

# **S.L CHASSE STEEL SITE PLAN**

SP# 01-23

## **STAFF REPORT**

July 12, 2023

**SITE:** 5 Christine Drive, Map 105 Lot 014

**ZONING:** Business (B)

**PURPOSE OF PLAN:** To propose a 30,175 SF industrial building with associated parking and site improvements.

### **PLANS UNDER REVIEW:**

Non-Residential Site Plan / S.L. Chasse Steel, Map 105 Lot 14, 5 Christine Drive, Hudson, New Hampshire; prepared by: Keach-Nordstrom Associates, Inc, 10 Commerce Park North, Suite 3, Bedford, New Hampshire 03110; prepared for: Steele Properties, LLC, 8 Christine Drive, Hudson, New Hampshire 03051; consisting of 14 sheets including a separate cover sheet and general notes 1-38 on Sheet 3; dated March 3, 2023; last revised June 20, 2023.

### **ATTACHMENTS:**

- A. Zoning Board of Adjustment Notice of Decision – Use Variance
- B. Peer Review, prepared by Fuss & O’Neill, received May 15, 2023.
- C. Applicant Response to Peer Review, prepared by Keach-Nordstrom Associates, Inc., received June 19, 2023.
- D. Department Comments
- E. CAP Fee worksheet

### **APPLICATION TRACKING:**

- February 23, 2023 – Zoning Board of Adjustment variance granted
- March 8, 2023 – Application received.
- June 20, 2023 – Final revised plans received.
- July 12, 2023 – Public hearing scheduled.

### **COMMENTS & RECOMMENDATIONS:**

#### **BACKGROUND**

The site is a 3.55-acre lot in the Business district that currently has a 24,000 SF steel frame building with a parking area and gravel access. In addition to the driveway on Christine Drive, there is a drive connecting the site to the abutting site to the east. The existing building sits 65.7

feet from the residential property line to the west. There are wetlands on the western edge of the site, some of which are in Flood Zone A. The site is served by on-site septic and public water.

The ZBA granted a variance on February 23, 2023 to allow an Industrial use on the Business-Zoned site (**Attachment A**). Note that the entirety of Christine Drive is zoned Business but used for Industrial uses. There are pre-existing nonconformities in terms of the 100-foot residential buffer; however, the nonconformity would be reduced from approximately 40-feet into the buffer to approximately 10-feet into the buffer. Additionally, elimination of existing impacts to the wetland buffer and restoration of the buffer are proposed as part of this application.

The Applicant proposes replacing the existing building with a new 30,175 SF fabrication building with associated parking and gravel storage area to the rear accessible by forklift. The proposed building would sit 95.8 feet from the western property line. Drainage pipes and stormwater basins are also proposed.

Since the Applicant is replacing an existing building with a similar building for the same use, the impact fee (**Attachment E**) is based upon the net increase ( $30,175\text{sf} - 24,550\text{sf} = 5,625\text{ sf}$ ).

#### DEPARTMENT COMMENTS

See **Attachment D** for comments from town departments.

1. Engineering Department: Applicant shall revise detention basin location to eliminate proposed grading within the right of way, evaluate guard rail requirement adjacent to the proposed detention basin, equip all proposed catch basins discharging directly to the proposed basins with oil/mechanical separators, clarify if grading within the drainage easement is allowed, revise plan to include the wetland impact buffer adjacent to the proposed basin in the back.

*The Engineering Department's comments have been addressed. Applicant has revised the detention basin location so grading is no longer proposed in the right of way, revised the drainage ponds so that a guardrail is no longer needed, noted that all catch basins need to be equipped with snouts, and clarified that the recorded easement does not limit or restrict the owner from grading with the drainage easement.*

2. Fire Department: Provide site plan details showing Fire Department apparatus access and turning radius, indicating that the proposed septic and leach field under the parking lot would support apparatus, and for the water supply cistern.

*The Fire Department's comments have been addressed. Applicant has submitted a fire truck turning exhibit that has been signed off by the Fire Department, specified that an H2O loaded septic system would support wheel loading of 16,000 pounds and proposed a 52,500 gallon cistern.*

#### PEER REVIEW

Fuss & O'Neill completed a peer review on March 30, 2023. Keach-Nordstrom Associates provided a response on behalf of the applicant on April 18, 2023. Fuss & O'Neill completed a

second peer review on May 15, 2023 (**Attachment B**) and Keach-Nordstrom Associates provided a response on behalf of the applicant on June 19, 2023 (**Attachment C**). Previously remaining comments included:

- The applicant has not provided adequate grading information for the proposed concrete walk that surrounds the building. No curb ramp locations are shown on the plans, and it's not clear from the concrete walk detail if this is intended to be flush with the parking lot pavement or elevated. The applicant should provide more information as to the intent of the walk and provide adequate handicapped accessibility as needed.  
*The applicant responded that the concrete walk is designed to be flush and is now called out as such on Sheet 4.*
- The applicant did not provide copies of easements and deeds as part of the package received for review. The plans show several existing easements within the site. The applicant is proposing a 24" high landscape wall within a portion of the existing water line easement on the east side of the site, and drainage improvements and connections within the drainage easement on the south side of the site. The existing easements should be reviewed to confirm that the proposed improvements can be constructed within these easement areas.  
*Grading within the drainage easement is no longer proposed. The landscape wall within the water easement is also no longer proposed.*
- Although the applicant is not proposing permanent feature installations within the wetland buffer, they are performing work within the buffer by removing pavement and restoring it to natural condition. The Town should confirm that no other permitting is necessary.  
*The applicant is proposing to restore the wetland buffer, this action is permitted.*

The Applicant has resolved the comments issued during peer review.

### WAIVERS REQUESTED

1. Waiver for Industrial Parking Regulations, 275-8.C(g), to allow 29 parking spaces where 51 are required. The Applicant states that only 25 parking spaces will be utilized at one time, therefore 29 spaces will be sufficient; additional parking spaces would require additional paved area and increased stormwater treatment systems, which would reduce open space and landscaping area.
2. Waiver for 100' Residential Buffer, 276-11.1.B(12)(c). The existing building on the site is located 65.7 feet from the residential property line, whereas the proposal increases the development's distance from the residential abutter. The abutting property contains a duplex.

### RECOMMENDATIONS

Staff recommends making the procedural determination of whether or not the application constitutes a development of regional impact (DRI). Unless determined to be a DRI, Staff recommends accepting the application and holding a public hearing, followed by deliberation

and consideration of waiver requests and approval. The Applicant has addressed all comments issued by Peer Review and Town Staff.

**DRAFT MOTIONS**

**REGIONAL IMPACT in accordance with RSA 36:56:**

I move to determine that site plan application SP# 01-23, Non-Residential Site Plan / S.L. Chasse Steel, 5 Christine Drive, Map 105 Lot 014 (**IS or IS NOT**) a development of regional impact.

Motion by: \_\_\_\_\_ Second: \_\_\_\_\_ Carried/Failed: \_\_\_\_\_

**ACCEPT the site plan application:**

I move to accept the site plan application SP# 01-23 for the Non-Residential Site Plan / S.L. Chasse Steel, 5 Christine Drive, Map 105 Lot 014.

Motion by: \_\_\_\_\_ Second: \_\_\_\_\_ Carried/Failed: \_\_\_\_\_

**To GRANT a waiver:**

1. I move to grant a waiver from § 275-8C(g), Industrial Parking, to allow 29 spaces where 51 are required, based on the Board's discussion, the testimony of the Applicant's representative, and in accordance with the language included in the submitted Waiver Request Form for said waiver.

Motion by: \_\_\_\_\_ Second: \_\_\_\_\_ Carried/Failed: \_\_\_\_\_

2. I move to grant a waiver from § 276-11.1.B(12)(c), 100' Residential Buffer, based on the Board's discussion, the testimony of the Applicant's representative, and in accordance with the language included in the submitted Waiver Request Form for said waiver.

Motion by: \_\_\_\_\_ Second: \_\_\_\_\_ Carried/Failed: \_\_\_\_\_

*Motions continued on the following page.*



**APPROVE the site plan application:**

I move to approve the site plan for the Non-Residential Site Plan / S.L. Chasse Steel, Map 105 Lot 14, 5 Christine Drive, Hudson, New Hampshire; prepared by: Keach-Nordstrom Associates, Inc, 10 Commerce Park North, Suite 3, Bedford, New Hampshire 03110; prepared for: Steele Properties, LLC, 8 Christine Drive, Hudson, New Hampshire 03051; consisting of 14 sheets including a separate cover sheet and general notes 1-38 on Sheet 3; dated March 3, 2023; last revised June 20, 2023; and:

That the Planning Board finds that this application complies with the Zoning Ordinances with consideration of the variance granted by the Zoning Board of Adjustment from Article VIII – Nonconforming Uses, Structures and Lots, §334-29 Extension of enlargement of nonconforming uses, and with the Land Use Regulations with consideration of the waivers granted; and for the reasons set forth in the written submissions, together with the testimony and factual representations made by the applicant during the public hearing;

Subject to, and revised per, the following stipulations:

1. All stipulations of approval shall be incorporated into the Development Agreement, which shall be recorded at the HCRD, together with the Plan.
2. A cost allocation procedure (CAP) amount of \$8,831.25 shall be paid prior to the issuance of a Certificate of Occupancy for the new house lot.
3. Prior to the issuance of a final certificate of occupancy, an L.L.S. Certified “as-built” site plan shall be provided to the Town of Hudson Land Use Division confirming that the development conforms to the Plan approved by the Planning Board.
4. Prior to the Planning Board endorsement of the Plan, it shall be subject to final administrative review by Town Planner and Town Engineer.
5. Prior to application for a building permit, the Applicant shall schedule a pre-construction meeting with the Town Engineer.
6. Construction activities involving the subject lot shall be limited to the hours between 7:00 A.M. and 7:00 P.M. No exterior construction activities shall be allowed on Sundays.
7. Hours of refuse removal shall be exclusive to the hours between 7:00 A.M. and 7:00 P.M., Monday through Friday only.

Motion by: \_\_\_\_\_ Second: \_\_\_\_\_ Carried/Failed: \_\_\_\_\_

For Registry of Deed use only:

Send recorded copy to:

TOWN OF HUDSON  
ZONING BOARD OF ADJUSTMENT  
12 School Street, Hudson, New Hampshire 03051

**NOTICE OF DECISION**

**Map 105, Lot 014-000, Zone B (Business), Case # 105-014**

ZBA Decision 2/23/2023

**Variance (expansion of non-conforming use) – GRANTED with no stipulations**

Property Owner & Address: Steele Properties, LLC, Stephen L. Chasse, Manager  
8 Christine Drive, Hudson, NH 03051

Agent: J. Bradford Westgate, Esq., Winer and Bennett, LLP,  
402 Amherst Street, Suite 302, Nashua, NH 03063

Property Location: **5 Christine Drive, Hudson, NH 03051**

Action sought: A Variance to allow an expansion of an existing non-conforming use by demolishing the existing 24,106 SF building and rebuilding a 30,175 SF. industrial building

Zoning Ordinance Article: VIII: Nonconforming Uses, Structures and Lots; §334-29, Extension or enlargement of nonconforming uses

Action granted: After consideration of the testimony, aerial review of Christine Drive and plans prepared by Keach-Nordstrom Associates, Inc., dated 1/23/2023 for 5 Christine Drive; acknowledging that the existing building encroaches into the wetland buffer where as the proposed new building, even though slightly greater in square footage, will not infringe the wetland buffer; acknowledging that the proposed plan will need to undergo Site Plan Review by the Planning Board; and after review of the Variance criteria and determining that each criterion was satisfied, motion made, seconded and voted 5:0 to grant the Variance as requested.

NOTE: All representations of fact or intention made by the applicant, owner and agent during testimony before the Zoning Board of Adjustment relative to the obtaining of this relief shall be considered conditions of this approval, regardless of the fact that such facts or intentions may not have been specifically stated as stipulations of the motion. For details of specific discussion relative to this decision, please consult the public minutes recorded during this hearing.

\_\_\_\_\_  
Gary M. Daddario, ZBA Chairman

\_\_\_\_\_  
Date

\_\_\_\_\_  
Bruce Buttrick, Zoning Administrator

\_\_\_\_\_  
Date



May 15, 2023

Mr. Brian Groth  
Town Planner  
Town of Hudson  
12 School Street  
Hudson, NH 03051

Re: Town of Hudson Planning Board Review  
SL Chasse Steel Site Plan, 5 Christine Drive  
Tax Map 105 Lot 14; Acct. #1350-532  
Reference No. 20030249.2260

Dear Mr. Groth:

Fuss & O'Neill (F&O) has reviewed the second submission of the materials received on May 1, 2023, related to the above-referenced project. Authorization to proceed was received on May 1, 2023. A list of items reviewed is enclosed. The scope of our review is based on the Site Plan Review Codes, Stormwater Codes, Driveway Review Codes, Sewer Use Ordinance 77, Zoning Regulations, and criteria outlined in the CLD Consulting Engineers Proposal approved September 16, 2003, revised September 20, 2004, June 4, 2007, September 3, 2008, and October 2015.

The project consists of demolishing and replacing the existing building on the previously developed building site. Proposed improvements to the site also include the construction of parking areas, landscaping, drainage, utilities, and other associated site improvements. The existing building appears to be serviced by public water and a private subsurface disposal system.

The following items have outstanding issues:

**1. Site Plan Review Codes (HR 275)**

- g. **Former/Current Fuss & O'Neill Comment:** HR 275-9.C.(11). The applicant has provided two handicap accessible parking spaces for the site which meets the minimum requirement. We note that the applicant has not provided adequate grading information for the proposed concrete walk that surrounds the building. No curb ramp locations are shown on the plans, and it's not clear from the concrete walk detail if this is intended to be flush with the parking lot pavement or elevated. The applicant should provide more information as to the intent of the walk and provide adequate handicapped accessibility as needed.
- h. **Former/Current Fuss & O'Neill Comment:** HR 275-9.F. The applicant did not provide copies of easements and deeds as part of the package received for review. The plans show several existing easements within the site. The applicant is proposing a 24" high landscape wall within a portion of the existing water line easement on the east side of the site, and drainage improvements and connections within the drainage easement on the south side of the site. The existing easements should be reviewed to confirm that the proposed improvements can be constructed within these easement areas.

50 Commercial Street  
Manchester, NH  
03101  
t 603.668.8223  
800.286.2469  
www.fando.com

California  
Connecticut  
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## 2. Administrative Review Codes (HR 276)

- b. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(6). The applicant should add the owner's signature to the plan set for the final approval copy.*

**Current Fuss & O'Neill Comment:** The applicant has noted that the owner's signature will be provided on the final plan.

The following items require Town evaluation or input:

### 1. Site Plan Review Codes (HR 275)

- e. **Former/Current Fuss & O'Neill Comment:** HR 275-8.C.(2)(g) and Zoning Ordinance (ZO) 334-15.A. The applicant has provided parking calculations on the plan set and noted that 51 parking spaces are required for the industrial use and that 29 spaces are provided. The applicant has requested a waiver for the reduced parking spaces.

### 2. Administrative Review Codes (HR 276)

- c. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(12).(c). The applicant has not shown the 100-foot setback from the residential properties to the west of the site. We understand that the existing site does not meet the setback and the proposed building is slightly farther from the property line, but this setback is for any improved part of the non-residential development. The applicant should show the setback on the plan and review with the Town the need for a waiver.*

**Current Fuss & O'Neill Comment:** The applicant has added the buffer to the plan set. The Town should review the need for a waiver.

### 6. Drainage Design/Stormwater Management (HR 275-9.A./Chapter 290)

- c. *Former Fuss & O'Neill Comment: HR 290-5.A.10. Due to the wetland buffer impact and installation of erosion control practices, we request the applicant review the need for relief of this requirement by the Planning Board.*

**Current Fuss & O'Neill Comment:** Although the applicant is not proposing permanent feature installations within the buffer, they are performing work within the buffer. The applicant will be removing pavement and restoring it to natural condition. The Town should confirm that no other permitting is necessary.

The following items are resolved or have no further Fuss & O'Neill input:

### 1. Site Plan Review Codes (HR 275)

- a. *Former Fuss & O'Neill Comment: Hudson Regulation (HR) 275-6.C. The site currently does not have a sidewalk and the applicant has not proposed to add any sidewalks as part of this project.*
- b. *Former Fuss & O'Neill Comment: HR 275-6.I. The scope of this review does not include the adequacy of any fire protection provisions for the proposed building addition. The applicant has shown a proposed fire service connection to the building on the plan set. We note that there are no nearby existing or proposed fire hydrants shown on the plans.*
- c. *Former Fuss & O'Neill Comment: HR 275-6.I. The applicant should confirm with the Hudson Fire*



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*Department that emergency vehicle access to the northwest corner of the building is adequate. Also, the applicant should coordinate with the Fire Department regarding access to the north side of the building and how any material storage in the gravel storage area will impact that access.*

Current Fuss & O'Neill Comment: The applicant has provided a truck turning exhibit and noted that access has been accepted by the Fire Department. No further Fuss & O'Neill comment.

- d. *Former Fuss & O'Neill Comment: HR 275-6.T. The applicant is not proposing any offsite improvements on the plan set other than driveway apron paving and some minor grading adjacent to the proposed pocket pond.*
- f. *Former Fuss & O'Neill Comment: HR 275-8.C.(6). The applicant has shown four loading areas on the plan set that meet the requirement.*

## 2. Administrative Review Codes (HR 276)

- a. *Former Fuss & O'Neill Comment: HR 276-7.C. The applicant has listed a waiver request on the plan.*
- d. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(16). The applicant has not provided locations of driveways and parking areas within 200 feet of the site.*

Current Fuss & O'Neill Comment: The applicant has added this information to the plan. No further Fuss & O'Neill comment.

- e. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(20). The applicant has not provided the size and height of the existing building on the plan set.*

Current Fuss & O'Neill Comment: The applicant has added the required information to the plan set. No further Fuss & O'Neill comment.

- f. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(24). The applicant has not provided any open space calculations on the plan set. From scaling of the provided pdf it appears that available open space exceeds the minimum required by the Regulation, but the applicant should confirm and include those calculations on the plans.*

Current Fuss & O'Neill Comment: The applicant has added the information to the plan set. No further Fuss & O'Neill comment.

## 3. Driveway Review Codes (HR 275-8.B. (34)/Chapter 193)

- a. *Former Fuss & O'Neill Comment: HR 193.10. The applicant has not proposed any changes to the locations of the existing driveways. The site will continue to have one driveway onto Christine Drive. The applicant has also proposed to decommission an existing gravel access drive and pave the existing connection to lot 13.*
- b. *Former Fuss & O'Neill Comment: HR 193.10.E. The applicant did not provide any sight distance information on the plan set. We note that the driveway is an existing location on a cul-de-sac, and sight distance appears to be adequate from that driveway.*

Current Fuss & O'Neill Comment: The applicant has stated that based on the existing driveway location on a cul-de-sac, they feel adequate sight distance is provided. No further Fuss & O'Neill comment.



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#### 4. Traffic (HR 275-9.B)

- a. *Former Fuss & O'Neill Comment: HR 275-9.B. The applicant did not provide any traffic information with the review document submission. The applicant did note in the project narrative that in their professional opinion the proposed industrial building will not adversely impact the Town's roads given that there is an existing building that will be replaced for this project.*

#### 5. Utility Design/Conflicts

- a. *Former Fuss & O'Neill Comment: HR 275-9.E. & 276-13. The applicant has shown the proposed location for the septic tank and leach field that will service the site. The applicant has included a reference to the septic plan but has not provided a copy of that plan or typical details as part of the package received for review.*

Current Fuss & O'Neill Comment: The applicant has added the typical septic detail to the plan set. No further Fuss & O'Neill comment.

- b. *Former Fuss & O'Neill Comment: HR 275-9.E. The applicant has noted an existing well is on site and stated that it is to be decommissioned by a licensed contractor. Water for the proposed building will be provided via a connection to the water main on the east side of the site.*

#### 6. Drainage Design/Stormwater Management (HR 275-9.A./Chapter 290)

- a. *Former Fuss & O'Neill Comment: HR 275-9.A.1., 290-5.A.5. & Engineering Technical Guidelines & Typical Details (ETGTD) 910.5 and 910.12 The applicant has provided Table 2, illustrating an increase in peak runoff of the 2-Year storm event. Although this meets NHDES AoT regulations, the applicant should provide additional information on how this increase will (or will not) negatively impact the downstream stormwater properties, streets, drainage systems, etc., on this 12.5% increase in volume. The applicant should also provide a volumetric comparison table for the 10-, 25-, and 50-year storm events.*

Current Fuss & O'Neill Comment: The applicant revised the design to match/reduce flow and volume at all analysis points. No further Fuss & O'Neill comment.

- b. *Former Fuss & O'Neill Comment: HR 290-5.A.1. & 290-5.A.3. The applicant should provide language in the Drainage Analysis Report stating if and how low impact development (LID) strategies for stormwater runoff were evaluated for this project.*

Current Fuss & O'Neill Comment: The applicant revised the write up to note LID design implementations. No further Fuss & O'Neill comment.

- d. *Former Fuss & O'Neill Comment: HR 290-5.B.1.b. The applicant should provide language in the Drainage Analysis Report and/or additional information on the removal efficiencies for the proposed development in respect to the TSS and TP.*

Current Fuss & O'Neill Comment: The applicant has revised the write up to discuss the TSS and TP. No further Fuss & O'Neill comment.

- e. *Former Fuss & O'Neill Comment: HR 290-5.B.2.a. The applicant should provide language in the Drainage Analysis Report and/or additional information and calculations on the stormwater treatment measures for the existing and proposed impervious cover of development.*

Current Fuss & O'Neill Comment: The applicant has revised the write up to discuss the treatment of impervious area. No further Fuss & O'Neill comment.



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- f. *Former Fuss & O'Neill Comment: HR 290-6.A.1. The applicant should consider the installation of orange construction fence at the wetland buffer impact area to ensure that wetland buffer impacts are minimized to the areas illustrated upon the site plan.*

Current Fuss & O'Neill Comment: The applicant has added orange construction fence to the plan set. No further Fuss & O'Neill comment.

- g. *Former Fuss & O'Neill Comment: HR 290-6.A.13. The Typical Infiltration Pond Section detail on plan sheet 10 notes the bottom of the basin to have "pea stone and amended soils". The applicant should provide additional information on the proposed depth and gradation/ type of pea stone and amended soils proposed.*

Current Fuss & O'Neill Comment: The applicant has revised the design to no longer use amended soils. We note that due to the ongoing cost of materials inflation and supply chain issues, we have experienced contractors requesting readily available and more cost-effective alternatives from manmade impervious liners, like the project is proposing. We have started adding an alternative option of "minimum of 6 inch" clay liner to meet specs of NHDOT Item 203.53 – Low Permeability Fill, with a maximum saturated conductivity of 0.03 ft/day (0.01 in/hr). Compacted to at least 95% maximum dry density." This has been coordinated with NHDES AoT and was an approved alternative on a former project. No further Fuss & O'Neill comment.

- h. *Former Fuss & O'Neill Comment: HR 290-7.A.6. The applicant should provide information as to how the stormwater system is designed to account for frozen ground conditions.*

Current Fuss & O'Neill Comment: The applicant has added this information to the drainage report. No further Fuss & O'Neill comment.

- i. *Former Fuss & O'Neill Comment: HR 290-7.B.13. The applicant should provide the Site-Specific Soils plan sheet 4 stamped by Jim Gove.*

Current Fuss & O'Neill Comment: The applicant has added this item to the drainage plans in the report. No further Fuss & O'Neill comment.

- j. *Former Fuss & O'Neill Comment: HR 290-7.B.16. The applicant should review the narrow snow storage location upgradient of the Pocket Pond. It appears that snow melt will not entirely be directed into the forebay prior to entering the treatment bay. Debris, sand, and salt transported by plows and snowmelt may lead to maintenance issues and shorten the lifespan of the pocket pond.*

Current Fuss & O'Neill Comment: The applicant has revised the plan set to show snow storage. No further Fuss & O'Neill comment.

- k. *Former Fuss & O'Neill Comment: HR 290-8.A.4. & 5. We note the requirement of the applicant to coordinate the need for a Bond or Escrow with the Town Engineer.*

Current Fuss & O'Neill Comment: The applicant has acknowledged the meeting requirement. No further Fuss & O'Neill comment.

- l. *Former Fuss & O'Neill Comment: HR 290-10.A. The applicant should keep the Town informed of all communications with NHDES in relation to the required Alteration of Terrain Permit being requested to ensure NHDES review comments do not alter drainage design/ calculations.*

Current Fuss & O'Neill Comment: The applicant has acknowledged the requirement to update the town with NHDES coordination. No further Fuss & O'Neill comment.

- m. *Former Fuss & O'Neill Comment: ETGT 930.3. The applicant should coordinate the 48"x48" rim invert of the pocket pond, between HydroCAD and Detail Plan Sheet 10. The elevations vary by 0.5'.*

Current Fuss & O'Neill Comment: The applicant has coordinated the Hydrocad and the outlet detail. No further Fuss & O'Neill comment.





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- n. *Former Fuss & O'Neill Comment: The applicant will be required to comply with all provisions of the Town of Hudson's MS4 permit, including but not limited to annual reporting requirements, construction site stormwater runoff control, and record keeping requirements. The applicant has noted that the project has been designed to meet MS4 requirements.*

Current Fuss & O'Neill Comment: The applicant has acknowledged MS4 requirements. No further Fuss & O'Neill comment.

- o. *Former Fuss & O'Neill Comment: Please note that this review was carried out in accordance with applicable regulations and standards in place in New Hampshire at this time. Note that conditions at the site, including average weather conditions, patterns and trends, and design storm characteristics, may change in the future. In addition, future changes in federal, state or local laws, rules or regulations, or in generally accepted scientific or industry information concerning environmental, atmospheric and geotechnical conditions and developments may affect the information and conclusions set forth in this review. In no way shall Fuss & O'Neill be liable for any of these changed conditions that may impact this review, regardless of the source of or reason for such changed conditions. Other than as described herein, no other investigation or analysis has been requested by the Client or performed by Fuss & O'Neill in preparing this review.*

## 7. Zoning (ZO 334)

- a. *Former Fuss & O'Neill Comment: ZO 334-17 & 334-21. The applicant has noted that the subject parcel is located within the Business (B) zoning district, and that the proposed industrial use is allowed by a variance granted by the Zoning Board of Adjustment on February 23, 2023.*
- b. *Former Fuss & O'Neill Comment: ZO 334-35. The applicant has shown that the existing site is encroaching within the wetlands buffer area. The applicant has proposed to remove all uses within that buffer and restore the area back to wetlands buffer. The applicant should provide additional notes or details for this restoration.*

Current Fuss & O'Neill Comment: the applicant has added a note to the plan stating that the area is to be loamed and seeded. No further Fuss & O'Neill comment.

- c. *Former Fuss & O'Neill Comment: ZO 334-37. The applicant has also proposed drainage construction within the buffer and has noted that a Conditional Use Permit is required.*

Current Fuss & O'Neill Comment: The applicant has removed the construction within the buffer. No further Fuss & O'Neill comment.

- d. *Former Fuss & O'Neill Comment: ZO 334-60. The applicant has not shown any sign information on the plan set but has noted that all signs are subject to approval by the Hudson Planning Board prior to installation.*
- e. *Former Fuss & O'Neill Comment: ZO 334-83 and HR 218-4.E. The applicant has noted that the site is partially located within a Flood Hazard Area. The applicant has not proposed any development within this area.*

## 8. Erosion Control/Wetland Impacts

- a. *Former Fuss & O'Neill Comment: The applicant has noted that the Town of Hudson shall reserve the right to require any additional erosion control measures as needed.*





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- b. *Former Fuss & O'Neill Comment: The applicant should clarify what type of perimeter control is used in which area on the Erosion Control Plan. We note that both silt fence and silt socks details are included. We recommend that silt sock be used within the wetland buffers to limit further disturbance.*

Current Fuss & O'Neill Comment: The applicant has clarified the intent on the plan set. No further Fuss & O'Neill comment.

#### 9. Landscaping (HR 275-8.C.(7) & 276-11.1.B.(20)) and Lighting (HR 276-11.1.B.(14))

- a. *Former Fuss & O'Neill Comment: HR 275-8.C.(7).(c). The applicant has provided landscape parking lot requirements. We note the applicant has stated that six shade trees are required and only four have been provided. The applicant should review the need for a waiver for this requirement or add the two additional trees.*

Current Fuss & O'Neill Comment: The applicant has clarified 6 existing trees are to remain and 4 are proposed. No further Fuss & O'Neill comment.

- b. *Former Fuss & O'Neill Comment: HR 275-8.C.(8). The applicant has not proposed any new landscaping areas on the site to provide screening. We note that this is an existing use and the existing tree lines are proposed to remain.*

Current Fuss & O'Neill Comment: The applicant has stated that screening between the industrial use and the residential abutter is provided by the existing wetlands and natural wooded area. No further Fuss & O'Neill comment.

- c. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(14). The applicant has provided a lighting plan noting that site lighting is expected to remain on at all times for security and safety.*

- d. *Former Fuss & O'Neill Comment: We note that two of the light poles proposed may be in conflict with trees proposed for the same locations. The 20-foot-tall poles appear to be within the tree canopies as they mature. The proposed trees can grow to 40 feet high and 30 feet wide.*

Current Fuss & O'Neill Comment: The applicant has confirmed that the light poles will not conflict with the tree canopies. No further Fuss & O'Neill comment.

- e. *Former Fuss & O'Neill Comment: The applicant should review the snow storage areas shown on the plan set. Some locations appear to conflict with landscaping and could damage trees and shrubs.*

Current Fuss & O'Neill Comment: The applicant has revised the snow storage areas. No further Fuss & O'Neill comment.

#### 10. State and Local Permits (HR 275-9.G.)

- a. *Former Fuss & O'Neill Comment: HR 275-9.G. The applicant has listed required permits and their status on the plan set.*
- b. *Former Fuss & O'Neill Comment: HR 275-9.G. The applicant did not provide copies of any applicable Town, State or Federal approvals or permits already received in the review package.*
- c. *Former Fuss & O'Neill Comment: Additional local and state permitting may be required.*



Mr. Brian Groth  
May 15, 2023  
Page 8 of 8

**11. Other**

- a. *Former Fuss & O'Neill Comment: The applicant should provide a detail for the 24-inch landscape wall on the east side of the site.*

Current Fuss & O'Neill Comment: The applicant has added a detail to the plan set. No further Fuss & O'Neill comment.

Please feel free to call if you have any questions.

Very truly yours,

A handwritten signature in blue ink, appearing to read 'Steve Reichert'.

Steven W. Reichert, P.E.

SWR:

Enclosure

cc: Town of Hudson Engineering Division – File  
Keach-Nordstrom Associates, Inc. – pchisholm@keachnordstrom.com



June 19, 2023

Brian Groth  
 Town Planner  
 Town of Hudson  
 12 School Street  
 Hudson, New Hampshire 03051

**Subject: Response to Fuss & O’Neill Review Letter**  
**Tax Map 105, Lot 14**  
 KNA Project No. 22-0126-2

Dear Mr. Groth:

Our office is in receipt of Fuss & O’Neill’s review comments dated May 15, 2023. Based on the comments, we have made the required modifications to the plan set and attached a copy for final review. A response to each comment has been provided below.

The following items are noted:

**1. Site Plan Review Codes (HR 275)**

- g. **Former/Current Fuss & O’Neill Comment:** HR 275-9.C.(11). The applicant has provided two handicap accessible parking spaces for the site which meets the minimum requirement. We note that the applicant has not provided adequate grading information for the proposed concrete walk that surrounds the building. No curb ramp locations are shown on the plans, and it’s not clear from the concrete walk detail if this is intended to be flush with the parking lot pavement or elevated. The applicant should provide more information as to the intent of the walk and provide adequate handicapped accessibility as needed.

*The proposed concrete walk is designed to be flush and is now called out as such on sheet 4 of the revised plans.*

- h. **Former/Current Fuss & O’Neill Comment:** HR 275-9.F. The applicant did not provide copies of easements and deeds as part of the package received for review. The plans show several existing easements within the site. The applicant is proposing a 24” high landscape wall within a portion of the existing water line easement on the east side of the site, and drainage improvements and connections withing the drainage easement on the south side of the site. The existing easements should be reviewed to confirm that the proposed improvements can be constructed within these easement areas.

*Grading within the drainage easement is no longer proposed. The landscape wall within the water easement is also no longer proposed.*

2. **Administrative Review Codes (HR 276)**

b. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(6). The applicant should add the owner's signature to the plan set for the final approval copy.*

**Current Fuss & O'Neill Comment:** The applicant has noted that the owner's signature will be provided on the final plan.

***Noted, the owner's signature will be on the final plan set.***

The following items require Town evaluation or input:

1. **Site Plan Review Codes (HR 275)**

e. **Former/Current Fuss & O'Neill Comment:** HR 275-8.C.(2)(g) and Zoning Ordinance (ZO) 334-15.A. The applicant has provided parking calculations on the plan set and noted that 51 parking spaces are required for the industrial use and that 29 spaces are provided. The applicant has requested a waiver for the reduced parking spaces.

***Noted.***

2. **Administrative Review Codes (HR 276)**

c. *Former Fuss & O'Neill Comment: HR 276-11.1.B.(12).(c). The applicant has not shown the 100-foot setback from the residential properties to the west of the site. We understand that the existing site does not meet the setback and the proposed building is slightly farther from the property line, but this setback is for any improved part of the non-residential development. The applicant should show the setback on the plan and review with the Town the need for a waiver.*

**Current Fuss & O'Neill Comment:** The applicant has added the buffer to the plan set. The Town should review the need for a waiver.

***Noted.***

6. **Drainage Design/Stormwater Management (HR 275-9.A./Chapter 290)**

c. *Former Fuss & O'Neill Comment: HR 290-5.A.10. Due to the wetland buffer impact and installation of erosion control practices, we request the applicant review the need for relief of this requirement by the Planning Board.*

**Current Fuss & O'Neill Comment:** Although the applicant is not proposing permanent feature installations within the buffer, they are performing work within the buffer. The applicant will be removing pavement and restoring it to natural condition. The Town should confirm that no other permitting is necessary.

***Noted, the Town has confirmed that no other permitting is necessary.***

Respectfully,

  
**Allison Lewis, EIT**

Project Engineer  
Keach Nordstrom Associates, Inc.  
10 Commerce Park North, Suite 3  
Bedford, NH 03110

*Civil Engineering*

*Land Surveying*

*Landscape Architecture*

**From:** Dhima, Elvis  
**Sent:** Thursday, March 23, 2023 12:25 PM  
**To:** Dubowik, Brooke  
**Cc:** Groth, Brian  
**Subject:** RE: Dept Sign off - S.L. Chasse Steel Site Plan & Conditional Use Permit SP# 01-23 CUP# 01-23

Brooke / Brian

Please see below

1. Applicant shall revise detention basin location to eliminate proposed grading within the right of way
2. Applicant shall evaluate guard rail requirement adjacent to the proposed detention basin (grading indicated more than 4 foot depth)
3. Applicant shall equip all proposed catch basins discharging directly to the propose basins with oil /mechanical separators
4. Applicant shall clarify if grading within the drainage easement is allowed
5. Applicant shall revise plan to include the wetland impact buffer adjacent to the proposes basin in the back.

E

***Elvis Dhima, P.E.***  
***Town Engineer***

12 School Street  
Hudson, NH 03051  
Phone: (603) 886-6008  
Mobile: (603) 318-8286





# TOWN OF HUDSON

FIRE DEPARTMENT

INSPECTIONAL SERVICES DIVISION



---

12 SCHOOL STREET, HUDSON, NEW HAMPSHIRE 03051

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

Scott Tice  
Chief of Department

TO: Brian Groth  
Town Planner

FR: David Hebert  
Fire Marshal

DT: 3/27/2023

RE: 5 Christine Dr.  
Fire Department Access and Water Supply

The site plan is incomplete. No Fire Department details are shown.

- Provide site plan details page showing Fire Department apparatus access and turning radius into the site. The site entrance and parking area appears to be extremely narrow. Show dimensions
- Provide details that indicate the proposed septic tank and leach field under the parking lot will support the weight of Fire Department apparatus
- Provide details on the site plan for required fire suppression water supply cistern.

### Fire Suppression Supply

1. The fire suppression needed for the 30,175sqft building is 1000 gallons/minute for 3 hours, or 180,000 gallons
2. Our consultant's conservative estimate for the water supply in the area is that 500 gallons/minute are available, equating to 90,000 gallons over 3 hours
3. That leaves a gap of 90,000 gallons
4. A cistern or cisterns totaling 90,000 gallons is required. Submit the cistern design and have the proposed location shown on the site plan

David Hebert  
Fire Marshall



# TOWN OF HUDSON

## Planning Board

Timothy Malley, Chairman



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

### CAP FEE WORKSHEET - 2023

Date: 06-30-23 Zone # 1 Map/Lot: 105/014, 5 Christine Drive

Project Name: S.L. Chasse Steel

Proposed ITE Use #1: General Light Industrial

Proposed Building Area (net square footage): 5,625 S.F.

#### CAP FEES: (ONE CHECK NEEDED)

1.	(Bank 09) 2070-701	Zone 1 (\$1.57 per sf X 5,625 sf)	\$ <u>8,831.25</u>
----	-----------------------	--------------------------------------	--------------------

Check should be made payable to the Town of Hudson.

Thank you,  
Brian Groth  
Town Planner

August 26, 2022

Subject: **S.L. Chasse Steel – Site Plan Application**  
**Map 105; Lot 14**  
**5 Christine Drive, Hudson NH**  
KNA Project No. 22-0126-2

**PROJECT NARRATIVE**

The property is located along Christine Drive and is referenced on Hudson’s Tax Map 105 as Lot 14. The 3.55-acre (154,791 SF) parcel is in Hudson’s Business (B) Zoning District (after a change of use hearing with the ZBA, and approval on 02/23/2023, the site is now Industrial). The property is currently owned by Steele Properties, LLC. The site currently has a 24,000 SF +/- steel frame building, parking area and gravel access. There are wetlands present on the western side of the site.

This application proposes one (1) 30,175 SF fabrication building on the subject parcel. It will be serviced by on-site septic, existing on-site propane tanks and public water. The proposed project includes associated parking and a gravel storage area to the rear of the building accessible by forklift on the eastern side of the building. The site will be accessed by a driveway off Christine Drive and a connection to the abutting site utilizing the existing drive locations.

In addition to the parking areas and drives, a series of drainage pipes and stormwater ponds will be added to the site. There is an infiltration pond to the northwest of the site that collects run-off from the roof and rear storage area. In addition, there is a pocket pond to the south of the site that collects the remaining pavement and roof run-off. These all help to mitigate run-off the project produces.

Given there is an existing building that will be replaced in the same approximate location, it is our professional opinion that the proposed industrial building will not adversely impact the Town’s roads or other infrastructure.



**SITE PLAN APPLICATION**

Date of Application: 3/7/2023 Tax Map #: 105 Lot #: 14

Site Address: 5 CHRISTINE DRIVE

Name of Project: S.L. CHASSE STEEL

Zoning District: INDUSTRIAL General SP#: 01-23  
(For Town Use Only)

Z.B.A. Action: \_\_\_\_\_

**PROPERTY OWNER:**

**DEVELOPER:**

Name: STEELE PROPERTIES, LLC

Address: 8 CHRISTINE DRIVE

Address: HUDSON, NH 03051

Telephone # (603) 886-3436

Email: S.CHASSE@CHASSESTEELFAB.COM

**PROJECT ENGINEER:**

**SURVEYOR:**

Name: KEACH-NORDSTROM

(SAME)

Address: 3 COMMERCE DRIVE (SUITE 3)

Address: BEDFORD, NH 03110

Telephone # (603) 627-2881

Email: P.CHISHOLM@KEACHNORDSTROM.COM

**PURPOSE OF PLAN:**

TO PROPOSE A 30,175 SF INDUSTRIAL BUILDING WITH ASSOCIATED PARKING AND SITE IMPROVEMENTS.

**(For Town Use Only)**

Routing Date: 3/23/23 Deadline Date: 3/30/23 Meeting Date: 4/26/23

\_\_\_\_\_ I have no comments \_\_\_\_\_ I have comments (attach to form)

\_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_  
(Initials)

Department: \_\_\_\_\_

Zoning: \_\_\_ Engineering: \_\_\_ Assessor: \_\_\_ Police: \_\_\_ Fire: \_\_\_ DPW: \_\_\_ Consultant: \_\_\_

**SITE DATA SHEET**

PLAN NAME: S.L. CHASSE STEEL

PLAN TYPE: SITE PLAN

LEGAL DESCRIPTION: MAP 105 LOT 14

DATE: 3/7/2023

Location by Street: 5 CHRISTINE DRIVE

Zoning: INDUSTRIAL

Proposed Land Use: INDUSTRIAL

Existing Use: INDUSTRIAL

Surrounding Land Use(s): INDUSTRIAL / GENERAL I

Number of Lots Occupied: 1

Existing Area Covered by Building: 24,550 SF

Existing Buildings to be removed: 1

Proposed Area Covered by Building: 30,175 SF

Open Space Proposed: 50%

Open Space Required: 40% MIN.

