SEPTEMBER 15 AND OCTOBER 15 AND BETWEEN APRIL 15 AND JUNE 15. SEEDING SHALL NOT BE DONE DURING WINDY WEATHER, WHEN THE GROUND IS FROZEN OR EXCESSIVELY WET OR OTHERWISE UNTILLABLE.
8. WITHIN 24 HOURS AFTER SEEDING OPERATION, UNIFORMLY MULCH THE AREA WITH HAY. ANCHOR MULCH ON ALL SLOPES EXCEEDING 3:1 USING MULCH NETTING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER.
9. PROTECT AND PREVENT AGAINST WASHOUTS, ANY WASHOUTS WHICH OCCUR SHALL BE PROMPTLY REGRADED AND RESEEDED.
10. WHEN IT IS IMPRACTICAL TO ESTABLISH PERMANENT GROWTH ON DISTURBED EARTH BY OCTOBER 15, A TEMPORARY SEED MIXTURE SHALL BE USED. WHEN TEMPORARY SEEDING CANNOT ESTABLISH VISIBLE GROWTH, THE DISTURBED AREA SHALL BE COVERED WITH SIX INCHES OF MULCH FOR THE WINTER.

MAINTENANCE:

ALL SEEDED AREAS SHALL BE KEPT WATERED AND IN GOOD CONDITION. RESEED AS NECESSARY TO ESTABLISH HEALTHY UNIFORM GROWTH OVER THE ENTIRE SEEDED AREA. MAINTAIN SEEDED AREAS IN AN APPROVED CONDITION UNTIL FINAL ACCEPTANCE. MAINTENANCE SHALL INCLUDE REPAIRS FOR DAMAGE CAUSED BY EROSION.

APPLICATION NOTES:

1. LOAM SHALL BE APPLIED AT A MINIMUM COMPACTED THICKNESS OF 4 INCHES.
2. LIME SHALL BE APPLIED AT A RATE OF 75 TO 100 POUNDS PER 1,000 S.F.
3. FERTILIZER SHALL BE APPLIED AT A RATE OF 30 POUNDS PER 1,000 S.F.
4. SEED MIXTURE FOR LAWN AREAS SHALL BE APPLIED AT A RATE OF AT LEAST 80 POUNDS PER ACRE OR 2 POUNDS PER 1,000 S.F.
5. TEMPORARY SEED MIXTURE SHALL BE APPLIED AT A RATE OF 2 POUNDS PER 1,000 S.F.
6. SEED MIXTURE FOR SLOPE AREAS SHALL BE APPLIED AT A RATE OF 80 POUNDS PER ACRE OR 2 POUNDS PER 1,000 S.F.
7. SEED MIXTURE FOR STORMWATER MANAGEMENT AREAS SHALL BE APPLIED AT A RATE OF 70 POUNDS PER ACRE OR 1.6 POUNDS PER 1,000 S.F.
8. MULCH SHALL BE APPLIED AT A RATE OF 90 POUNDS PER 1,000 S.F.

MATERIALS:

