

STAFF MEMORANDUM

Date: October 7, 2019
To: Planning Board
From: Kellie Shamel, Town Planner
Subject: Leighton A. White, Inc. (applicant) and Spring Creek Sand & Gravel, LLC (owner) – Review for acceptance and consideration of final approval for a major site plan for the expansion of an existing sand and gravel operation (Spring Creek) along with associated site improvements. The parcel is located at 0 Mile Slip Road in the Residence R District. Tax Map 50, Lot 4-4.

BACKGROUND/PROPOSAL:

The applicant is presenting a formal application to the Planning Board for a major site plan application for the expansion of an existing sand and gravel operation. The expansion is proposed on Map 50, Lot 4-4 which is over 41.5 acres. The existing operation (Spring Creek) is situated mostly on the adjacent Map 45, Lot 11, which is 390 acres. The proposed expanded area, south of the existing excavation, will add approximately 10 acres to the total earth excavation area.

The applicant has also been granted a Special Exception from the ZBA to permit the processing of natural resources on the subject property in association with the earth and gravel removal operation. This will be the first public hearing for the project. Attached please find is the gravel removal plan for the proposed site improvements.

EXISTING USE/CONDITIONS:

Tax Map 50, Lot 4-4 is located at 0 Mile Slip Road in the Residential R zoning district. The subject property is approximately 41.5 acres in size and is abutted residential properties.

LOT AREA:

Map 50 Lot 4-4 = ±41.592 acres (1,113,282 SF)

APPLICATION STATUS:

The application is complete and ready to be accepted. The Board will need to make a determination of regional impact.

NOTICES:

Notices were sent to all property abutters on October 4, 2019.

WAIVERS:

The applicant has submitted a waiver request from the Milford Gravel and Earth Removal Regulations, Article VIII: Operational Standards, paragraph 1.

Staff recommends that the Board vote with respect to any waivers utilizing the criteria from RSA 674:44:

- Strict conformity would pose an unnecessary hardship to the applicant and the waiver would not be contrary to the spirit and intent of the regulations; **or**
- Specific circumstances relative to the subdivision, or conditions of the land in such subdivision, indicate that the waiver will properly carry out the spirit and intent of the regulations.

ZONING DISTRICTS:

The subject property lies within the Residential R District. The intent of the Residence "R" District is to provide for low- density residential and agricultural land uses, and other compatible land uses, that are sensitive to the rural character and environmental constraints existing in the district.

TRAFFIC AND ACCESS MANAGEMENT:

Access to the existing operation is from Mason road. The proposed expansion will utilize the same access and gravel driveway.

DRAINAGE/STORMWATER MANAGEMENT:

See attached comments from KV Partners.

INTERDEPARTMENTAL REVIEWS:

Ambulance: No comments.

Assessing:

1. Please confirm that the all portions of the original gravel operation on Map 45-11 have been reclaimed.
2. There is already an active gravel operation (an existing expansion from 45-11) on map 50-4-4, that has been in operation for many years. Please confirm how many acres are still active, and how many have been reclaimed to date.
3. Should the currently active area on Map 50-4-4 be considered Phase 1 since it exists, making this new expansion Phases 2 & 3?
4. It appears that all of the affected area associated with this new expansion plan is part of a 16.32 area of land that was added to 50-4-4 by lot line adjustment outlined in HCRD plan # 38949 in 2016. This area is in Current Use. Any active area will need to be removed from Current Use.
5. P 1of 4 General Notes#17 states the disturbed area will not exceed 10 acres, and the expected amount of materials within this expansion is 610,000 cy. The documents provided indicate this excavation will be completed in 2 phases and expecting a 10 year time frame to completion. I would like to see the breakdown of area and expected materials per phase if possible.

Building Department: No comments.

Code Enforcement/ Health: No Comments.

Conservation Commission: Comments will be provided by October 11th and attached once received.

Heritage Commission: Comments will be provided by October 11th and attached once received.

Fire Department: No comments.

Police Department: No comments.

Public Works: No comments.

Water/Sewer Utilities: No comments.

Community Development / Planning:

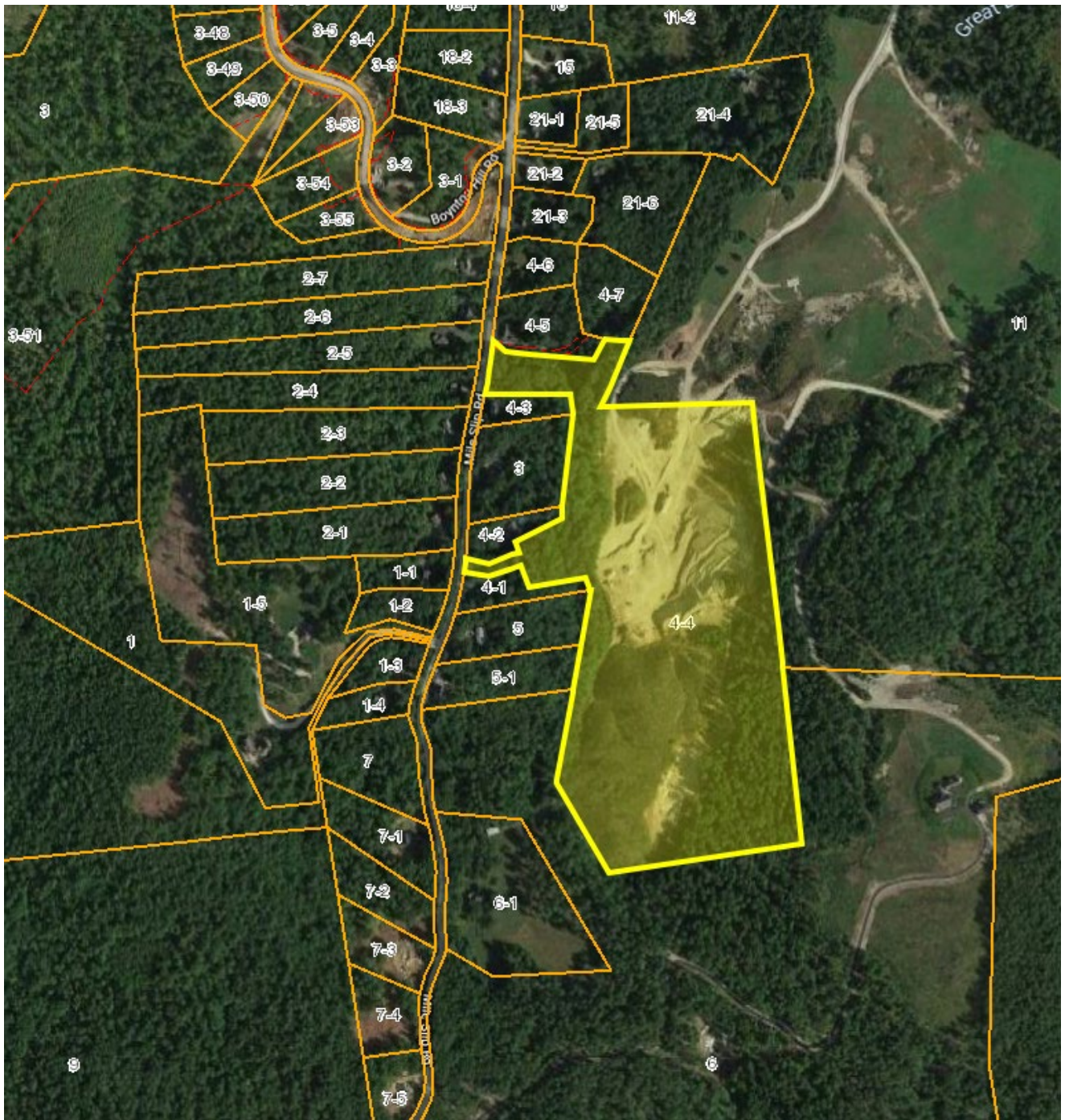
- 1) Sheet 1, General Note 12. Please revise to include RSA 155-E Permit, Milford Gravel Removal Permit, Milford Site Plan approval, Milford Stormwater Management Permit, any waiver requests and Special Exception granted 10/3/19.
- 2) General comment. Has NH Fish & Game provided any comment regarding additional requirements/recommendations for this project?
- 3) Sheet 2. Please provide test pit data logs for all test pits.
- 4) Sheet 2 shows Phase I and Phase II. Please explain the details and timeline for each phase and revise

the notes to reference the anticipated phases for the operation.