Total Area: S.F.: 154,791 Acres: 3.55

Area in Wetland: ∅ Area Steep Slopes: ∅

Required Lot Size: 30,000 SF

Existing Frontage: 257.4 FT

Required Frontage: 150 FT

Building Setbacks:	<u>Required*</u>	<u>Proposed</u>
Front:	<u>50 FT</u>	<u>112.7 FT</u>
Side:	<u>15 FT</u>	<u>35.6 FT</u>
Rear:	<u>15 FT</u>	<u>66.8 FT</u>

**SITE DATA SHEET**

(Continued)

Flood Zone Reference: 3300920508D PANEL: 508 OF 701

Width of Driveways: 30'

Number of Curb Cuts: 1

Proposed Parking Spaces: 29

Required Parking Spaces: 51

Basis of Required Parking (Use): EMPLOYEE

Dates/Case #/Description/Stipulations  
of ZBA, Conservation Commission,  
NH Wetlands Board Actions:  
(Attach stipulations on separate sheet)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Waiver Requests**

<i>Town Code Reference:</i>	<i>Regulation Description:</i>
<u>275-BC(g)</u>	<u>INDUSTRIAL PARKING REGULATIONS</u>
_____	_____
_____	_____
_____	_____

<b>(For Town Use Only)</b>	
Data Sheets Checked By: _____	Date: _____

## SITE PLAN APPLICATION AUTHORIZATION

I hereby apply for *Site Plan* 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 *Site Plan* 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 given permission for any member of the Hudson Planning Board, the Town Planner, the Town Engineer, 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 to 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/or inspections conducted on his/her (their) property in connection with this applications.

Signature of Owner: Stephen L. Citasse MGR Date: 3-7-2023

Print Name of Owner: STEPHEN L. CITASSE

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

Signature of Developer: Stephen L. Citasse MGR Date: 3-7-2023

Print Name of Developer: STEPHEN L. CITASSE

- ❖ 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.

**WAIVER REQUEST FORM**

Name of Subdivision/Site Plan: S.L. CHASSE STEEL

Street Address: 5 CHRISTINE DRIVE

I \_\_\_\_\_ hereby request that the Planning Board waive the requirements of item 275-B C (g) of the Hudson Land Use Regulations in reference to a plan presented by KEACH NORDSTROM ASSOC., INC. (name of surveyor and engineer) dated 3/3/2023 for property tax map(s) 105 and lot(s) 14 in the Town of Hudson, NH.

As the aforementioned applicant, I, herein, acknowledge that this waiver is requested in accordance with the provisions set forth in RSA 674:36, II (n), i.e., without the Planning Board granting said waiver, it would pose an unnecessary hardship upon me (the applicant), and the granting of this waiver would not be contrary to the spirit and intent of the Land Use Regulations.

Hardship reason(s) for granting this waiver (if additional space is needed please attach the appropriate documentation hereto):

(SEE ATTACHED)

Reason(s) for granting this waiver, relative to not being contrary to the spirit and intent of the Land Use Regulations: (if additional space is needed please attach the appropriate documentation hereto):

(SEE ATTACHED)

Signed:

  
\_\_\_\_\_  
Applicant or Authorized Agent

March 7, 2023

Town of Hudson Planning  
12 School Street  
Hudson, NH 03051

**Subject: Waiver for Industrial Parking Regulations - 275-8C(g)  
SL Chasse Steel Site Plan, 5 Christine Drive  
Tax Map 105 Lot 14**

**Hardship reason(s) for granting this waiver:**

The Applicant is requesting to reduce the parking regulation from 51 to 29 parking spaces. Only 25 parking spaces will be utilized at one time therefor, the 29 proposed parking spaces will be sufficient for the needs of the building. Additional parking spaces will require additional paved area and stormwater treatment systems would need to increase in size. This increase will minimizing open space and landscaping area.

**Reason(s) for granting this waiver, relative to not being contrary to the spirit and intent of the Land Use Regulations:**

Having the required number of parking spaces would not be contrary to the spirit and intent of the Land Use Regulations as they are not needed for the intended use of the building. This additional space would take away from the landscape areas by adding more pavement and larger stormwater areas.

May 9, 2023

Town of Hudson Planning  
12 School Street  
Hudson, NH 03051

**Subject: Waiver for 100' Residential Buffer  
SL Chasse Steel Site Plan, 5 Christine Drive  
Tax Map 105 Lot 14**

**Hardship reason(s) for granting this waiver:**

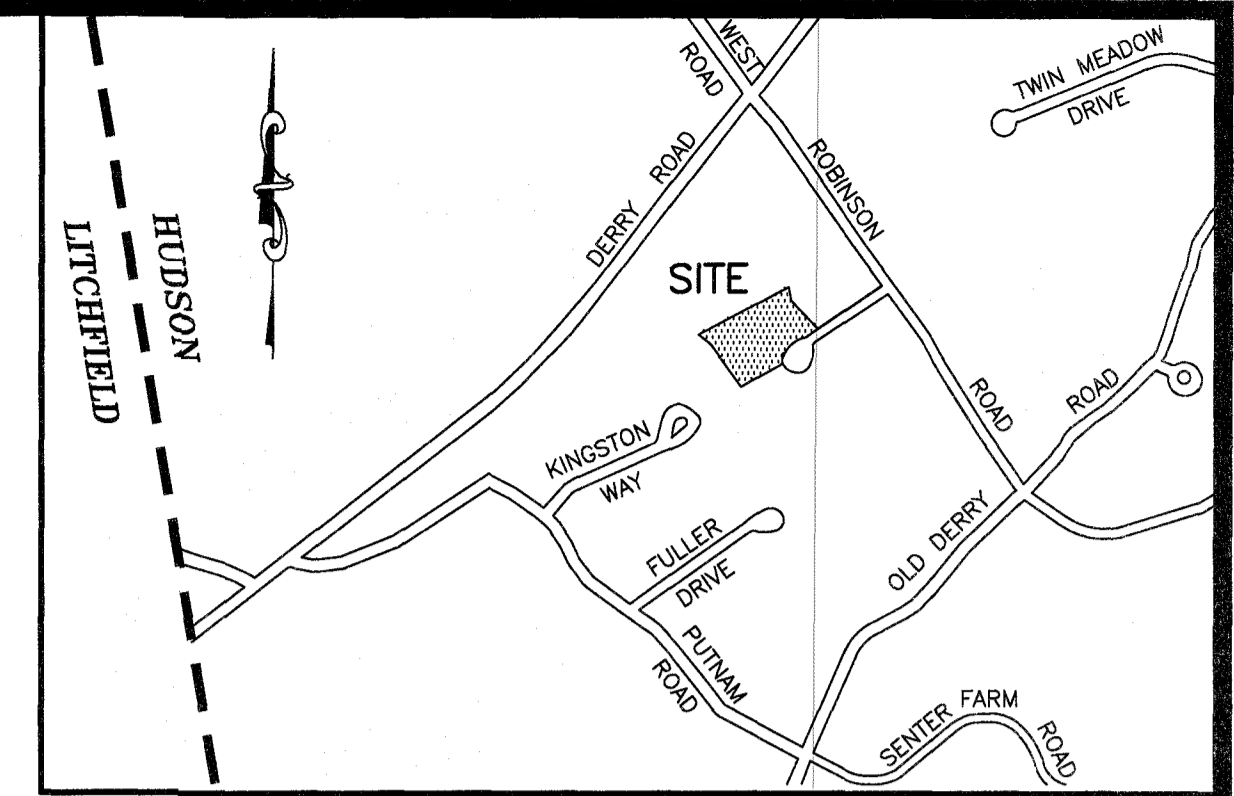
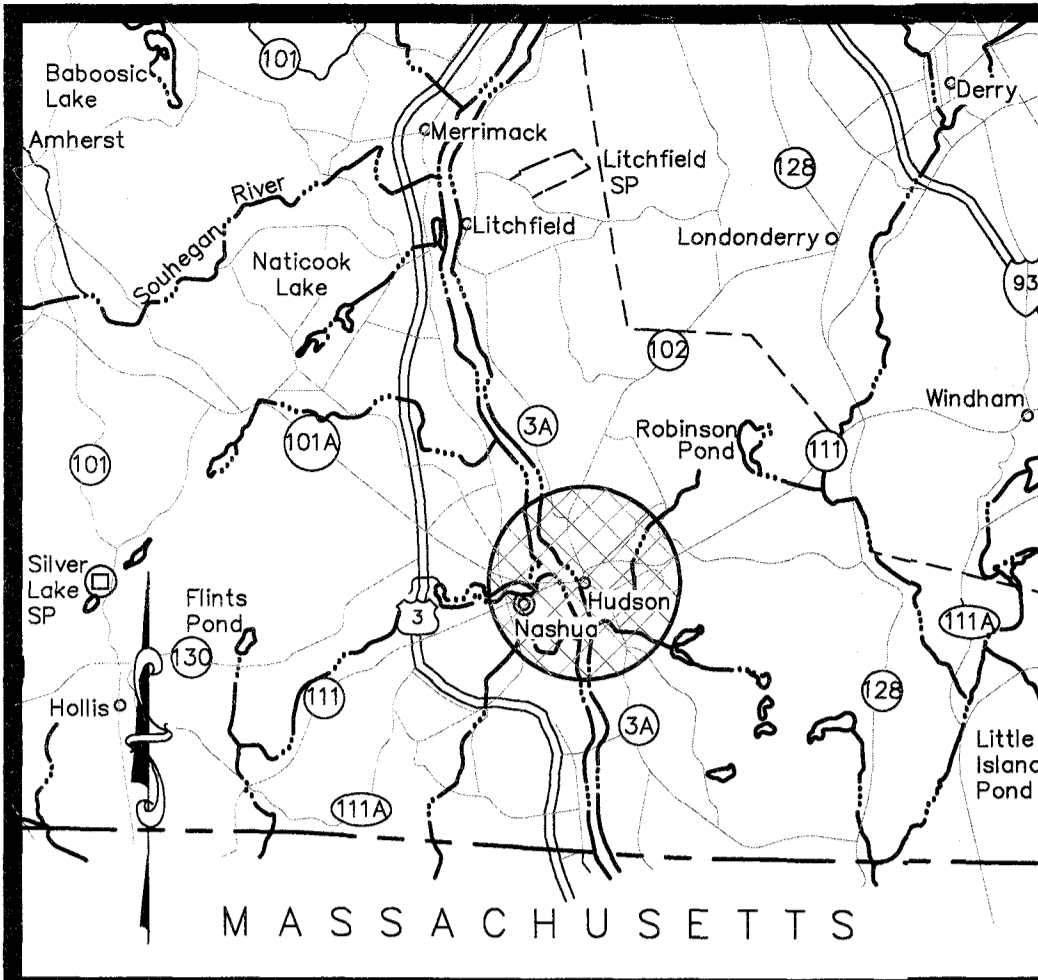
The Applicant is requesting to reduce the 100-ft residential buffer to 95.8 feet. The subject property is located within the business district. The industrial use on site is not unlike the other properties along Christine Drive. The G-1 zone abuts the western property line, and the abutting property contains a multifamily residential building. This existing building is located only 65.7 feet from the residential property line. Therefore, the applicant's waiver request is essentially seeking to reduce the existing encroachment by over 30 feet.

Furthermore, no fair and substantial relationship exists between the general public purposes of the ordinance provision and the specific application of the provision to the property. The public and neighboring abutter will realize no additional benefit should this waiver not be granted since the existing building is closer to the residential property than the proposed building will be. The public and neighboring abutter will only benefit should this waiver be granted.

**Reason(s) for granting this waiver relative to not being contrary to the spirit and intent of the Land Use Regulations:**

The spirit and intent to this Land Use Regulation will not be opposed by granting this waiver. The purpose of the 100' residential buffer is to ensure the residential use is not disturbed by the business or industrial use. There exists a natural wooded wetland that runs along the western property line which cuts between the residential use and this industrial use. This wetland and forested area limit the line of sight from the residential property. Therefore, the residential units are not disturbed by car lights and are not able to see the building or parking lot that is on the property today. This will only be improved by moving the proposed building even further from the residential abutting property. For these reasons, this proposal will not be contrary to the spirit and intent of the regulation since the purpose of the regulation is to provide adequate screening and buffering between residential and industrial land uses.





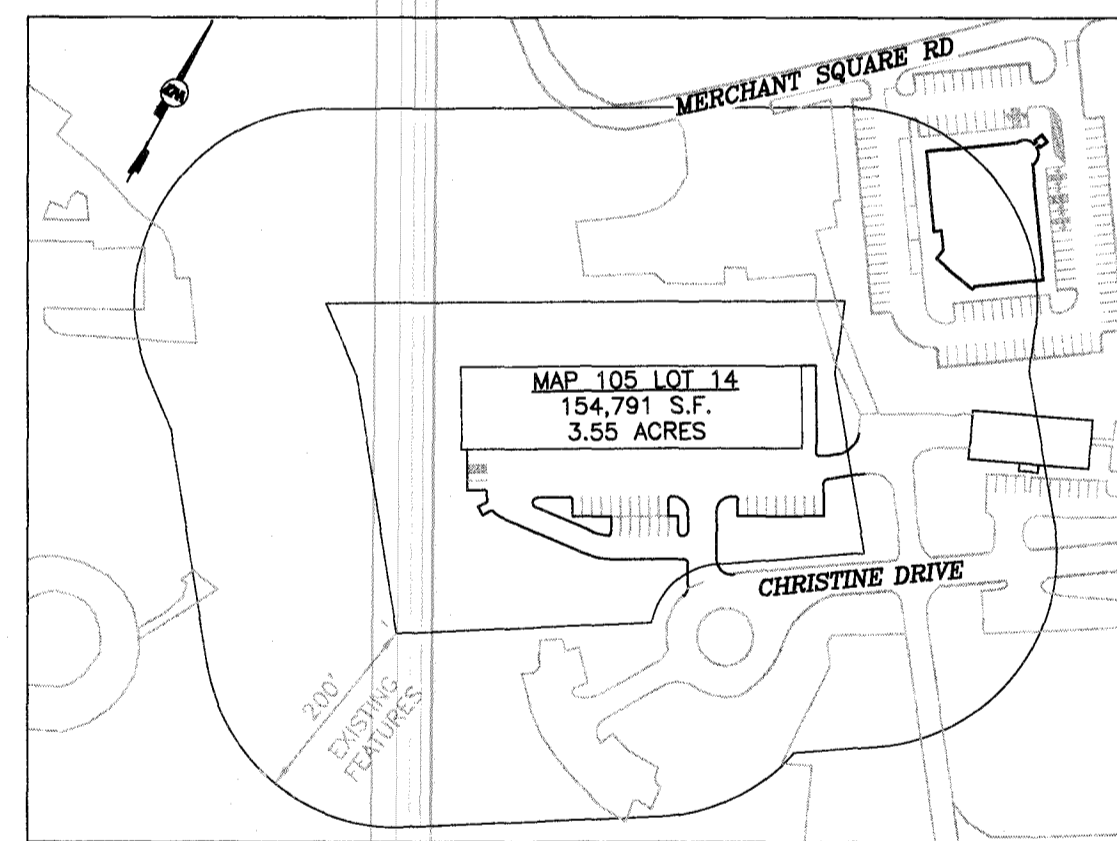
VACINITY MAP  
SCALE: 1" = 1,000'

VICINITY PLAN  
NOT TO SCALE

# NON-RESIDENTIAL SITE PLAN S.L. CHASSE STEEL MAP 105 LOT 14 5 CHRISTINE DRIVE HUDSON, NEW HAMPSHIRE

**NEW HAMPSHIRE FISH AND GAME THREATENED & ENDANGERED WILDLIFE NOTES:**

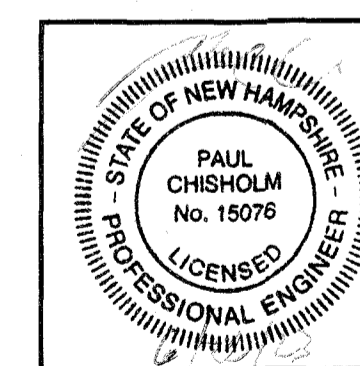
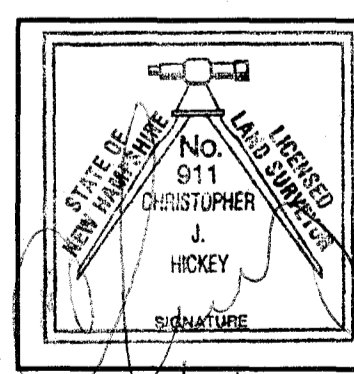
- ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES SHALL BE REPORTED IMMEDIATELY TO THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT [NHFGREVIEW@WILDLIFE.NH.GOV](mailto:NHFGREVIEW@WILDLIFE.NH.GOV) EMAIL SUBJECT LINE: NHR22-2393, STEELE PROPERTIES HUDSON, WILDLIFE SPECIES OBSERVATION.
- PHOTOGRAPHS OF THE OBSERVED SPECIES AND NEARBY ELEMENTS OF HABITAT OR AREAS OF LAND DISTURBANCE SHALL BE PROVIDED TO NHF&G IN DIGITAL FORMAT AT THE ABOVE EMAIL ADDRESS FOR VERIFICATION AS FEASIBLE.
- IN THE EVENT A THREATENED OR ENDANGERED SPECIES IS OBSERVED ON THE PROJECT SITE DURING THE TERM OF THE PERMIT, THE SPECIES SHALL NOT BE DISTURBED, HANDLED, OR HARMED IN ANY WAY PRIOR TO CONSULTATION WITH NHF&G AND IMPLEMENTATION OF CORRECTIVE ACTIONS RECOMMENDED BY NHF&G, IF ANY, TO ASSURE THE PROJECT DOES NOT APPRECIABLY JEOPARDIZE THE CONTINUED EXISTENCE OF THREATENED AND ENDANGERED SPECIES AS DEFINED IN FIS 1002.04.
- THE NHF&G, INCLUDING ITS EMPLOYEES AND AUTHORIZED AGENTS, SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.
- ENV-WQ 1506.15 REQUIRES THAT:
  - ALL MANUFACTURED EROSION AND SEDIMENT CONTROL PRODUCTS, EXCEPT FOR SILT FENCE INSTALLED IN ACCORDANCE WITH ENV-WQ 1506.04, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, RUNOFF DIVERSION, SLOPE INTERRUPTION, PERIMETER CONTROL, INLET PROTECTION, CHECK DAMS, AND SEDIMENT TRAPS SHALL NOT CONTAIN WELDED PLASTIC, PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN 1/8 INCH, AND
  - TURF REINFORCEMENT MATS SHALL BE COVERED WITH SOIL TO PREVENT EXPOSURE OF THE MATS TO THE SURFACE.



EXISTING FEATURES WITHIN 200 FEET  
SCALE: 1" = 200'

**OWNER OF RECORD/APPLICANT:**  
STEELE PROPERTIES, LLC  
8 CHRISTINE DRIVE  
HUDSON, NEW HAMPSHIRE 03051

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



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

**SHEET TITLE**

- EXISTING CONDITIONS PLAN
- SITE PREPARATION PLAN
- NON-RESIDENTIAL SITE LAYOUT PLAN
- GRADING, DRAINAGE & UTILITY PLAN
- EROSION CONTROL PLAN
- LANDSCAPE PLAN
- LIGHTING PLAN
- CONSTRUCTION DETAILS

**SHEET No.**

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8-13

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD  
DATE OF MEETING: \_\_\_\_\_

\_\_\_\_\_  
SIGNATURE DATE: \_\_\_\_\_

\_\_\_\_\_  
SIGNATURE DATE: \_\_\_\_\_

SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.

MARCH 3, 2023  
LAST REVISED JUNE 20, 2023  
PROJECT NO. 22-0126-2



**SITE SPECIFIC SOIL MAP UNIT KEY**

SYMBOL	MAP UNIT	SLOPE CLASS	DRAINAGE CLASS	HSG
299B/cbabb	UDORTHERTS, SMOOTHED	0-8%	WELL DRAINED	B
299B/cbaabb	UDORTHERTS, SMOOTHED	0-8%	WELL DRAINED	B
299D/cbaabb	UDORTHERTS, SMOOTHED	15-25%	WELL DRAINED	B
313B	DEERFIELD LOAMY SAND	0-8%	MODERATELY WELL DRAINED	B
313C	DEERFIELD LOAMY SAND	8-15%	MODERATELY WELL DRAINED	B
34B	WAREHAM LOAMY SAND	0-8%	POORLY DRAINED	C
34D	WAREHAM LOAMY SAND	15-25%	POORLY DRAINED	C
699	URBAN LAND			B

THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, INTENDED FOR INFILTRATION REQUIREMENTS BY THE NH DES ALTERATION OF TERRAIN BUREAU. IT WAS PRODUCED BY A PROFESSIONAL SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCES CONSERVATION SERVICE. THERE IS A REPORT THAT ACCOMPANIES THIS MAP.

THE SITE SPECIFIC SOIL SURVEY (SSSS) WAS PRODUCED AUGUST 7, 2022, AND WAS PREPARED BY JAMES GOVE, CWS # 004, GOVE ENVIRONMENTAL SERVICES, INC. THE SURVEY AREA IS LOCATED AT CHRISTINE DRIVE, HUDSON, NH.

SOILS WERE IDENTIFIED WITH THE NEW HAMPSHIRE STATE-WIDE NUMERICAL SOILS LEGEND, USDA NRCS, DURHAM, NH, ISSUE # 10, JANUARY 2011. THE NUMERIC LEGEND WAS AMENDED TO IDENTIFY THE CORRECT SOIL COMPONENTS OF THE COMPLEX.

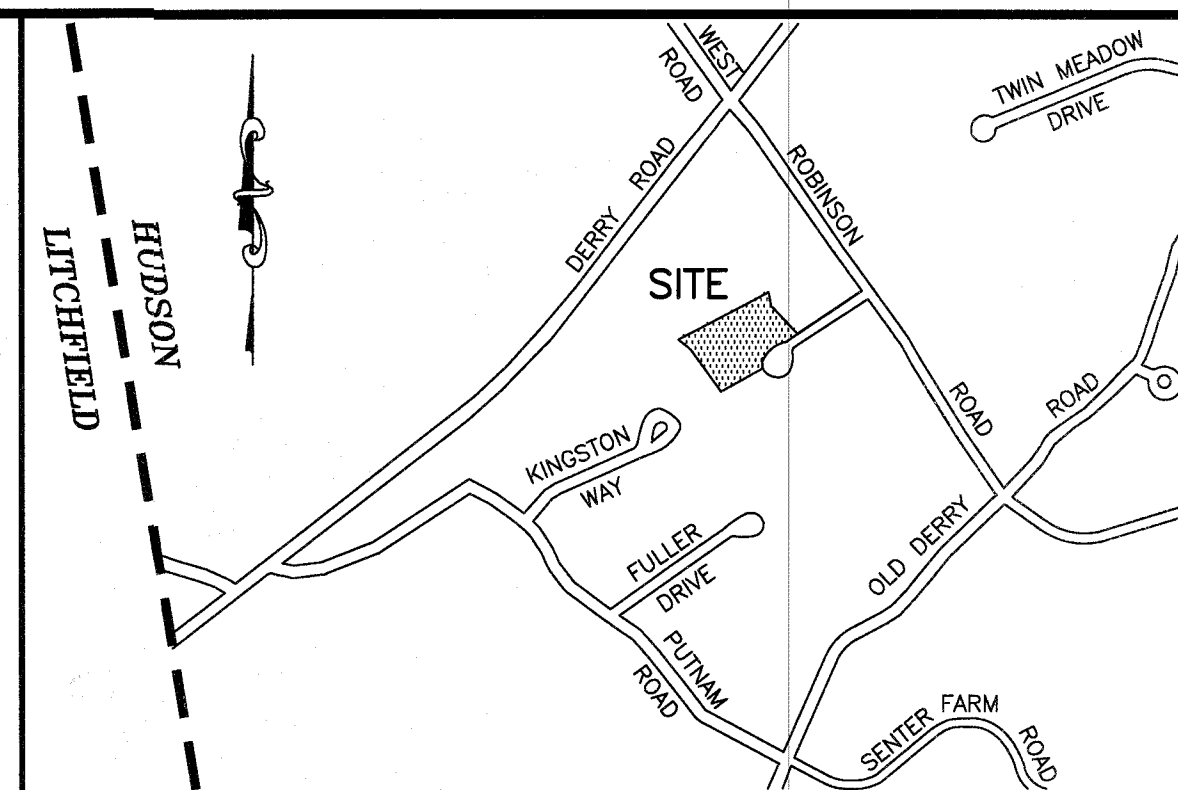
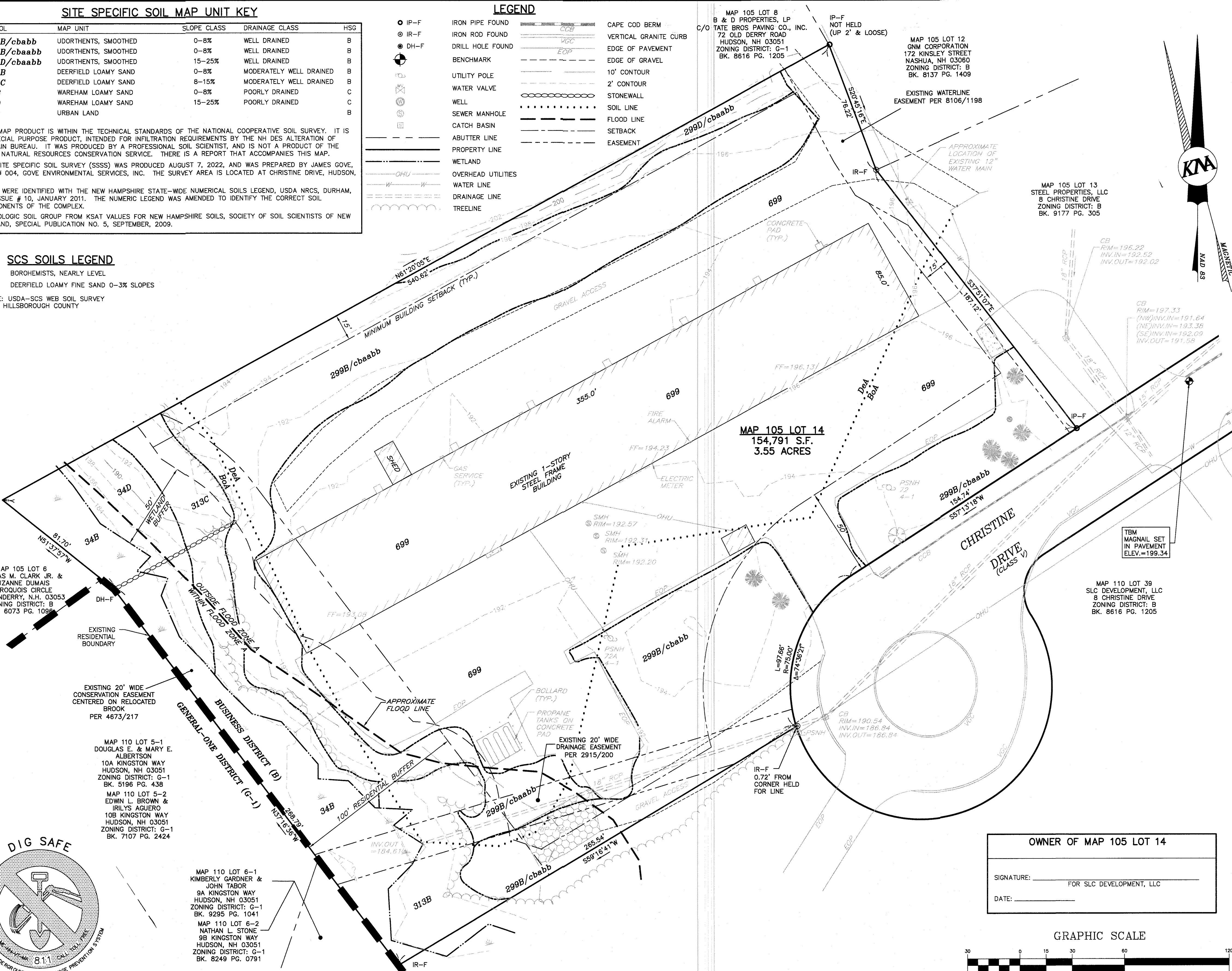
HYDROLOGIC SOIL GROUP FROM KSAT VALUES FOR NEW HAMPSHIRE SOILS, SOCIETY OF SOIL SCIENTISTS OF NEW ENGLAND, SPECIAL PUBLICATION NO. 5, SEPTEMBER, 2009.

**LEGEND**

IP-F	IRON PIPE FOUND	CCB	CAPE COD BERM
IR-F	IRON ROD FOUND	VGC	VERTICAL GRANITE CURB
DH-F	DRILL HOLE FOUND	EOP	EDGE OF PAVEMENT
	BENCHMARK	EGP	EDGE OF GRAVEL
	UTILITY POLE	10' CONTOUR	10' CONTOUR
	WATER VALVE	2' CONTOUR	2' CONTOUR
	WELL	STONEWALL	STONEWALL
	SEWER MANHOLE	SOIL LINE	SOIL LINE
	CATCH BASIN	FLOOD LINE	FLOOD LINE
	ABUTTER LINE	SETBACK	SETBACK
	PROPERTY LINE	EASEMENT	EASEMENT
	WETLAND		
	OVERHEAD UTILITIES		
	WATER LINE		
	DRAINAGE LINE		
	TREELINE		

**SCS SOILS LEGEND**

**BoA** BOROHEMISTS, NEARLY LEVEL  
**DeA** DEERFIELD LOAMY FINE SAND 0-3% SLOPES  
 SOURCE: USDA-SCS WEB SOIL SURVEY HILLSBOROUGH COUNTY



**LOCUS PLAN**  
SCALE: 1" = 1,000'

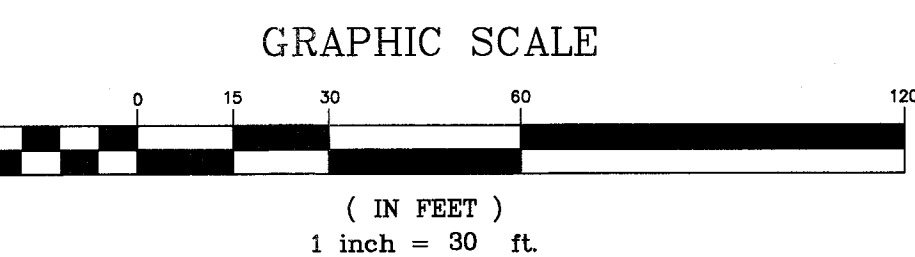
- NOTES:**
- THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING CONDITIONS PRESENT ON ASSESSORS MAP 105 LOT 14 IN THE TOWN OF HUDSON, N.H.
  - AREA OF SUBJECT PARCEL: MAP 105 LOT 14 = 154,791 SF OR 3.55 ACRES
  - OWNER OF RECORD: STEELE PROPERTIES, LLC  
8 CHRISTINE DRIVE HUDSON, NH 03051 BK. 9177 PG. 305
  - THE SUBJECT PARCEL IS LOCATED WITHIN THE BUSINESS DISTRICT (B). DIMENSIONAL REQUIREMENTS ARE AS FOLLOWS FOR LOTS NOT SERVICED WITH MUNICIPAL SEWER:  
- FRONT 50 FT  
- SIDE 15 FT  
- REAR 15 FT
  - TOPOGRAPHIC AND BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON AN ACTUAL FIELD SURVEY PERFORMED BY THIS OFFICE DURING FEBRUARY OF 2022.
  - HORIZONTAL DATUM IS NAD 83 AND THE VERTICAL DATUM IS NAVD 88 BASED ON NHDOT CONTROL POINT 315-0910.
  - SITE IS SERVICED BY MUNICIPAL WATER AND ON-SITE SEPTIC SYSTEMS.
  - THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE AT 811.
  - EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) FOR THE TOWN OF HUDSON MAP NUMBER 3300920508D, PANEL 508 OF 701, EFFECTIVE DATE: SEPTEMBER 25, 2009, INDICATES THAT A PORTION OF THE SUBJECT PARCEL IS LOCATED WITHIN A DESIGNATED FLOOD HAZARD AREA, ZONE A WITH NO BASE FLOOD ELEVATIONS DETERMINED.
  - THE EXISTING BUILDING IS A 1-STORY BUILDING AND HAS A FOOTPRINT OF 24,126 SF.

- REFERENCE PLANS:**
- SUBDIVISION PLAN: ROBINSON & DERRY ROAD, HUDSON, NEW HAMPSHIRE, PREPARED FOR: B&D LAND DEVELOPMENT. DATED: JULY 1980. PREPARED BY: ALLAN H. SWANSON, INC. H.C.R.D. PLAN #14329.
  - "TATE SUBDIVISION, DERRY RD. ROBINSON RD. AND CHRISTINE DR." SCALE: 1"=60'. DATED: OCTOBER 11, 2005. PREPARED BY: THAYER/SWANSON, INC. H.C.R.D. PLAN #24519
  - "SUBDIVISION/CONSOLIDATION/EASEMENT PLAN SWL CHASSE WELDING AND FABRICATING, INC." FOR SLC DEVELOPMENT, LLC. SCALE: 1"=50', DATED DECEMBER 27, 2007, BY KEACH-NORDSTROM ASSOCIATES, INC. H.C.R.D. PLANS #36381.
  - "MASTER SITE PLAN, ST. JOSEPH'S MEDICAL CENTER," SCALE: 1"=50'. DATED: DECEMBER 5, 2008. PREPARED BY: KEACH-NORDSTROM ASSOCIATES, INC. H.C.R.D. PLAN #36405
  - "MASTER SITE PLAN, B&D PROPERTIES," SCALE: 1"=60'. DATED: FEBRUARY 3, 2012. PREPARED BY: KEACH-NORDSTROM ASSOCIATES, INC. H.C.R.D. PLAN #37522
  - "EASEMENT PLAN SWL CHASSE WELDING AND FABRICATING INC." FOR SLC DEVELOPMENT, LLC., SCALE: 1"=60', DATED SEPTEMBER 5, 2008, BY KEACH-NORDSTROM ASSOCIATES, INC., H.C.R.D. PLAN NO. 37878.

**OWNER OF MAP 105 LOT 14**

SIGNATURE: \_\_\_\_\_ FOR SLC DEVELOPMENT, LLC

DATE: \_\_\_\_\_



**EXISTING CONDITIONS PLAN**

**S.L. CHASSE STEEL**

MAP 105 LOT 14  
5 CHRISTINE DRIVE  
HUDSON, NEW HAMPSHIRE  
HILLSBOROUGH COUNTY

**OWNER OF RECORD/APPLICANT:**  
STEELE PROPERTIES, LLC  
8 CHRISTINE DRIVE  
HUDSON, NH 03051  
H.C.R.D. BK. 9177 PG. 305

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



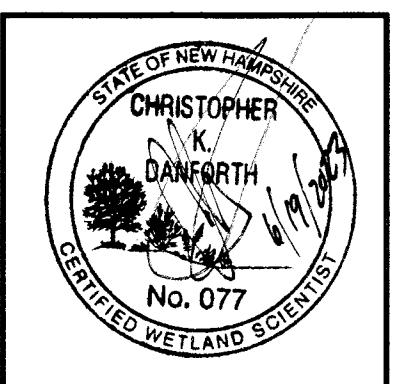
PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES ONE YEAR FROM DATE OF APPROVAL

**APPROVED BY THE HUDSON, NH PLANNING BOARD**  
DATE OF MEETING: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ SIGNATURE DATE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ SIGNATURE DATE: \_\_\_\_\_

SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.

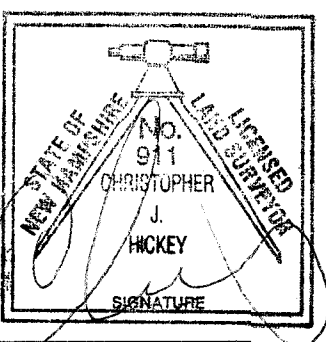


**WETLAND CERTIFICATION**

JURISDICTIONAL WETLANDS SHOWN ON THIS PLAN WERE DELINEATED IN JANUARY OF 2022 BY CHRISTOPHER K. DANFORTH CWS #077. THE WETLANDS WERE DELINEATED ACCORDING TO THE CORPUS OF ENGINEERS WETLAND DELINEATION MANUAL (1987) AND THE REGIONAL SUPPLEMENT TO THE CORPUS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHERN AND NORTHEAST REGION, VERSION 2, JANUARY 2012. DOMINANT HYDRIC SOILS WITHIN THE WETLAND(S) WERE IDENTIFIED USING "FIELD INDICATORS OF HYDRIC SOILS OF THE UNITED STATES" A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, NRCS, VERSION 8.1, 2017. DOMINANCE OF HYDROPHYTIC VEGETATION WAS DETERMINED USING THE USACE 2020 NATIONAL WETLAND PLANT LIST, NWPL 2020 VERSION 3.5 HTTP://WETLAND-PLANTS.USACE.ARMY.MIL.

**CERTIFICATION:**  
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION. FURTHER, THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY MADE ON THE GROUND BY THIS OFFICE DURING FEBRUARY OF 2022. SAID SURVEY HAS AN ERROR OF CLOSURE BETTER THAN ONE PART IN TEN THOUSAND (1:10,000).

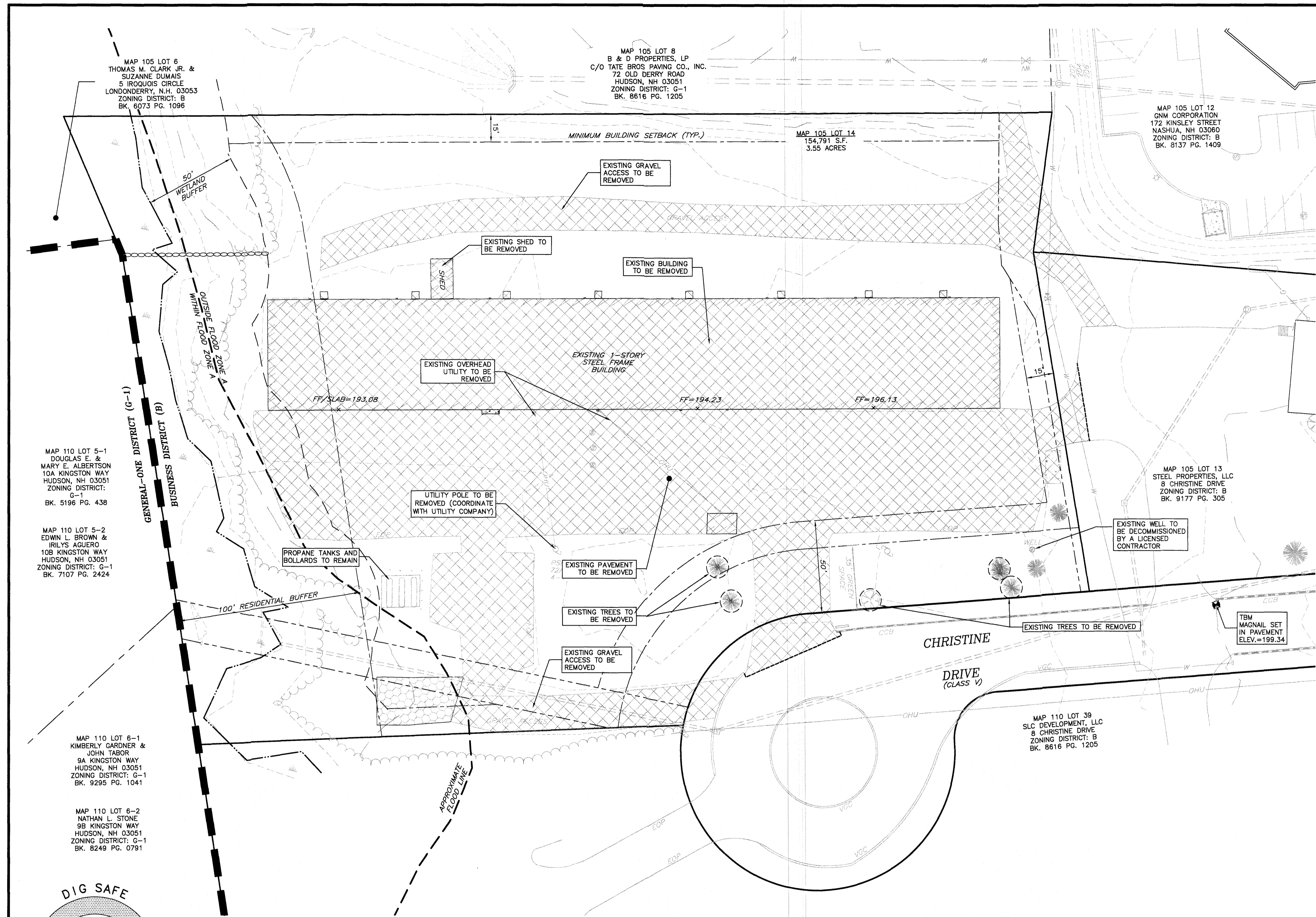
*[Signature]* 6/20/23  
LICENSED LAND SURVEYOR DATE



REVISIONS			
No.	DATE	DESCRIPTION	BY
1	04/10/23	PER TOWN COMMENTS	MH
2	06/08/23	REVISED PER AOT COMMENTS	ACL
3	06/20/23	REVISED PER TOWN COMMENTS	ACL

DATE: MARCH 3, 2023 SCALE: 1" = 30'  
PROJECT NO: 22-0126-2 SHEET 1 OF 12





**SITE PREPARATION NOTES:**

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED REMOVALS ASSOCIATED WITH THE DEVELOPMENT OF MAP 105; LOT 14.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.
3. ALL STUMPS, ROOTS, BRANCHES, BRUSH, WOODS AND OTHER PERISHABLE MATERIAL RESULTING FROM THE CLEARING AND GRUBBING OPERATIONS SHALL BE DISPOSED OF BY AN APPROVED METHOD.
4. STRIP, STOCKPILE AND REUSE ONSITE GRAVEL AND FILL AREAS WHERE APPROPRIATE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE DESIGN ENGINEER.
5. REMOVE ALL ASPHALT, CURBING, CONCRETE, VEGETATION, TREES, SHRUBS, AND STRUCTURES WITHIN THE HATCHED AREA, UNLESS OTHERWISE NOTED.
6. DEBRIS REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
7. EXISTING WELL TO BE DECOMMISSIONED BY A LICENSED CONTRACTOR.