1. LOAM USED FOR TOPSOIL SHALL BE FRIABLE, FERTILE, NATURAL FREE-DRAINING LOAM; FREE OF ROOTS, GRASS, STICKS, WEEDS, CLAY, SOD LUMPS, DEBRIS AND STONES LARGER THAN 1 INCH IN ANY DIMENSION. SOIL SHALL NOT BE EXCESSIVELY ACID OR ALKALINE AND CONTAIN NO TOXIC MATERIALS.
2. LIME SHALL BE GROUND LIMESTONE CONTAINING NO LESS THAN 95% CALCIUM AND MAGNESIUM CARBONATES.
3. FERTILIZER SHALL BE 10-20-20 COMMERCIAL GRADE.
4. SEED MIXTURE FOR LAWN AREAS SHALL BE 99% PURE LIVE SEED AND CONSIST OF THE FOLLOWING:
 - 25% CREEPING RED FESCUE
 - 25% KENTUCKY BLUEGRASS
 - 25% REDTOP
 - 25% MANHATTAN PERENNIAL RYEGRASS
5. TEMPORARY SEEDING MIXTURE SHALL BE AN APPROVED CONSERVATION MIX OR CONSIST OF THE FOLLOWING:
 - 15% BLACKWELL OR SHELTER SWITCHGRASS
 - 30% NIAGRA OR KAW BIG BLUESTEM
 - 30% CAMPER OR BLAZE LITTLESTEM
 - 15% NE-27 OR BLAZE SAND LOVEGRASS
 - 10% VIKING BIRDSFOOT TREFLOIL
 INOCULUM SPECIFIC TO BIRDSFOOT TREFLOIL MUST BE USED WITH THIS MIXTURE. IF SEEDING BY HAND, A STICKING AGENT SHALL BE USED. IF SEEDING WITH A HYDROSEEDER, USE FOUR TIMES THE RECOMMENDED AMOUNT OF INOCULUM.
6. SEED MIXTURE FOR SLOPE AREAS SHALL BE 99% PURE LIVE SEED AND SHALL CONSIST OF THE FOLLOWING:
 - 30% CREEPING RED FESCUE
 - 40% PERENNIAL RYE GRASS
 - 15% REDTOP
 - 15% BIRDSFOOT TREFLOIL
 *IN ADDITION TO THE MIX SPECIFIED ABOVE, CROWN VETCH SHALL BE USED ON ALL SLOPES STEEPER THAN 3:1. CROWN VETCH SHALL BE APPLIED AT A RATE OF 10 POUNDS PER ACRE AND INOCULUM SPECIFIC TO CROWN VETCH MUST BE USED.
7. SEED MIXTURE FOR STORMWATER MANAGEMENT AREAS, INCLUDING DETENTION BASINS AND VEGETATED TREATMENT SWALES SHALL CONSIST OF THE FOLLOWING:
 - 25% CREEPING RED FESCUE
 - 15% SWITCH GRASS
 - 15% FOX SEDGE
 - 15% CREEPING BENTGRASS
 - 10% FLATPEA
 - 20% WILDFLOWER VARIETY
8. HAY USED FOR MULCH SHALL CONSIST OF MOWED AND PROPERLY CURED GRASS OR LEGUME MOWINGS, FREE FROM WEEDS, TWIGS, DEBRIS OR OTHER DELETERIOUS MATERIAL AND ROT OR MOLD.

CONSTRUCTION SEQUENCE

1. FIRST CUT AND CLEAR TREES AND BRUSH ONLY WITHIN DESIGNATED LIMITS OF CLEARING AS NECESSARY TO FACILITATE PROPOSED CONSTRUCTION. ALL TREES, BRANCHES AND OTHER VEGETATIVE MATERIALS SHALL BE PROPERLY DISPOSED OFF SITE BY THE CONTRACTOR. THIS PROJECT IS MANAGED TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
2. PRIOR TO COMMENCEMENT OF ANY EARTHMOVING OPERATIONS, ALL APPLICABLE TEMPORARY EROSION CONTROL MEASURES, INCLUDING SPECIFIED PERIMETER SILTATION FENCING AND STABILIZED CONSTRUCTION EXIT SHALL BE IN PLACE AS SHOWN ON THE PROJECT PLANS.
3. COMPLETE GRUBBING OPERATIONS. ALL STUMPS AND SIMILAR ORGANIC DEBRIS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR. NATIVE ORGANIC SOIL MATERIALS SUITABLE FOR USE AS TOPSOIL SHALL BE STOCKPILED WITHIN AREAS OUT OF THE WAY OF OTHER CONSTRUCTION ACTIVITIES AND DRAINAGE FLOW. STOCKPILES SHALL BE SEEDING WITH WINTER RYE AND BE SURROUNDED WITH HAY BALES AND/OR FABRIC SILTATION FENCE IN ORDER TO PREVENT LOSS DUE TO EROSION.
4. BEGIN EARTHMOVING OPERATIONS, COMMENCING WITH WORK NEEDED TO BALANCE SITE AND FACILITATE BUILDING FOUNDATION AND RETAINING WALL CONSTRUCTION. PERMANENT DOWNSLOPE WORK SHALL BE PROTECTED FROM UPGRADIENT STORMWATER FLOW BY THE CONSTRUCTION OF TEMPORARY EARTHEN DIKES OR EXCAVATED SWALES.
5. ONCE BUILDING FOUNDATION WORK IS UNDERWAY, CONTINUE EARTHMOVING OPERATIONS UNTIL DESIGN SUBGRADE IS ACHIEVED.
6. INSTALL DRAINAGE SWALE SYSTEMS AND OTHER UTILITIES WORKING FROM LOW TO HIGH. INCOMPLETE WORK SHALL BE PROTECTED FROM SILTATION BY THE USE OF SILTATION BARRIERS AROUND SWALES UNTIL THE SITE HAS BECOME FULLY STABILIZED.
7. PLACE GRAVEL AND CRUSHED GRAVEL OVER PROPOSED DRIVEWAY, WALKS AND PARKING AREAS AND COMPACT IN SPECIFIED LIFT THICKNESS.
8. COMPLETE EXCAVATION/STABILIZATION GRADING ACTIVITIES. WHEN COMPLETE, IMMEDIATELY BEGIN TOPSOILING PROPOSED TURF AREAS USING STOCKPILED LOAM SUPPLEMENTED WITH BORROW LOAM, IF NECESSARY, TO LEAVE A THICKNESS OF 4 INCHES OF FRIABLE LOAM.
9. FINE GRADE ALL FUTURE TURF AREAS AND HYDROSEED WITH THE SPECIFIED SEED MIXTURE IMMEDIATELY AFTER FINE GRADING IS COMPLETED. ALL AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
10. INSTALL THE BINDER COURSE OF PAVEMENT OVER ALL DESIGNATED AREAS.
11. CONTINUE TO MONITOR AND RECTIFY MINOR SITE AND SLOPE EROSION UNTIL ENTIRE SITE APPEARS TO BE COMPLETELY STABILIZED AND VEGETATED WITH A HEALTHY STAND OF TURF OR GROUND COVER. MAINTAIN SPECIFIED SILTATION/EROSION CONTROL MEASURES THROUGH ONE WINTER.
12. INSTALL THE SPECIFIED WEARING COURSE OF PAVEMENT OVER THE BINDER COURSE.
13. COMPLETE INSTALLATION OF LANDSCAPING, SIGNAGE AND OTHER SITE AMENITIES.