- 5) Gravel and Earth Removal Regulations, Section B. Bonding. Pursuant to said section, the bond amount to cover reclamation of the site shall be \$7,500/per acre x 10.4 acres (total site disturbance) = \$78,000

STAFF RECOMMENDATIONS:

The applicant should be prepared to address all of the comments raised by the Planning Board, Conservation Commission, Town Consultants, Staff, and public pertaining to the Site Plan Final Design and revise the plans/information accordingly. The Board will need to vote on regional impact, the requested waiver, and the application. If the Board is satisfied with the information/responses from the applicant and finds that the remaining concerns can be addressed with staff, staff would recommend a conditional approval.



October 8, 2019

Kellie Shamel, Town Planner
Town of Milford
Community Development
1 Union Square
Milford NH 03055

Re: Spring Creek Sand and Gravel (Tax Map 50, Lot 4-4) – Excavation Plan Review

Dear Ms. Shamel:

We reviewed the 6-sheet plan set dated September 16, 2019 and the Stormwater Pollution Prevention Plan (SWPPP) dated September 12, 2019 both prepared by Granite Engineering, LLC in accordance with our agreement with the Town. Based on that review, we offer the following comments:

1. No test pits or borings were completed to establish the Seasonal High-Water Table (SHWT) as required by the Regulations to determine the bottom of the excavation. Instead it is proposed that excavation on nearby areas be used as a guide for determining water table elevations at this location. While that assumption may be accurate, there is no guarantee that it will be. Accordingly, if the bottom of the excavation must be adjusted up, the grading will need to be modified and the plans revised to ensure that the bottom of the excavation is 3' from the SHWT. If the Planning Board elects to accept this assumption a Waiver to the Regulations (Appendix 3.k) will be required.
2. All proposed runoff from the site will be directed to the proposed excavation bottom and infiltrated. Accordingly, no pre vs. post runoff calculations are required.
3. Considering this site is on a hillside that slopes down to a nearby wetlands, approximate interim grading for Phase 1 that includes erosion controls (i.e. sedimentation basins, diversion swales, etc.) should be added to the plan set.

If you have any questions or need any additional information, please feel free to contact me at 603-413-6650 or on my cell phone at 603-731-1562 or by email at MVignale@kvpllc.com.

Sincerely,

KVPartners LLC



Michael S. Vignale, P.E.
Principal Engineer



GRANITE ENGINEERING, LLC

civil engineering • land planning • municipal services

Spring Creek Sand & Gravel Map 50; Lot 4-4 Mile Slip Road

Project Narrative

The applicant, Leighton A. White, Inc., and the property owner Spring Creek Sand & Gravel, LLC, proposes an expansion at the existing Spring Creek Sand & Gravel (Spring Creek). Spring Creek has operated an earth excavation and processing business at the Milford location for many years. The expansion is proposed on Map 50; Lot 4-4, which is over 41.5 acres in area. Spring Creek, however, is situated mostly on adjacent Map 45; Lot 11, which is nearly 390 acres in area. Both lots are situated in the Residence 'R' zoning district. Access to the existing operation is from Mason Road. The proposed expansion will utilize the same access and gravel driveway. The property owner permitted a subdivision and lot line relocation in 2016 which added approximately 16 acres to Lot 4-4, inclusive of the area proposed for additional excavation. The expanded area, south of the existing excavation, will add approximately 10 acres to the total earth excavation area.

Leighton A. White, Inc. has operated a successful full-service site work company in the Town of Milford since 1978 and is partnering with Spring Creek to expand its operations in Milford. Processing of the excavated materials (crushing, screening, sorting, and stockpiling) to create marketable construction materials will occur onsite. Several weeks ago the applicant submitted an application for Special Exception to the Milford Zoning Board of Adjustment to allow material processing. The applicant, if approved, would rent the processing equipment on a monthly basis, processing the native materials over the course of several days. Once adequate stockpiles are created, the rented equipment will be returned. Material processing is only expected to occur approximately 25% of the time. Given the size of the parcel (over 430 acres in total), the earth excavation and processing is remotely situated and is not expected to cause any increased nuisance noise for surrounding neighbors. Nuisance dust is controlled onsite today by applying water to the surface during dry conditions. This Best Management Practice will continue.

The applicant's engineer has developed Excavation and Reclamation Plans for the expanded area. Stormwater is controlled by benching the excavated slopes, directing surface water into the pit, and retaining all runoff on-site. Appropriate erosion and sediment controls are planned along with long term soil stabilization as part of the reclamation plan for the property. As part of the application to the Milford Planning Board for Site Plan Approval, the applicant is seeking a Stormwater Management Permit from the Town of Milford, and an Alteration of Terrain Permit from the New Hampshire Department of Environmental Services. Additionally, the applicant will file a USEPA Notice of Intent as part of the Construction General Permit, which requires preparation and maintenance of a Stormwater Pollution Prevention Plan. A copy of this plan will be provided to the Town.



Waiver Request Form

Department of Planning and Community Development

Name of Project Spring Creek Sand & Gravel

Applicant Leighton A. White, Inc.

Date 9/12/19

When a proposed subdivision plat or site plan is submitted for approval, the applicant may request in writing to waive specific requirements of these Regulations as they pertain to the subdivision or site plan. The applicant shall present reasons in writing why the waiver is needed by the application deadline for a regularly scheduled Planning Board meeting. The Board's publicly notice agenda for the particular meeting shall clearly indicate that a waiver request has been received, a copy of which is available at the planning office, and that the waiver request will be considered at the meeting.

Abutter notification is required for all waiver requests.

The Planning Board may grant a waiver in a special case, so that justice may be done and the public interest secured, provided that such waiver will not have the effect of nullifying the intent and purposes of these Regulations, the Zoning Ordinance or the Master Plan. The Planning Board shall not approve waivers unless it shall make findings based upon the evidence presented to it in each specific case.

All approved waivers shall be noted on the plans, indicating the paragraphs waived and a general description of the waivers.

Gravel and Earth Removal

~~Subdivision or Site~~

~~Plan Regulation~~

Section Number

Request and Rationale

1. VIII. 1.

See attached supplemental information

Subdivision or Site
Plan Regulation
Section Number

Request and Rationale

3. _____	_____ _____ _____ _____
4. _____	_____ _____ _____ _____
5. _____	_____ _____ _____ _____
6. _____	_____ _____ _____ _____

Please feel free to attach any other information as necessary.