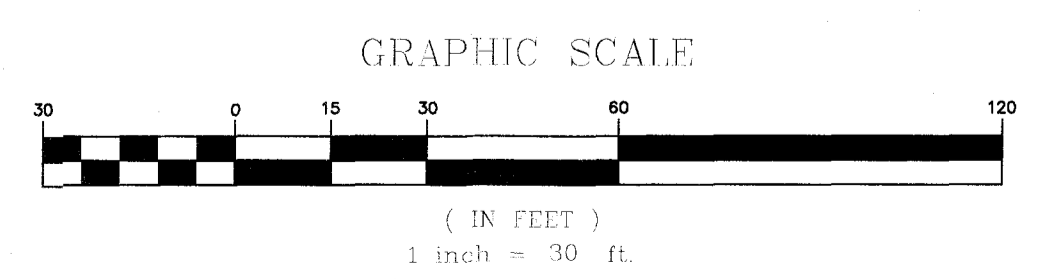
**SITE PREPARATION PLAN**  
**S.L. CHASSE STEEL**  
 MAP 105 LOT 14  
 5 CHRISTINE DRIVE  
 HUDSON, NEW HAMPSHIRE  
 HILLSBOROUGH COUNTY

**OWNER OF RECORD/APPLICANT:**  
 STEELE PROPERTIES, LLC  
 8 CHRISTINE DRIVE  
 HUDSON, NH 03051  
 H.C.R.D. BK. 9177 PG. 305

**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	04/10/23	PER TOWN COMMENTS	MH
2	06/08/23	REVISED PER AOT COMMENTS	ACL
3	06/20/23	REVISED PER TOWN COMMENTS	ACL

DATE: MARCH 3, 2023      SCALE: 1" = 30'  
 PROJECT NO: 22-0126-2      SHEET 2 OF 13



**LEGEND**

- |        |                    |         |                       |
|--------|--------------------|---------|-----------------------|
| ● IP-F | IRON PIPE FOUND    | --- CCB | CAPE COD BERM         |
| ● IR-F | IRON ROD FOUND     | --- VGC | VERTICAL GRANITE CURB |
| ● DH-F | DRILL HOLE FOUND   | --- EOP | EDGE OF PAVEMENT      |
| ⊕      | BENCHMARK          | ---     | EDGE OF GRAVEL        |
| ⊙      | UTILITY POLE       | ---     | 10' CONTOUR           |
| ⊕      | WATER VALVE        | ---     | 2' CONTOUR            |
| ⊕      | WELL               | ---     | STONEWALL             |
| ⊕      | CATCH BASIN        | ---     | SOIL LINE             |
| ---    | ABUTTER LINE       | ---     | FLOOD LINE            |
| ---    | PROPERTY LINE      | ---     | SETBACK               |
| ---    | WETLAND            | ---     | EASEMENT              |
| ---    | OVERHEAD UTILITIES | ---     | PROPOSED TREELINE     |
| ---    | WATER LINE         | ---     |                       |
| ---    | DRAINAGE LINE      | ---     |                       |
| ---    | TREELINE           | ---     |                       |



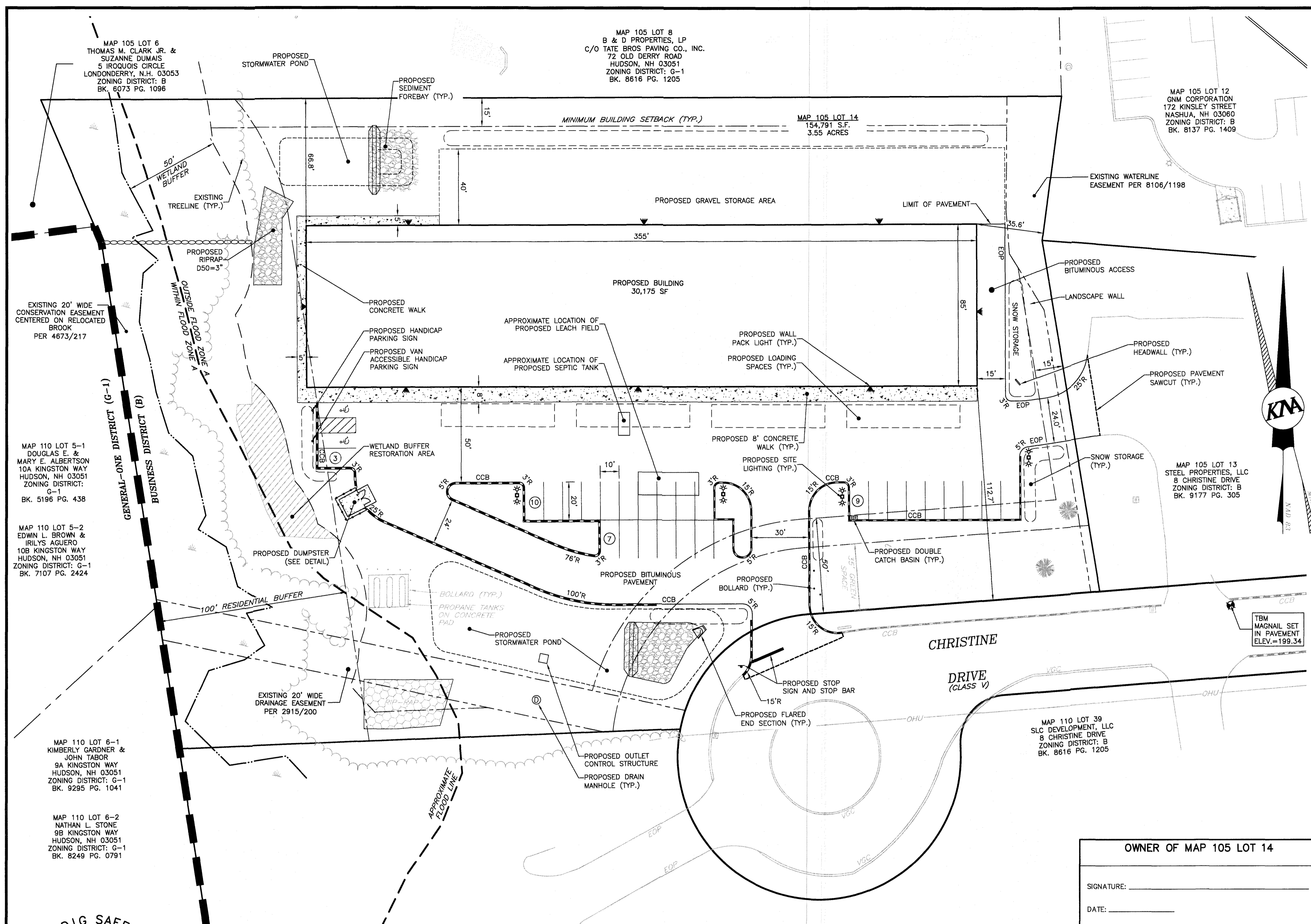
PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES ONE YEAR FROM DATE OF APPROVAL.

APPROVED BY THE HUDSON, NH PLANNING BOARD  
 DATE OF MEETING: \_\_\_\_\_

SIGNATURE \_\_\_\_\_ SIGNATURE DATE \_\_\_\_\_  
 SIGNATURE \_\_\_\_\_ SIGNATURE DATE \_\_\_\_\_

SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.





- NOTES:**
- THE PURPOSE OF THIS PLAN IS TO SHOW A PROPOSED 30,175 SF INDUSTRIAL BUILDING WITH OUTDOOR STORAGE AND ASSOCIATED PARKING ON CHRISTINE DRIVE ON MAP 105 LOT 14 IN THE TOWN OF HUDSON, NEW HAMPSHIRE, AND NO OTHER PURPOSE.
  - AREA OF SUBJECT PARCEL: MAP 105 LOT 14 = 154,791 SF OR 3.55 ACRES
  - OWNER OF RECORD: STEELE PROPERTIES, LLC, 8 CHRISTINE DRIVE, HUDSON, NH 03051, BK. 9177 PG. 305
  - THE SUBJECT PARCEL IS LOCATED WITHIN THE BUSINESS DISTRICT (B). DIMENSIONAL REQUIREMENTS ARE AS FOLLOWS FOR LOTS NOT SERVICED WITH MUNICIPAL SEWER:
 

REQUIRED	EXISTING	PROVIDED
- FRONT	50 FT	112.7 FT
- SIDE	15 FT	35.6 FT
- REAR	15 FT	100 FT
- MIN. OPEN SPACE	40%	55%
- MIN. LOT FRONTAGE	150 FT	254.4 FT
- MIN. LOT SIZE	30,000 SF	154,791 SF
  - TOPOGRAPHIC AND BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON AN ACTUAL FIELD SURVEY PERFORMED BY THIS OFFICE DURING FEBRUARY OF 2022.
  - HORIZONTAL DATUM IS NAD 83 AND THE VERTICAL DATUM IS NAVD 88 BASED ON NHDOT CONTROL POINT 315-0910.
  - SITE IS SERVICED BY MUNICIPAL WATER AND ON-SITE SEPTIC SYSTEMS.
  - THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE AT 811.
  - EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) FOR THE TOWN OF HUDSON MAP NUMBER 3309205080, PANEL 508 OF 701, EFFECTIVE DATE: SEPTEMBER 25, 2009, INDICATES THAT A PORTION OF THE SUBJECT PARCEL IS LOCATED WITHIN A DESIGNATED FLOOD HAZARD AREA, ZONE A WITH NO BASE FLOOD ELEVATIONS DETERMINED.
  - 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.
  - PARKING CALCULATIONS:**
    - REQUIRED: 30,175 SF INDUSTRIAL BUILDING = 1 SPACE/600 SF = 51 SPACES
    - TOTAL REQUIRED = 51 PARKING SPACES
    - PROPOSED: 51 SPACES
    - TOTAL PROPOSED = 29 PARKING SPACES (INCLUDING 2 ACCESSIBLE PARKING SPACES)
  - LOADING CALCULATIONS:**
    - REQUIRED: 1 SPACE/FIRST 5,000 SF + 1 SPACE/10,000 SF X 25,175 SF = 1 + 3 = 4 SPACES
    - PROVIDED = 4 SPACES
  - SITE LIGHTING SHALL BE AS SHOWN ON THE PLAN, DIRECTED ONTO SITE, AND SHALL CONFORM WITH ALL APPLICABLE TOWN OF HUDSON ZONING REGULATIONS.
  - CONSTRUCTION SHALL BE PROHIBITED ON WEEKENDS. CONSTRUCTION SHALL BE LIMITED TO THE HOURS OF 7:00 AM & 7:00 PM, MONDAY THROUGH SATURDAY. NO EXTERIOR CONSTRUCTION ACTIVITIES SHALL OCCUR ON SUNDAY.
  - HOURS OF REFUSE REMOVAL SHALL BE EXCLUSIVE TO THE HOURS OF 7:00 AM AND 7:00 PM, MONDAY THROUGH SATURDAY ONLY.
  - HOURS OF OPERATION: 6:00 AM TO 12:00 AM, TWO SHIFTS, MONDAY THROUGH FRIDAY AND 6:00 AM TO 12:00 PM SATURDAY.
  - APPROVAL OF THIS PLAN SHALL BE SUBJECT TO FINAL ENGINEERING REVIEW.
  - IF LOT DEVELOPMENT INVOLVES BLASTING AND/OR RAMMING OF BEDROCK MATERIALS, SAID ACTIVITIES SHALL BE LIMITED TO THE HOURS BETWEEN 7:00AM AND 5:00PM MONDAY THROUGH FRIDAY ONLY. SAID BLASTING/RAMMING ACTIVITIES SHALL BE PROHIBITED ON WEEKENDS.
  - SITE IMPROVEMENTS DEPICTED ON THE PLAN SHALL CONFORM WITH TITLE III OF THE AMERICANS WITH DISABILITIES ACT WITH REGARD TO DIMENSION AND GRADE.
  - PRIOR TO THE ISSUANCE OF A FINAL CERTIFICATE OF OCCUPANCY, AN L.L.S. CERTIFIED "AS-BUILT" SITE PLAN SHALL BE PROVIDED TO THE TOWN OF HUDSON COMMUNITY DEVELOPMENT DEPARTMENT CONFIRMING THAT THE SITE CONFORMS WITH THE PLANNING BOARD APPROVED SITE PLAN.
  - IDENTIFICATION SIGNAGE SHALL NOT BE ERRECTED UNTIL APPROVED BY THE BUILDING INSPECTOR AND ZONING ADMINISTRATOR.
  - PERMITS REQUIRED:**
    - NHDES ALTERATION OF TERRAIN STATUS: PENDING
    - SEPTIC #CA2023061910 (APPROVED 6/19/23)
    - ZONING INDUSTRIAL (APPROVED 2/23/23)
    - DRIVEWAY PENDING
  - HR 276-11.1.B(12) A WAIVER IS REQUESTED TO ALLOW PARKING TO BE LESS THAN REQUIRED.
  - HR 276-11.1.B(12)(C) A WAIVER IS REQUESTED TO ALLOW ENCRoACHMENT INTO THE 100' RESIDENTIAL BUFFER.
  - PLOWED SNOW FROM THE FACILITIES, PARKING LOTS AND SIDEWALKS SHALL BE STORED IN THE DESIGNATED AREAS SHOWN IN THIS PLAN SET. NO SNOW MAY BE PLOWED OR STORED ON THE ADJUTING PARCELS. WHEN THE SNOW STORAGE AREAS ARE AT CAPACITY, SUBSEQUENT SNOW SHALL BE HAULED OFF-SITE AND DISPOSED OF IN AN ENVIRONMENTALLY SOUND FASHION AND IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
  - ON-SITE DRAINAGE SYSTEM SHALL BE CONSTRUCTED AND MAINTAINED IN COMPLIANCE WITH NHDES REQUIREMENTS FOR SUCH SYSTEMS.
  - THE APPLICANT'S ENGINEER AND/OR CONTRACTOR SHALL CONTACT THE TOWN OF HUDSON TO SCHEDULE A PRE-CONSTRUCTION MEETING, WHICH WILL BE HELD WITH STAFF PRIOR TO STARTING CONSTRUCTION.
  - ALL STIPULATIONS OF APPROVAL SHALL BE INCORPORATED INTO THE DEVELOPMENT AGREEMENT, WHICH SHALL BE RECORDED AT THE HILLSBOROUGH COUNTY REGISTRY OF DEEDS, TOGETHER WITH THE SITE PLAN-OF-RECORD AND ALL AGREED UPON EASEMENT DEEDS, WHICH SHALL BE FAVORABLY REVIEWED BY TOWN COUNSEL PRIOR TO PLANNING BOARD ENDORSEMENT OF PLAN.
  - ALL IMPROVEMENTS SHOWN ON THE SITE PLAN-OF-RECORD, INCLUDING NOTES 1-37, SHALL BE COMPLETED IN THEIR ENTIRETY AND AT THE EXPENSE OF THE APPLICANT OR HIS ASSIGNEE.
  - THE TOWN OF HUDSON SHALL RESERVE THE RIGHT TO REQUIRE ADDITIONAL EROSION CONTROL MEASURES DURING CONSTRUCTION.
  - IT SHALL BE UNLAWFUL TO MODIFY, CHANGE, OR ALTER ANY STRUCTURE OR USE SHOWN ON THIS SITE PLAN IN ANYWAY WHATSOEVER, OR CONVERT OR ALTER ANY STRUCTURE OR USE SHOWN ON THIS SITE PLAN, OR CHANGE THE ABOVE USE INDICATED ON THE PLAN WITHOUT RECEIVING APPROVAL FROM THE TOWN OF HUDSON PLANNING BOARD.
  - AFTER ISSUANCE OF THE FOUNDATION PERMIT FOR THE PROPOSED BUILDING, AND PRIOR TO THE ISSUANCE OF THE FRAMING PERMIT THEREOF, THE APPLICANT SHALL SUBMIT TO THE HUDSON COMMUNITY DEVELOPMENT DEPARTMENT A FOUNDATION "AS-BUILT" PLAN ON A TRANSPARENCY AND TO THE SAME SCALE AS THE APPROVED SITE PLAN. THE FOUNDATION "AS-BUILT" PLAN SHALL INCLUDE ALL STRUCTURAL DIMENSIONS AND LOT LINE SETBACK MEASUREMENTS TO THE FOUNDATION AND BE STAMPED BY A LICENSED LAND SURVEYOR. ANY DISCREPANCY BETWEEN THE APPROVED SITE PLAN AND FOUNDATION "AS-BUILT" PLANS SHALL BE DOCUMENTED BY THE APPLICANT AND BE PART OF THE FOUNDATION "AS-BUILT" SUBMISSION.
  - PROPOSED BUILDING HEIGHT IS UNDER 36'
  - TOTAL AREA OF DISTURBANCE = 114,212 SF
  - THE PROPOSED PROJECT HAS BEEN DESIGNED TO MEET 2018 MS4 REQUIREMENTS.
  - WETLAND MAPPING FOR THIS SITE WAS DONE BY WETLAND SCIENTIST CHRISTOPHER K. DANFORTH, CWS #077, IN JANUARY OF 2022, REFER TO REFERENCE PLAN NUMBER ONE FOR MORE INFORMATION.
  - IF OWNER SELLS EITHER LOTS 14 OR 13, AN EASEMENT FOR CROSS ACCESS WILL BE NECESSARY.
  - THE REQUIRED OPEN SPACE IS 40% AND 51% IS PROVIDED.

OWNER OF MAP 105 LOT 14

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

**NON-RESIDENTIAL SITE LAYOUT PLAN**

**S.L. CHASSE STEEL**

MAP 105 LOT 14  
5 CHRISTINE DRIVE  
HUDSON, NEW HAMPSHIRE  
HILLSBOROUGH COUNTY

**OWNER OF RECORD/APPLICANT:**  
STEELE PROPERTIES, LLC  
8 CHRISTINE DRIVE  
HUDSON, NH 03051  
H.C.R.D. BK. 9177 PG. 305

**OWNER OF RECORD/APPLICANT:**  
KMA  
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	04/10/23	PER TOWN COMMENTS	MH
2	06/08/23	REVISED PER AOT COMMENTS	ACL
3	06/20/23	REVISED PER TOWN COMMENTS	ACL

DATE: MARCH 3 2023 SCALE: 1" = 30'

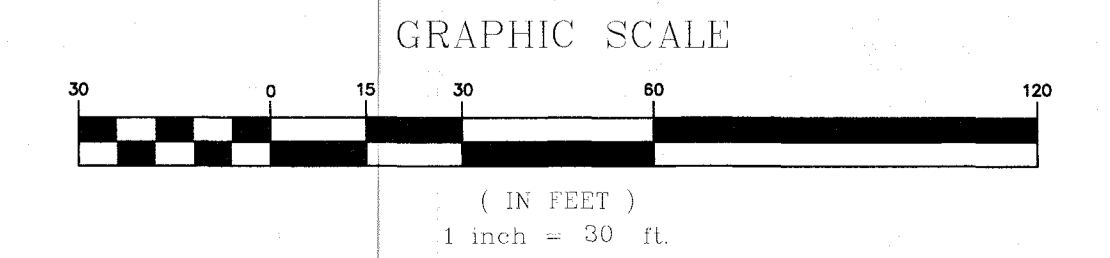
PROJECT NO: 22-0126-2 SHEET 3 OF 13



**NPDES NOTE**

THIS PROJECT DISTURBS IN EXCESS OF 1-ACRE OF LAND. THEREFORE IT WILL BE REQUIRED TO OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE AS ISSUED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THE OWNER/DEVELOPER AND "OPERATOR" (GENERAL CONTRACTOR) SHALL EACH BE REQUIRED TO PREPARE AND SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA PRIOR TO THE START OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MEETING THE REQUIREMENTS OF THE CURRENT CONSTRUCTION GENERAL PERMIT.

- LEGEND**
- UTILITY POLE
  - PROPOSED SIGN
  - PROPOSED HYDRANT
  - PROPOSED DRAINAGE MANHOLE
  - PROPOSED CATCH BASIN
  - PROPOSED OUTLET STRUCTURE
  - ABUTTER LINE
  - PROPERTY LINE
  - WETLAND
  - OVERHEAD UTILITIES
  - TREELINE
  - EDGE OF PAVEMENT
  - STONEWALL
- PROPOSED TREELINE
  - PROPOSED EDGE OF PAVEMENT
  - PROPOSED BITUMINOUS CURB
  - PROPOSED LANDSCAPE WALL EASEMENT
  - SITE LIGHTING
  - BUILDING WALL PACK LIGHTING
  - PROPOSED SNOW STORAGE



PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES ONE YEAR FROM DATE OF APPROVAL

**APPROVED BY THE HUDSON, NH PLANNING BOARD**

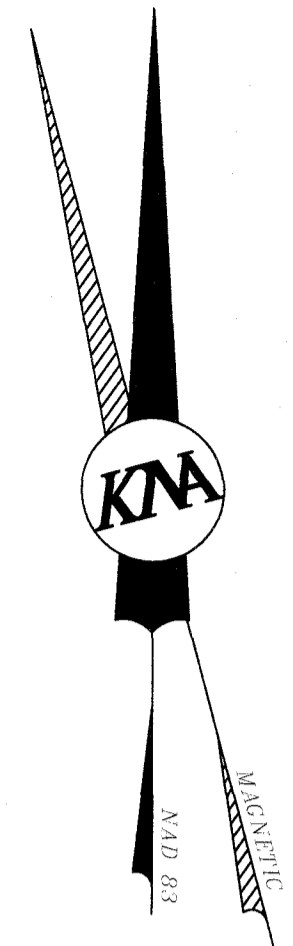
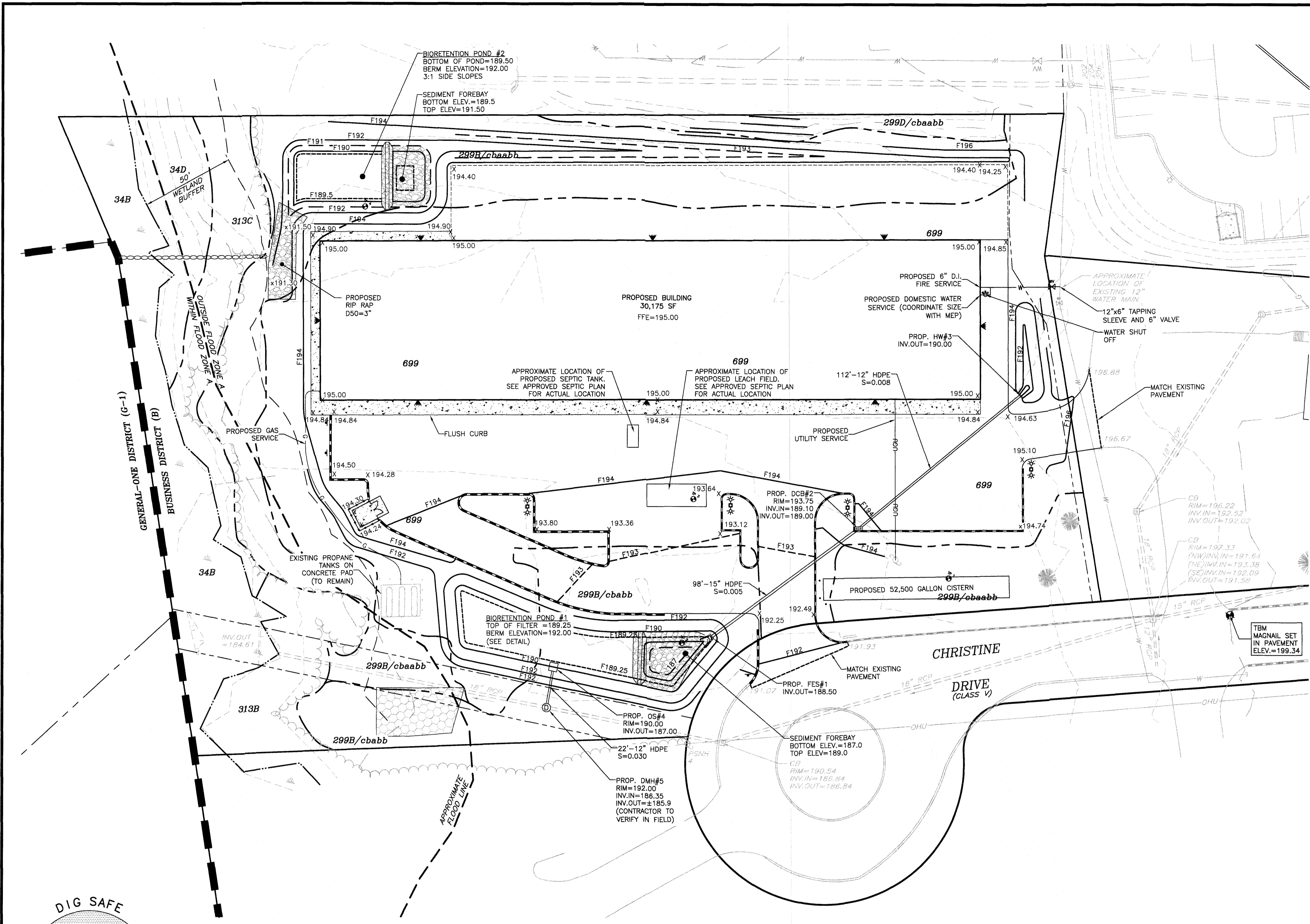
DATE OF MEETING: \_\_\_\_\_

SIGNATURE \_\_\_\_\_ SIGNATURE DATE \_\_\_\_\_

SIGNATURE \_\_\_\_\_ SIGNATURE DATE \_\_\_\_\_

SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.





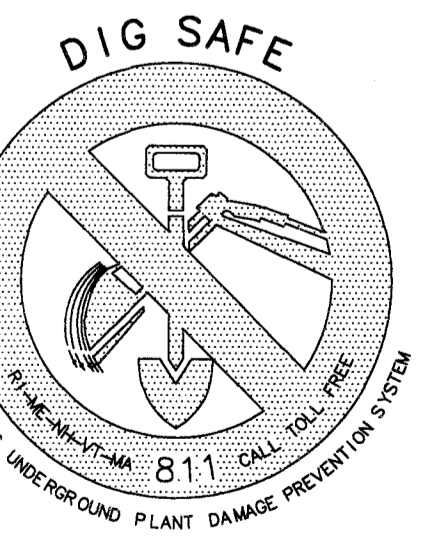
**CONSTRUCTION NOTES:**

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED GRADING, DRAINAGE, AND UTILITY SYSTEMS FOR THIS SITE.
2. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF HUDSON, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. ALL WORK PERFORMED IN THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, APPROVED AND ADOPTED 2016 ARE HEREBY INCORPORATED BY REFERENCE.
3. CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET THE REQUIREMENTS AND SPECIFICATIONS FOR ROAD CONSTRUCTION, PUBLIC WORKS DEPARTMENT, HUDSON, NEW HAMPSHIRE. ALL DRAINAGE PIPES SHOWN SHALL BE HDPE. CATCH BASINS SHALL BE TYPE B, AND HAVE 3" SUMPS UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.
5. ALL DRAINAGE PIPE SHALL BE INSTALLED FOLLOWING MANUFACTURER'S INSTALLATION INSTRUCTIONS. THE WATER, SANITARY SEWER, AND ELECTRICAL UTILITIES SHOWN HERE SHALL BE COORDINATED WITH THE FINAL BUILDING PLANS PRIOR TO CONSTRUCTION. THE DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES.
7. PLANS TO COMPLY WITH THE TOWN OF HUDSON MS4 PERMIT.
8. PLAN ELEMENTS RELATED TO FIRE SUPPRESSION SHALL BE SUBJECT TO REVIEW BY THE FIRE DEPARTMENT AT THE TIME OF BUILDING APPLICATION.
9. ALL CATCH BASINS SHALL BE EQUIPPED WITH DEBRIS/OIL SEPARATORS

**SITE SPECIFIC SOIL MAP UNIT KEY**

SYMBOL	MAP UNIT	SLOPE CLASS	DRAINAGE CLASS	HSG
	UDRTHENTS, SMOOTHED	0-8%	WELL DRAINED	B
	UDRTHENTS, SMOOTHED	0-8%	WELL DRAINED	B
	UDRTHENTS, SMOOTHED	15-25%	WELL DRAINED	B
	DEERFIELD LOAMY SAND	0-8%	MODERATELY WELL DRAINED	B
	DEERFIELD LOAMY SAND	8-15%	MODERATELY WELL DRAINED	B
	WAREHAM LOAMY SAND	0-8%	POORLY DRAINED	C
	WAREHAM LOAMY SAND	15-25%	POORLY DRAINED	C
	URBAN LAND			B

THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, INTENDED FOR INFILTRATION REQUIREMENTS BY THE NH DES ALTERATION OF TERRAIN BUREAU. IT WAS PRODUCED BY A PROFESSIONAL SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCES CONSERVATION SERVICE. THERE IS A REPORT THAT ACCOMPANIES THIS MAP. THE SITE SPECIFIC SOIL SURVEY (SSSS) WAS PRODUCED AUGUST 7, 2022, AND WAS PREPARED BY JAMES GOVE, CWS # 004, GOVE ENVIRONMENTAL SERVICES, INC. THE SURVEY AREA IS LOCATED AT CHRISTINE DRIVE, HUDSON, NH. SOILS WERE IDENTIFIED WITH THE NEW HAMPSHIRE STATE-WIDE NUMERICAL SOILS LEGEND, USDA NRCS, DURHAM, NH, ISSUE # 10, JANUARY 2011. THE NUMERIC LEGEND WAS AMENDED TO IDENTIFY THE CORRECT SOIL COMPONENTS OF THE COMPLEX. HYDROLOGIC SOIL GROUP FROM KSAT VALUES FOR NEW HAMPSHIRE SOILS, SOCIETY OF SOIL SCIENTISTS OF NEW ENGLAND, SPECIAL PUBLICATION NO. 5, SEPTEMBER, 2009.



PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES ONE YEAR FROM DATE OF APPROVAL

APPROVED BY THE HUDSON, NH PLANNING BOARD  
DATE OF MEETING: \_\_\_\_\_

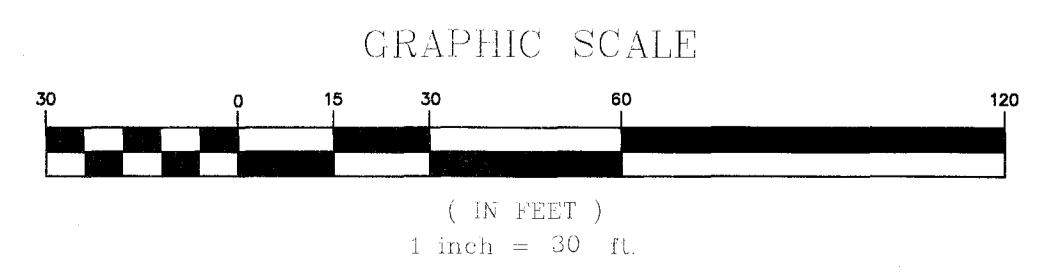
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**LEGEND**

	UTILITY POLE		PROPOSED OVERHEAD UTILITIES
	PROPOSED SIGN		PROPOSED UNDERGROUND UTILITIES
	PROPOSED HYDRANT		PROPOSED GAS LINE
	PROPOSED DRAINAGE MANHOLE		PROPOSED WATER LINE
	PROPOSED CATCH BASIN		PROPOSED DRAINAGE LINE
	PROPOSED OUTLET STRUCTURE		PROPOSED TREELINE
	ABUTTER LINE		PROPOSED EDGE OF PAVEMENT
	PROPERTY LINE		PROPOSED BITUMINOUS CURB
	WETLAND		PROPOSED 2' CONTOUR
	OVERHEAD UTILITIES		PROPOSED LANDSCAPE WALL
	DRAINAGE LINE		PROPOSED LANDSCAPE WALL EASEMENT
	TREELINE		SITE LIGHTING
	EDGE OF PAVEMENT		BUILDING WALL PACK LIGHTING
	STONEWALL		TEST PIT
	10' CONTOUR		
	2' CONTOUR		
	SITE SPECIFIC SOIL BOUNDARY		



**GRADING, DRAINAGE & UTILITY PLAN**

**S.L. CHASSE STEEL**  
MAP 105 LOT 14  
5 CHRISTINE DRIVE  
HUDSON, NEW HAMPSHIRE  
HILLSBOROUGH COUNTY

**OWNER OF RECORD/APPLICANT:**  
STEELE PROPERTIES, LLC  
8 CHRISTINE DRIVE  
HUDSON, NH 03051  
H.C.R.D. BK. 9177 PG. 305

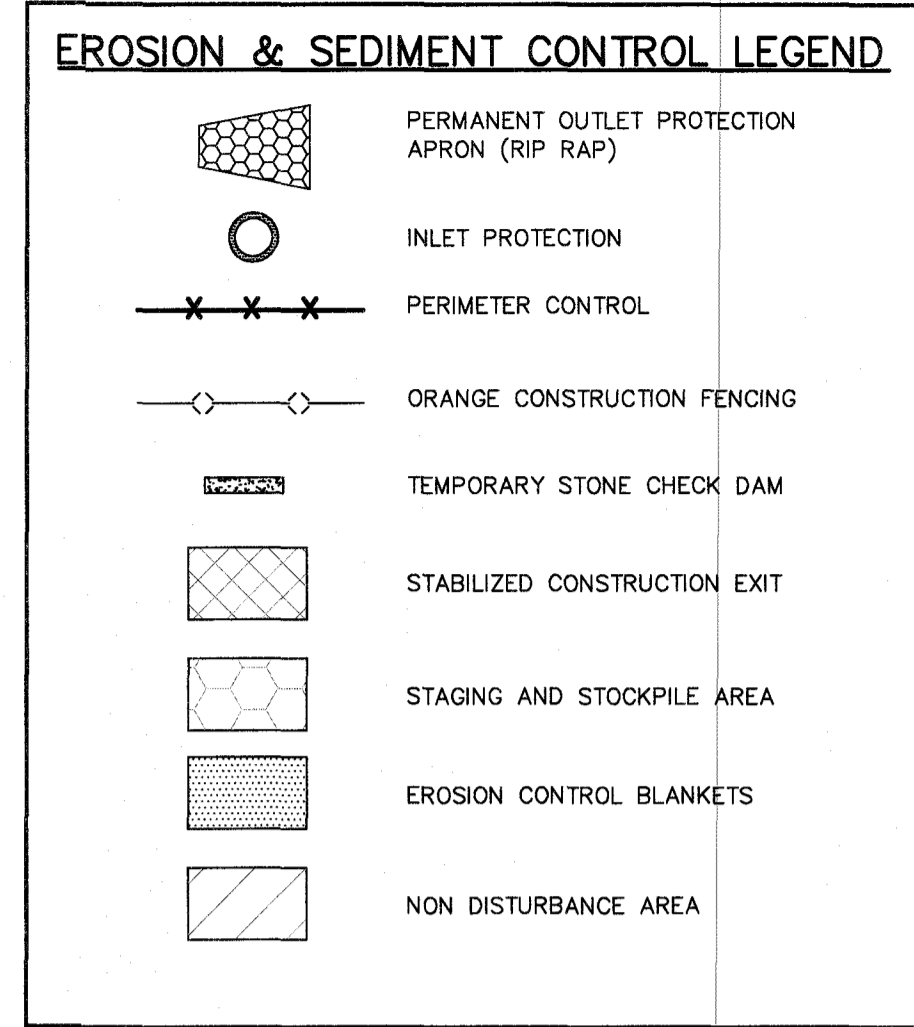
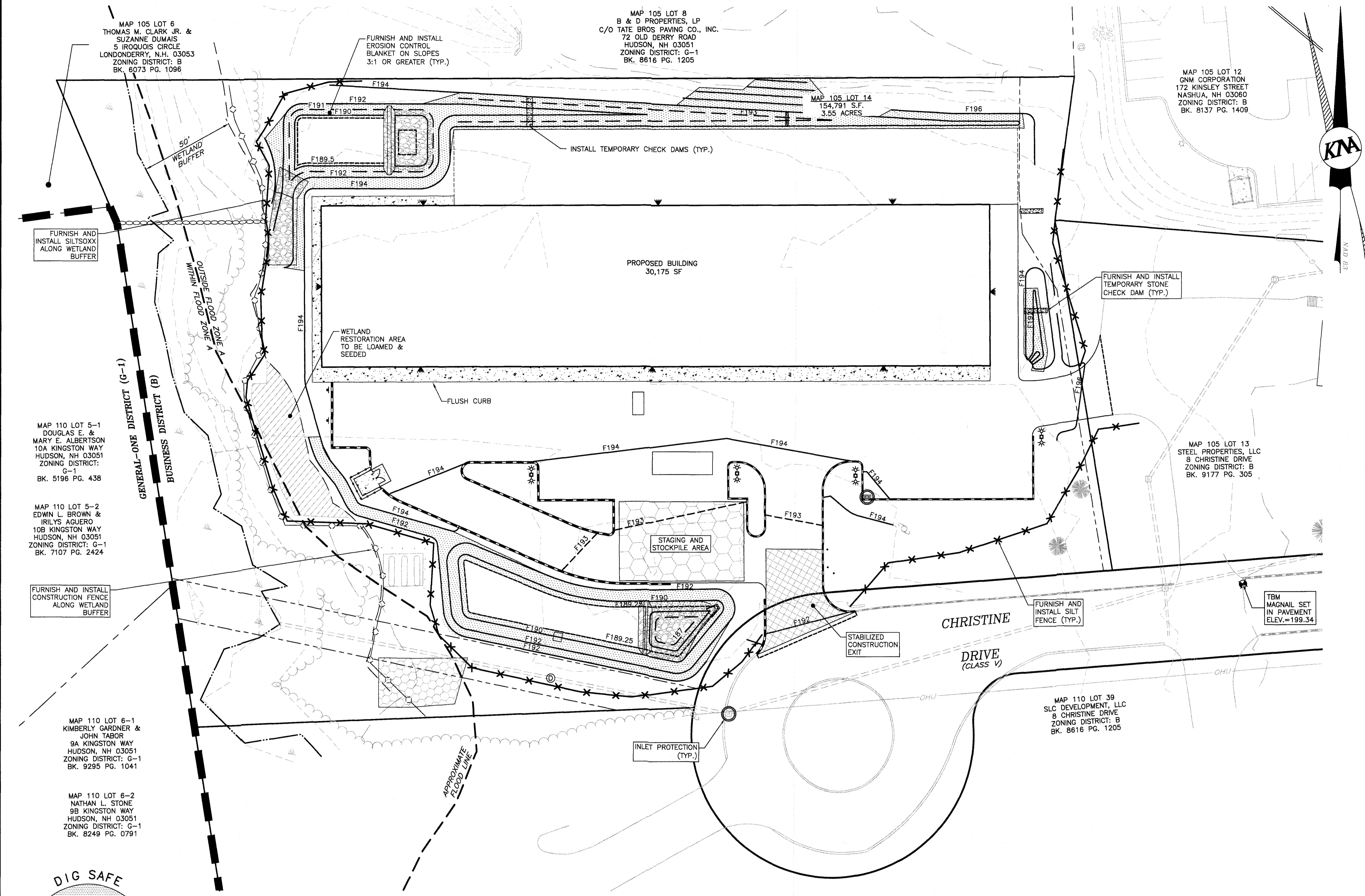
**KMA KEACH-NORDSTROM ASSOCIATES, INC.**  
Civil Engineering Land Surveying Landscape Architecture  
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

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3	06/20/23	REVISED PER TOWN COMMENTS	ACL

DATE: MARCH 3, 2023 SCALE: 1" = 30'  
PROJECT NO: 22-0126-2 SHEET 4 OF 13





- EROSION CONTROL NOTES:**
1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE REQUIRED ONSITE TEMPORARY CONSTRUCTION EROSION CONTROL MEASURES AS WELL AS THE PERMANENT EROSION CONTROL MEASURES.
  2. ALL MEASURES IN THE PLAN SHALL MEET AS A MINIMUM THE BEST MANAGEMENT PRACTICES SET FORTH IN VOLUME 3 OF THE NEW HAMPSHIRE STORMWATER MANUAL TITLED "EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION," DATED DECEMBER 2010, AS AMENDED FROM TIME TO TIME.
  3. WHENEVER PRACTICAL, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED OR SUPPLEMENTED. THE STRIPPING OF VEGETATION SHALL BE DONE IN A MANNER THAT MINIMIZES SOIL EROSION.
  4. APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO LAND DISTURBANCE.
  5. THE AREA OF DISTURBANCE SHALL BE KEPT TO A MINIMUM. DISTURBED AREAS REMAINING IDLE FOR MORE THAN 30 DAYS SHALL BE STABILIZED.
  6. MEASURES SHALL BE TAKEN TO CONTROL EROSION WITHIN THE PROJECT AREA. SEDIMENT IN RUNOFF WATER SHALL BE TRAPPED AND RETAINED WITHIN THE PROJECT AREA USING APPROVED MEASURES. WETLAND AREAS AND SURFACE WATERS SHALL BE PROTECTED FROM SEDIMENT.
  7. OFFSITE SURFACE WATER AND RUNOFF FROM UNDISTURBED AREAS SHALL BE DIVERTED AWAY FROM DISTURBED AREAS WHERE FEASIBLE OR CARRIED NON-EROSIVELY THROUGH THE PROJECT AREA. INTEGRITY OF DOWNSTREAM DRAINAGE SYSTEMS SHALL BE MAINTAINED.
  8. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN FUNCTIONING CONDITION UNTIL FINAL SITE STABILIZATION IS ACCOMPLISHED.
  9. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. TRAPPED SEDIMENT AND OTHER DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN 30 DAYS UNLESS CONDITIONS DICTATE OTHERWISE.
  10. THE TOWN OF HUDSON SHALL RESERVE THE RIGHT TO REQUIRE FURTHER EROSION CONTROL PRACTICES DURING CONSTRUCTION SHOULD THEY FIND IT NECESSARY.
  11. INFILTRATION AREAS ARE TO BE PROTECTED FROM OVER-COMPACTION DURING CONSTRUCTION.
  12. SLOPES OVER 2:1 TO BE DESIGNED BY A GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.
  13. ALL MANUFACTURED EROSION AND SEDIMENT CONTROL PRODUCTS, EXCEPT FOR SILT FENCE INSTALLED IN ACCORDANCE WITH ENV-WQ 1506.04, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, RUNOFF DIVERSION, SLOPE INTERRUPTION, PERIMETER CONTROL, INLET PROTECTION, CHECK DAMS, AND SEDIMENT TRAPS SHALL NOT CONTAIN WELDED PLASTIC, PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN 1/8".
  14. TURF REINFORCEMENT MATS SHALL BE COVERED WITH SOIL TO PREVENT EXPOSURE OF THE MATS TO THE SURFACE.