EROSION CONTROL NOTES

1. EXPOSED EARTHWORK SHALL BE CONFINED TO AS LIMITED AN AREA AS IS PRACTICAL AT ANY GIVEN TIME THROUGHOUT THE CONSTRUCTION PERIOD. AT NO TIME SHALL MORE THAN FIVE (5) ACRES OF SITE AREA BE IN AN UNSTABLE CONDITION. NO GIVEN AREA OF THE SITE SHALL BE LEFT IN AN UNSTABILIZED CONDITION FOR A PERIOD OF TIME EXCEEDING THIRTY (30) CALENDAR DAYS.
2. TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH PROJECT PLANS. IN ADDITION, SIMILAR MEASURES SHALL BE INSTALLED WHERE AND WHEN THE FIELD CONDITION OR FIELD OPERATION OF THE INDIVIDUAL SITE CONTRACTOR, MAY WARRANT. ALL TEMPORARY EROSION CONTROL MEASURES USED SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER 0.25" OF RAINFALL OR MORE. THEY SHALL BE CLEANED AND MAINTAINED AND OTHERWISE KEPT IN AN EFFECTIVE OPERATING MANNER THROUGHOUT THE CONSTRUCTION PERIOD.
3. ALL DISTURBED AREAS DESIGNATED TO BE TURF, SHALL RECEIVE A MINIMUM APPLICATION OF 4 INCHES OF LOAM (COMPACTED THICKNESS), PRIOR TO FINAL SEEDING AND MULCHING.
4. ALL SWALES AND DITCHLINES SHALL BE PERIODICALLY CLEANED OF DEPOSITED SEDIMENT SO AS TO MAINTAIN AN EFFECTIVE GRADE AND CROSS SECTION. ALL SWALES AND DITCHLINES SHALL BE FULLY STABILIZED PRIOR TO HAVING STORMWATER DIRECTED TOWARD THEM.
5. IN THE EVENT THAT, DURING CONSTRUCTION OF ANY PORTION OF THIS PROJECT, A WINTER SHUTDOWN IS NECESSARY, THE CONTRACTOR SHALL STABILIZE ALL INCOMPLETE WORK AND PROVIDE FOR SUITABLE METHODS OF DIVERTING RUNOFF IN ORDER TO ELIMINATE SHEET FLOW ACROSS FROZEN SURFACES.
6. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - A. BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
 - B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
 - D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
7. DUST SHALL BE CONTROLLED BY THE USE OF WATER AS NECESSARY THROUGHOUT THE CONSTRUCTION PERIOD, IN ACCORDANCE WITH EN-V-A 1000.
8. IN NO WAY ARE THOSE TEMPORARY EROSION CONTROL MEASURES INDICATED ON THESE PLANS TO BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR SHALL USE JUDGEMENT IN INSTALLING SUPPLEMENTARY EROSION CONTROL MEASURES WHERE AND WHEN SPECIFIC SITE CONDITIONS AND/OR CONSTRUCTION METHODOLOGIES MAY WARRANT.
9. AREAS HAVING FINISH GRADE SLOPES OF 3:1 OR STEEPER, SHALL BE STABILIZED WITH JUTE MATTING WHEN AND IF FIELD CONDITIONS WARRANT, OR IF SO ORDERED. JUTE MATTING INSTALLED TO CONFORM WITH THE RECOMMENDED BEST MANAGEMENT PRACTICES OUTLINED IN VOLUME 3 OF THE NEW HAMPSHIRE STORMWATER MANUAL "EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION."
10. ALL DETENTION PONDS AND TREATMENT SWALES SHALL BE CONSTRUCTED PRIOR TO ANY EARTH MOVING ACTIVITIES THAT WILL INFLUENCE STORMWATER RUNOFF.
11. ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
12. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