→ _____
Signature of Applicant

9/13/19
Date



GRANITE ENGINEERING, LLC
civil engineering • land planning • municipal services

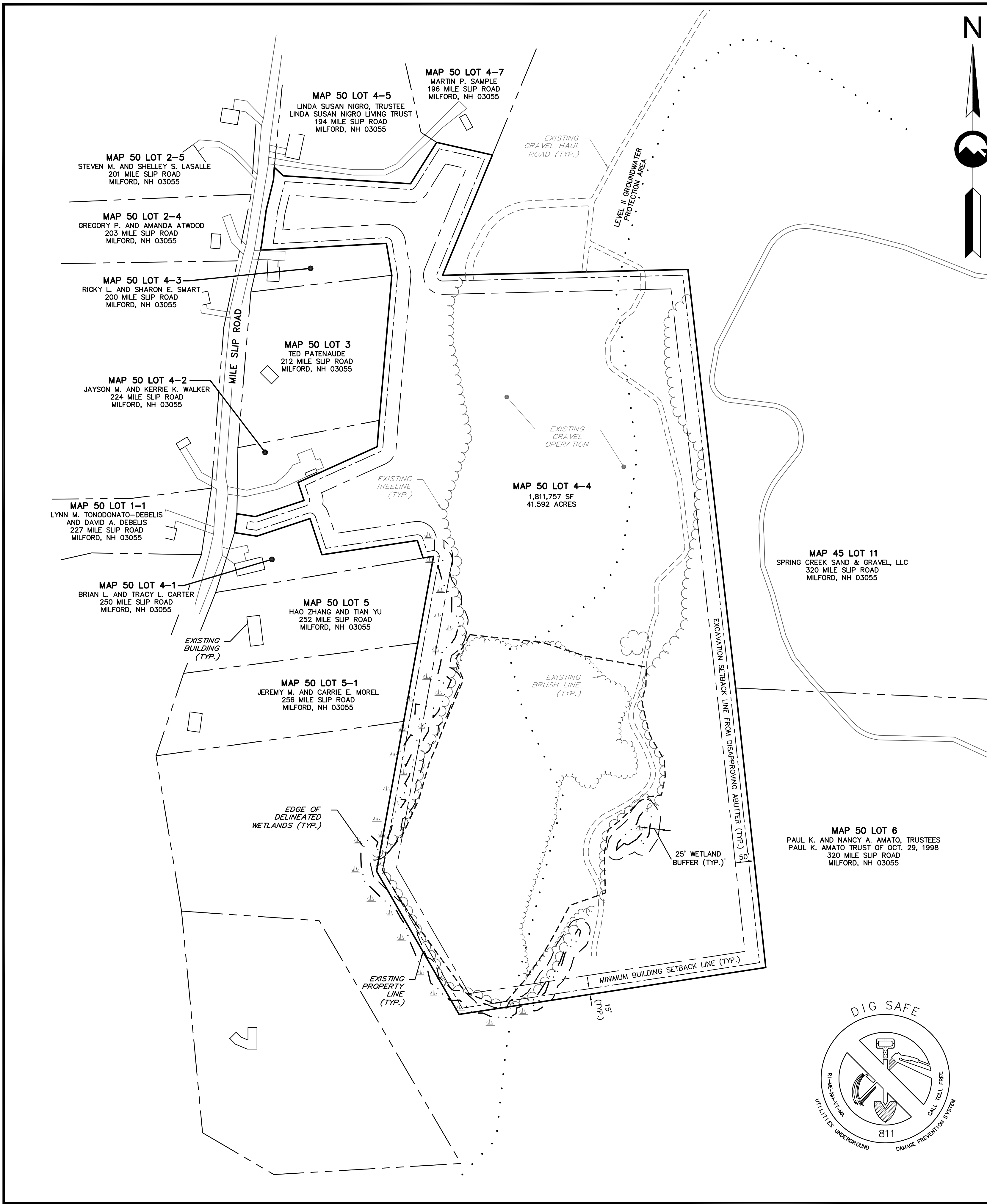
Major Site Plan Application
Leighton A. White

Waiver Request Supplement

The applicant, Leighton A. White, Inc., requests a waiver from the Milford Gravel and Earth Removal Regulations, Article VIII: Operational Standards, paragraph 1, which states that no operation of the gravel and earth removal business shall operate outside the hours of 7am to 5pm, Monday through Friday. The applicant requests that the Planning Board relax the requirement to allow operations onsite between the hours of 6am and 7pm, Monday through Friday and 7am-12 noon on select Saturdays when work orders exceed weekday production.

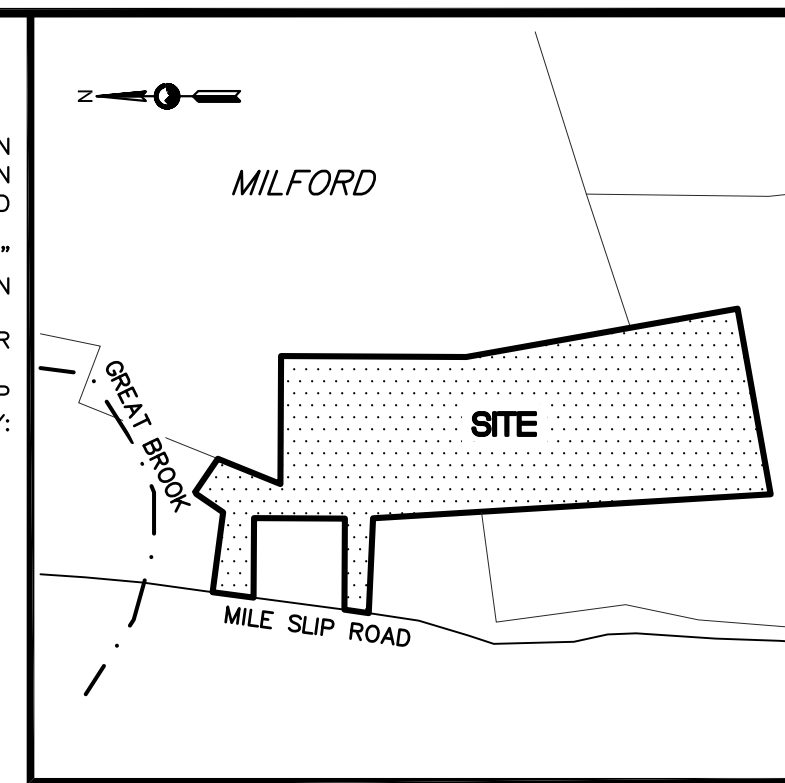
Leighton A. White has operated a full-service site work company in the Town of Milford since 1978. Additionally, the applicant operates similar excavation operations in Milford and Wilton. The hours of operation are critical to meeting the demands of customers during peak construction, and their reputation precedes them. As depicted in the Excavation and Reclamation Plans for the expansion at Spring Creek Sand & Gravel, the excavation is remotely situated within a large tract of undeveloped land. Substantial wooded buffers surround the excavation on all sides, eliminating the concern of nuisance noise for adjacent properties, which is the purpose of the regulated hours of operation.

Given the short construction season in New Hampshire, site work contractors traditionally work long hours during the spring, summer, and fall months because they are forced to shut down for the long winter. The demand for construction materials during those same periods requires increased work hours at the gravel pits as well. The strict application of these regulations would result in exceptional practical difficulties and undue hardship upon the applicant because they would not be able to keep up with the demand of their customers thereby losing business to competitors. Further, pursuant to Article VIII, “Other hours may be required or permitted which are compatible with neighboring conditions.” Given the remote location of the excavation and the substantial wooded buffers surrounding it, the applicant asserts that longer hours of operation in this particular instance are compatible with neighboring conditions, and kindly requests the Board’s consideration.