MAP 110 LOT 5-1  
DOUGLAS E. &  
MARY E. ALBERTSON  
10A KINGSTON WAY  
HUDSON, NH 03051  
ZONING DISTRICT: G-1  
BK. 5196 PG. 438

MAP 110 LOT 5-2  
EDWIN L. BROWN &  
IRILYS AQUERO  
10B KINGSTON WAY  
HUDSON, NH 03051  
ZONING DISTRICT: G-1  
BK. 7107 PG. 2424

FURNISH AND INSTALL  
CONSTRUCTION FENCE  
ALONG WETLAND  
BUFFER

MAP 110 LOT 6-1  
KIMBERLY GARDNER &  
JOHN TABOR  
9A KINGSTON WAY  
HUDSON, NH 03051  
ZONING DISTRICT: G-1  
BK. 9295 PG. 1041

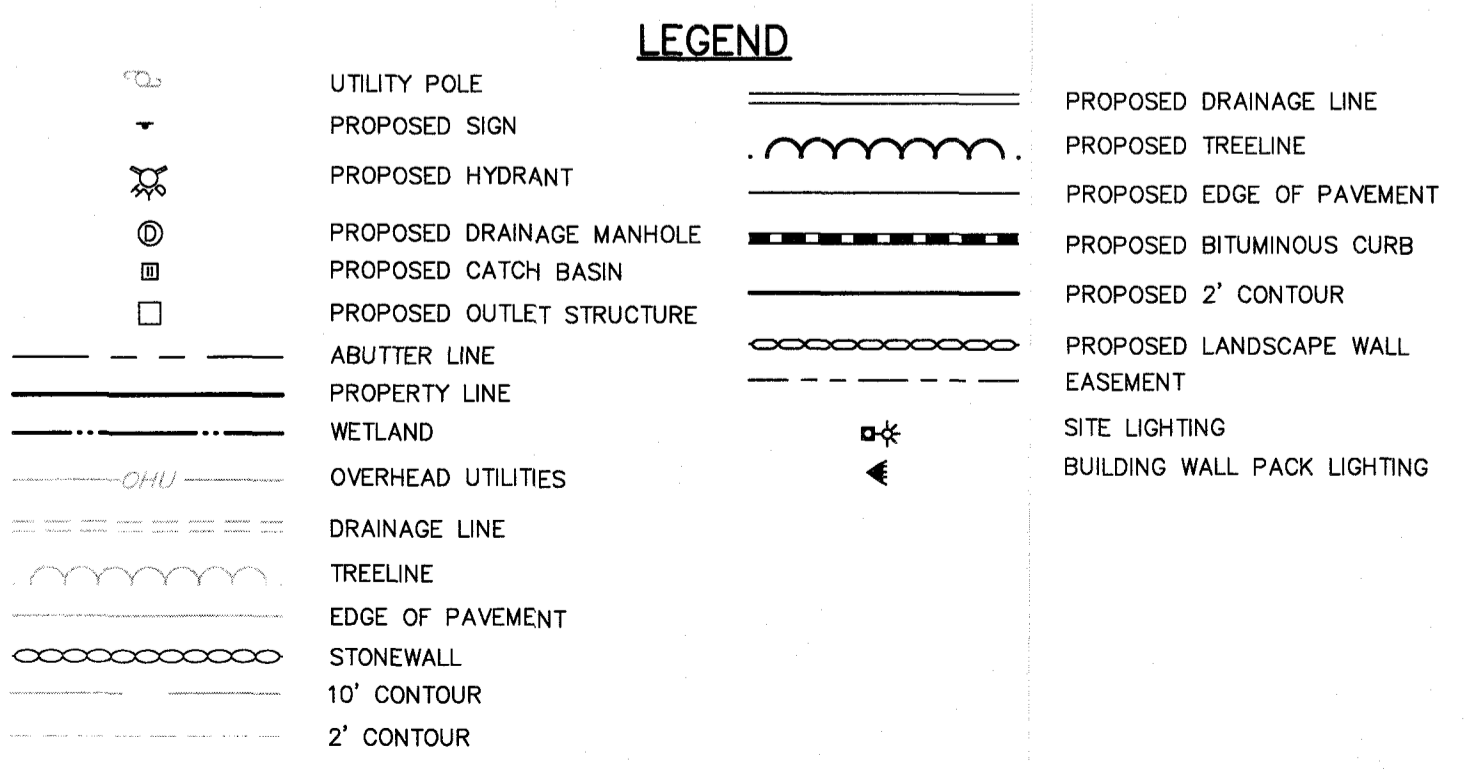
MAP 110 LOT 6-2  
NATHAN L. STONE  
9B KINGSTON WAY  
HUDSON, NH 03051  
ZONING DISTRICT: G-1  
BK. 8249 PG. 0791

MAP 105 LOT 8  
B & D PROPERTIES, LP  
C/O TATE BROS PAVING CO., INC.  
72 OLD DERRY ROAD  
HUDSON, NH 03051  
ZONING DISTRICT: G-1  
BK. 8616 PG. 1205

MAP 105 LOT 12  
GNM CORPORATION  
172 KINSLEY STREET  
NASHUA, NH 03060  
ZONING DISTRICT: B  
BK. 9137 PG. 1409

MAP 105 LOT 13  
STEEL PROPERTIES, LLC  
8 CHRISTINE DRIVE  
ZONING DISTRICT: B  
BK. 9177 PG. 305

MAP 110 LOT 39  
SLC DEVELOPMENT, LLC  
8 CHRISTINE DRIVE  
ZONING DISTRICT: B  
BK. 8616 PG. 1205



**NPDES NOTE**

THIS PROJECT DISTURBS IN EXCESS OF 1-ACRE OF LAND. THEREFORE IT WILL BE REQUIRED TO OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE AS ISSUED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THE OWNER/DEVELOPER AND "OPERATOR" (GENERAL CONTRACTOR) SHALL EACH BE REQUIRED TO PREPARE AND SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA PRIOR TO THE START OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MEETING THE REQUIREMENTS OF THE CURRENT CONSTRUCTION GENERAL PERMIT.

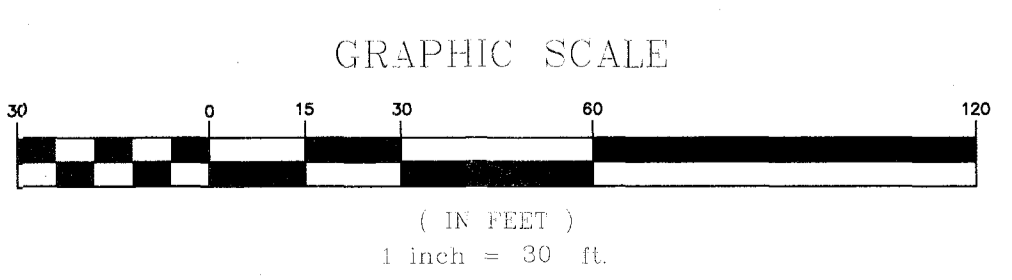
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**EROSION CONTROL PLAN**  
**S.L. CHASSE STEEL**  
MAP 105 LOT 14  
5 CHRISTINE DRIVE  
HUDSON, NEW HAMPSHIRE  
HILLSBOROUGH COUNTY

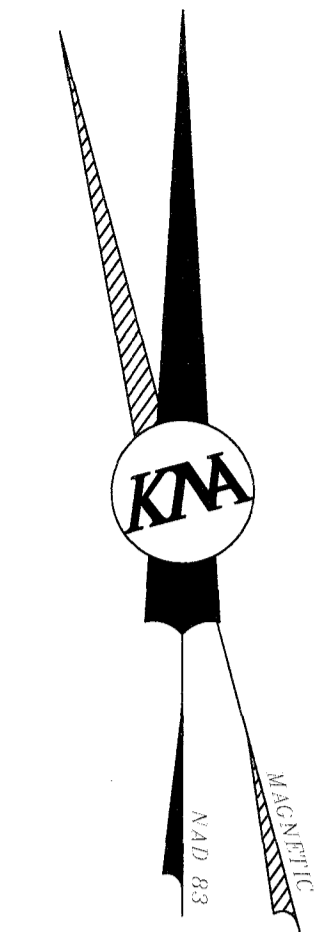
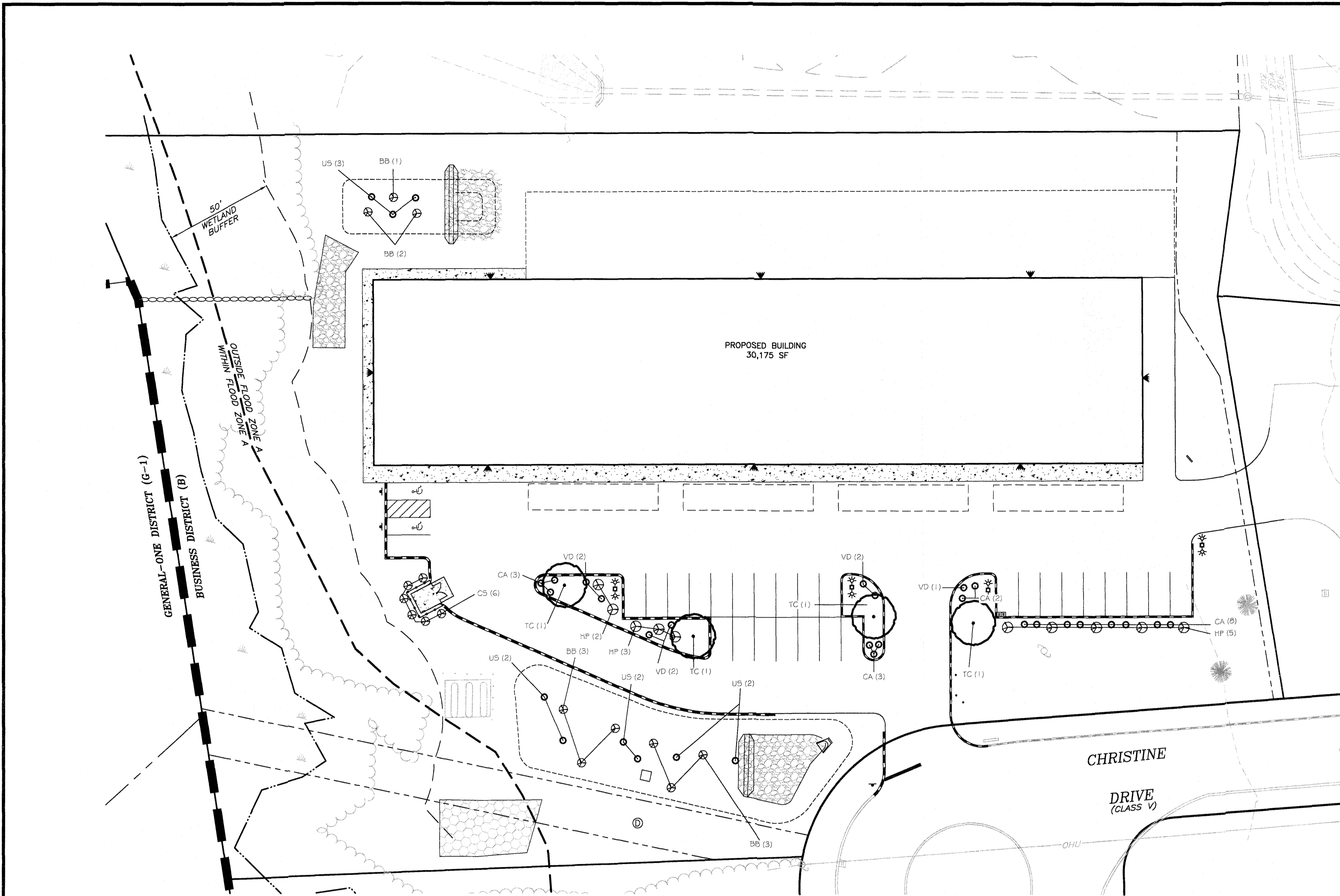
**OWNER OF RECORD/APPLICANT:**  
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8 CHRISTINE DRIVE  
HUDSON, NH 03051  
H.C.R.D. BK. 9177 PG. 305

**KMA KEACH-NORDSTROM ASSOCIATES, INC.**  
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DATE: MARCH 3, 2023 SCALE: 1" = 30'  
PROJECT NO: 22-0126-2 SHEET 5 OF 13



- LANDSCAPE NOTES:**
1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED SITE LANDSCAPE WHICH PROVIDES CLIMATIC RELIEF AND AESTHETIC APPEAL.
  2. ALL PLANT MATERIALS USED SHALL BE NURSERY STOCK AND SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF INSTALLATION. ANY MATERIAL WHICH DIES OR DOES NOT SHOW HEALTHY APPEARANCE WITHIN THIS TIME SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE, WITH SAME WARRANTY REQUIREMENTS AS THE ORIGINAL. WARRANTIES TYPICALLY DO NOT COVER LOSS DUE TO INSECT INFESTATION OR MECHANICAL DAMAGE (I.E. SNOW STORAGE).
  3. IF THE SOIL CONDITIONS ARE EXTREMELY SANDY, ALL TREES SHALL HAVE A 6" LAYER OF COMPACTED TOPSOIL PLACED IN THE BASE OF THE PLANT PIT AS A MOISTURE RETENTION LAYER. THE PLANT PIT SIDEWALLS SHALL BE OVER EXCAVATED BY AN ADDITIONAL 12" BEYOND THE NORMAL OUTSIDE RADIUS OF THE HOLE. A TOPSOIL MIXTURE SHALL BE USED TO BACKFILL THE HOLE AS FOLLOWS: ORGANIC TOPSOIL, AMENDED WITH 10% WOOD ASH, 10% MANURE, 30% PEATMOSS AND A GRANULAR HYDROGEL TO ABSORB AND RETAIN WATER.
  4. PLANTING BEDS AND SAUCERS SHALL RECEIVE A 4" MINIMUM THICKNESS OF PINE/HEMLOCK BARK MULCH OVER A 5oz. POLYPROPYLENE WEED CONTROL FABRIC.
  5. PAVEMENT AND ROAD BASE MATERIAL ENCOUNTERED IN ANY LAWN OR PLANTING BED SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SUITABLE AMENDED SOIL INSTALLED AS SPECIFIED IN THE TURF ESTABLISHMENT SCHEDULE.
  6. PLANT TYPES SHOWN ARE SUBJECT TO AVAILABILITY. SUBSTITUTE MATERIALS CAN BE IMPLEMENTED WITH APPROVAL FROM KEACH NORDSTROM ASSOCIATES PRIOR TO CONSTRUCTION.

**LANDSCAPE CALCULATIONS**

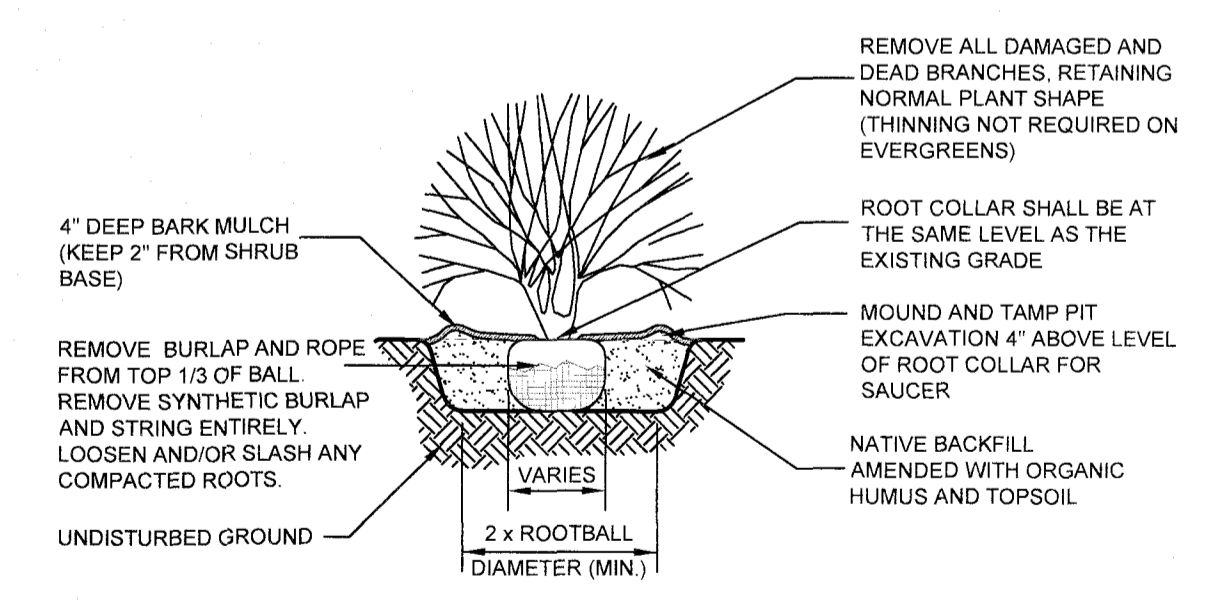
REQUIRED PARKING LOT INTERIOR LANDSCAPE AREA	
PROPOSED PARKING AREA PAVED:	9,409 SF
10% REQUIRED LANDSCAPE AREA:	941 SF
PROVIDED LANDSCAPE AREA:	2,342 SF

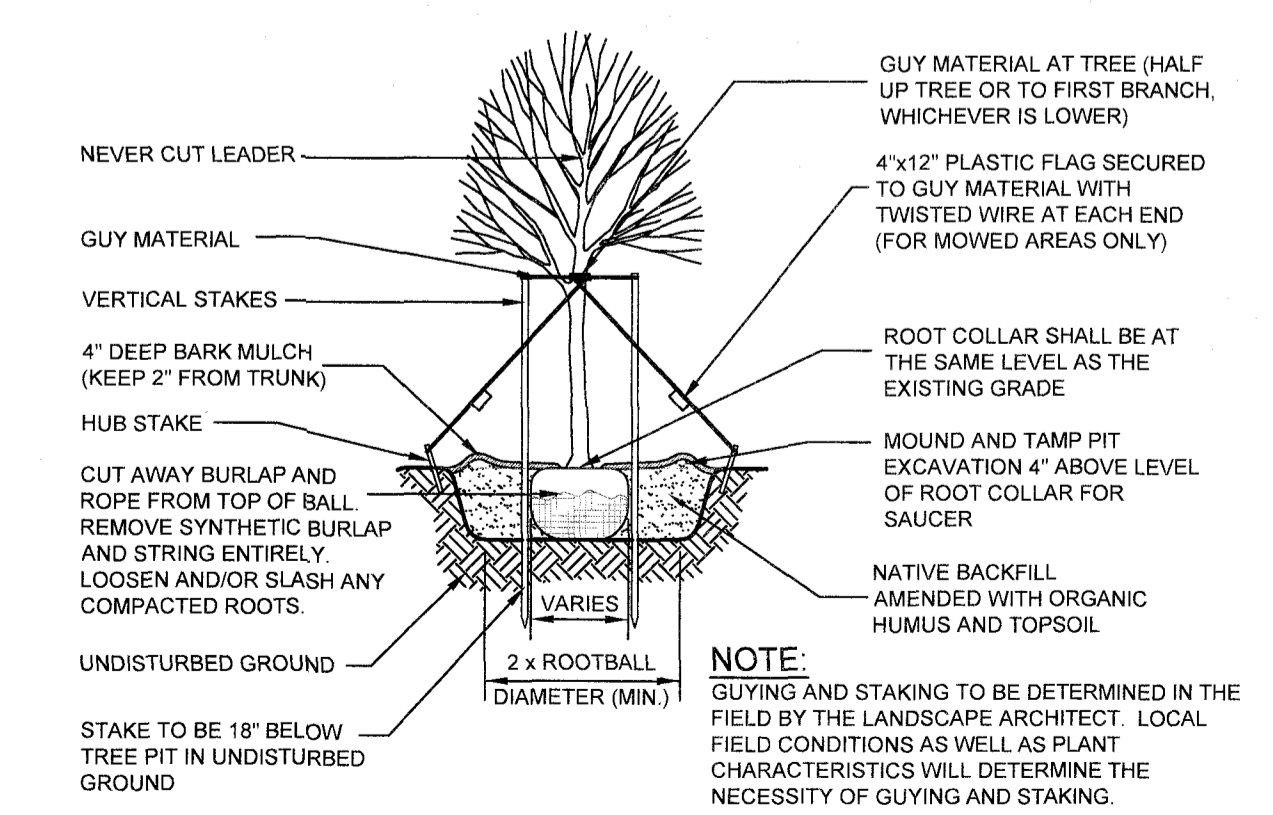
REQUIRED PARKING LOT SHADE TREES AND SHRUBS	
PROPOSED PAVED AREA:	9,409 SF
SHADE TREES REQUIRED (9,409/1,600):	6 TREES REQUIRED
(OR 1 TREE/5 PROP. PARKING SPACES)	6 TREES REQUIRED
SHADE TREES PROVIDED:	4 TREES PROPOSED
TOTAL SHADE TREES:	10 TREES
SHRUBS REQUIRED (9,409/200):	47 SHRUBS, OR
(OR 1.6 x 29 PROP. PARKING SPACES)	46 SHRUBS REQUIRED
SHRUBS PROVIDED:	48 SHRUBS PROPOSED

**PLANTING SCHEDULE**

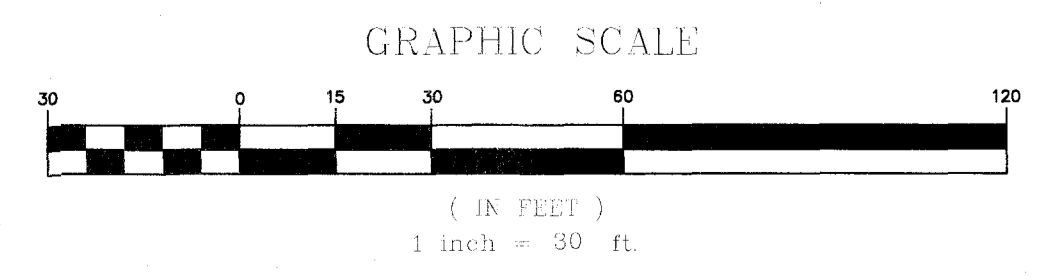
Botanical Name / Common Name	Size	Label	Quantity	Mature Height
<b>Trees</b>				
<i>Tilia cordata</i> 'Greenspire' / Greenspire Littleleaf Linden	3-3.5" CAL.	TC	4	40-60'
<b>Shrubs</b>				
<i>Cornus sericea</i> 'Arctic Fire' / Arctic Fire Red-Osier Dogwood	#3	CS	6	5-6'
<i>Hydrangea paniculata</i> 'Bombshell' / Bombshell Panicle Hydrangea	#5 Gal.	HP	10	3-4'
<i>Clethra alnifolia</i> 'Compacta' / Compact Summersweet	#5 Gal.	CA	16	3-4'
<i>Viburnum dilatatum</i> 'Cardinal Candy' / Cardinal Candy Viburnum	#5 Gal.	VD	12	6-8'
<i>Caephalanthus occidentalis</i> / Buttonbush	#3	BB	9	3-6'
<b>Grasses</b>				
<i>Carex stricta</i> / Upright Sedge	#1 Gal.	US	9	2-3'



**BALLED & BURLAP SHRUB PLANTING DETAIL**  
NOT TO SCALE  
(JANUARY 2012)



**DECIDUOUS TREE PLANTING DETAIL**  
NOT TO SCALE  
(JANUARY 2012)



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**LANDSCAPE PLAN**

**S.L. CHASSE STEEL**  
MAP 105 LOT 14  
5 CHRISTINE DRIVE  
HUDSON, NEW HAMPSHIRE  
HILLSBOROUGH COUNTY

**OWNER OF RECORD/APPLICANT:**  
STEELE PROPERTIES, LLC  
8 CHRISTINE DRIVE  
HUDSON, NH 03051  
H.C.R.D. BK. 9177 PG. 305

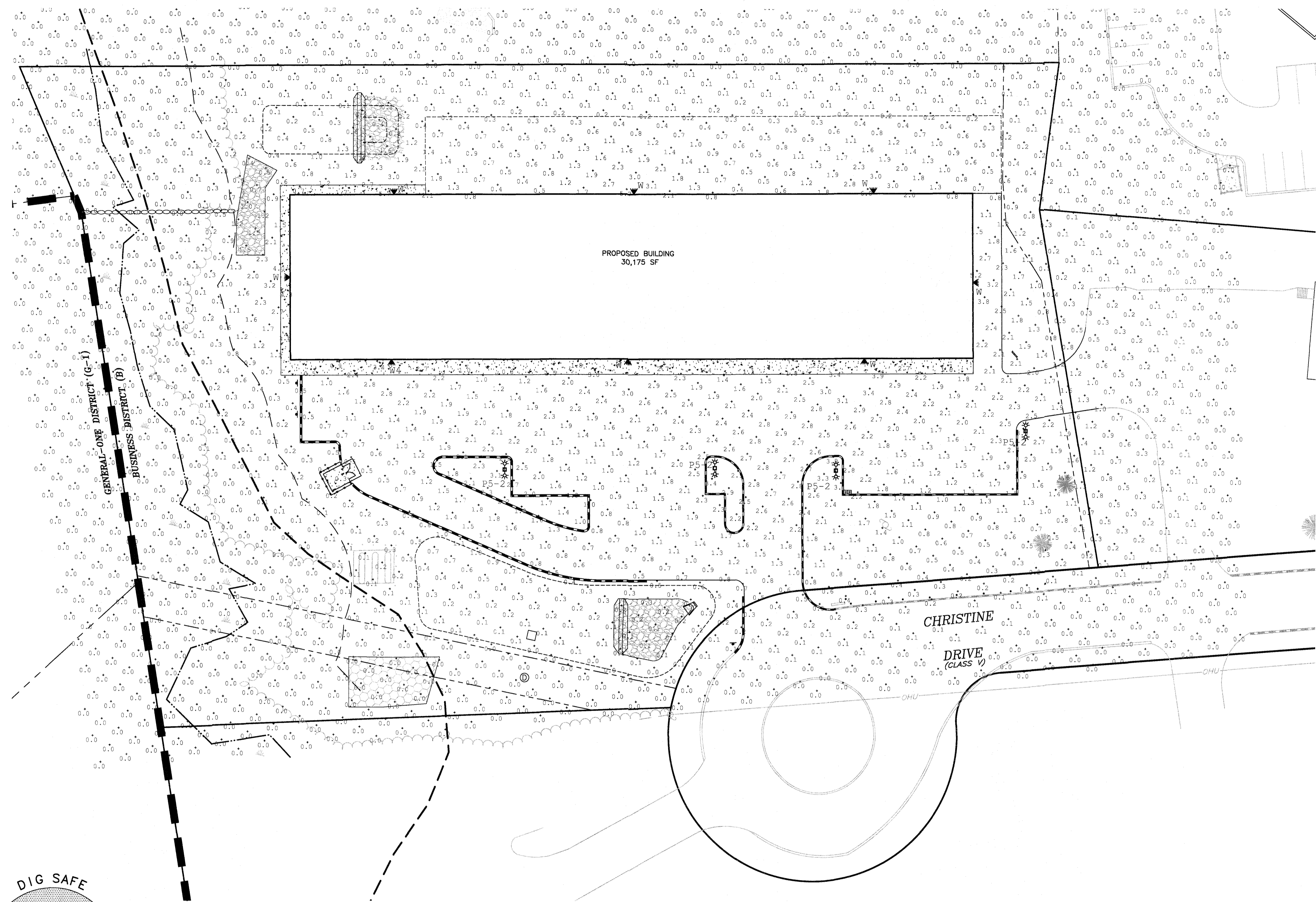
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**LIGHTING NOTES:**

1. ALL LIGHTS/FIXTURES SHALL BE AS SPECIFIED BY CHARRON LIGHTING.
2. ALL PROPOSED LIGHTS/FIXTURES ARE TO BE FULL CUTOFF.
3. FIXTURES SHALL BE MOUNTED AS HEIGHTS AS SPECIFIED IN TABLE.
4. PRIOR TO CONSTRUCTION, THE SITE CONTRACTOR SHALL COORDINATE WITH THE PROJECT ELECTRICIAN FOR THE EXACT LOCATION, LAYOUT, CONDUIT SIZE AND CIRCUITS ASSOCIATED WITH THE SITE LIGHTING.
5. LIGHTING WILL BE ON AT ALL TIMES TO PROVIDE SECURITY AND SAFETY FOR THE FACILITY.

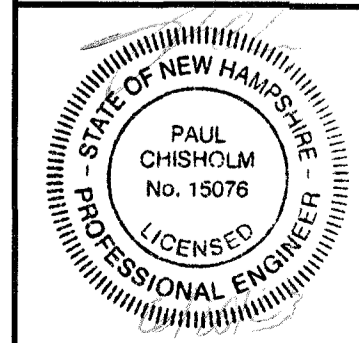
Luminaire Schedule	Qty	Label	Arrangement	Description
	4	P5-2	Back-Back	GLEON-SA1C-740-U-SWQ / SSS4A20SFN2 (20' AFG)
	7	W	Single	GWC-SA1C-740-U-SL3 / WALL MTD 18' AFG
	1	W4	Single	GWC-SA1C-740-U-SL4 / WALL MTD 18' AFG

PARKING LOT  
 Illuminance (Fc)  
 Average = 1.78  
 Maximum = 3.4  
 Minimum = 0.5  
 Avg/Min Ratio = 3.56  
 Max/Min Ratio = 6.80

**LIGHTING PLAN**  
**S.L. CHASSE STEEL**  
 MAP 105 LOT 14  
 5 CHRISTINE DRIVE  
 HUDSON, NEW HAMPSHIRE  
 HILLSBOROUGH COUNTY

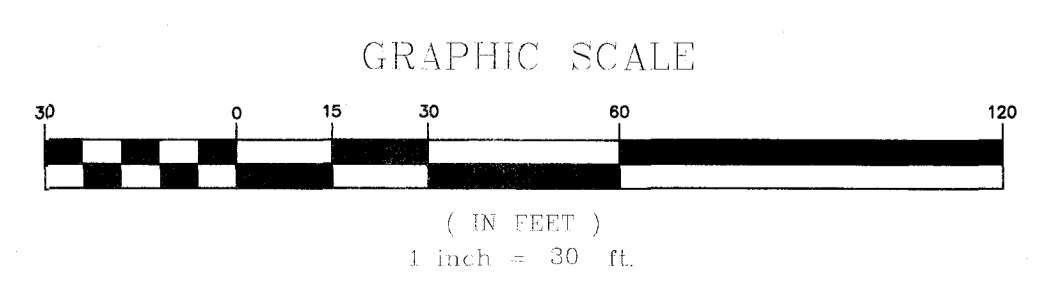
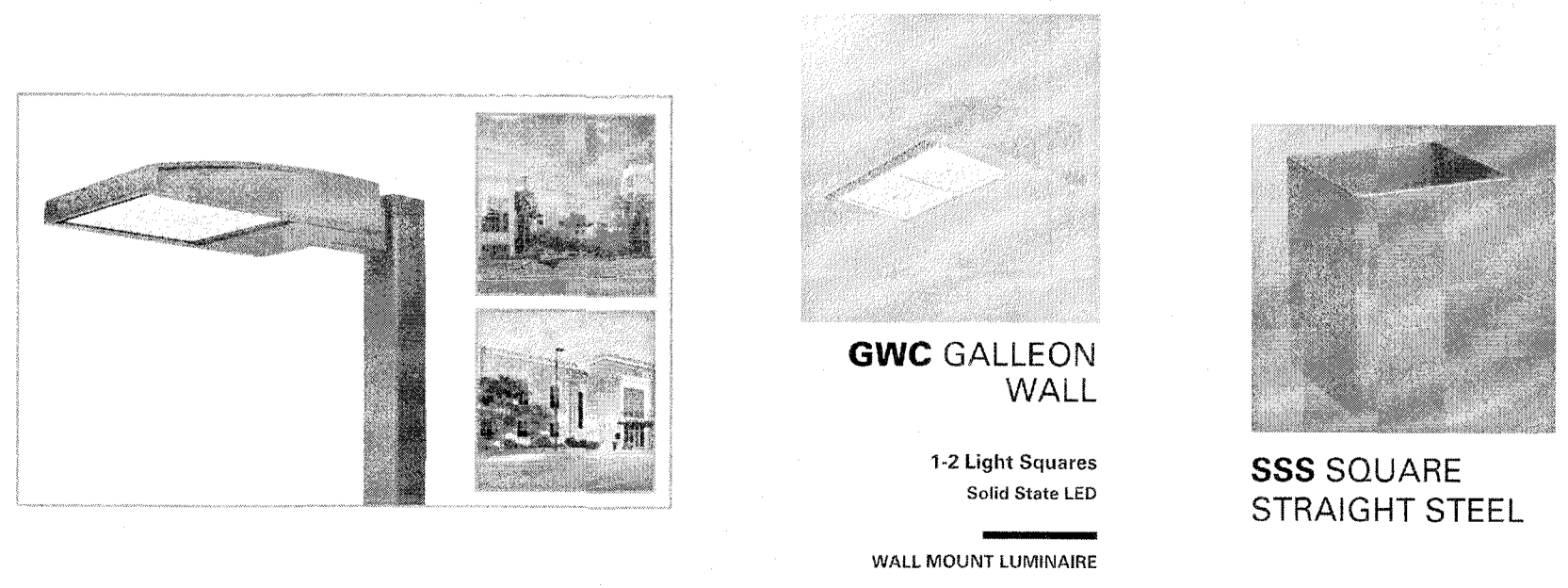
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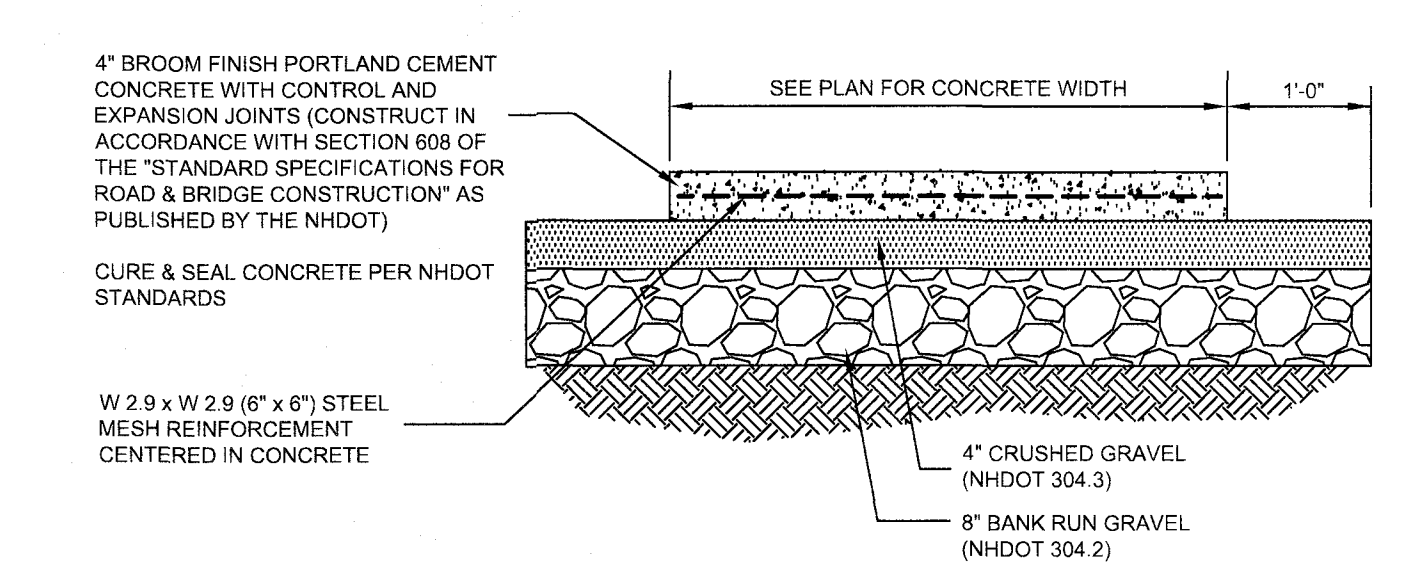
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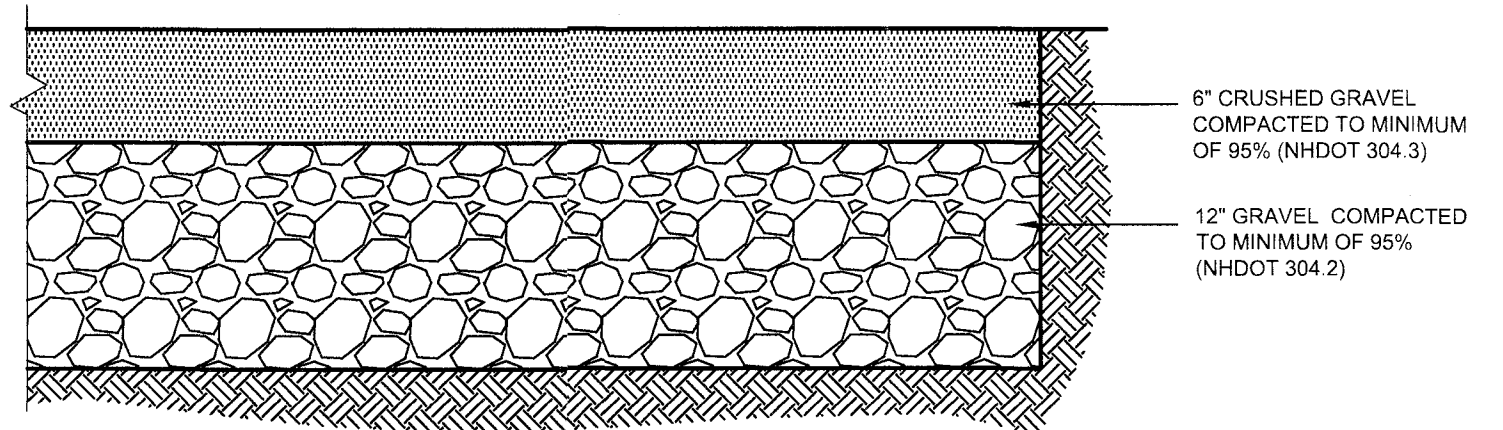
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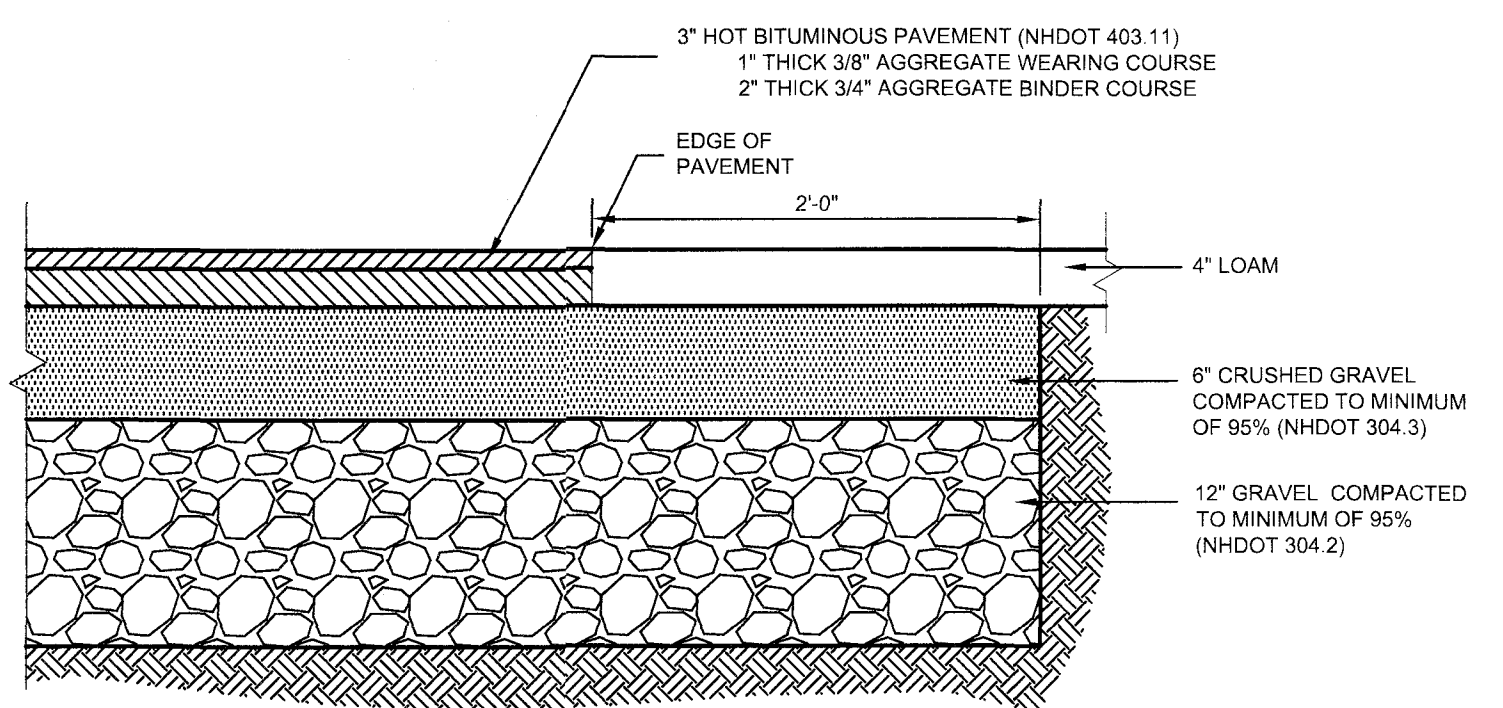
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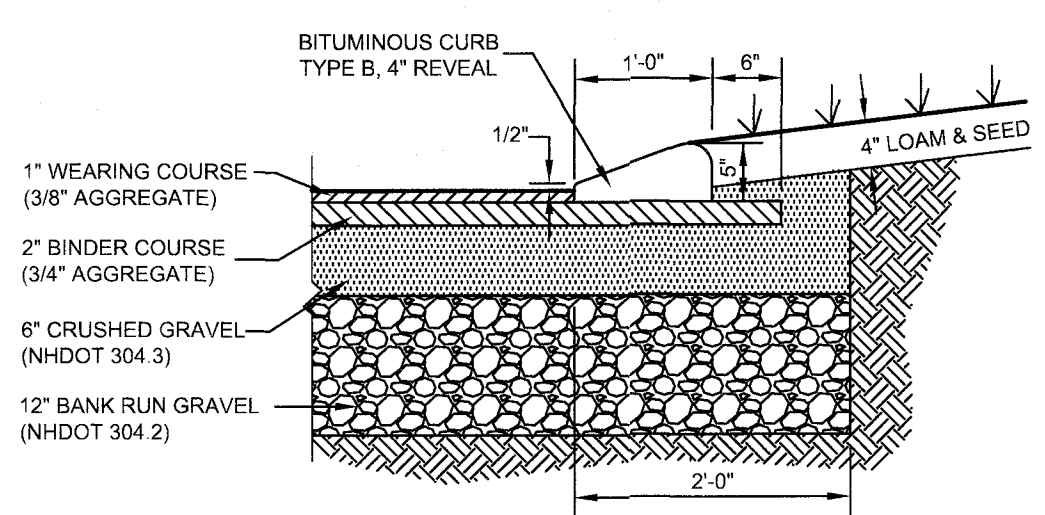
**CONCRETE WALK DETAIL**  
NOT TO SCALE  
(MARCH 2008)