WINTER CONSTRUCTION NOTES:

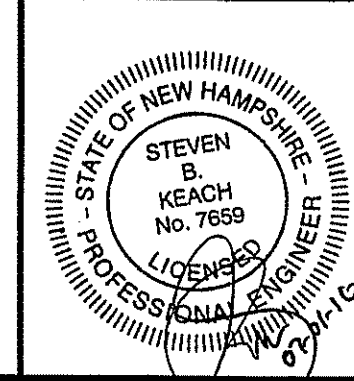
1. ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 4:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE placement OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER NOVEMBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER MHDOT ITEM 304.3 OR, IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON, BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.
4. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - A. BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
 - B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
 - D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

CONSTRUCTION DETAILS
MIARA TRANSPORTATION
MAP 136 LOT 1
12 BOCKES ROAD
HUDSON, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER OF RECORD:
JOSEPH A. MIARA JR., TRUSTEE
GRANITE REALTY TRUST
12 BOCKES ROAD
HUDSON, NH 03051
H.C.R.D. BK. 8410 PG. 2473

APPLICANT:
JOSEPH A. MIARA JR., TRUSTEE
GRANITE REALTY TRUST
12 BOCKES ROAD
HUDSON, NH 03051

KMA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881



REVISIONS			
No.	DATE	DESCRIPTION	BY
1	06/23/16	REVISED DRAINAGE & EROSION CONTROL	PDC

DATE: JUNE 2, 2016 SCALE: 1" = 40'
PROJECT NO: 16-0223-1 SHEET 6 OF 6

Zoning Ordinance Review Committee (ZORC) – Update on the Committee’s efforts to update the Zoning Ordinance

&

Update on Planning and Economic Development Issues Concerning Hudson and the Region.

Brief Staff Report

10 August 2016

The above-cited items are included on the Agenda for discussion purposes only. At the meeting, ZORC members will update Planning Board members, i.e., those who are not on the ZORC, on the most up-to-date status of ZORC’s efforts to update the Town’s Zoning Ordinances, e.g.,

The Purpose and Definition sections of the ZO have been thoroughly vetted, and the ZORC is well on the way to completing the necessary edits and substantive ZO amendments, e.g., the newly adopted state statute on “accessory dwelling units”, as opposed to the better known, “accessory living units”.

In regard to the 2d discussion item, if your schedule permits, on TV or on the Town’s website, please watch the BOS’s August 2, 2016 Meeting. During this meeting, the BOS discussed with the Town Eng., Elvis Dhima, Road Agent, Kevin Burns, various other town dept. heads and this author Hudson’s long-term infrastructure improvements needs, and as same relates to the economic and residential growth potential for the Town of Hudson. The information conveyed at said BOS meeting may very well lead to a lively discussion at Wednesday night’s meeting, i.e.,

- 1) At the subject BOS meeting, much of the discussion centered around the status of the Town’s water and sewer systems, and at the end of this discussion, it was understood by all in attendance what needs to be accomplished by the town to increase the capacity of each system, i.e., as Hudson continues to grow well into the future.
- 2) Traffic improvement issues were also discussed, which I would like to, at is time, leave up to Planning Board members to form their own opinions as to what needs to be accomplished in order to improve the town’s roadway network, i.e., relative to addressing the growing traffic congestion experienced throughout town. Please note, much of what was discussed at the BOS meeting about traffic concerns and potential traffic improvement projects was also discussed during the recent NRPC Regional Transportation Meeting, which most Planning Board members attended.
- 3) Other items discussed at the BOS meeting included: the ongoing proposal to build a new central fire station and the relatively new proposal to possibly build a new Town Hall, and to possibly build it on Benson property, with access gained off either Central St. or Kimball Hill Rd. or both.