PLAN REFERENCES:

- "CONSOLIDATION & LOT LINE RELOCATION PLAN, MAP 41 LOT 88 & MAP 45 LOTS 11, 12 & 14, MASON ROAD & MILE SLIP ROAD, MILFORD, NH" PREPARED FOR: KENNETH LORDEEN SR. AND KENNETH LORDEEN JR., SCALE: 1"=600', DATED: SEPTEMBER 25, 1996, PREPARED BY: MAYNARD & PAQUETTE. HCRD PLAN NO. 28723.
- "SUBDIVISION PLAN OF THE LAND THURSTON & GLADYS WILLIAMS, JUDD HALL ROAD, MILFORD, NH" DATED: AUGUST 31, 1989, SCALE: 1"=100', PREPARED BY: GREATER NEW ENGLAND, INC. HCRD PLAN NO. 24574.
- "ROAD RELOCATION PLAN, A PORTION OF JUDD HALL ROAD, MILFORD, NH, SCALE: 1"=40', NOVEMBER 24, 1987, PREPARED BY: MONADNOCK SURVEY, INC. HCRD 38438.
- "MASTER SUBDIVISION PLAN, AMATO PROPERTY, MAP 50 LOTS 4-4 & 6, MAP 45 LOT 11, MILE SLIP ROAD, MILFORD, NH HILLSBOROUGH COUNTY" DATED: APRIL 20, 2016, SCALE: 1"=400', PREPARED BY: KEACH-NORDSTROM ASSOCIATES, INC. HCRD 39549.



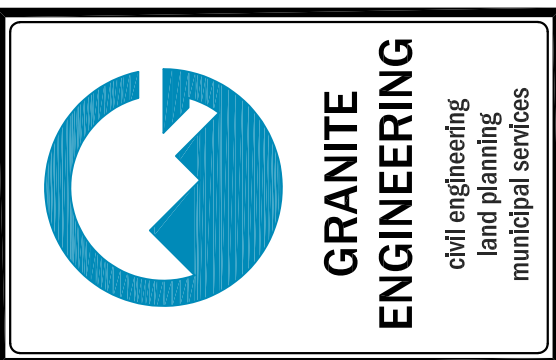
GENERAL NOTES:

- THE PURPOSE OF THIS PLAN IS TO ILLUSTRATE THE PROPOSED EXPANSION OF THE EXISTING GRAVEL AND EARTH REMOVAL OPERATION FOR SPRING CREEK SAND AND GRAVEL, LLC ON TAX MAP 50 LOT 4-4.
- CURRENT USE OF THE PROPERTY IS FOR GRAVEL AND EARTH REMOVALS. NO STRUCTURES ARE LOCATED ON THE PROPERTY.
- AREA OF SUBJECT PARCEL = 1,113,282 SF OR 41.592 ACRES
- AREA OF CONTIGUOUS PARCELS OWNED BY SPRING CREEK SAND & GRAVEL, LLC = 431.29 ACRES
- OWNERS OF RECORD:
SPRING CREEK SAND & GRAVEL, LLC
320 MILE SLIP ROAD
MILFORD, NH 03055
- THE SUBJECT PROPERTY IS LOCATED ENTIRELY WITHIN THE RESIDENCE 'R' ZONING DISTRICT AND PARTIALLY WITHIN THE GROUNDWATER PROTECTION OVERLAY DISTRICT, AND IS SUBJECT TO THE FOLLOWING DIMENSIONAL REGULATIONS:

DESCRIPTION	REQUIRED	EXIST. LOT 4-4	PROP. LOT 4-4
MINIMUM LOT SIZE	2 AC	41.592 AC	41.592 AC
MINIMUM LOT FRONTAGE	200 FT	236.78 FT	236.78 FT
FRONT YARD SETBACK	30 FT	N/A	N/A
SIDE YARD SETBACK	15 FT	N/A	N/A
REAR YARD SETBACK	15 FT	N/A	N/A
MINIMUM OPEN SPACE	>30%	>30%	>30%
BUILDING HEIGHT	35 FT	N/A	N/A

- BASE SURVEY INFORMATION INCLUDING BOUNDARY, EXISTING FEATURES, AND TOPOGRAPHY SHOWN ON THIS PLAN ARE TAKEN FROM PLAN REFERENCES AND FIELD SURVEY BY PROMISED LAND SURVEY, LLC IN AUGUST 2019.
- TOPOGRAPHIC INFORMATION SHOWN WITHIN THE AREA OF DISTURBANCE IS TAKEN FROM FIELD SURVEY BY PROMISED LAND SURVEY, LLC (PLS) ON AUGUST 28, 2019 AND STATE GENERATED LIDAR DATA.
- HORIZONTAL DATUM IS NAD83-2011 BASED ON LEICA RTK POST PROCESSED GPS.
- VERTICAL DATUM IS NAVD88-09 BASED ON LEICA RTK POST PROCESSED GPS.
- SPECIAL EXCEPTION REQUESTED FROM THE MILFORD ZONING BOARD OF ADJUSTMENT:
ARTICLE V SECTION 5.04.2 (A) 9. - PROCESSING OF NATURAL RESOURCES
- WARRANTS REQUESTED FROM PLANNING BOARD:
MILFORD GRAVEL AND EARTH REMOVAL REGULATION ARTICLE VIII 1. - BUSINESS HOURS
- THE PROJECT REQUIRES THE FOLLOWING STATE, FEDERAL AND LOCAL PERMITS:

PERMIT	STATUS	PERMIT NO.	EXPIRATION DATE
NHDES AOT	PENDING		
LOCAL SITE PLAN APPROVAL	PENDING		
LOCAL STORMWATER PERMIT	PENDING		
USEPA CDP	REQUIRED PRIOR TO CONSTRUCTION		
- WETLAND MAPPING PERFORMED BY THOMAS E. SOKOLOSKI OF TES ENVIRONMENTAL CONSULTANTS, LLC ON AUGUST 5, 2019.
- EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) FOR HILLSBOROUGH COUNTY, TOWN OF MILFORD, NH, MAP NUMBER 33011004650, PANEL NUMBER 377 OF 701, EFFECTIVE DATE 09/25/2009 INDICATES THAT NO PORTION OF THE SUBJECT PARCEL IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA.
- LOCATION OF ANY UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. GRANITE ENGINEERING, LLC 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.
- THIS PROJECT DISTURBS IN EXCESS OF 1-ACRE OF LAND. THEREFORE, 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" (APPLICANT) 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.
- THE PROPOSED AREA OF DISTURBANCE WILL NOT EXCEED 10 ACRES. THE APPROXIMATE AMOUNT OF MATERIAL PROPOSED TO BE EXCAVATED IS 610,000 CUBIC YARDS.
- THE EXISTING HAUL ROUTE IS FROM THE EXISTING GRAVEL OPERATION, THROUGH MAP 45 LOT 11 & 13 (BOTH OWNED BY SPRING CREEK SAND AND GRAVEL, LLC) TO MASON ROAD AT ADDRESS 408 & 412 MASON ROAD, MILFORD, NH. NO CHANGE IN THE HAUL ROUTE IS PROPOSED.
- NO EXCAVATION WILL BE PERFORMED WITHIN 25' OF MAPPED WETLANDS, 50' OF ABUTTING PROPERTIES THAT DISAPPROVE, 10' FROM ABUTTING PROPERTIES THAT APPROVE OF THE GRAVEL OPERATION, OR 150' FROM ANY EXISTING DWELLINGS. VEGETATION SHALL BE MAINTAINED OR PROVIDED WITHIN THE PERIPHERAL AREAS PREVIOUSLY LISTED.
- IN ORDER TO OPERATE A GRAVEL OPERATION, AN OFFICE TRAILER AND GRAVEL EQUIPMENT WILL BE STORED ON SITE. THIS EQUIPMENT WILL CONSIST OF, BUT NOT LIMITED TO, BULLDOZERS, LOADERS, HAULER, EXCAVATORS, WATER TRUCKS, AND PROCESSORS. IN ORDER TO PROVIDE THE FURTHEST SEPARATION TO ABUTTING PROPERTIES, ALL PROCESSING EQUIPMENT WILL BE CENTRALLY LOCATED.
- "TRUCKS ENTERING" SIGNS SHALL BE ERRECTED BY THE OPERATOR AS REQUIRED BY THE DIRECTOR OF PUBLIC WORKS AND THE PLANNING BOARD.
- A COPY OF THE APPROVED GRAVEL AND EARTH REMOVAL PLAN SHALL BE ON SITE AT ALL TIMES.
- EXCAVATION PERMITS SHALL BE VALID FOR THE TERM OF ONE (1) YEAR. A RENEWAL PERMIT MUST BE IN PLACE PRIOR TO CONTINUING EXCAVATION ACTIVITIES BEYOND THE EXPIRATION DATE. THE OWNER MAY APPLY FOR RENEWAL OF AN EXCAVATION PERMIT THROUGH THE OFFICE OF COMMUNITY DEVELOPMENT FOR A FEE NOT TO EXCEED FIFTY DOLLARS (\$50.00) PER YEAR.
- PLOWED SNOW FROM THE OPERATION SHALL BE MAINTAINED AND ON SITE WITHIN THE CONTAINED AREA.
- WORKING HOURS SHALL BE 6AM TO 7PM MONDAY THROUGH FRIDAY AND 7AM TO 12PM ON SATURDAYS. THE HOURS OF OPERATION ON SATURDAY SHALL BE UNANTICIPATED, TIME SENSITIVE NEED FOR PRODUCT. NO MATERIAL PROCESSING SHALL OCCUR BEFORE 7AM AND NO EXCAVATION BE ALLOWED ON A LEGAL HOLIDAY.
- TRUCKS UTILIZED FOR TRANSPORT OF MATERIAL WILL CONSIST OF TRI-AXLES, 10-WHEELERS, AND TRACTOR TRAILER DUMP TRUCKS.
- THE APPLICANT MUST SUBMIT TO THE DEPARTMENT OF ENVIRONMENTAL SERVICES A WRITTEN UPDATE OF THE PROJECT AND REVISED PLANS DOCUMENTING THE PROJECT STATUS EVERY FIVE YEARS FROM THE DATE OF THE ALTERATION OF TERRAIN PERMIT.
- THE ESTIMATED PROJECT TIME FRAME IS 10 YEARS AND IS SUBJECT TO CHANGE BASED ON MARKET DEMAND.
- THE ESTIMATED AMOUNT OF TRUCK TRAFFIC TO THE PROJECT AREA WILL BE 15 TRUCKS PER DAY.
- RESTORATION OF THE SITE WILL BE TO CREATE AN OPEN FIELD WHICH IS IN KIND WITH THE SURROUNDING NEIGHBORHOOD.
- A PORTION OF THE PROPERTY IS LOCATED WITHIN THE GROUNDWATER PROTECTION OVERLAY DISTRICT AND IS SUBJECT TO THE REGULATIONS OF SECTION 6.01.0 IN THE MILFORD ZONING ORDINANCE.
- ALL STORMWATER WILL BE COLLECTED, RETAINED, AND INFILTRATED ON-SITE.
- NO IMPACT FEES ARE APPLICABLE TO THIS PROJECT.
- NO KNOWN EASEMENTS OR DEED RESTRICTIONS ENCUMBER THE PROPERTY.



NO.	DATE	REVISIONS
0	09/16/2019	PROJECT SUBMITTAL

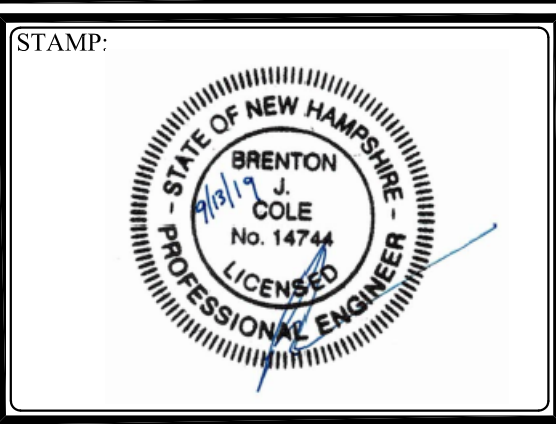
OWNER:
SPRING CREEK SAND AND GRAVEL, LLC
320 MILE SLIP ROAD
MILFORD, NH 03055-3310
BOOK 77:51 PAGE 2619

APPLICANT:
LEIGHAN A. WHITE, INC.
135 ELM STREET
MILFORD, NH 03055

GRANITE ENGINEERING
civil engineering • land planning • municipal services

230 Commercial Street, Suite 3008
Manchester, New Hampshire 03101
603.518.8030

www.GraniteEng.com



LOCATION:
**TAX MAP 50 LOT 4-4
MILE SLIP ROAD
MILFORD, NEW HAMPSHIRE
HILLSBOROUGH COUNTY**

PROJECT:
**SPRING CREEK
SAND & GRAVEL**

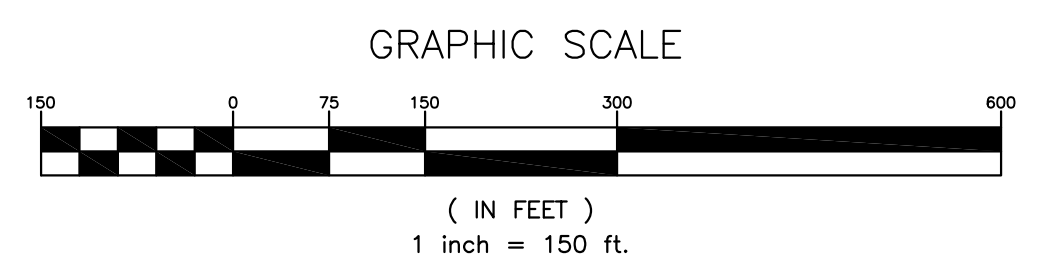
TITLE:
OVERVIEW PLAN

PROJECT No. DATE: 19-0414-1 SEPTEMBER 16, 2019
SHEET: 1 OF 4
SCALE: HORIZ. 1"=150'