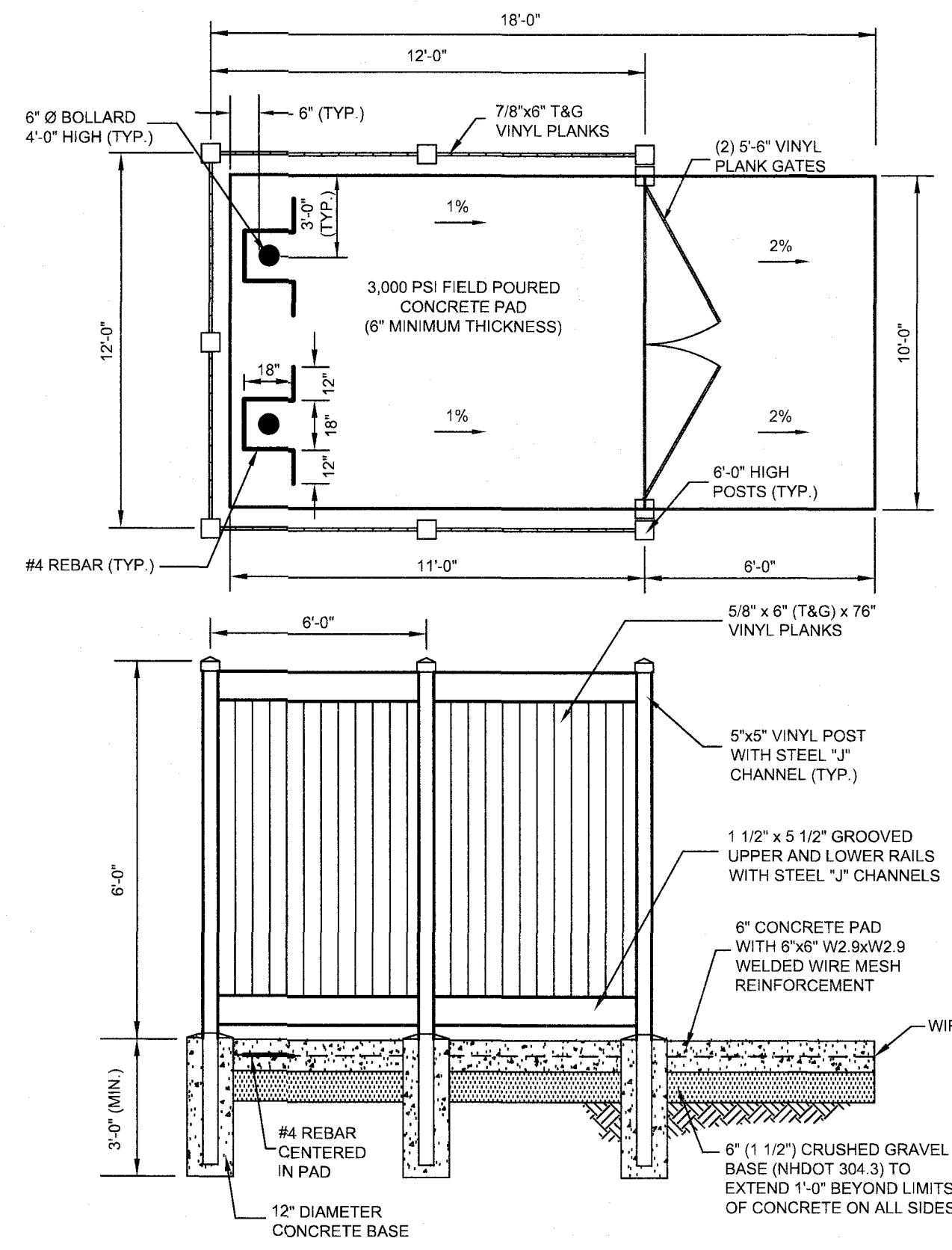
**GRAVEL STORAGE AREA SECTION**  
NOT TO SCALE  
(MARCH 2008)



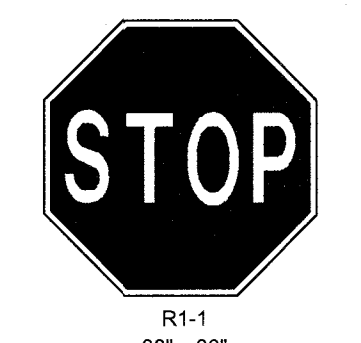
**DRIVEWAY AND PARKING LOT SECTION**  
NOT TO SCALE  
(MARCH 2008)



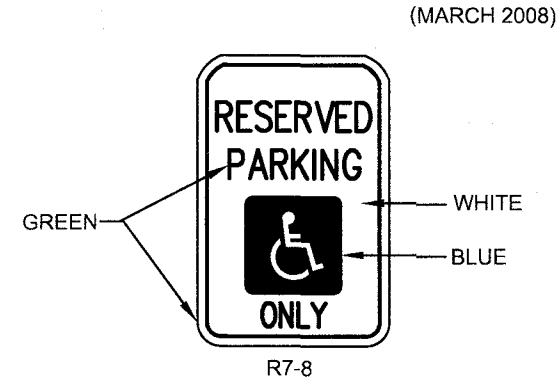
**BITUMINOUS CURB TYPE B DETAIL**  
NOT TO SCALE  
(MARCH 2008)



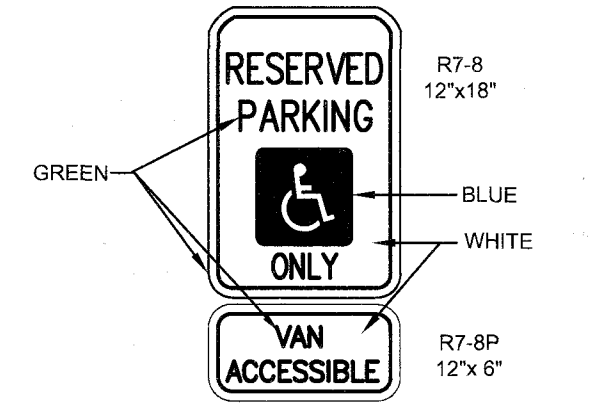
**VINYL TRASH ENCLOSURE DETAIL**  
NOT TO SCALE  
(MARCH 2008)



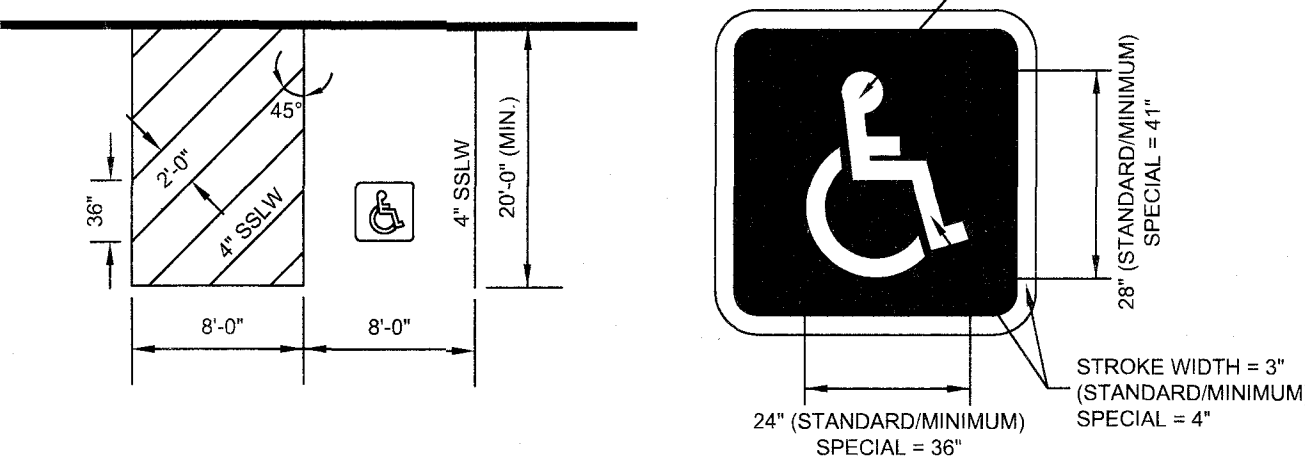
**STOP SIGN DETAIL**  
NOT TO SCALE  
(MARCH 2008)



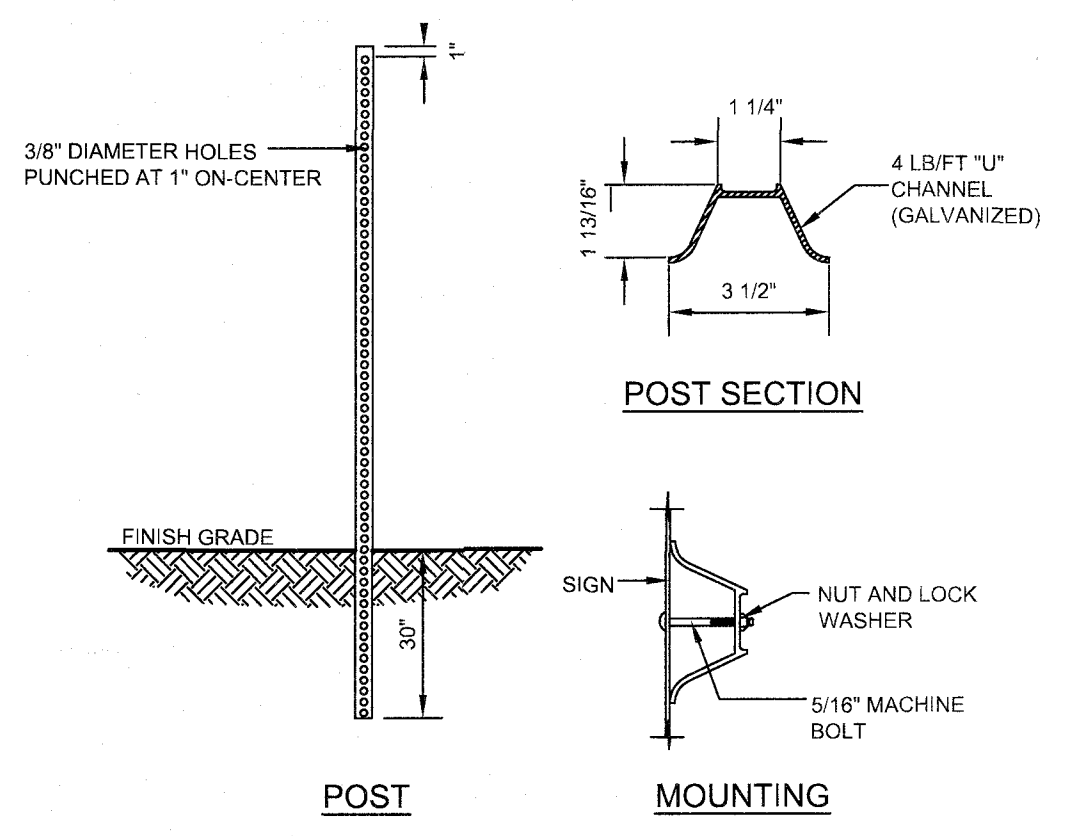
**HANDICAP PARKING SIGN DETAIL**  
NOT TO SCALE  
(MARCH 2008)



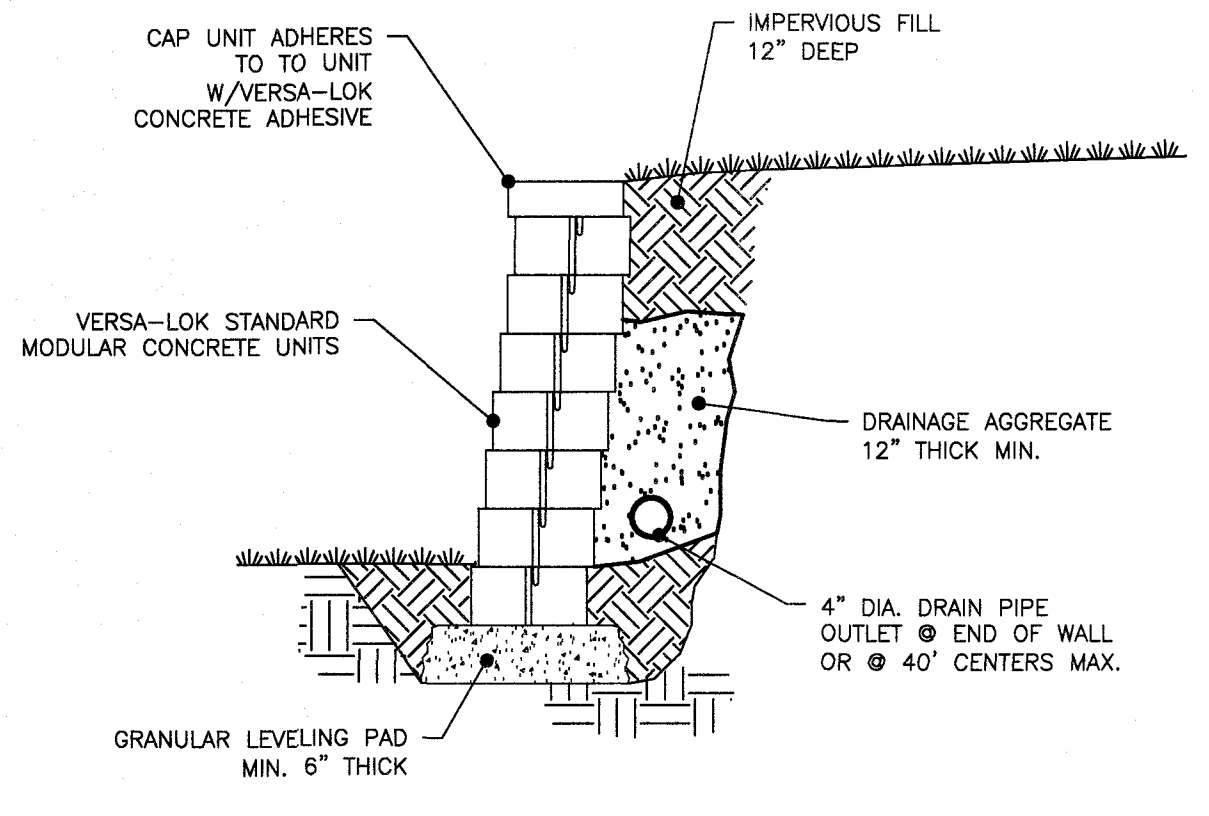
**VAN ACCESSIBLE HANDICAP PARKING SIGN DETAIL**  
NOT TO SCALE  
(NOVEMBER 2016)



**HANDICAP STRIPING DETAIL**  
NOT TO SCALE  
(MARCH 2012)

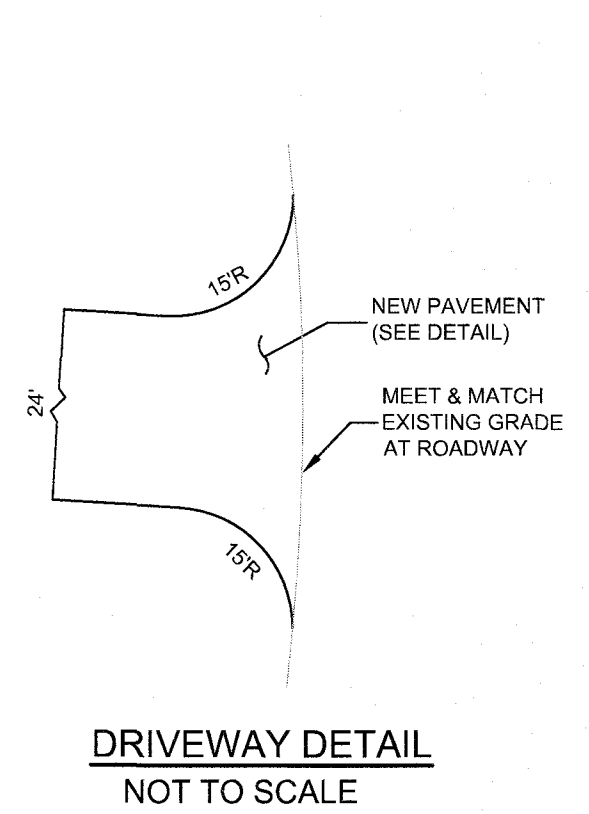


**STEEL SIGN POST DETAIL**  
NOT TO SCALE  
(MARCH 2008)

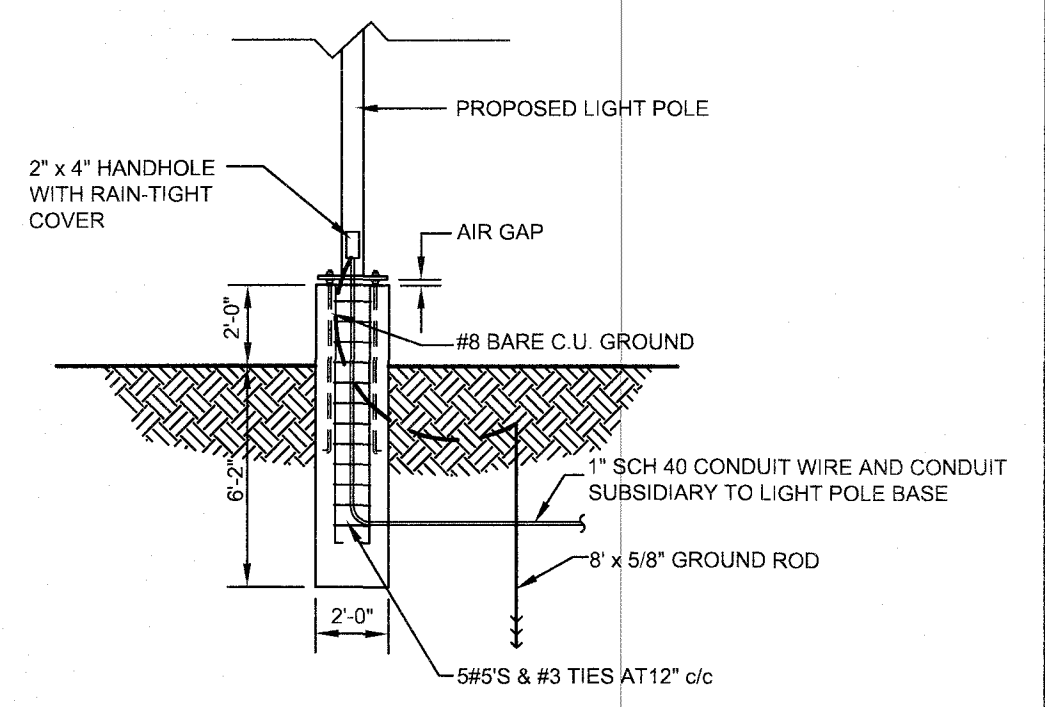


**TYPICAL SECTION-UNREINFORCED RETAINING WALL**  
NOT TO SCALE

- STRIPING NOTES:**
- ALL PAVEMENT MARKINGS SHALL BE IN CONFORMANCE WITH THESE STANDARDS AND THE CURRENT EDITION OF MUTCD.
  - WIDTH OF LINES SHALL VARY NO MORE THAN 1/4 INCH FROM THAT SPECIFIED.
  - THE WET FILM THICKNESS OF A PAINTED LINE SHALL BE A MINIMUM OF 15 MILS THROUGHOUT THE ENTIRE WIDTH AND LENGTH OF LINE SPECIFIED.
  - OVERSPRAY SHALL BE KEPT TO AN ABSOLUTE MINIMUM.



**DRIVEWAY DETAIL**  
NOT TO SCALE

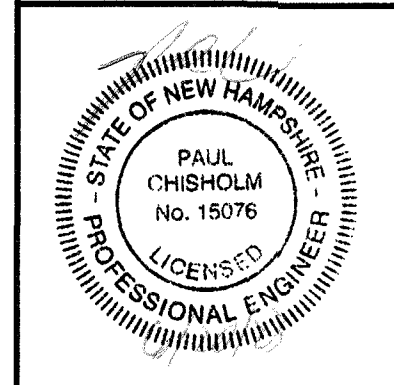


**CONCRETE LIGHT POLE BASE DETAIL**  
NOT TO SCALE  
(MARCH 2008)

**CONSTRUCTION DETAILS**  
**S.L. CHASSE STEEL**  
MAP 105 LOT 14  
5 CHRISTINE DRIVE  
HUDSON, NEW HAMPSHIRE  
HILLSBOROUGH COUNTY

**OWNER OF RECORD/APPLICANT:**  
STEELE PROPERTIES, LLC  
8 CHRISTINE DRIVE  
HUDSON, NH 03051  
H.C.R.D. BK. 9177 PG. 305

**KM 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	04/10/23	PER TOWN COMMENTS	MH
2	06/08/23	REVISED PER AOT COMMENTS	ACL
3	06/20/23	REVISED PER TOWN COMMENTS	ACL

DATE: MARCH 3, 2023 SCALE: 1" = 30'  
PROJECT NO: 22-0126-2 SHEET 8 OF 13

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL

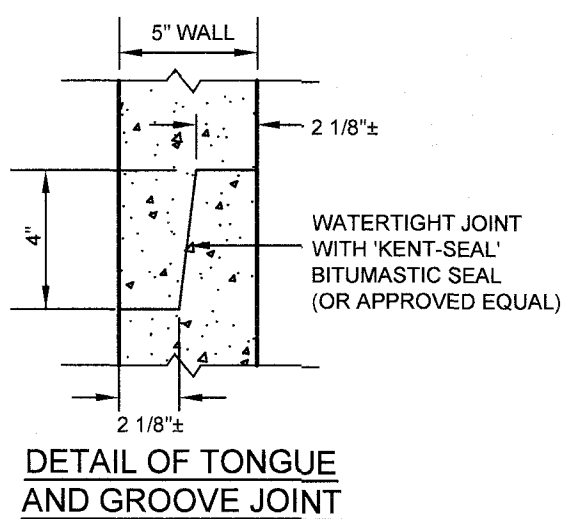
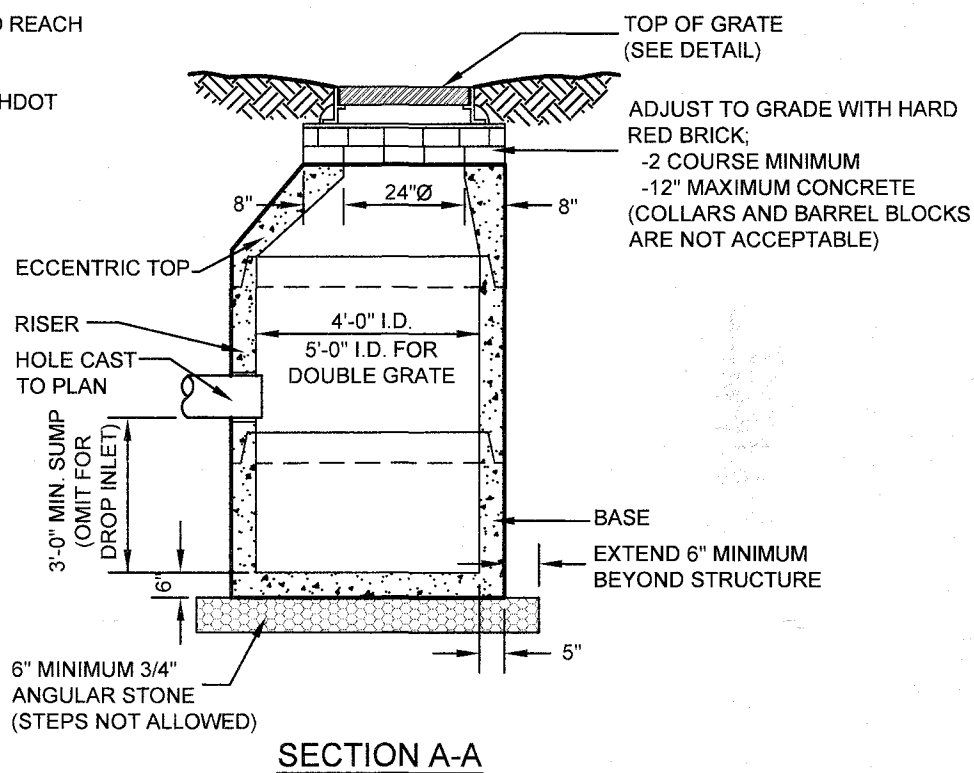
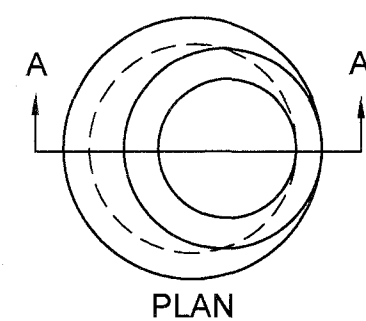
APPROVED BY THE HUDSON, NH PLANNING BOARD  
DATE OF MEETING: \_\_\_\_\_  
\_\_\_\_\_  
SIGNATURE DATE: \_\_\_\_\_  
\_\_\_\_\_  
SIGNATURE DATE: \_\_\_\_\_

SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.

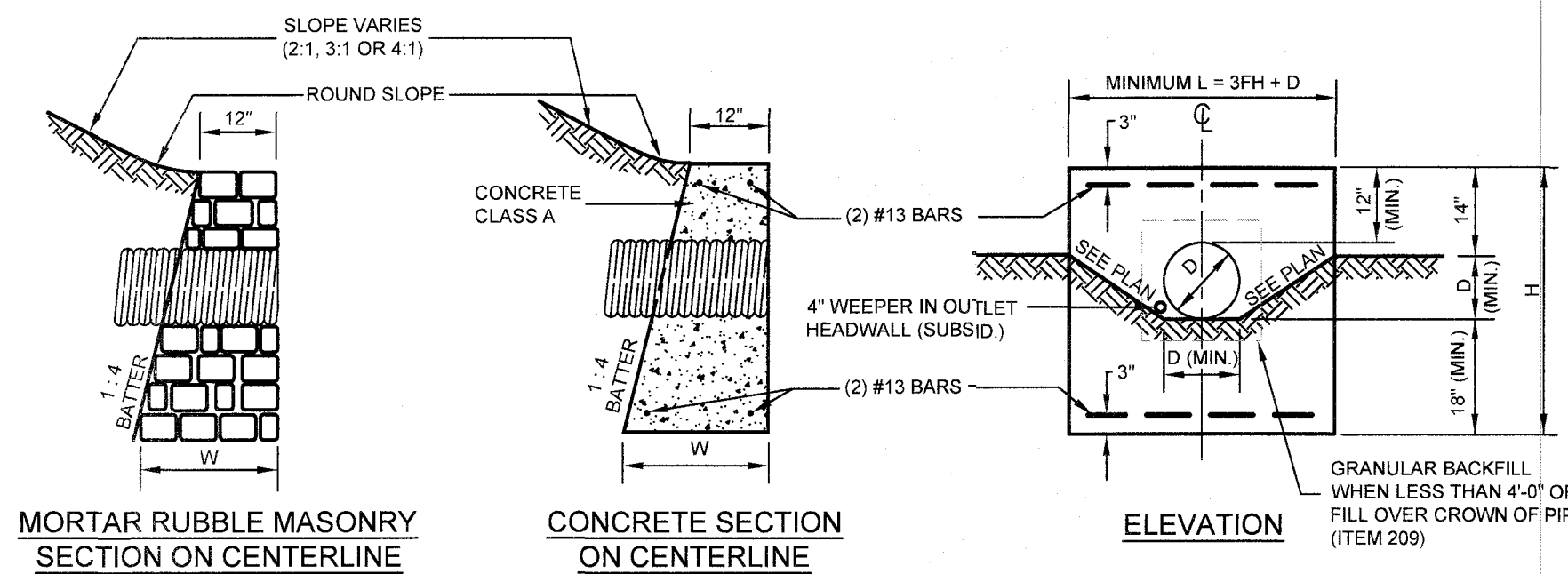


**NOTES:**

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)



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 (SF)	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. 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	0.196	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
15"	1.23	0.292	1.73	0.85	11	3'-10"	0.120	0.947	0.35	4'-6"	3'-9"	1'-1"	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	2.58	25	9'-2"	0.185	1.810	0.65	9'-6"	5'-0"	2'-4"	2'-3"	0.51	2.164

NOTE: STEEL QUANTITIES ARE FOR CONCRETE HEADWALLS ONLY.

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

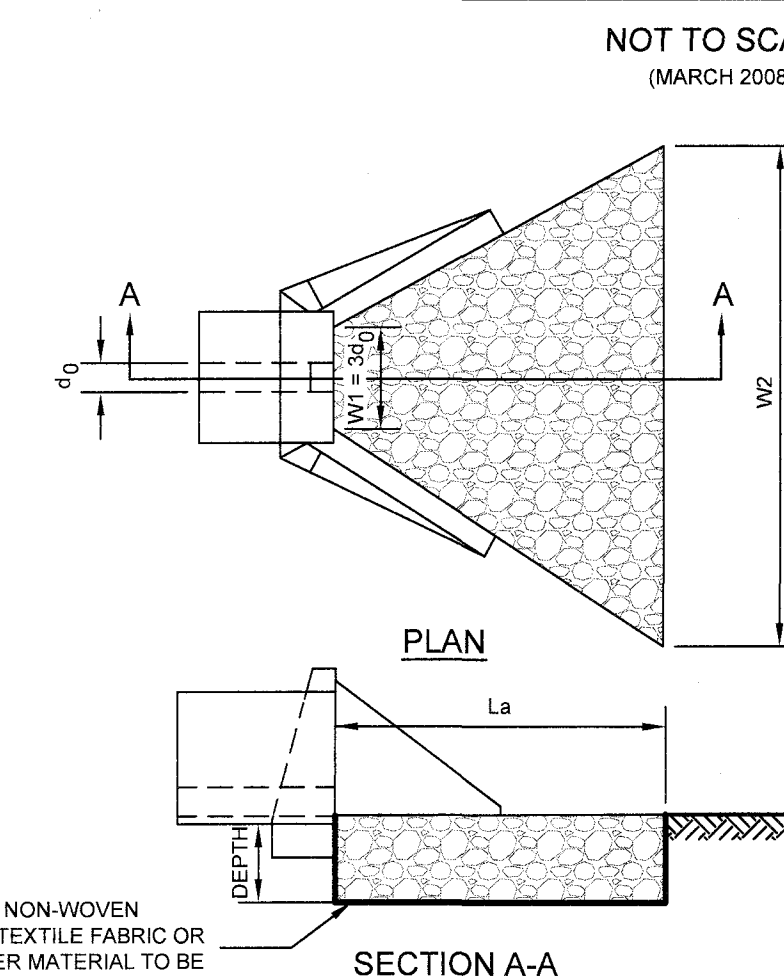


TABLE 7-24 -- RECOMMENDED RIP RAP GRADATION RANGES

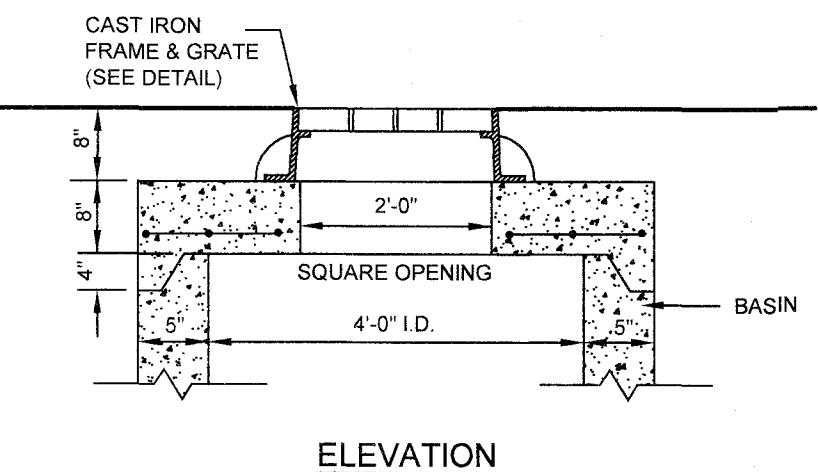
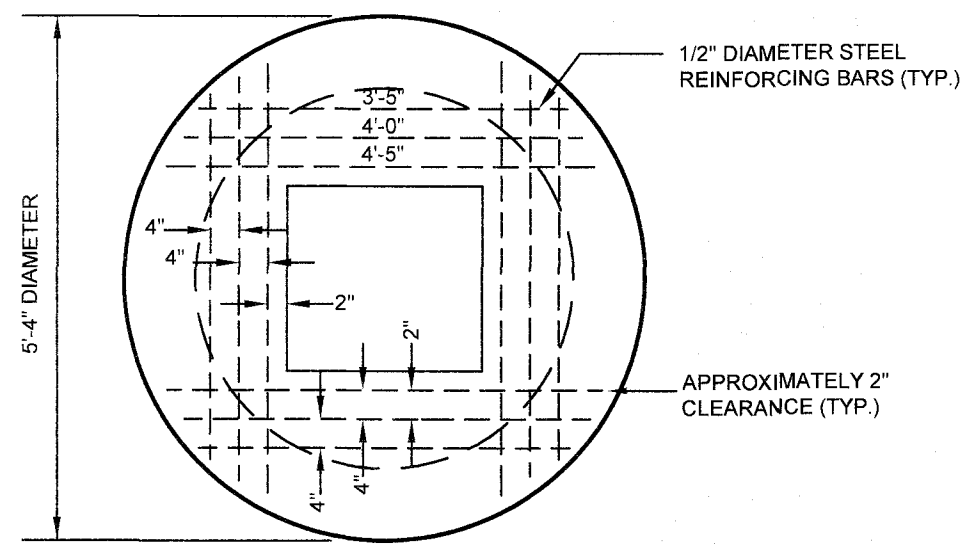
PERCENT OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE
100%	1.5 TO 2.0 d50
85%	1.3 TO 1.8 d50
50%	1.0 TO 1.5 d50
15%	0.3 TO 0.5 d50

**CONSTRUCTION SPECIFICATIONS:**

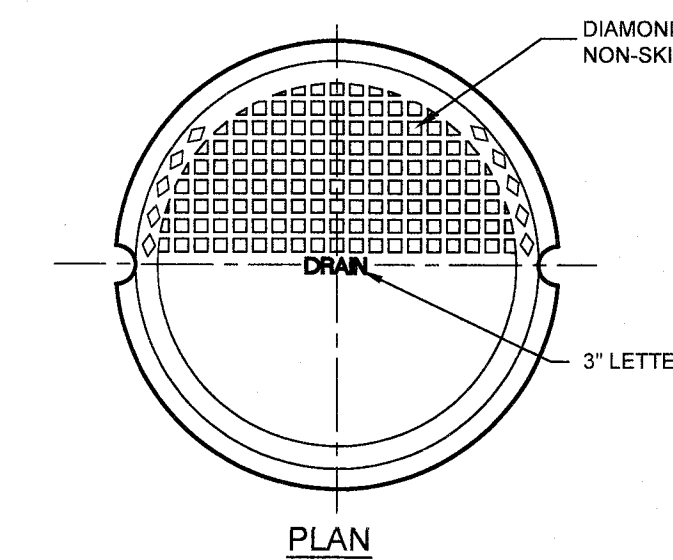
1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. FRACTURED ROCK USED FOR FILTER OR RIP RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT 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 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:**

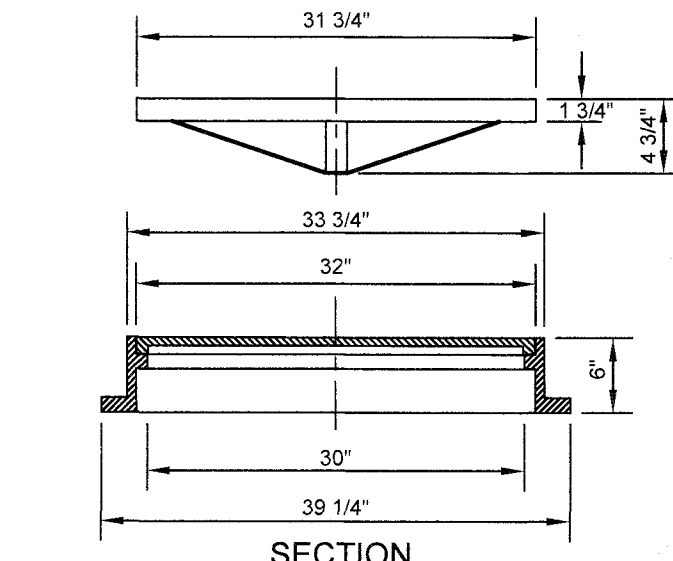
THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR RAIN EVENT. IF THE RIP RAP HAS BEEN DISPLACED, UNDERMINED, OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL 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.