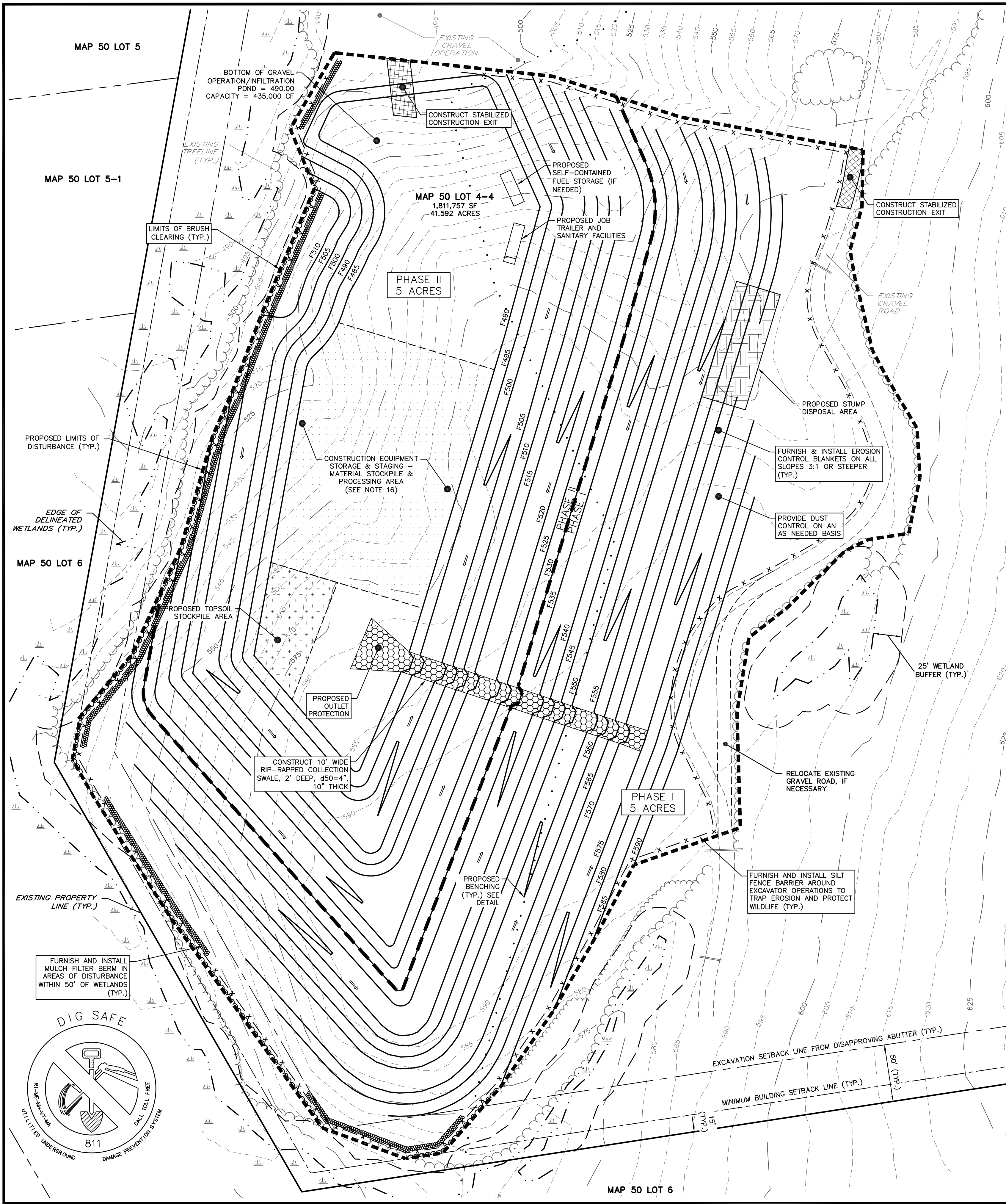


LEGEND

- ABUTTER LINE
- PROPERTY LINE
- WETLAND
- TREELINE
- BRUSHLINE
- EDGE OF GRAVEL
- GROUNDWATER PROTECTION AREA
- BUILDING SETBACK
- WETLAND BUFFER
- EXCAVATION SETBACK FOR DISAPPROVING ABUTTER



C:\Users\Owner\Documents\Projects\19-0414-1\Map\Products\19-0414-1-SITE.dwg, OVERVIEW, 9/13/2019 2:29:32 PM, Owner: Bluestem, PLOT: ATSLD_22.00_34.00_1.mxd, 1:1