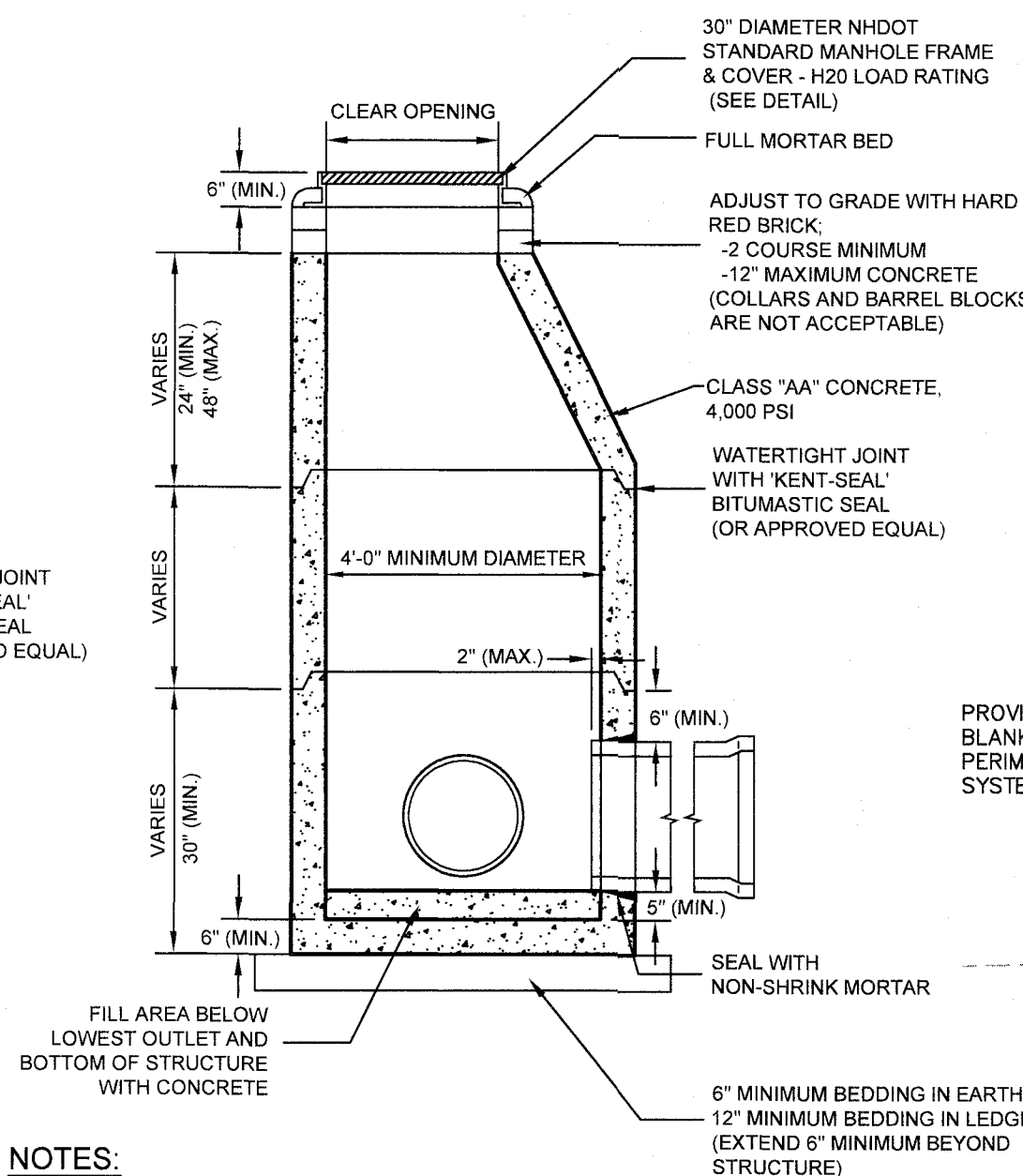
**REINFORCED CONCRETE TOP SLAB (4'-0" I.D.)**  
NOT TO SCALE  
(MARCH 2008)



- 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-29 LOAD RATED
  - GRAY CAST IRON MEETS ASTM A48 CLASS 30

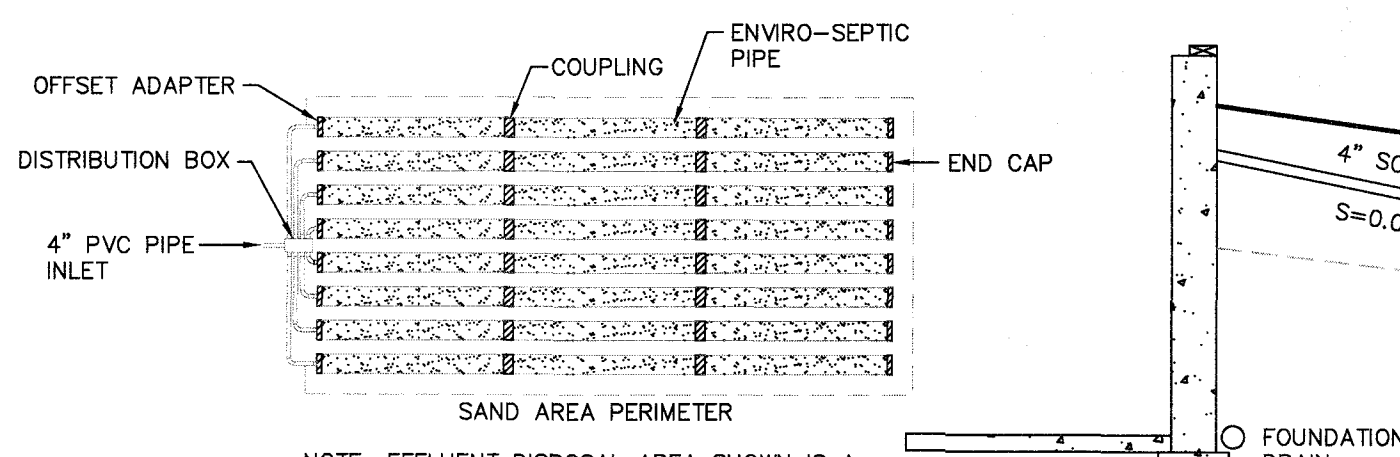


**DRAIN MANHOLE FRAME AND COVER DETAIL**  
NOT TO SCALE



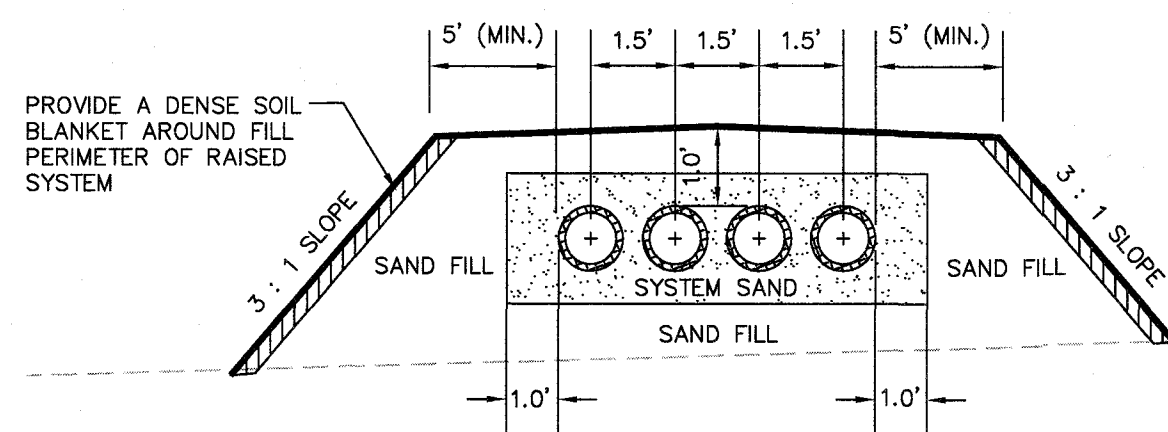
- NOTES:**
1. STEPS ARE NOT ALLOWED.
  2. ALL SECTIONS SHALL BE CONCRETE CLASS AA (4,000 PSI). CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER L.F. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER OF THE WALL.
  3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL 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: EFFLUENT DISPOSAL AREA SHOWN IS A "DISTRIBUTION BOX SYSTEM" AS DEPICTED IN THE NEW HAMPSHIRE ENVIRO-SEPTIC DESIGN AND INSTALLATION MANUAL (2003 EDITION).

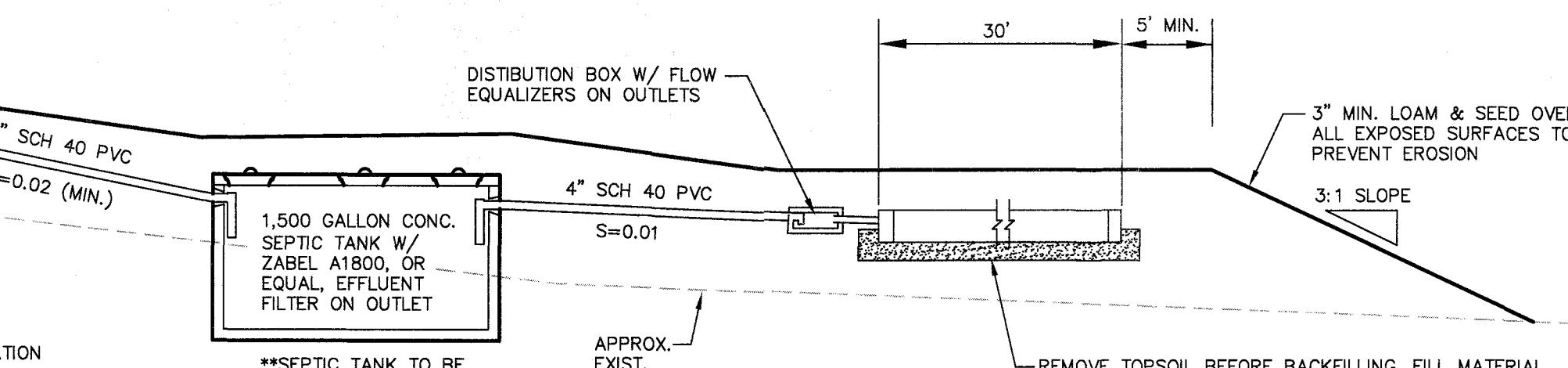
**EDA PLAN DETAIL**  
NOT TO SCALE



**TYPICAL ENVIRO-SEPTIC CROSS SECTION**  
-NOT TO SCALE-

**FILL SPECIFICATION**  
SYSTEM SAND TO BE 6" MINIMUM OF MEDIUM TO COARSE SAND WITH AN EFFECTIVE PARTICLE SIZE OF 0.25 MM TO 2.00 MM, WITH NO GREATER THAN 2% PASSING A #200 SIEVE AND NO PARTICLES LARGER THAN 3/4" AROUND THE CIRCUMFERENCE OF THE ENVIRO-SEPTIC PIPE. ALL OTHER FILL USED IN RAISED SYSTEMS SHALL BE CLEAN BANK RUN SAND, FREE FROM TOPSOIL, HUMUS, DREDGING, DEBRIS, OR STONES LARGER THAN 6 IN ANY DIMENSION IN ACCORDANCE WITH ENV-WQ 1021.03

**TYPICAL SECTION OF PROPOSED SEPTIC SYSTEM**  
NOT TO SCALE



**TYPICAL SEPTIC SYSTEM NOTE(S):**

1. THE PURPOSE OF THESE DETAILS ARE TO ILLUSTRATE A TYPICAL SEPTIC SYSTEM LAYOUT AND THE CONSTRUCTION ASSOCIATED WITH THE SAME.
2. THIS INFORMATION IS FOR ILLUSTRATIVE PURPOSES ONLY AND IS NOT INTENDED FOR CONSTRUCTION. ACTUAL SIZE AND LAYOUT OF PROPOSED SYSTEMS SHALL BE DETERMINED BY THE OWNER AND MAY VARY FROM WHAT IS DEPICTED HEREON.

PURSUANT TO THE REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL.

**APPROVED BY THE HUDSON, NH PLANNING BOARD**  
DATE OF MEETING: \_\_\_\_\_

\_\_\_\_\_  
SIGNATURE DATE: \_\_\_\_\_

\_\_\_\_\_  
SIGNATURE DATE: \_\_\_\_\_

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**CONSTRUCTION DETAILS**

**S.L. CHASSE STEEL**  
MAP 105 LOT 14  
5 CHRISTINE DRIVE  
HUDSON, NEW HAMPSHIRE  
HILLSBOROUGH COUNTY

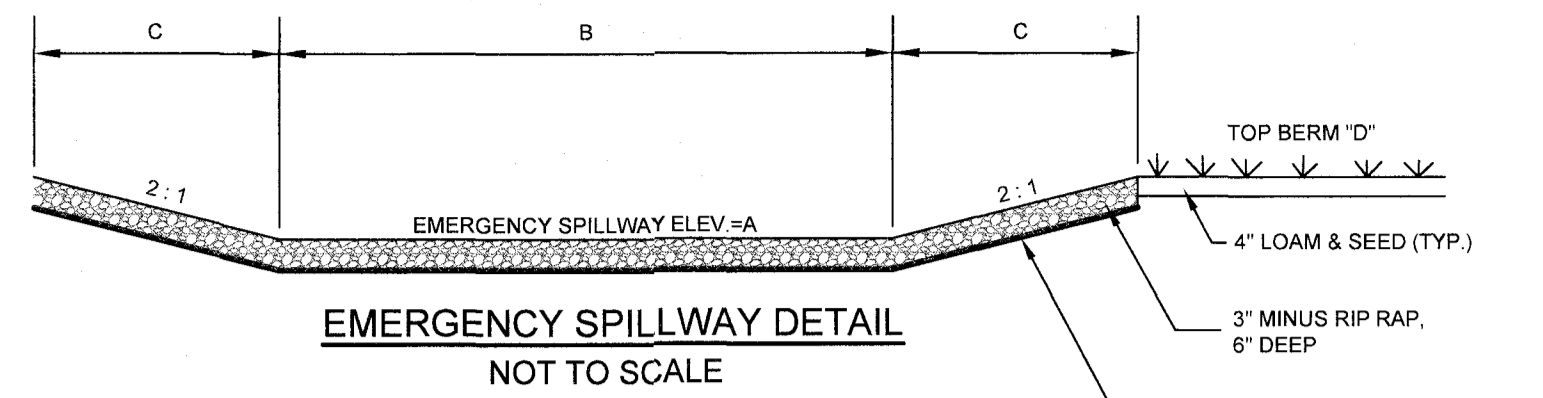
**OWNER OF RECORD/APPLICANT:**  
STEELE PROPERTIES, LLC  
8 CHRISTINE DRIVE  
HUDSON, NH 03051  
H.C.R.D. BK. 9177 PG. 305

**KM 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	04/10/23	PER TOWN COMMENTS	MH
2	06/08/23	REVISED PER AOT COMMENTS	ACL
3	06/20/23	REVISED PER TOWN COMMENTS	ACL

DATE: MARCH 3, 2023 SCALE: 1" = 30'  
PROJECT NO: 22-0126-2 SHEET 9 OF 13

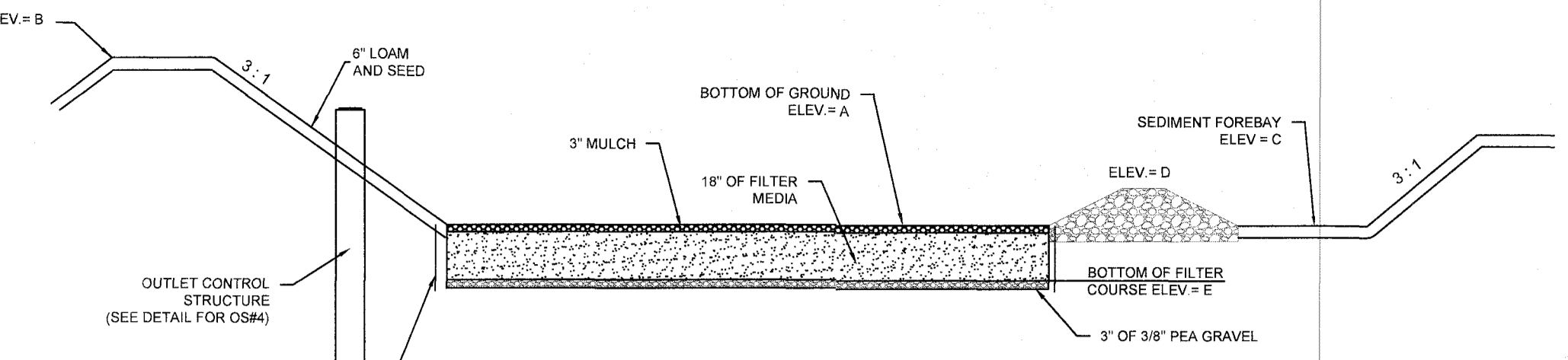


LOCATION	"A"	"B"	"C"	"D"
BIORETENTION POND 2	191.50	6'	4'	192.00

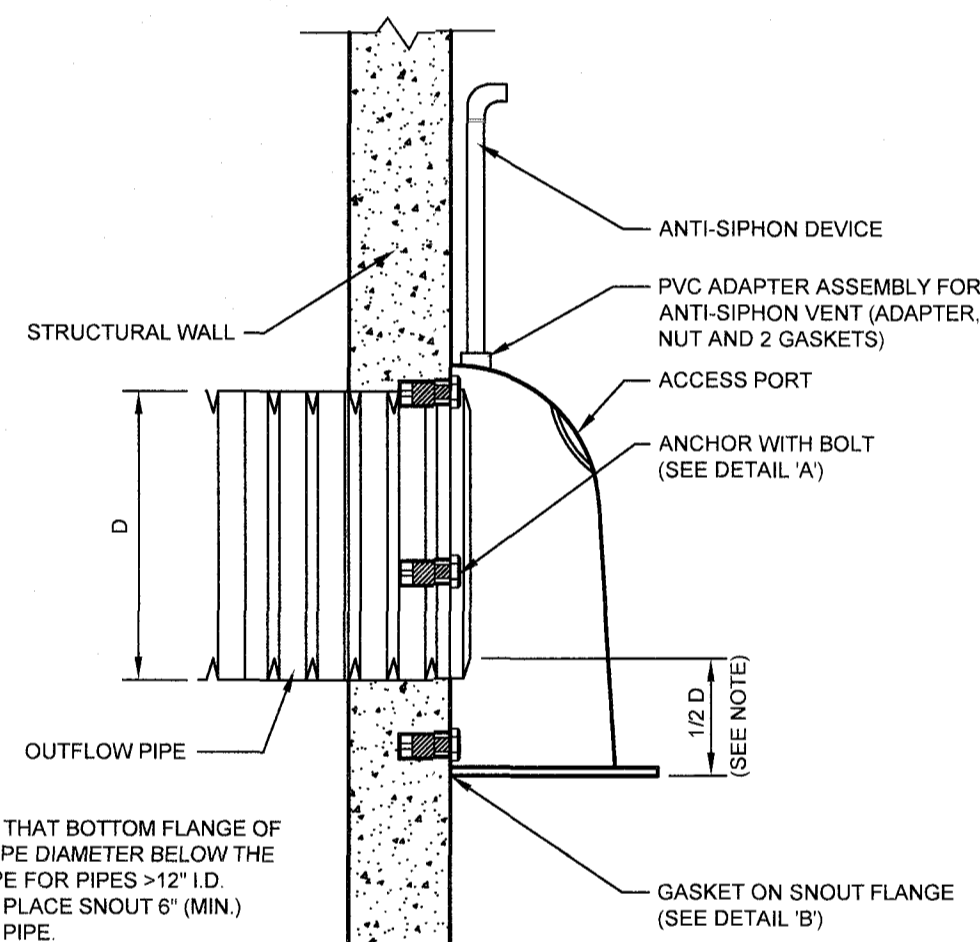
**TYPICAL BIORETENTION POND SECTION**

NOT TO SCALE

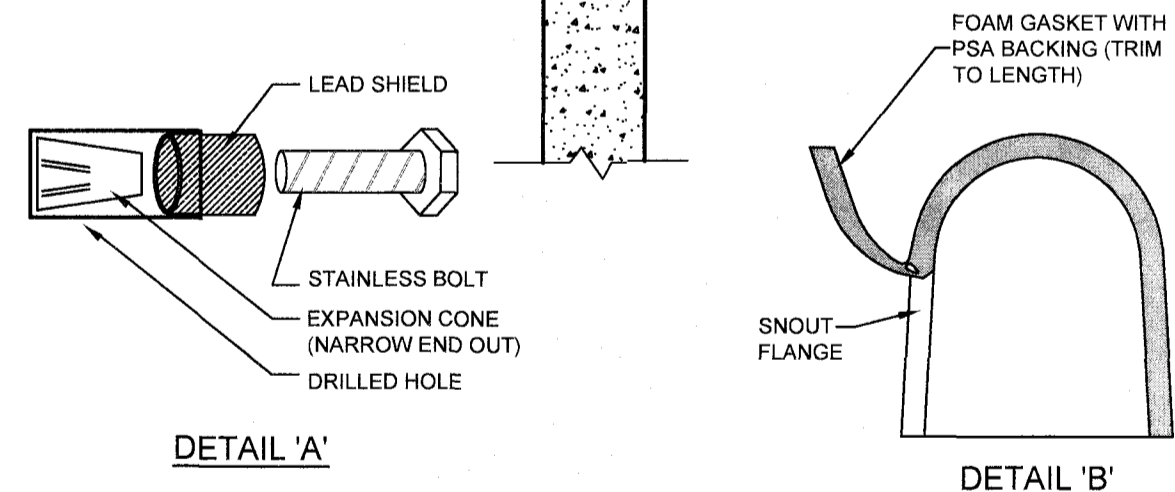
COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	GRADATION OF MATERIAL	
		SIEVE NO.	PERCENT BY WEIGHT (PASSING STANDARD SIEVE)
<b>FILTER MEDIA OPTION A</b>			
ASTM C-33 CONCRETE SAND	50 TO 55		
LOAMY SAND TOPSOIL, WITH FINES AS INDICATED	20 TO 30	200	15 TO 25
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED	20 TO 30	200	<5
<b>FILTER MEDIA OPTION B</b>			
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED	20 TO 30	200	<5
	70 TO 80	10	85 TO 100
		20	70 TO 100
		60	15 TO 40
		200	8 TO 15
LOAMY COARSE SAND			



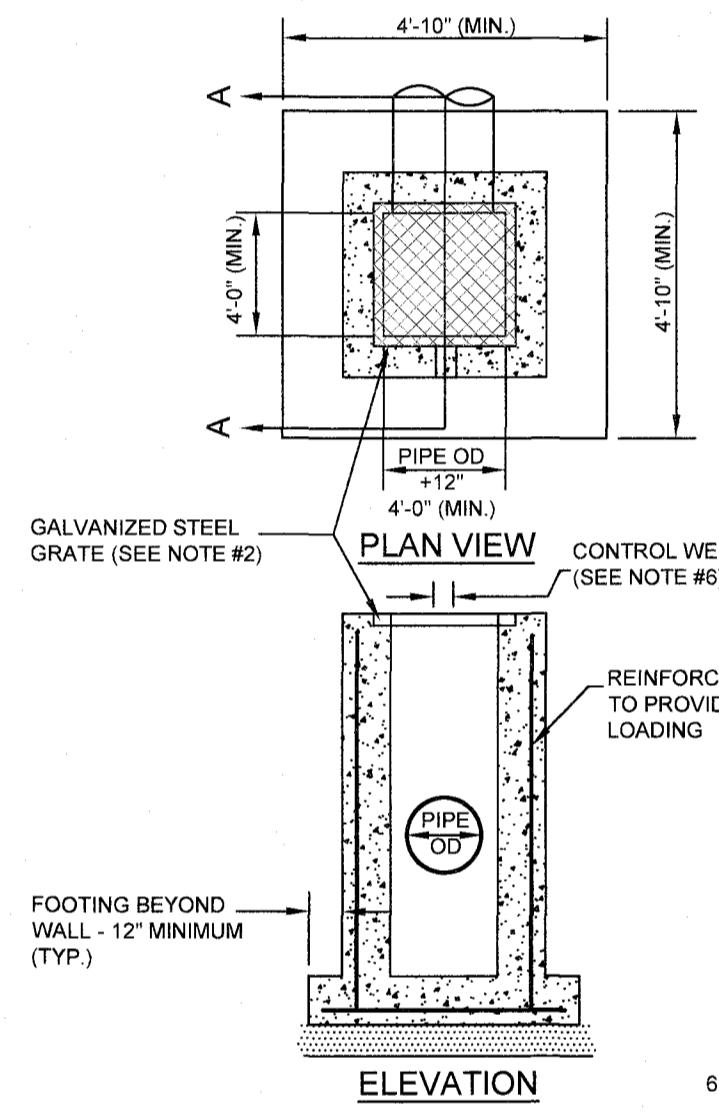
POND NUMBER	ELEV. A	ELEV. B	ELEV. C	ELEV. D	ELEV. E
BIORETENTION POND 1	189.25	192.00	187.00	189.00	187.75
BIORETENTION POND 2	189.50	192.00	189.50	191.00	188.00



NOTE: POSITION HOOD SO THAT BOTTOM FLANGE OF SNOUT IS 1/2 THE PIPE DIAMETER BELOW THE BOTTOM OF THE PIPE FOR PIPES >12" I.D. FOR PIPES <10" I.D. PLACE SNOUT 6" (MIN.) BELOW BOTTOM OF PIPE.

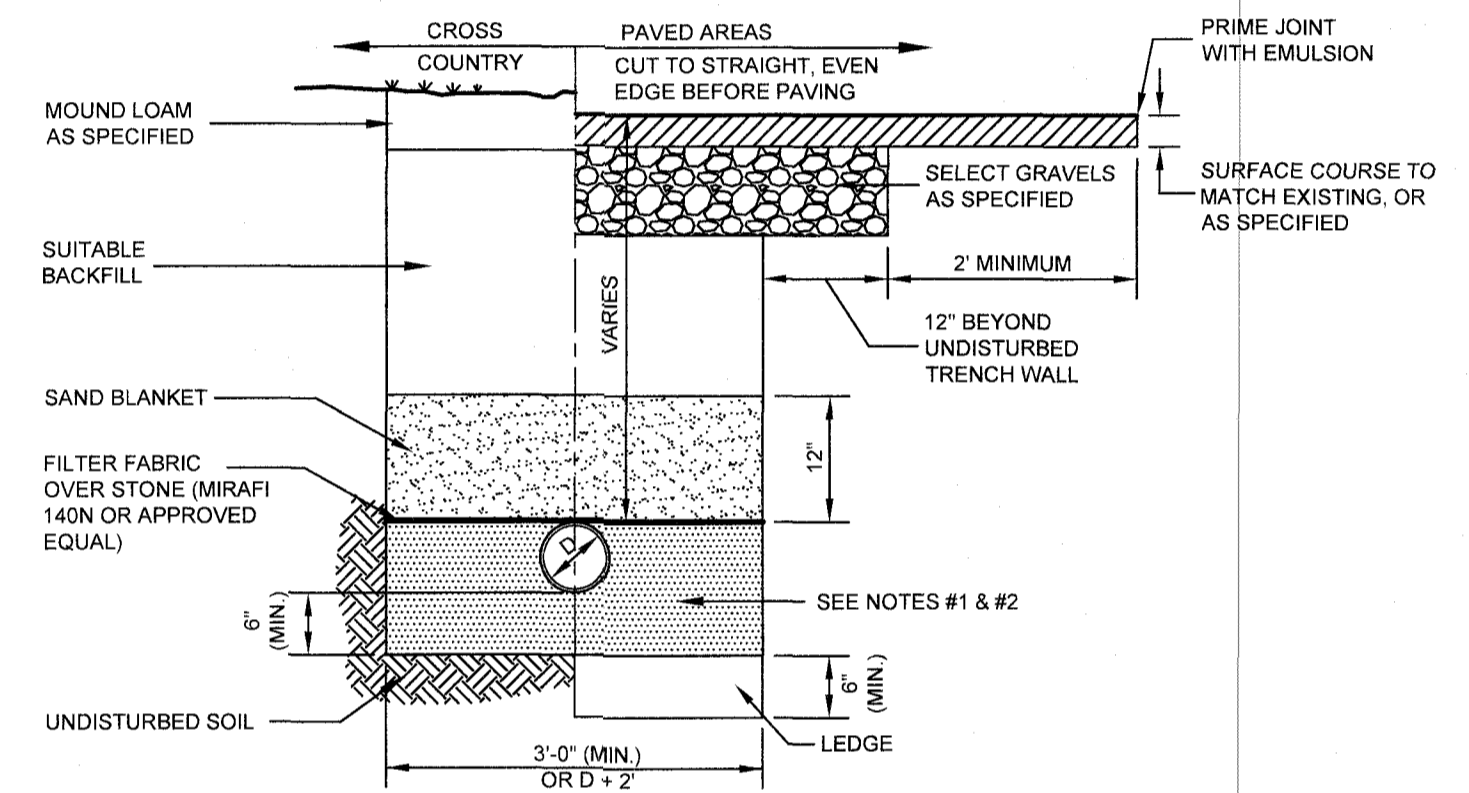


**SNOUT OIL AND DEBRIS STOP DETAIL (OR EQUAL)**  
NOT TO SCALE  
(MARCH 2008)



- NOTES**
1. ALL CEMENT CONCRETE TO BE 4,000 PSI MINIMUM.
  2. GALVANIZED STEEL GRATE SHALL BE BOLTED TO TOP OF STRUCTURE.
  3. OUTLET PIPE SHALL NOT BE LESS THAN 15" MINIMUM.
  4. ALL OPENINGS CAST IN AS REQUIRED.
  5. PRECAST REINFORCED CONCRETE STRUCTURE TO MEET ASTM C-478 DESIGNATION AND H-20 LOADING.
  6. CONTROL WEIR SHALL BE SIZED TO MITIGATE DESIGN STORM AS REQUIRED BY THE REGULATIONS.

**OUTLET STRUCTURE #4 AT BIORETENTION POND 1**  
NOT TO SCALE  
(AUGUST 2011)



- 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)

**TP #1**  
LOGGED BY GPC  
PERC TEST @ 20"  
DATE: 6-30-2022  
PERC RATE: 8 MIN./INCH  
IMPERVIOUS LAYER: NONE  
WATER ENCOUNTERED: NONE

0"	TOPSOILS
16"	10YR 5/4, GRANULAR, FRIABLE, SAND, GRAVELY FEW ROOTS TO 58"
72" BOTTOM OF HOLE	

**TP #2**  
LOGGED BY GPC  
PERC TEST @ 20"  
DATE: 6-30-2022  
PERC RATE: 8 MIN./INCH  
IMPERVIOUS LAYER: NONE  
WATER ENCOUNTERED: NONE

0"	TOPSOIL
6"	10YR 7/6, GRANULAR, FRIABLE FINE SAND
44"	10YR 2/1, GRANULAR, FRIABLE, LOAMY SAND PLATY
66"	10YR 5/6, SAND, COARSE, GRAVELLY
88" BOTTOM OF HOLE	

**TP #3**  
LOGGED BY GPC  
PERC TEST @ 20"  
DATE: 6-30-2022  
PERC RATE: 8 MIN./INCH  
IMPERVIOUS LAYER: NONE  
WATER ENCOUNTERED: NONE

0"	TOPSOIL
4"	5YR 7/2, SAND, FROM PREVIOUS SEPTIC SYSTEM
36"	10YR 4/1, SANDY LOAM BURIED "A"
64"	10YR 6/6, SAND, COARSE, GRAVELLY
90" BOTTOM OF HOLE	

**TP #4**  
LOGGED BY GPC  
PERC TEST @ 20"  
DATE: 6-30-2022  
PERC RATE: 8 MIN./INCH  
IMPERVIOUS LAYER: NONE  
WATER ENCOUNTERED: NONE

0"	TOPSOIL
6"	10YR 7/6, GRANULAR, FRIABLE FINE SAND
34"	10YR 5/4, GRANULAR, FRIABLE, SAND, GRAVELY
60"	10YR 6/6, SAND, COARSE, GRAVELLY
84" BOTTOM OF HOLE	

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MAP 105 LOT 14  
5 CHRISTINE DRIVE  
HUDSON, NEW HAMPSHIRE  
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**OWNER OF RECORD/APPLICANT:**  
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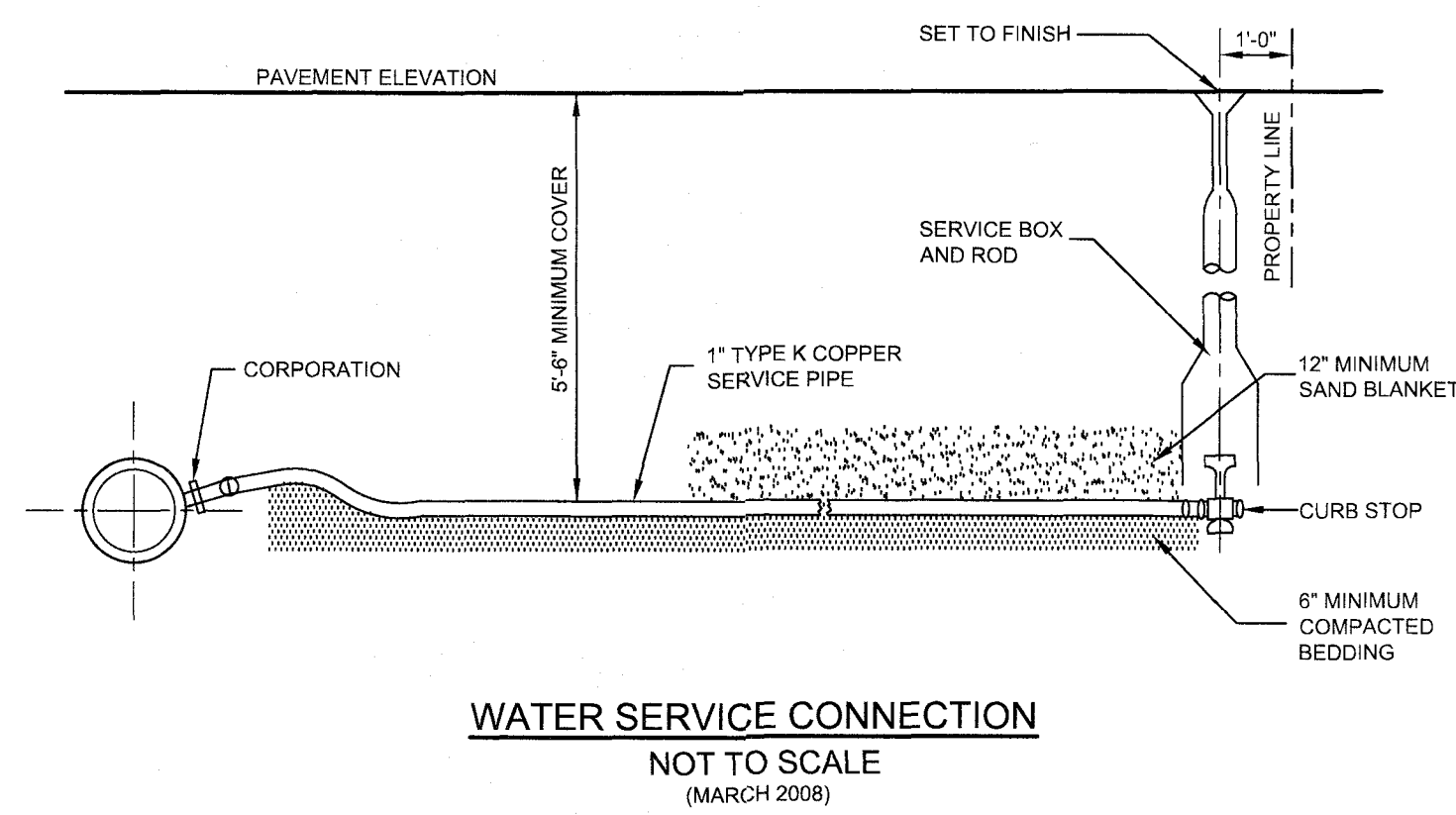
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**REVISIONS**

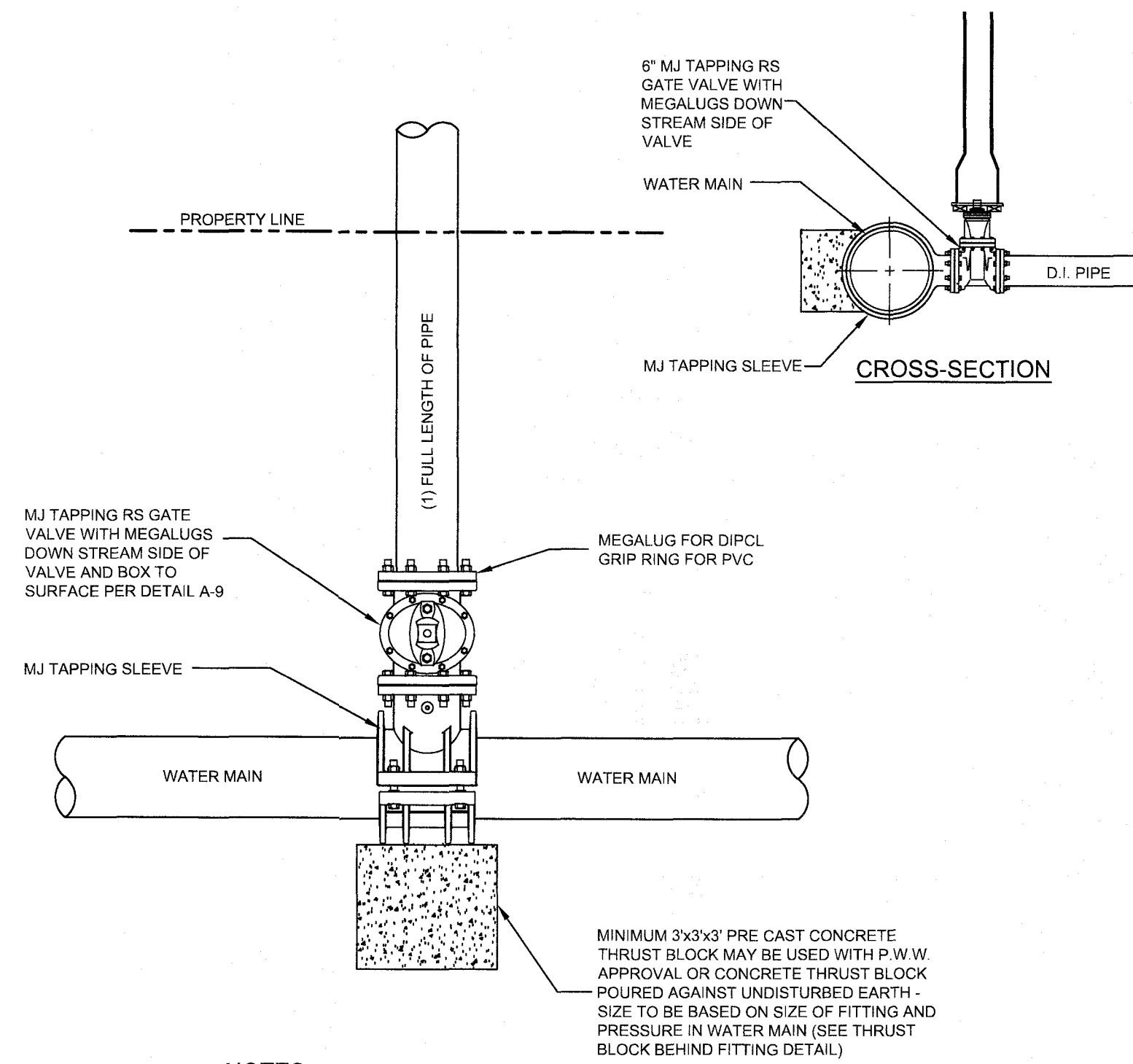
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2	06/08/23	REVISED PER AOT COMMENTS	ACL
3	06/20/23	REVISED PER TOWN COMMENTS	ACL

DATE: MARCH 3, 2023 SCALE: 1" = 30'  
PROJECT NO: 22-0126-2 SHEET 10 OF 13



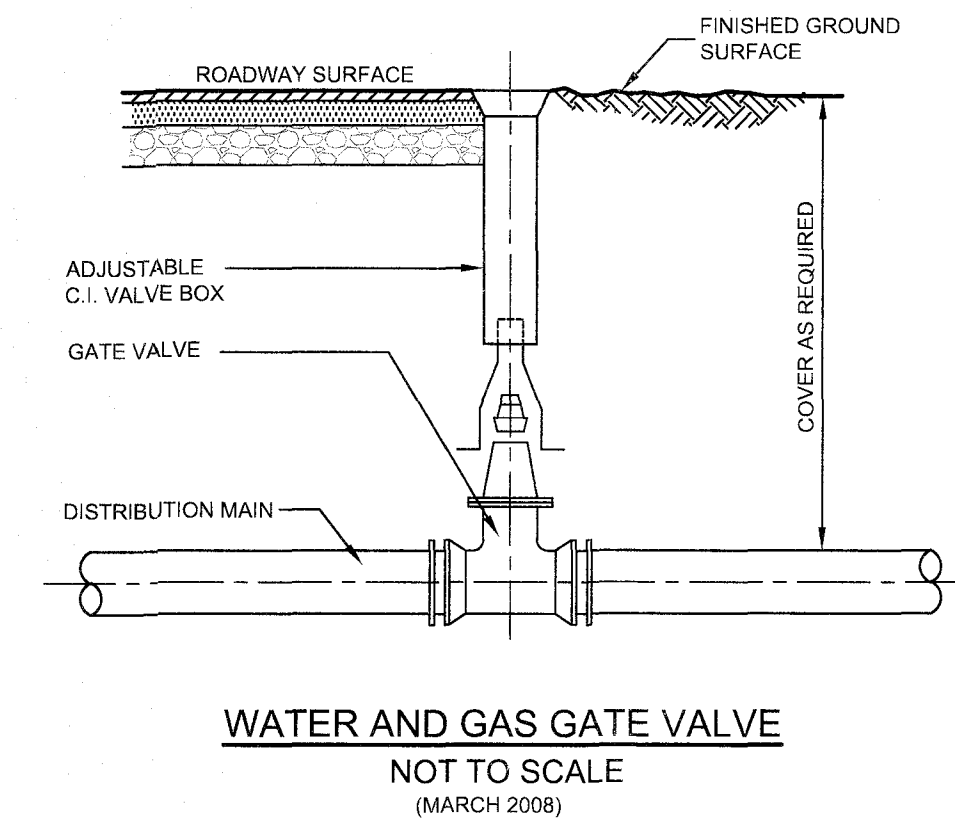


**WATER SERVICE CONNECTION**  
NOT TO SCALE  
(MARCH 2008)

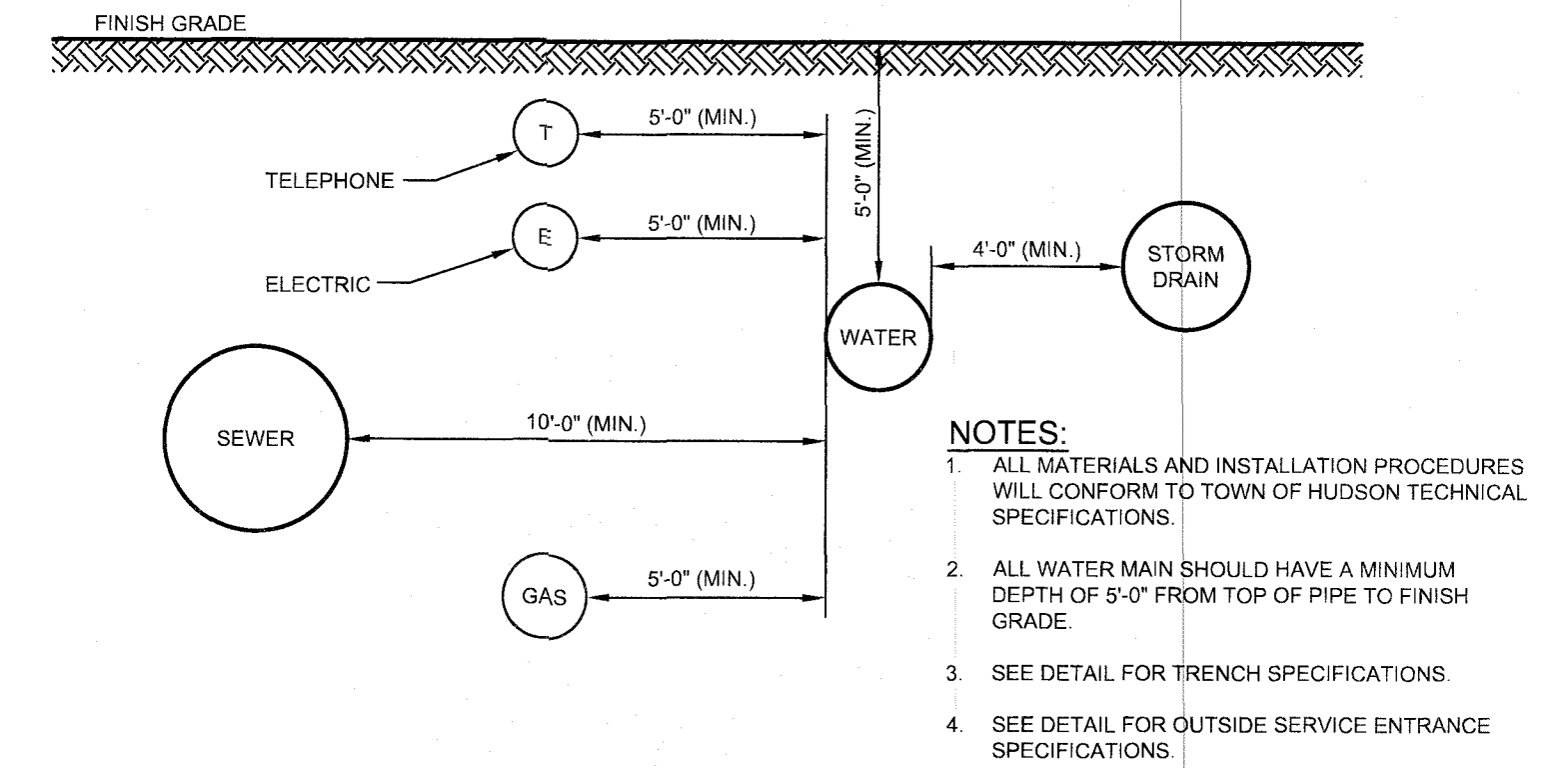


- NOTES:**
1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO TOWN OF HUDSON TECHNICAL SPECIFICATIONS.
  2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5'-0" FROM TOP OF PIPE TO FINISH GRADE.

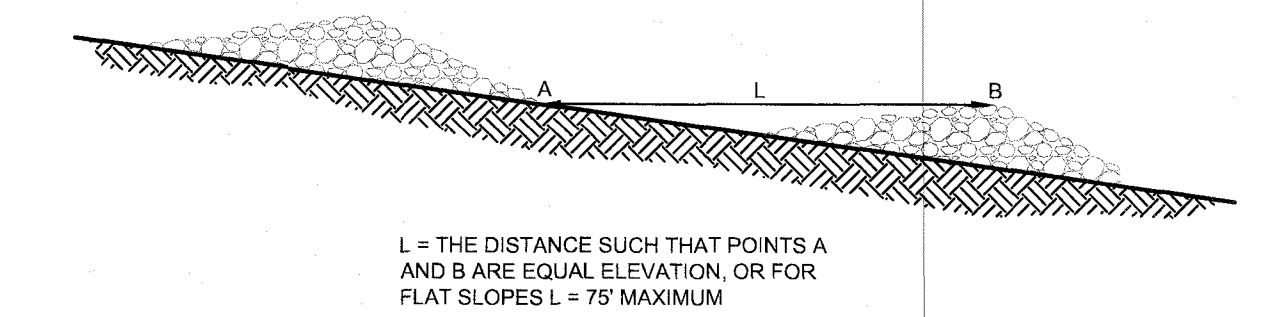
**LARGE SERVICE AND/OR TAPPING SLEEVE DETAIL**  
(A-21)  
NOT TO SCALE  
(MARCH 2008)



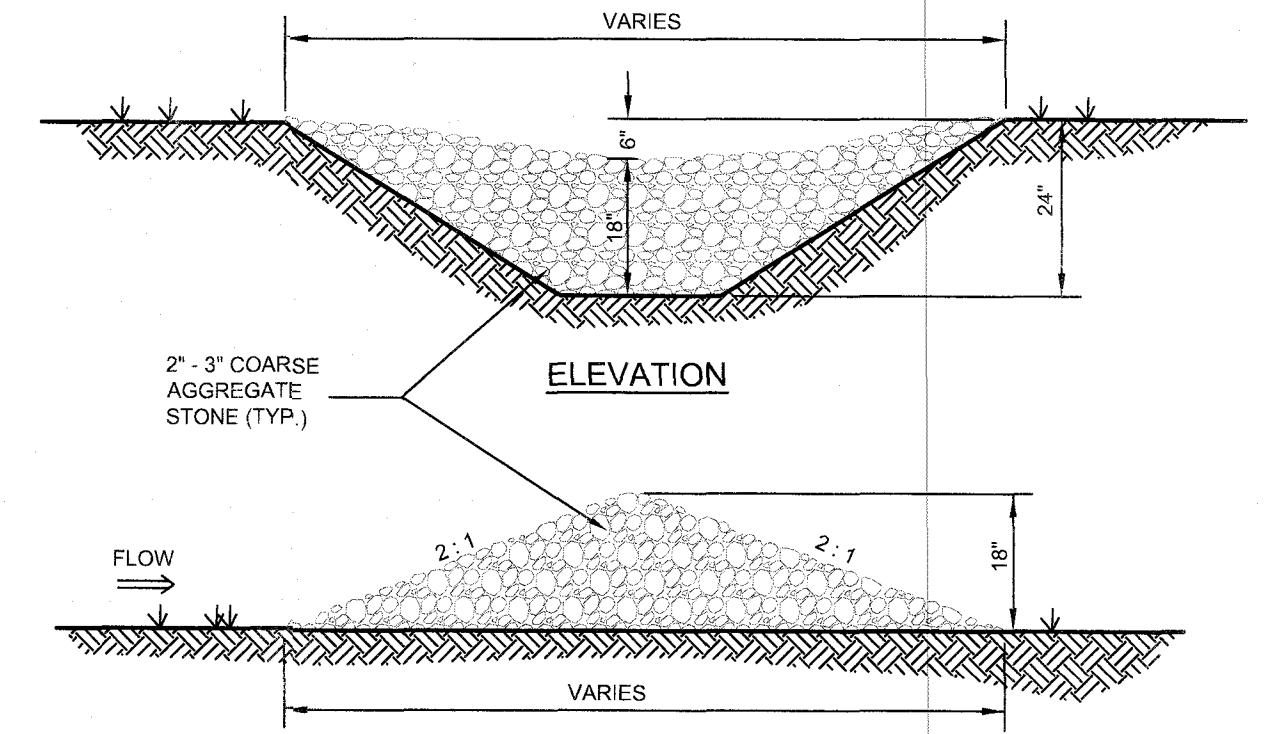
**WATER AND GAS GATE VALVE**  
NOT TO SCALE  
(MARCH 2008)



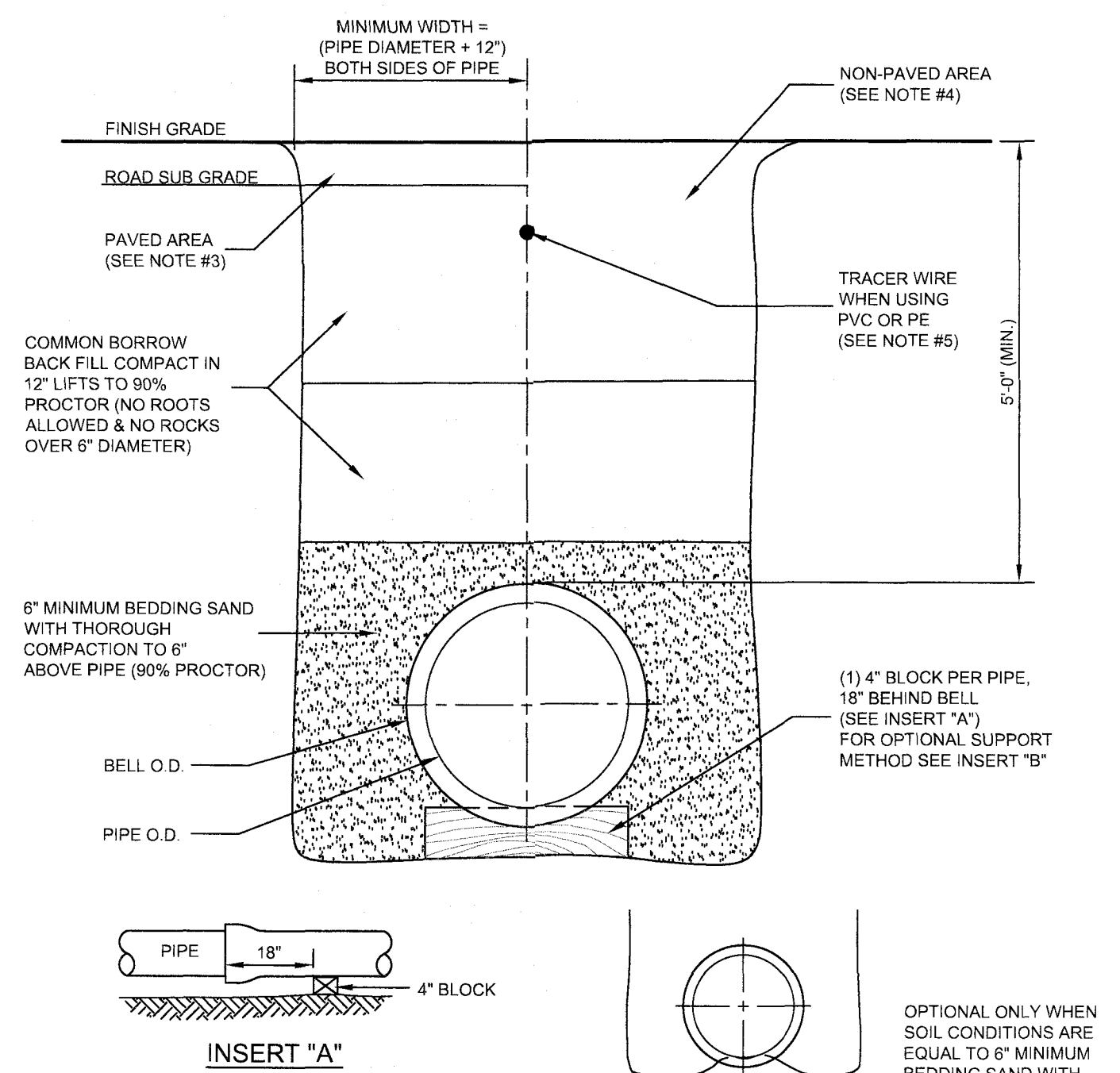
**UTILITY SEPARATION (MAIN) DETAIL**  
(A-01)  
NOT TO SCALE  
(MARCH 2008)



**STONE CHECK DAM SPACING DETAIL**  
NOT TO SCALE  
(MARCH 2008)

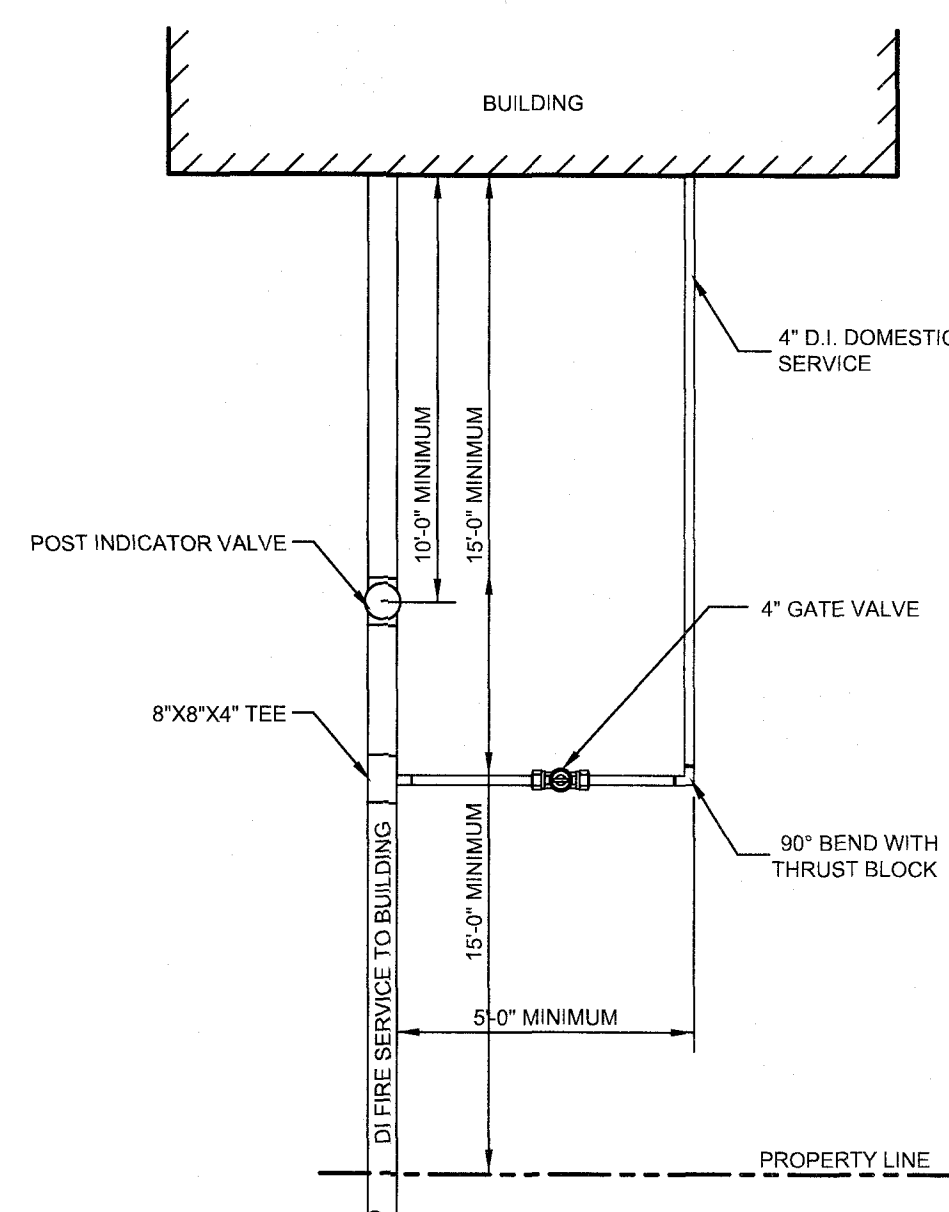


**STONE CHECK DAM DETAIL**  
NOT TO SCALE



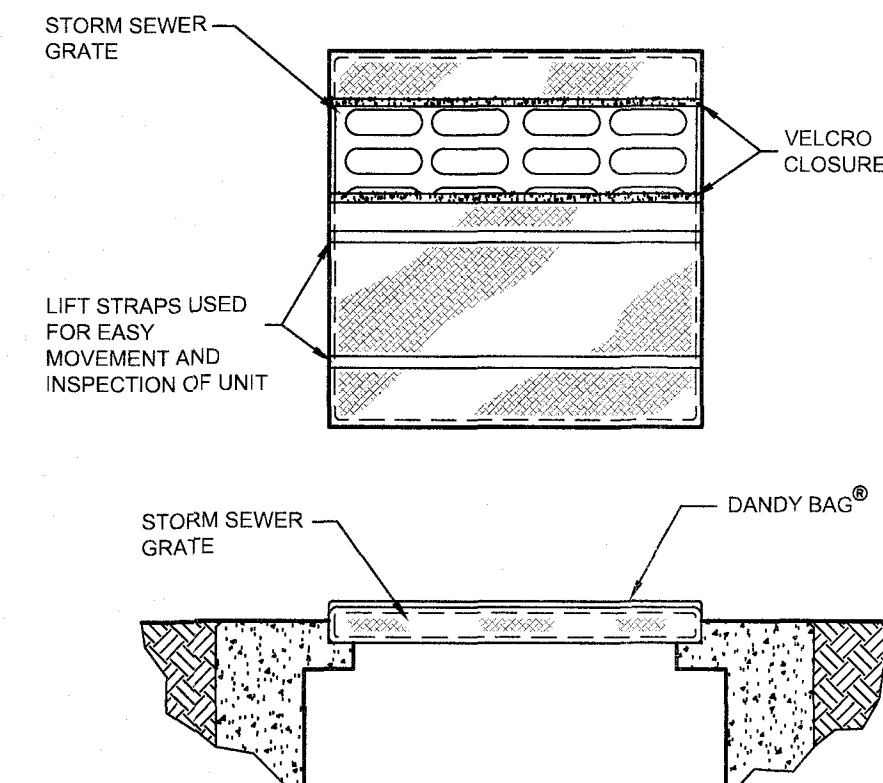
**TRENCH DETAIL**  
(A-02)  
NOT TO SCALE  
(MARCH 2008)

- NOTES:**
1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO PENNICHUCK WATER WORKS, INC. TECHNICAL SPECIFICATIONS.
  2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5'-0" FROM TOP OF PIPE TO FINISH GRADE.
  3. REQUIREMENTS FOR SUBBASE AND BASE MATERIAL TYPE ARE TO BE IN ACCORDANCE WITH LOCAL AUTHORITY HAVING LOCAL JURISDICTION IN PAVED AREAS.
  4. REQUIREMENTS FOR GRAVEL, LOAM AND/OR SEED ARE TO BE IN ACCORDANCE WITH LOCAL AUTHORITY HAVING LOCAL JURISDICTION IN NON-PAVED AREAS.
  5. 10 GAUGE TRACER WIRE AS MANUFACTURED BY BMS, DIVISION OF ALBESTAR CORP., AVON, MA OR EQUIVALENT.



- NOTES:**
1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO PENNICHUCK WATER WORKS, INC. TECHNICAL SPECIFICATIONS.
  2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5'-6" FROM TOP OF PIPE TO FINISH GRADE.
  3. SEE DETAIL FOR SERVICE AND VALVE BOX INSTALLATION DETAIL.
  4. SEE DETAIL A-11 FOR OUTSIDE SERVICE ENTRANCE PLAN VIEW.

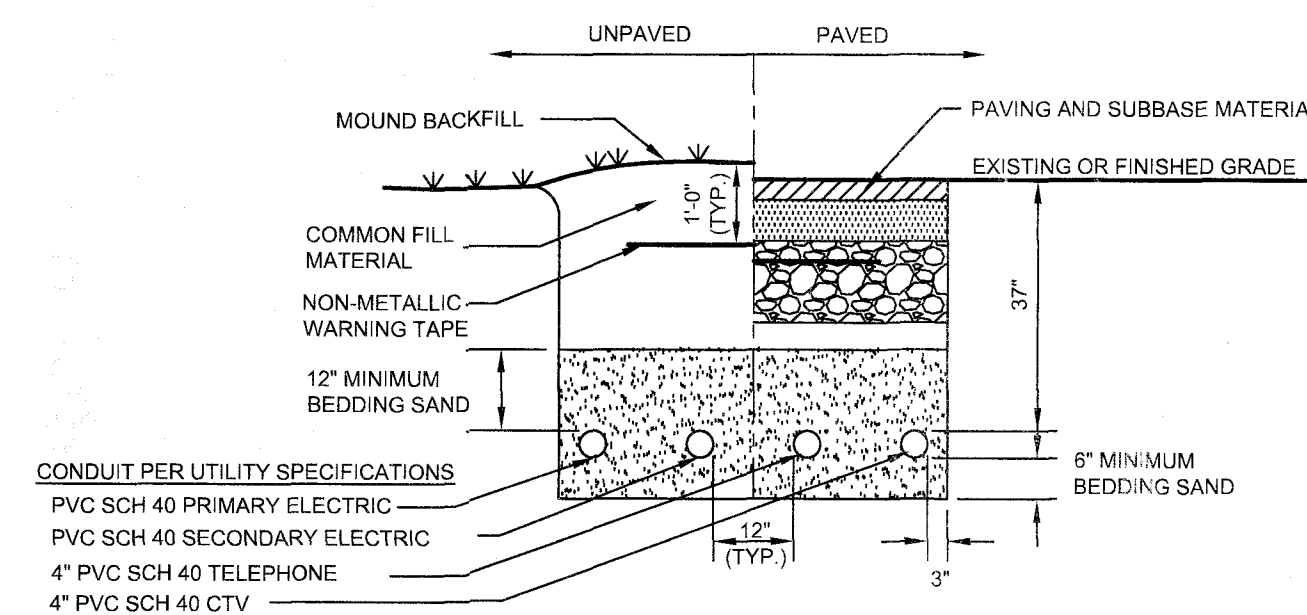
**DOMESTIC SERVICE TAPPED OFF FIRE SERVICE**  
(A-24)  
NOT TO SCALE  
(MARCH 2008)



**HI-FLOW DANDY BAG® (SAFETY ORANGE)**

MECHANICAL PROPERTIES	TEST METHOD	UNITS	MARV
GRAB TENSILE STRENGTH	ASTM D 4632	kN (lbs)	1.62 (365) x 0.89 (200)
GRAB TENSILE ELONGATION	ASTM D 4632	%	24 x 10
PUNCTURE STRENGTH	ASTM D 4833	kN (lbs)	0.40 (90)
MULLEN BURST STRENGTH	ASTM D 3786	kPa (psi)	3097 (450)
TRAPEZOID TEAR STRENGTH	ASTM D 4533	kN (lbs)	0.51 (115) x 0.33 (75)
UV RESISTANCE	ASTM D 4355	%	90
APPARENT OPENING SIZE	ASTM D 4751	Mm (US Str Sieve)	0.425 (40)
FLOW RATE	ASTM D 4491	l/min/m <sup>2</sup> (gal/min/ft <sup>2</sup> )	5607 (145)
PERMITTIVITY	ASTM D 4491	Sec <sup>-1</sup>	2.1

**DANDY BAG®**  
NOT TO SCALE  
(APRIL 2010)



- NOTES:**
1. INSTALLATION AND MATERIALS OF UNDERGROUND UTILITIES SHALL CONFORM TO LOCAL UTILITY COMPANY SPECIFICATIONS.
  2. COORDINATE WITH UTILITY COMPANIES PRIOR TO THE START OF CONSTRUCTION.

**UTILITY TRENCH DETAIL**  
NOT TO SCALE

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL.

**APPROVED BY THE HUDSON, NH PLANNING BOARD**  
DATE OF MEETING: \_\_\_\_\_

\_\_\_\_\_  
SIGNATURE DATE: \_\_\_\_\_

\_\_\_\_\_  
SIGNATURE DATE: \_\_\_\_\_

SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.

**CONSTRUCTION DETAILS**  
**S.L. CHASSE STEEL**  
MAP 105 LOT 14  
5 CHRISTINE DRIVE  
HUDSON, NEW HAMPSHIRE  
HILLSBOROUGH COUNTY

**OWNER OF RECORD/APPLICANT:**  
STEELE PROPERTIES, LLC  
8 CHRISTINE DRIVE  
HUDSON, NH 03051  
H.C.R.D. BK. 9177 PG. 305

**KMA KEACH-NORDSTROM ASSOCIATES, INC.**  
Civil Engineering Land Surveying Landscape Architecture  
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 827-2881

REVISIONS			
No.	DATE	DESCRIPTION	BY
1	04/10/23	PER TOWN COMMENTS	MH
2	06/08/23	REVISED PER AOT COMMENTS	ACL
3	06/20/23	REVISED PER TOWN COMMENTS	ACL

DATE: MARCH 3, 2023 SCALE: 1" = 30'  
PROJECT NO: 22-0126-2 SHEET 11 OF 13

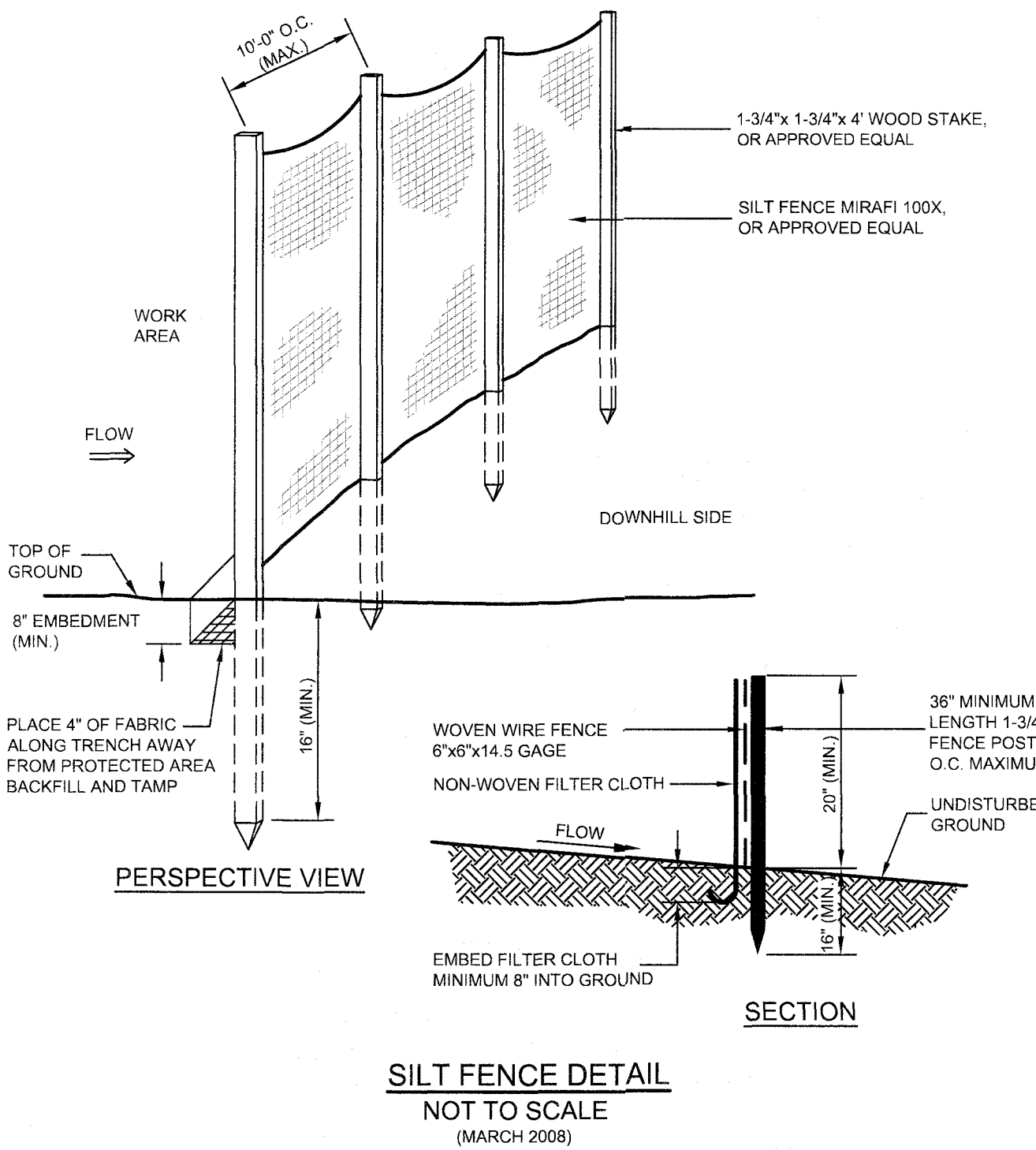


**TURF ESTABLISHMENT SCHEDULE**

- 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:**
- RAKE THE SUBGRADE OF ALL AREAS TO BE LOAMED AND SEEDED TO REMOVE RUBBISH, STICKS, ROOTS AND STONES LARGER THAN 1 INCH.
  - PLACE LOAM OVER AREAS TO BE SEEDDED AND SPREAD.
  - 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.
  - 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.
  - APPLY NO PHOSPHATE, SLOW RELEASE FERTILIZER AND MIX WITH THE UPPER 2 INCHES OF LOAM.
  - DETERMINE APPROPRIATE MIXTURE FOR AREA TO BE SEEDDED 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.
  - 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.
  - WITHIN 24 HOURS AFTER SEEDING OPERATION, UNIFORMLY MULCH THE AREA WITH STRAW. ANCHOR MULCH ON ALL SLOPES EXCEEDING 3:1 USING MULCH NETTING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER.
  - PROTECT AND PREVENT AGAINST WASHOUTS, ANY WASHOUTS WHICH OCCUR SHALL BE PROMPTLY REGRADED AND RESEEDED.
  - 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 SEEDING AREAS SHALL BE KEPT WATERED AND IN GOOD CONDITION. RESEED AS NECESSARY TO ESTABLISH HEALTHY UNIFORM GROWTH OVER THE ENTIRE SEEDING AREA. MAINTAIN SEEDING AREAS IN AN APPROVED CONDITION UNTIL FINAL ACCEPTANCE. MAINTENANCE SHALL INCLUDE REPAIRS FOR DAMAGE CAUSED BY EROSION.

- APPLICATION RATES:**
- LOAM SHALL BE APPLIED AT A MINIMUM COMPACTED THICKNESS OF 4 INCHES.
  - LIME SHALL BE APPLIED AT A RATE OF 75 TO 100 POUNDS PER 1,000 S.F.
  - FERTILIZER SHALL BE APPLIED AT A RATE OF 30 POUNDS PER 1,000 S.F. IT IS RECOMMENDED THAT THE SOIL BE TESTED PRIOR TO APPLYING ANY FERTILIZERS TO DETERMINE WHAT LEVELS AND RATES ARE NECESSARY.
  - 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.
  - TEMPORARY SEED MIXTURE SHALL BE APPLIED AT A RATE OF 2 POUNDS PER 1,000 S.F.
  - SEED MIXTURE FOR SLOPE AREAS SHALL BE APPLIED AT A RATE OF 80 POUNDS PER ACRE OR 2 POUNDS PER 1,000 S.F.
  - 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.
  - MULCH SHALL BE APPLIED AT A RATE OF 90 POUNDS PER 1,000 S.F.

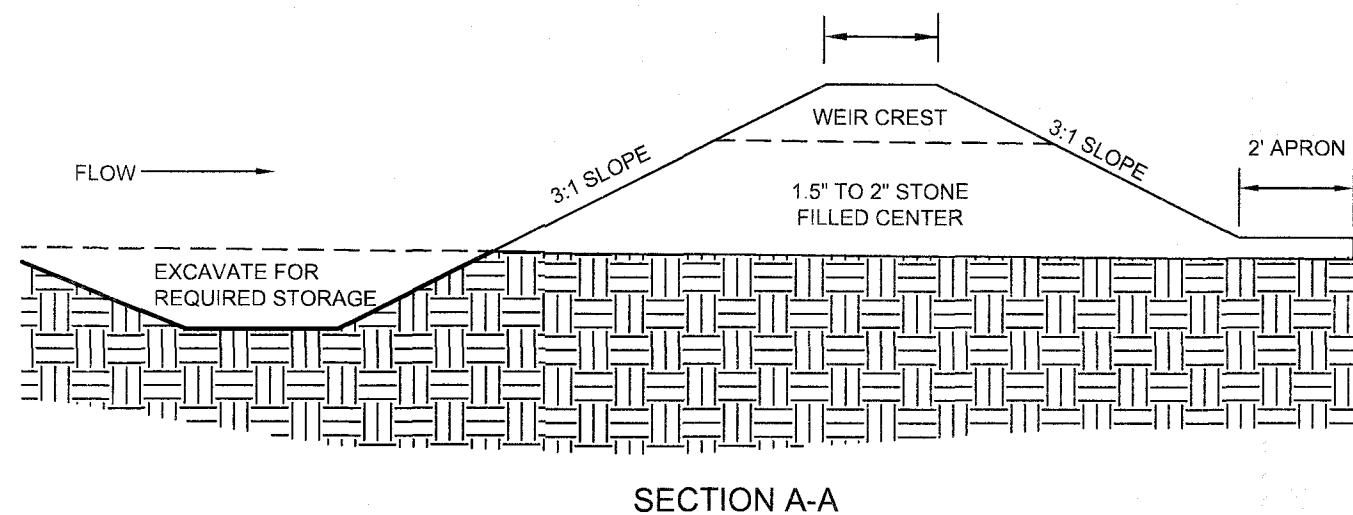


- MAINTENANCE:**
- SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
  - IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
  - 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.
  - 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.

- MATERIALS:**
- 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.
  - LIME SHALL BE GROUND LIMESTONE CONTAINING NO LESS THAN 95% CALCIUM AND MAGNESIUM CARBONATES.
  - FERTILIZER SHALL BE NO PHOSPHORUS, SLOW RELEASE.
  - 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
  - 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-Z7 OR BLAZE SAND LOVEGRASS  
10% VIKING BIRDSFOOT TREFLOL
  - INOCULUM SPECIFIC TO BIRDSFOOT TREFLOL 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.
  - 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% BIRDSFOOT TREFLOL  
\*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.
  - 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
  - STRAW 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.
  - NATIVE PLANTINGS SHOULD BE USED FOR ALL NEW GREENSCAPES.
  - ALL WILDFLOWER SEEDING MIXES SHOULD BE FREE OF INVASIVE SPECIES.

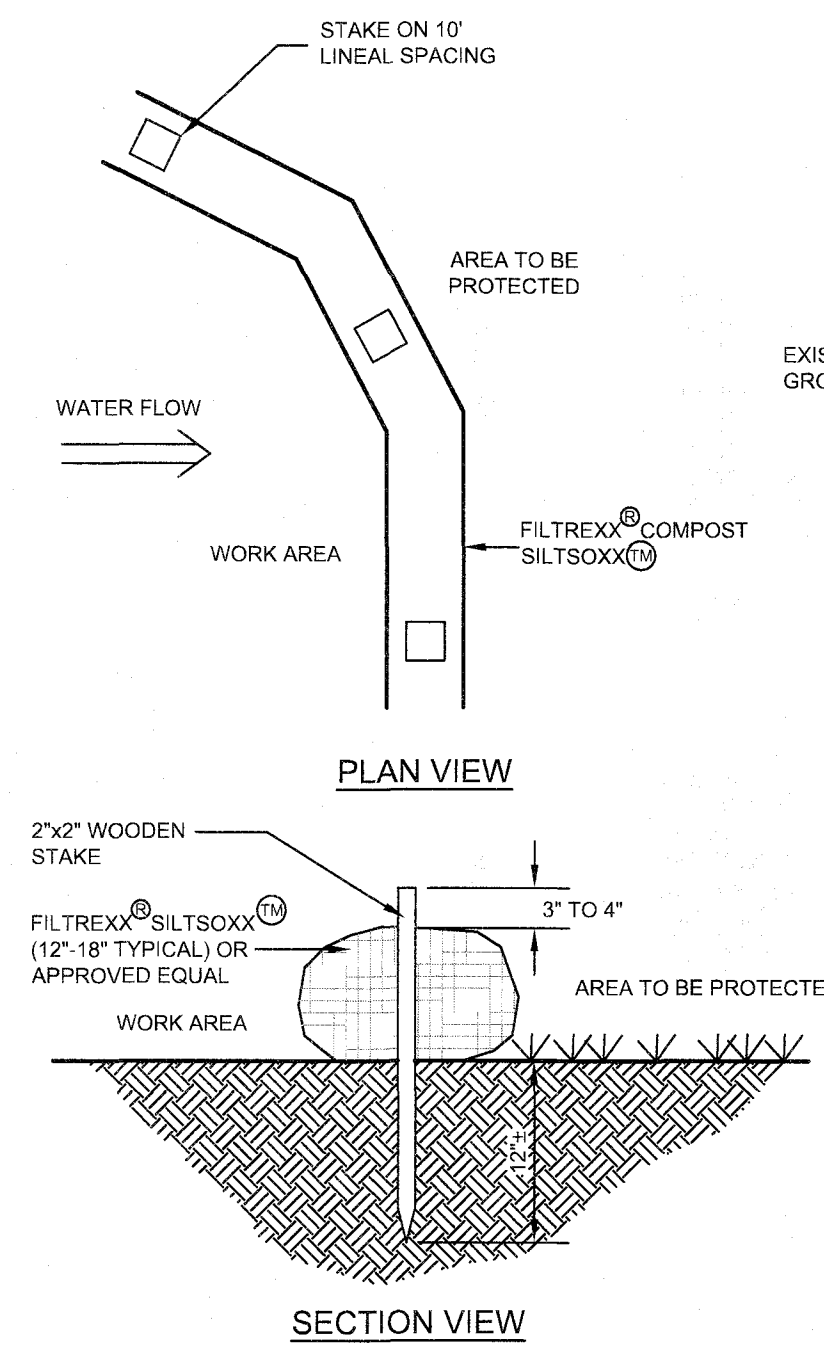
**CONSTRUCTION SPECIFICATIONS:**

- THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.
- THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
- WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIE OR STAPLES WHERE NOTED OR AS DIRECTED BY DESIGN ENGINEER.
- FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MIDSECTION AND BOTTOM.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
- 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.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.



- NOTES:**
- THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA OR SOURCE OF SEDIMENT AS POSSIBLE.
  - THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE TRAP SHALL BE LESS THAN 5 ACRES.
  - THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
  - THE SIDE SLOPES OF THE TRAP SHALL BE 3:1 OR FLATTER, AND SHALL BE STABILIZED IMMEDIATELY AFTER THEIR CONSTRUCTION.
  - THE OUTLET OF THE TRAP SHALL BE A MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP AND SHALL DISCHARGE TO A STABILIZED AREA.
  - THE TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
  - THE MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.
  - SEDIMENT TRAPS AND/OR BASINS SHOULD BE USED AS NECESSARY TO CONTAIN RUNOFF UNTIL BASINS/PONDS ARE STABILIZED.

**TEMPORARY SEDIMENT TRAP DETAIL**  
NOT TO SCALE



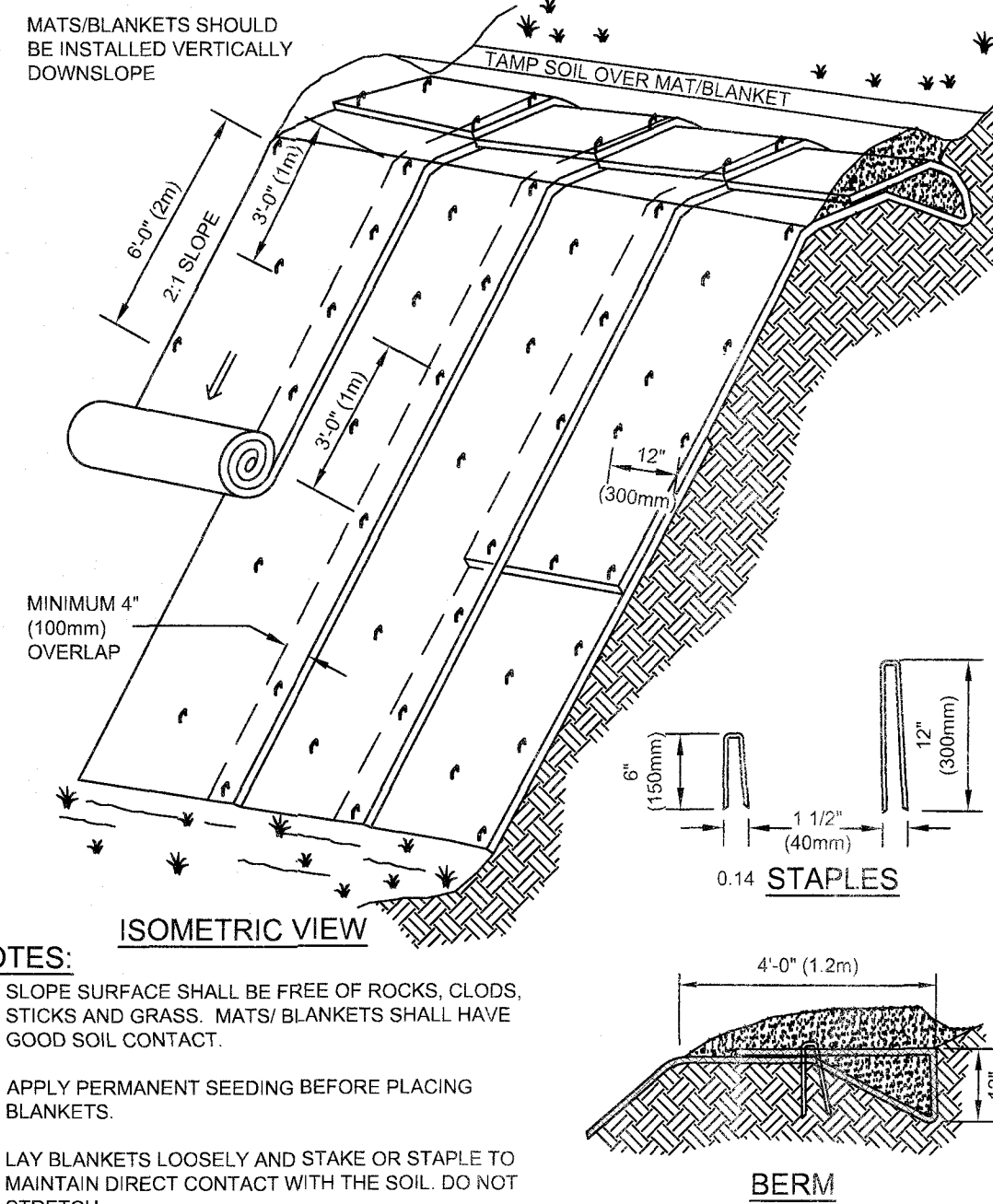
**STABILIZED CONSTRUCTION EXIT DETAIL**  
NOT TO SCALE

**MAINTENANCE:**

- MUD AND SOIL PARTICLES WILL EVENTUALLY CLOG THE VOIDS IN THE CRUSHED STONE AND THE EFFECTIVENESS OF THE CRUSHED STONE PAD WILL NOT BE SATISFACTORY. WHEN THIS OCCURS, THE PAD SHOULD BE TOPRESSED WITH NEW CRUSHED STONE OR COMPLETE REPLACEMENT OF THE PAD MAY BE NECESSARY WHEN THE PAD BECOMES COMPLETELY CLOGGED.
- IF WASHING FACILITIES ARE USED, THE SEDIMENT TRAPS SHOULD BE CLEANED OUT AS OFTEN AS NECESSARY TO ASSURE THAT ADEQUATE TRAPPING EFFICIENCY AND STORAGE VOLUME IS AVAILABLE. VEGETATIVE FILTER STRIPS SHOULD BE MAINTAINED TO INSURE A VIGOROUS STAND OF VEGETATION AT ALL TIMES.

**CONSTRUCTION SPECIFICATIONS:**

- STONE FOR A STABILIZED CONSTRUCTION EXIT SHALL BE 3 INCH MINIMUM STONE, RECLAIMED STONE OR RECYCLED CONCRETE EQUIVALENT.
- THE LENGTH OF THE STABILIZED EXIT SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
- THE THICKNESS OF THE STONE FOR THE STABILIZED EXIT SHALL NOT BE LESS THAN 3 INCHES.
- THE WIDTH OF THE EXIT SHALL NOT BE LESS THAN THE FULL WIDTH OF THE AREA WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICHEVER IS GREATER.
- GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENCE LOT.
- ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION EXIT SHALL BE PIPED BENEATH THE EXIT. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
- THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOPPRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.
- 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.
- THE MOUNTABLE BERM IS REQUIRED FOR 50' LONG EXITS.



- NOTES:**
- SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
  - APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
  - LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
  - EROSION BLANKETS TO BE A BGN150 OR AN APPROVED ALTERNATIVE WHICH MUST CONSIST OF ALL NATURAL FIBERS.

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

**CONSTRUCTION SEQUENCE**

- THE CONTRACTOR WILL ENSURE THAT NO MORE THAN 5 ACRES IS DISTURBED AT ANY ONE TIME.
- FIRST CUT AND CLEAR TREES AND BRUSH ONLY WITHIN DESIGNATED LIMITS OF CLEARING AS NECESSARY TO FACILITATE PROPOSED SPECIFIED EROSION CONTROL MEASURES. OTHER VEGETATIVE MATERIALS SHALL BE PROPERLY DISPOSED OF OFF SITE BY THE CONTRACTOR. THIS PROJECT IS MANAGED TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
- 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.
- 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 TEMPORARILY SEEDDED WITH WINTER RYE AND BE SURROUNDED WITH STRAW BALETS AND/OR FABRIC SILTATION FENCE IN ORDER TO PREVENT LOSS DUE TO EROSION.
- BEGIN EARTHMOVING OPERATIONS. COMMENCEMENT 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.
- ONCE BUILDING FOUNDATION WORK IS UNDERWAY, CONTINUE EARTHMOVING OPERATIONS UNTIL DESIGN SUBGRADE IS ACHIEVED.
- DETENTION BASINS/SWALES SHALL BE INSTALLED BEFORE ROUGH GRADING THE SITE.
- DITCHES/SWALES/BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC.) MUST BE USED AS NECESSARY UNTIL SOILS ARE STABILIZED.
- INSTALL DRAINAGE SWALE SYSTEMS AND OTHER UTILITIES WORKING FROM LOW TO HIGH. INCOMPLETE WORK SHALL BE PROTECTED FROM SILTATION BY THE INSTALLATION OF PERIMETER SILTATION FENCING UNTIL THE SITE HAS BECOME FULLY STABILIZED.
- DEEPLY TILL THE BASE OF THE INFILTRATION BASIN TO RESTORE INFILTRATION RATES FOLLOWED BY A PASS WITH A LEVELING DRAG. STORMWATER FLOWS ARE NOT TO BE DIRECTED TO THE INFILTRATION AREA UNTIL CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
- PLACE GRAVEL AND CRUSHED GRAVEL OVER PROPOSED DRIVEWAY, WALKS AND PARKING AREAS AND COMPACT IN SPECIFIED LIFT THICKNESS.
- 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 FRAGILE LOAM.
- 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.
- INSTALL THE BINDER COURSE OF PAVEMENT OVER ALL DESIGNATED AREAS.
- 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.
- INSTALL THE SPECIFIED WEARING COURSE OF PAVEMENT OVER THE BINDER COURSE.
- COMPLETE INSTALLATION OF LANDSCAPING, SIGNAGE AND OTHER SITE AMENITIES.

**CERTIFICATE OF OCCUPANCY PHASING PLAN AGREEMENT:**

- THE FOLLOWING SITE IMPROVEMENTS ARE REQUIRED FOR INDIVIDUAL CERTIFICATES OF OCCUPANCY AS CONSTRUCTION PROGRESSES:  
A. ROAD BASE COAT.  
B. STOP SIGNS AND TEMPORARY STRIPING OF STOP BARS.  
C. GRADING AND DRAINAGE.  
D. LOAM AND SEED THAT SUPPORTS THE SUBJECT UNIT OF THE CERTIFICATE OF OCCUPANCY.  
E. TEMPORARY STRIPING OF VISITOR PARKING; AND  
F. UTILITIES.

**EROSION CONTROL NOTES**

- EXPOSED EARTHWORK SHALL BE CONFINED TO AS LIMITED AN AREA AS IS PRACTICAL AT ANY GIVEN TIME THROUGHOUT THE CONSTRUCTION SEQUENCE. AT NO TIME SHALL MORE THAN FIVE (5) ACRES OF SITE AREA BE IN AN UNSTABLE CONDITION UNLESS AN ENVIRONMENTAL MONITOR IS EMPLOYED THROUGHOUT THE DURATION OF CONSTRUCTION. NO GIVEN AREA OF THE SITE SHALL BE LEFT IN AN UNSTABILIZED CONDITION FOR A PERIOD OF TIME EXCEEDING FORTY-FIVE (45) CALENDAR DAYS.
- 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 WHEN THEY SHALL BE CLEANED AND MAINTAINED AND OTHERWISE KEPT IN AN EFFECTIVE OPERATING MANNER THROUGHOUT THE CONSTRUCTION PERIOD.
- 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.
- EROSION CONTROL AND STABILIZATION SHALL BE IN ACCORDANCE WITH HILLSBOROUGH COUNTY CONSERVATION DISTRICT-VEGETATIVE STANDARD AND SPECIFICATIONS FOR SEEDING GRASSES AND LEGUMES FOR LONG-TERM COVER ON EXCAVATED AREAS.
- ALL SWALES AND DITCHLINES SHALL BE PERIODICALLY CLEANED OF DEPOSITED SEDIMENT SO AS TO MAINTAIN AN EFFECTIVE GRADE AND CROSS SECTION. ALL SWALES AND DITCHLINES SHALL BE FULLY STABILIZED PRIOR TO HAVING STORMWATER DIRECTED TOWARDS THEM.
- 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.
- 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.
- DUST SHALL BE CONTROLLED BY THE USE OF WATER AS NECESSARY THROUGHOUT THE CONSTRUCTION PERIOD, IN ACCORDANCE WITH ENVA 1000.
- 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.
- THE TOWN RESERVES THE RIGHT TO REQUIRE ADDITIONAL EROSION CONTROL MEASURES DURING CONSTRUCTION.
- AREAS HAVING FINISH GRADE SLOPES OF 3:1 OR STEEPER SHALL BE STABILIZED WITH JUTE MATTING WHEN AND IF FIELD CONDITIONS WARRANT, OR IF SO ORDERED. JUTE MATTING INSTALLED TO CONFORM WITH THE RECOMMENDED BEST MANAGEMENT PRACTICE OUTLINED IN VOLUME 3 OF THE NEW HAMPSHIRE STORMWATER MANUAL. EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION.
- DETENTION BASINS/SWALES SHALL BE INSTALLED BEFORE ROUGH GRADING THE SITE.
- DITCHES/SWALES/BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC.) MUST BE USED AS NECESSARY UNTIL SOILS ARE STABILIZED.
- ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
- ALL CUT AND FILL SLOPES SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- ALL MANUFACTURED EROSION AND SEDIMENT CONTROL PRODUCTS, EXCEPT FOR SILT FENCE INSTALLED IN ACCORDANCE WITH ENV-WQ 1506.04, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, RUNOFF DIVERSION, SLOPE INTERRUPTION, PERIMETER CONTROL, INLET PROTECTION, CHECK DAMS, AND SEDIMENT TRAPS SHALL NOT CONTAIN WELDED PLASTIC, PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN 3/8".
- TURF REINFORCEMENT MATS SHALL BE COVERED WITH SOIL TO PREVENT EXPOSURE OF THE MATS TO THE SURFACE.

**WINTER CONSTRUCTION NOTES**

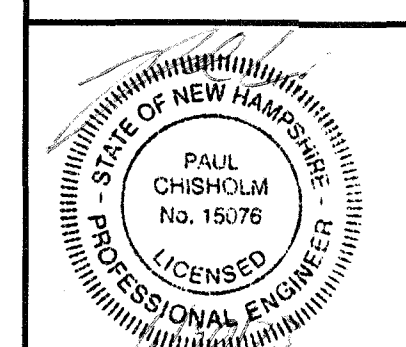
- ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 4:1, AND SEEDING AND PLACING 3 TO 4 TONS OF 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.
- ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3 OR, IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON, BE CLEANED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.
- 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**

**S. L. CHASSE STEEL**  
MAP 105 LOT 14  
5. CHRISTINE DRIVE  
HUDSON, NEW HAMPSHIRE  
HILLSBOROUGH COUNTY

**OWNER OF RECORD/APPLICANT:**  
STEELE PROPERTIES, LLC  
8 CHRISTINE DRIVE  
HUDSON, NH 03051  
H.C.R.D. BK. 9177 PG. 305

**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	04/10/23	PER TOWN COMMENTS	MH
2	06/08/23	REVISED PER AOT COMMENTS	ACL
3	06/20/23	REVISED PER TOWN COMMENTS	ACL

DATE: MARCH 3, 2023 SCALE: 1" = 30'  
PROJECT NO: 22-0126-2 SHEET 12 OF 13

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL.

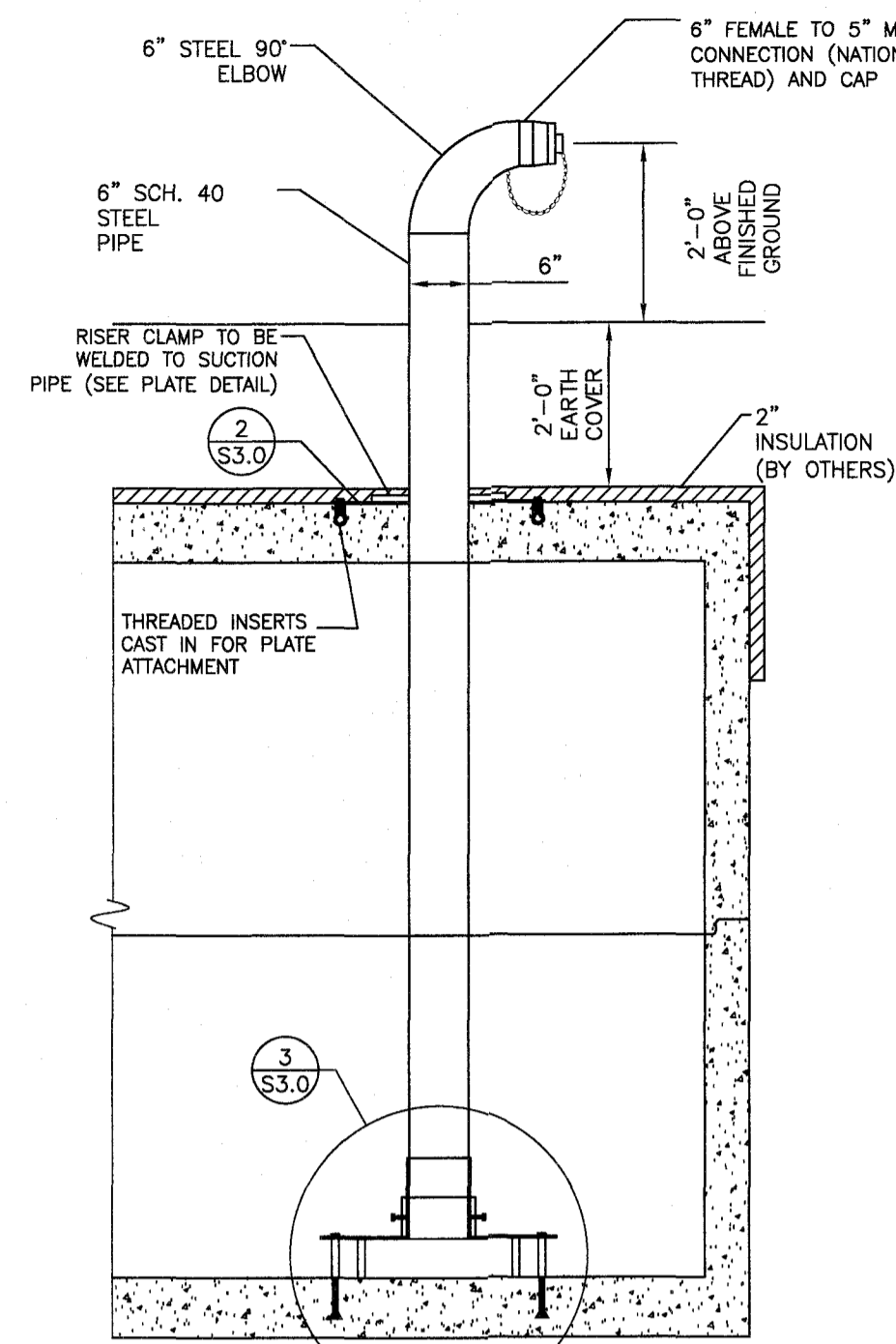
**APPROVED BY THE HUDSON, NH PLANNING BOARD**  
DATE OF MEETING: \_\_\_\_\_

\_\_\_\_\_  
SIGNATURE DATE: \_\_\_\_\_

\_\_\_\_\_  
SIGNATURE DATE: \_\_\_\_\_

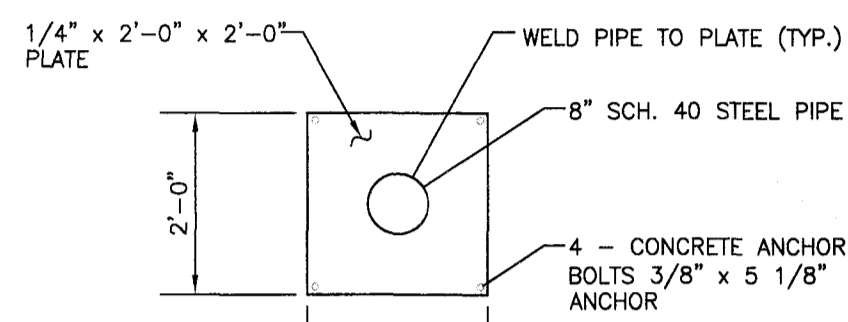
SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.



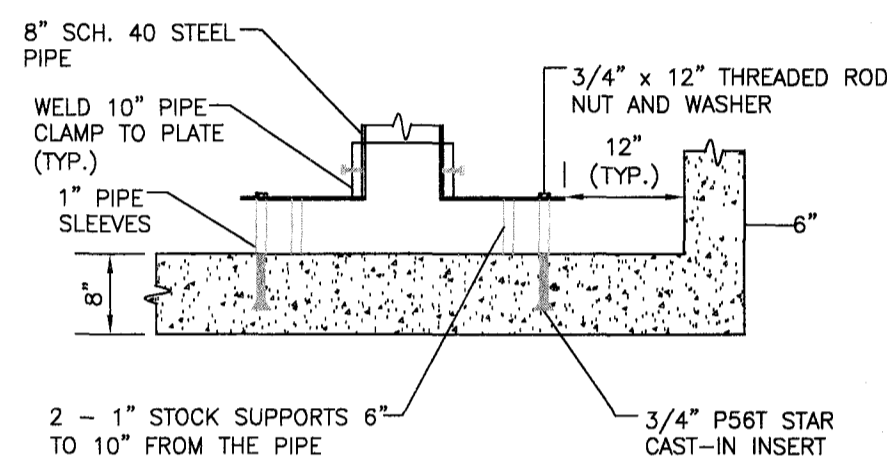


**NOTE:**  
8" VERTICAL SUCTION PIPE TERMINATING WITH AN 8" x 6" 90° THREADED REDUCING ELBOW AND A 6" NST OR 4 1/2" NST NOZZLE AND CAP. THE SUCTION PIPE CONNECTION SHOULD BE 24" ABOVE THE LEVEL OF THE ROAD OR SHOULDER WHERE THE VEHICLE WHEELS WILL BE LOCATED WHEN CISTERN IS IN USE.

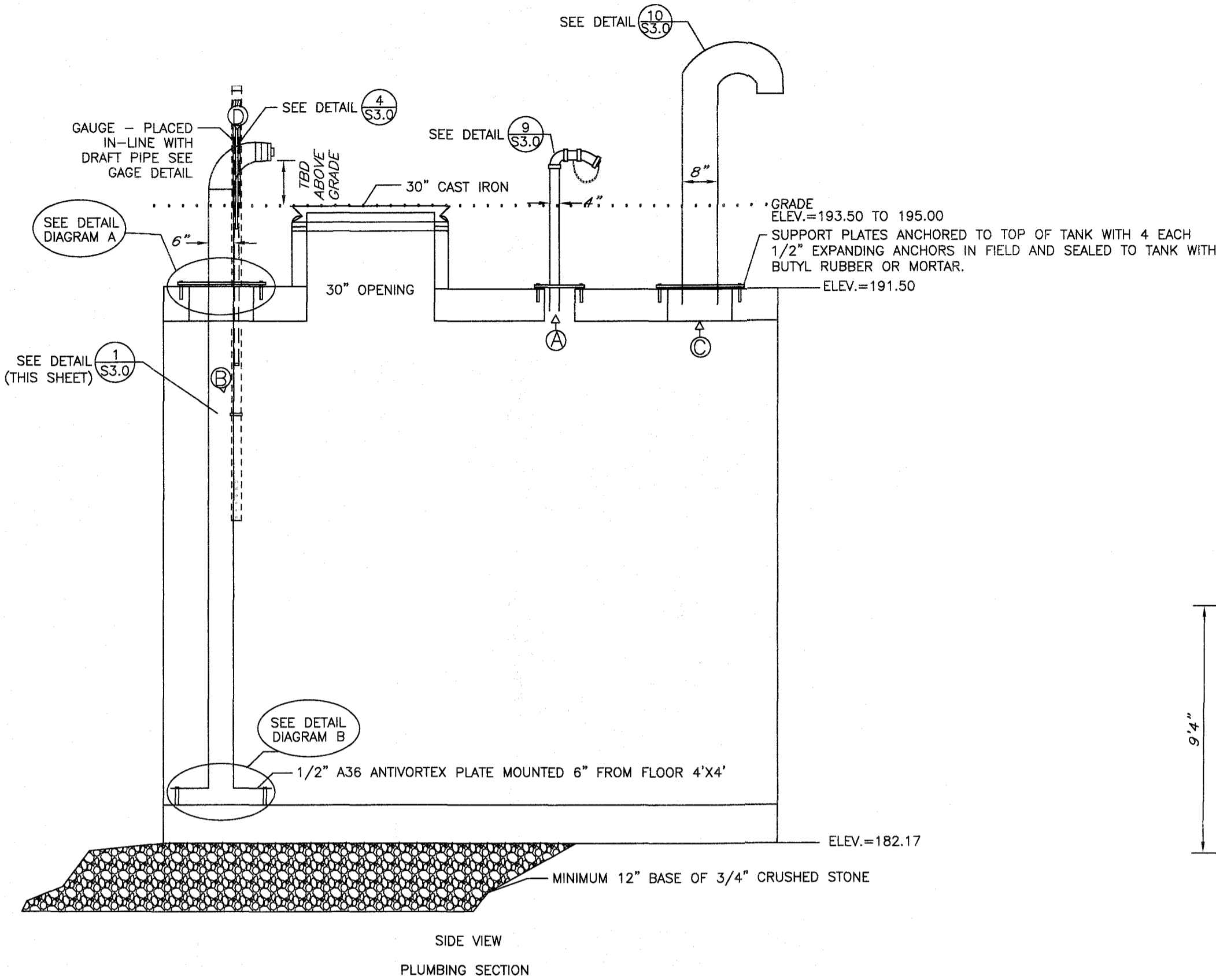
**1 SUCTION ASSEMBLY DETAIL**  
S3.0 NOT TO SCALE



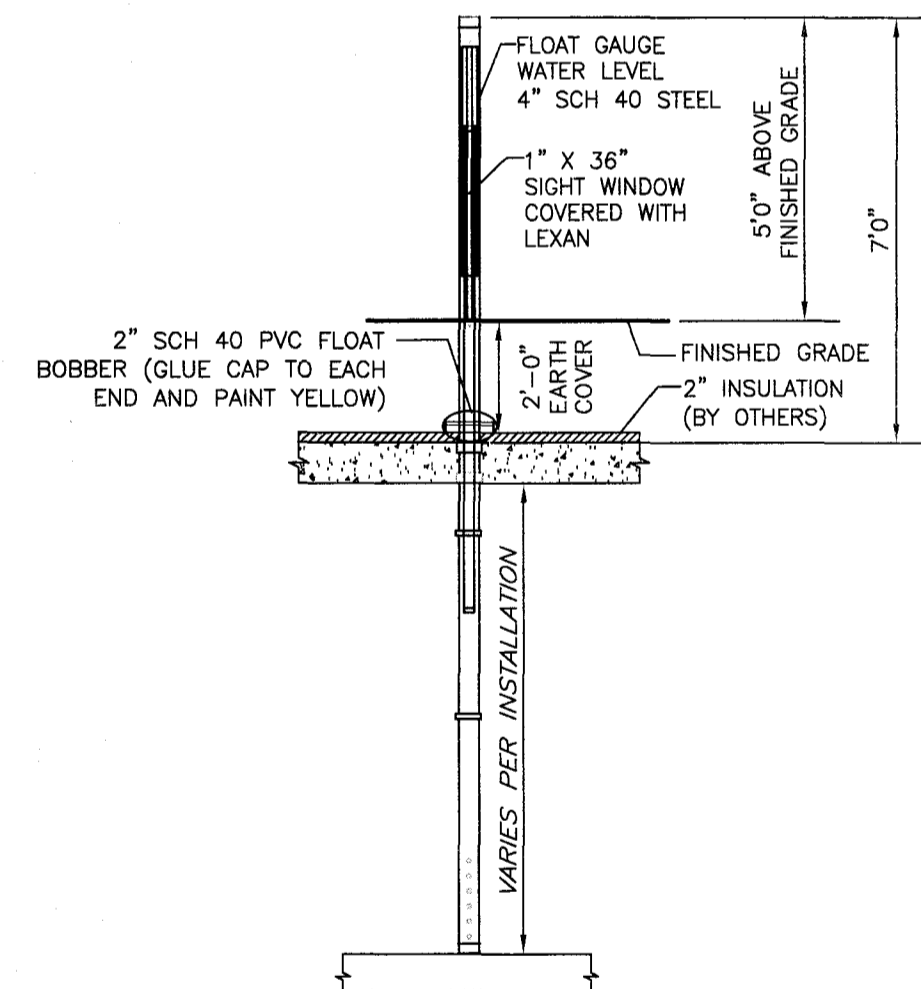
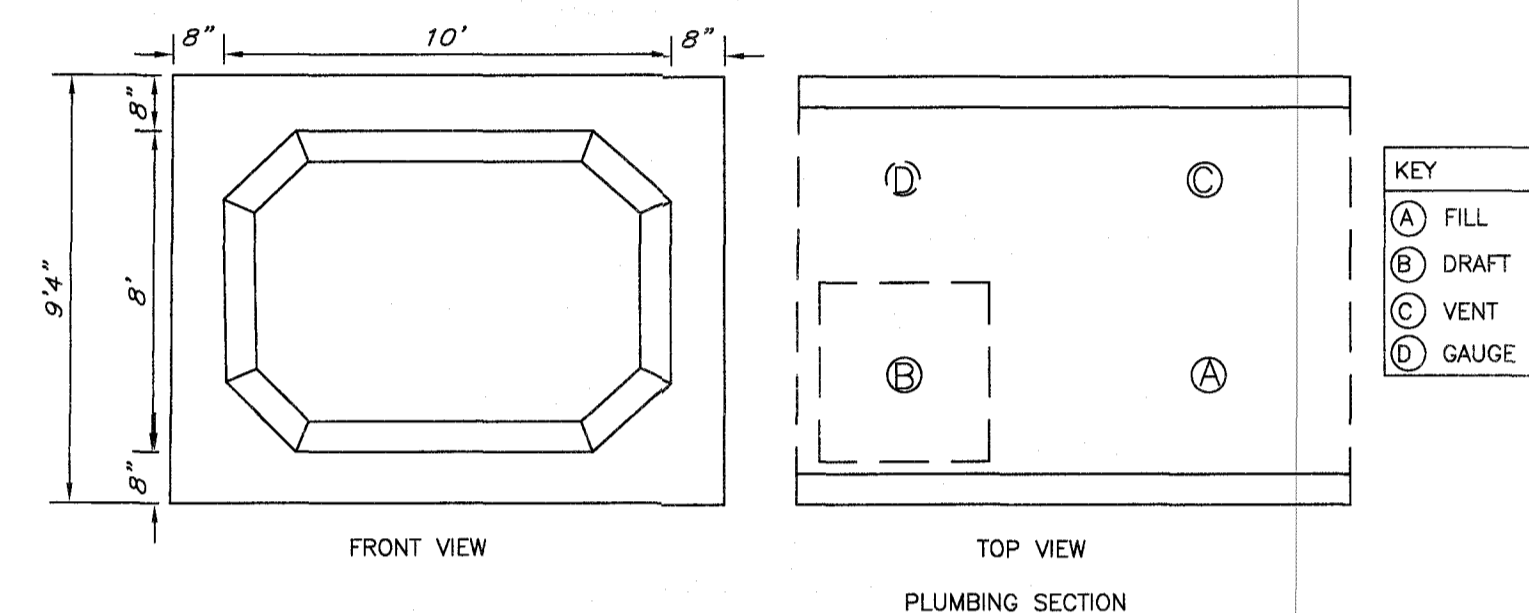
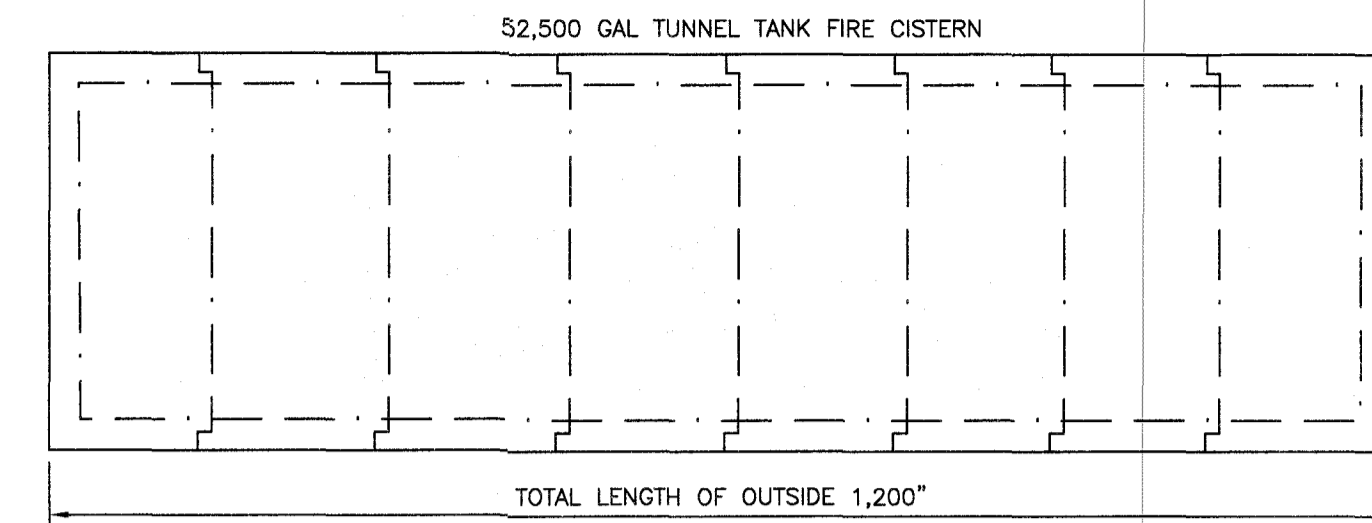
**3 ANTI VORTEX PLATE DETAIL**  
S3.0 NOT TO SCALE



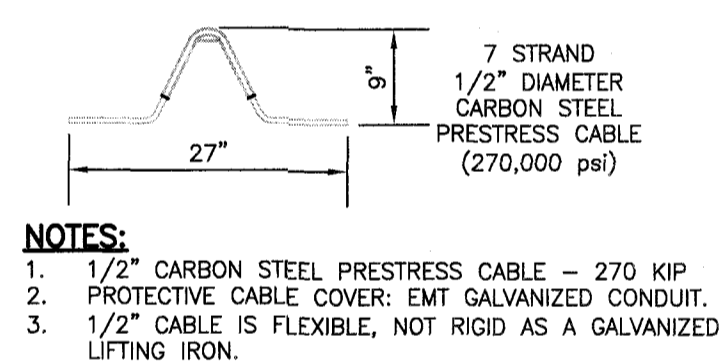
**2 RISER CLAMP DETAIL**  
S3.0 NOT TO SCALE



**SIDE VIEW PLUMBING SECTION**



**4 WATER LEVEL FLOAT INDICATOR DETAIL**  
S3.0 NOT TO SCALE

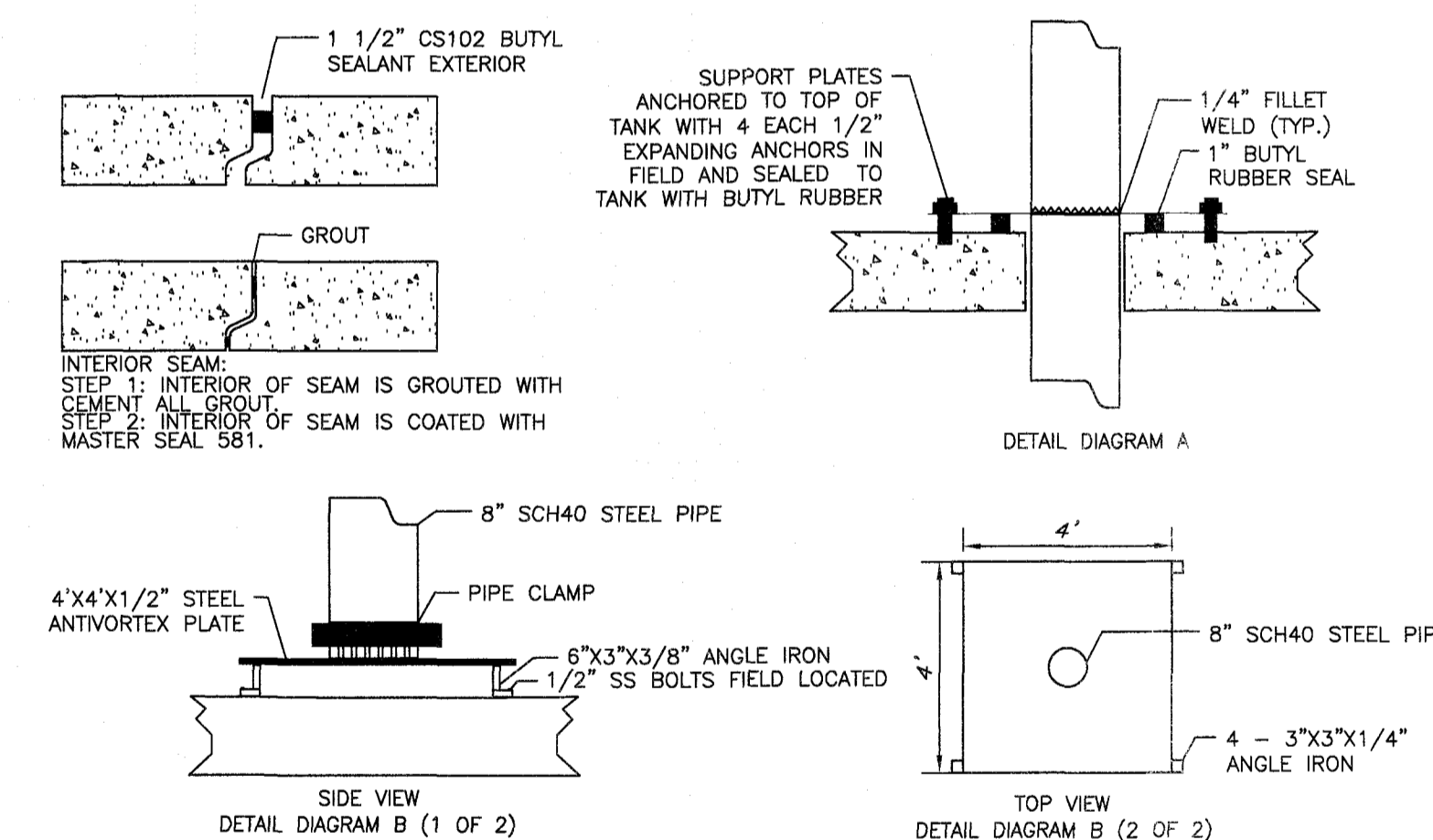


**5 UPI CABLE LIFTING IRON - TOP SLABS ONLY**  
S3.0 NOT TO SCALE

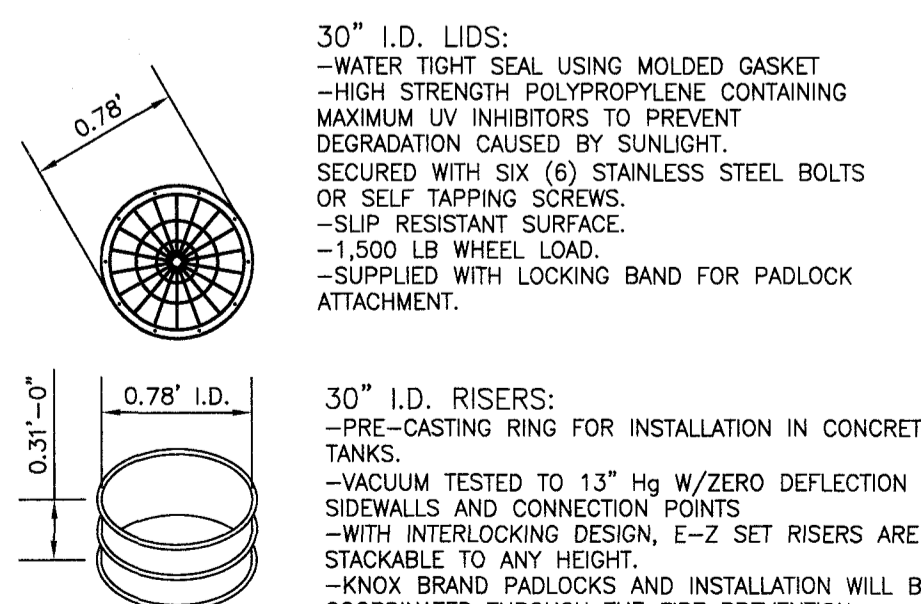
Product Code	Anchor SWL AT		Edge Distance
	90° TENSION	90° SHEAR	
KCA14	3,300	3,400	24"
SCA14	5,500	8,500	28"
SCA18	6,000	9,300	30"
6CA14	6,500	10,100	34"
KCA18	7,500	11,600	35"
SCA18	13,000	20,000	46"

Note: Safe working load provides a factor of safety of approximately 4:1 based on a minimum concrete strength of 4,000 psi.  
For use as Pulling Iron load may be increased by 33% with 3 to 1 Safety Factor

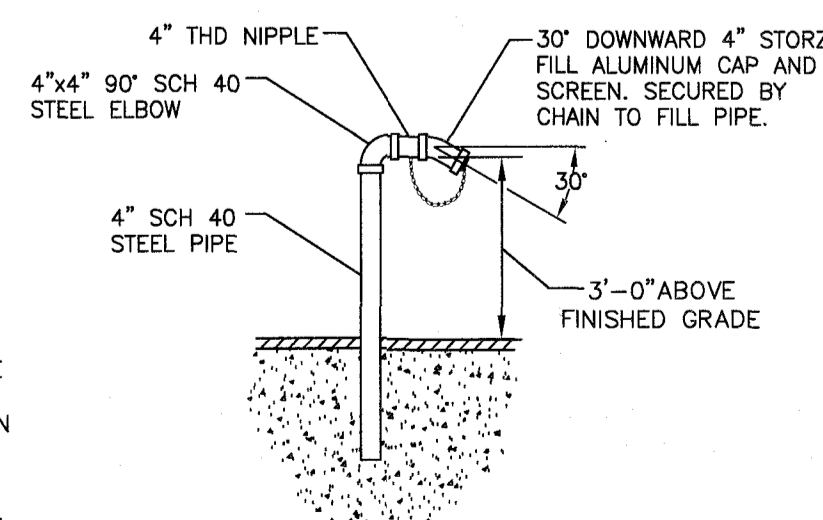
**6 CONAC CORPORATION A ANCHOR - BASE SLABS ONLY**  
S3.0 NOT TO SCALE



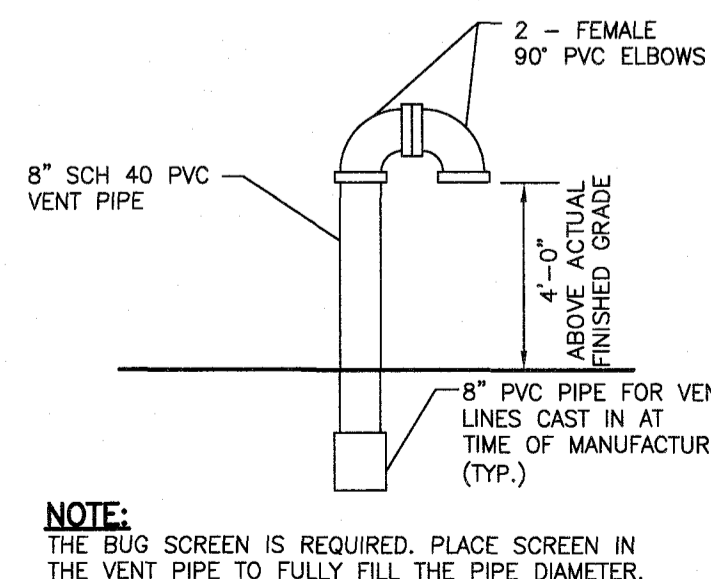
**7 CONSEAL JOINT SEALANTS DETAIL**  
S3.0 NOT TO SCALE



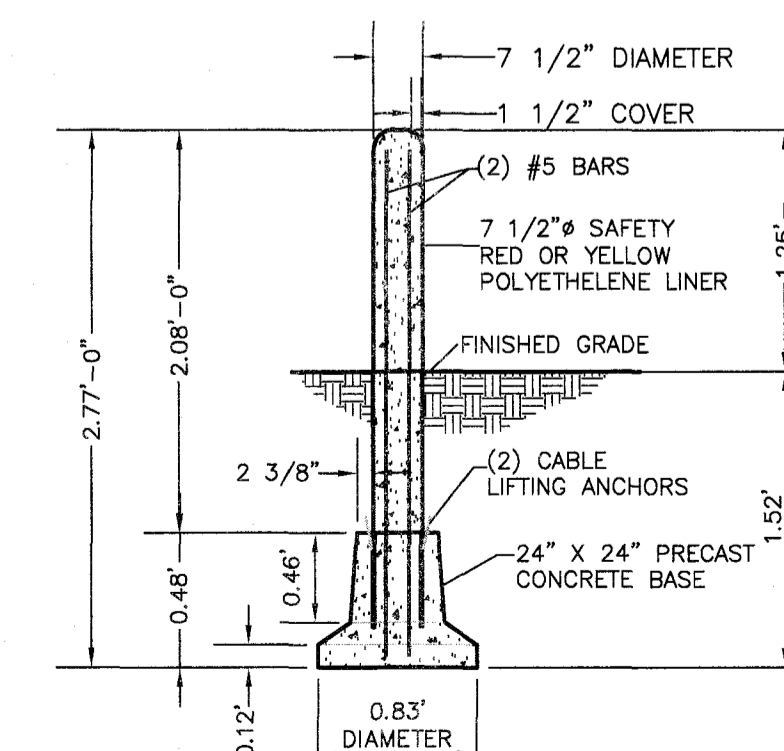
**8 EZ SET TANK RISER DETAIL**  
S3.0 NOT TO SCALE



**9 FILL LINE ASSEMBLY DETAIL**  
S3.0 NOT TO SCALE



**10 VENT PIPE ASSEMBLY DETAIL**  
S3.0 NOT TO SCALE



**10 TYPICAL POLY-SHEATHED PRECAST BOLLARD**  
S3.0 NOT TO SCALE

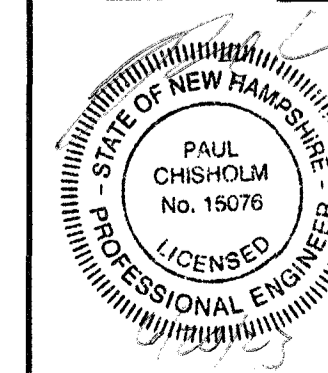
**FOUNDATION & BACKFILL NOTES:**

- FOUNDATION MATERIAL SHALL BE 3/4" CRUSHED STONE, MINIMUM 12" THICK.
- 1 1/2" BANK RUN GRAVEL SHALL BE USED FOR BACKFILL OPERATIONS SURROUNDING TANK. BACKFILL SHALL BE PLACED IN MAXIMUM 12" LOOSE LIFTS. IT SHALL BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY BY MODIFIED PROCTOR METHOD (ASTM 1557). ALL COMPACTON SHALL BE DONE WITH HAND-OPERATED COMPACTON EQUIPMENT.
- TANK EXCAVATION SHALL BE KEPT DEWATERED THROUGHOUT INSTALLATION AND BACKFILL OPERATIONS.
- ALL AREAS BETWEEN TANKS SHALL BE FILLED TO A MINIMUM OF 12" ABOVE CROWN OF INTERCONNECTION PIPE WITH 3/4" CRUSHED STONE. 1 1/2" BANK RUN GRAVEL MAY BE USED ABOVE THIS ELEVATION, PROVIDED THAT PROPER COMPACTON AS STATED IN NOTE 2 ABOVE CAN BE ACHIEVED.
- ALL BACKFILL MATERIAL BETWEEN TANKS SHALL BE PLACED IN 12" LIFTS AT THE SAME TIME AS THE MATERIAL SURROUND THE TANKS.

**CONSTRUCTION DETAILS**  
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