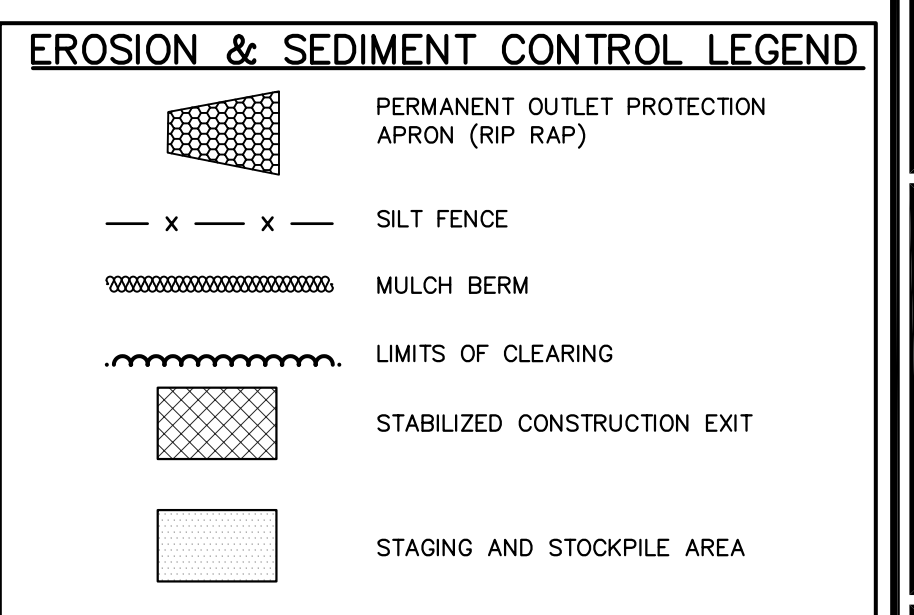
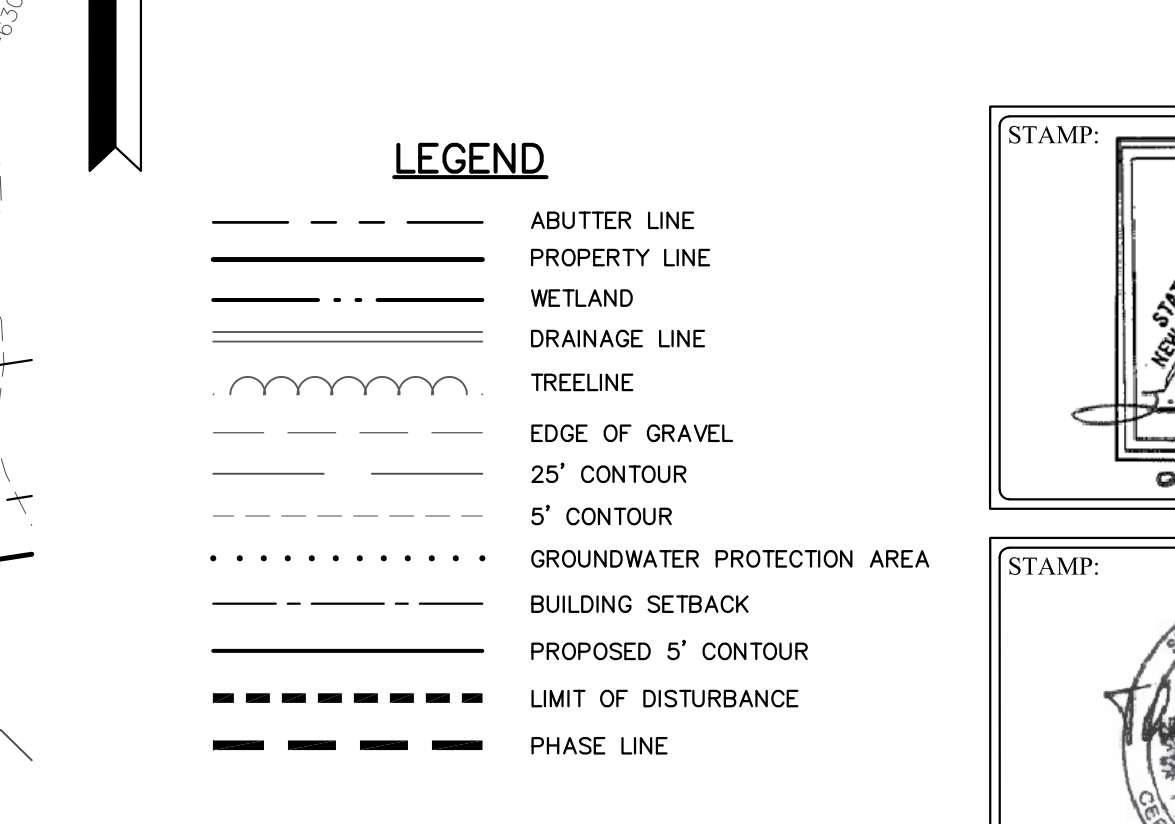
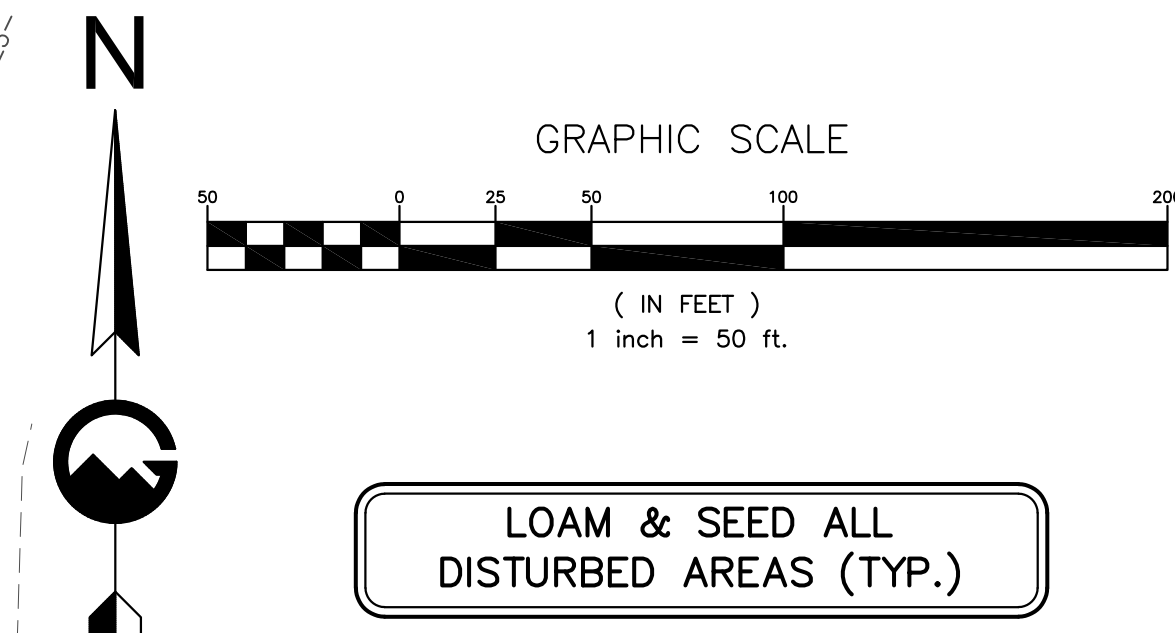


OPERATION NOTES:

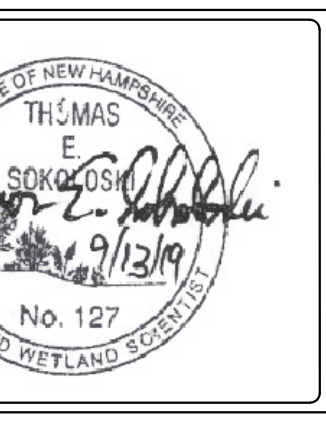
- THE PURPOSE OF THIS PLAN IS TO ILLUSTRATE THE PROPOSED GRADING, EROSION CONTROL, AND RECLAMATION ASSOCIATED WITH THE EXPANSION OF THE EXISTING GRAVEL AND EARTH REMOVAL OPERATION FOR SPRING CREEK SAND AND GRAVEL, LLC.
- LOCATION OF ANY UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. GRANITE ENGINEERING, LLC MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN ON SITE. THE CONTRACTOR SHALL CONTACT DISA AT 811.
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- NO EXCAVATION WILL BE PERFORMED WITHIN 25' OF MAPPED WETLANDS, 50' OF ABUTTING PROPERTIES THAT DISAPPROVE, 10' FROM ABUTTING PROPERTIES THAT APPROVE OF THE GRAVEL OPERATION, OR 150' FROM ANY EXISTING DWELLINGS. VEGETATION SHALL BE MAINTAINED OR PROVIDED WITHIN THE PERIPHERAL AREAS PREVIOUSLY LISTED. IF DEEMED NECESSARY BY THE PLANNING BOARD, SUITABLE TREES AND/OR SHRUBS MAY BE REQUIRED IN ORDER TO PROVIDE SCREENING, NATURAL BEAUTY AND TO AID IN EROSION CONTROL. SUCH PLANTED AREAS SHALL BE PROTECTED FROM EROSION DURING AN APPROPRIATE ESTABLISHED PERIOD BY MULCH AND STRUCTURAL EROSION CONTROL DEVICES.
- IN ORDER TO OPERATE A GRAVEL OPERATION, AN OPERATOR TRAILER AND GRAVEL EQUIPMENT WILL BE STORED ON SITE. THIS EQUIPMENT WILL CONSIST OF, BUT NOT LIMITED TO, BULLDOZERS, LOADERS, HAULER, EXCAVATORS, WATER TRUCKS, AND PROCESSORS. IN ORDER TO PROVIDE THE FURTHEST SEPARATION TO ABUTTING PROPERTIES, ALL PROCESSING EQUIPMENT WILL BE CENTRALLY LOCATED.
- IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE, THE PROPERTY OWNER/APPLICANT SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE TOWN.
- A DUST CONTROL PLAN CONSISTING OF THE APPLICATION OF WATER ON AN AS NEEDED BASIS WILL BE EMPLOYED. SUCH EXCAVATION ACTIVITIES SHALL NOT CAUSE ANY VIOLATION TO THE FUGITIVE DUST REQUIREMENTS ESTABLISHED IN ENV-A 1002. ANY PERSON ENGAGED IN ANY ACTIVITY WITHIN THE STATE THAT EMITS FUGITIVE DUST, OTHER THAN THOSE LISTED SHALL TAKE PRECAUTIONS THROUGHOUT THE DURATION OF THE ACTIVITY IN ORDER TO PREVENT, ABATE, AND CONTROL THE EMISSION OF FUGITIVE DUST. PRECAUTIONS SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
 - THE APPLICATION OF ASPHALT, WATER OR HYDROPHILIC MATERIAL, OR TARPS OR OTHER SUCH COVERS TO MATERIAL STOCKPILES;
 - THE USE OF HOODS, FANS, FABRIC FILTERS, OR OTHER DEVICES TO ENCLOSE AND VENT AREAS WHERE MATERIALS PRONE TO PRODUCING FUGITIVE DUST ARE HANDLED;
 - THE USE OF CONTAINMENT METHODS FOR SANDBLASTING OR SIMILAR OPERATIONS; AND
 - THE USE OF VACUUMS OR OTHER SUCTION DEVICES TO COLLECT AIRBORNE PARTICULATE MATTER.
- A ROCK-CRUSHING PLANT SHALL NOT OPERATE UNLESS THE PLANT IS EQUIPPED WITH AN EMISSION CONTROL SYSTEM THAT IS OPERATED AND MAINTAINED TO CONTROL THE EMISSION OF PARTICULATES IN COMPLIANCE WITH EPA 40 CFR 60, SUBPART 000 AND ENV-A 2800. VISIBLE DUST FROM THE ROCK CRUSHER CANNOT EXCEED 15 PERCENT OPACITY WHILE CERTAIN TRANSFER POINTS OF THE SYSTEM CANNOT EXCEED 10 PERCENT OPACITY WITHIN ANY SIX-MINUTE PERIOD.
- NO FUELS, LUBRICANTS, OR OTHER TOXIC OR POLLUTING MATERIALS SHALL BE STORED ON-SITE UNLESS IN COMPLIANCE WITH STATE LAWS OR RULES PERTAINING TO SUCH MATERIALS. SPILL PROTECTION EQUIPMENT WILL BE STORED ON SITE FOR IMMEDIATE RESPONSE TO ANY POTENTIAL SPILLS. ANY SPILLAGE SHALL BE IMMEDIATELY RECTIFIED AND DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL STANDARDS. ALL SPILLS OF GREATER THAN FIVE (5) GALLON WILL BE REPORTED TO AND RECORDED BY THE TOWN OF MILFORD.
- THE PROPOSED OPERATION WILL BE SELF-CONTAINED IN ORDER TO RETAIN ALL STORMWATER AND ANY POTENTIAL EROSION ON SITE, WITHIN THE LIMITS OF DISTURBANCE. DRAINAGE SHALL BE MAINTAINED SO AS TO PREVENT THE ACCUMULATION OF FREE-STANDING WATER FOR PROLONGED PERIODS. EXCAVATION PRACTICES WHICH RESULT IN CONTINUED SILTATION OF SURFACE WATERS OR ANY DEGRADATION OF WATER QUALITY OF ANY PUBLIC OR PRIVATE WATER SUPPLIES ARE PROHIBITED.
- NO EXCAVATION WILL BE COMPLETED WITHIN 3 FEET OF SEASONAL HIGH WATER TABLE. TEST PITS WILL BE PERFORMED IN DEEPER CUT AREAS TO ENSURE AFOREMENTIONED SEPARATION IS MAINTAINED AT ALL TIMES. DUE TO THIS BEING AN EXPANSION OF AN EXISTING OPERATION, THE EXISTING AREA IS AN ADEQUATE REPRESENTATION OF THE WATER TABLE IN THIS AREA AND NO ADDITIONAL TEST PITS WERE LOGGED TO REPRESENT SUCH. NO WATER TABLE WAS RECOGNIZED AT AN ELEVATION OF APPROXIMATELY 490' BASED ON THE EXISTING OPERATION.
- WHERE TEMPORARY SLOPES WILL EXCEED A GRADE OF 1:1, A FENCE OR OTHER SUITABLE BARRICADE SHALL BE ERECTED TO WARN OF DANGER OR LIMIT ACCESS TO THE SITE.
- PRIOR TO THE REMOVAL OF TOPSOIL OR OTHER OVERBURDEN MATERIAL FROM ANY LAND AREA THAT HAS NOT YET BEEN EXCAVATED, THE EXCAVATOR SHALL FILE A RECLAMATION BOND OR OTHER SECURITY AS PRESCRIBED BY THE REGULATOR, SUFFICIENT TO SECURE THE RECLAMATION OF THE LAND AREA TO BE EXCAVATED. THE BOND AMOUNT, ESTABLISHED BY THE PLANNING BOARD TO COVER RECLAMATION OF THE SITE, SHALL BE BASED ON AN AMOUNT OF SEVEN THOUSAND FIVE HUNDRED DOLLARS (\$7,500) PER ACRE, GIVEN THE ACTUAL ACREAGE OF THE SITE. THIS FIGURE SHALL BE PRORATED ACCORDINGLY. THE BOND AMOUNT SHALL BE ADEQUATE TO RECLAIM THE EXCAVATION SITE IN ACCORDANCE WITH RSA 155-E:5. THE BOND WILL BE RETURNED TO THE APPLICANT WHEN RECLAMATION WORK HAS BEEN COMPLETED.
- NO MORE THAN FIVE (5) ACRES, EXCLUDING ACCESS ROADS, SHALL BE LEFT UNSTABLE AT ANY TIME. WITHIN 12 MONTHS AFTER THE EXPIRATION DATE IN A PERMIT ISSUED, OR OF THE COMPLETION OF ANY EXCAVATION, WHICHEVER OCCURS FIRST, THE OWNER OF THE EXCAVATED LAND SHALL HAVE COMPLETED THE RECLAMATION OF THE AREAS AFFECTED BY THE EXCAVATION TO MEET EACH OF THE FOLLOWING MINIMUM STANDARDS:
 - EXCEPT FOR EXPOSED ROCK LEDGE, ALL AREAS WHICH HAVE BEEN AFFECTED BY THE EXCAVATION OR OTHERWISE STRIPPED OF VEGETATION SHALL BE SPREAD WITH TOPSOIL OR STRIPPINGS, IF ANY, BUT IN ANY CASE COVERED BY SOIL CAPABLE OF SUSTAINING VEGETATION, AND SHALL BE PLANTED WITH SEEDLINGS OR GRASS SUITABLE TO PROTECT AND IMPROVE THE SOIL. PLANTS SHALL BE PLANTED AT A RATIO HORIZONTAL TO VERTICAL PROPOSED BY THE OWNER AND APPROVED BY THE REGULATOR. CHANGES OF SLOPE SHALL NOT BE ABRUPT, BUT SHALL BLEND WITH THE SURROUNDING TERRAIN;
 - EARTH AND VEGETATIVE DEBRIS RESULTING FROM THE EXCAVATION SHALL BE REMOVED OR OTHERWISE LAWFULLY DISPOSED OF;
 - ALL SLOPES, EXCEPT FOR EXPOSED LEDGE, SHALL BE GRADED TO NATURAL REPOSE FOR THE TYPE OF SOIL OF WHICH THEY ARE COMPOSED SO AS TO CONTROL EROSION OR AT A RATIO HORIZONTAL TO VERTICAL PROPOSED BY THE OWNER AND APPROVED BY THE REGULATOR. CHANGES OF SLOPE SHALL NOT BE ABRUPT, BUT SHALL BLEND WITH THE SURROUNDING TERRAIN;
 - THE ELIMINATION OF ANY STANDING BODIES OF WATER CREATED IN THE EXCAVATION PROJECT AS MAY CONSTITUTE A HAZARD TO HEALTH AND SAFETY; AND
 - THE TOPOGRAPHY OF THE LAND SHALL BE LEFT SO THAT WATER DRAINING FROM THE SITE LEAVES THE PROPERTY AT THE ORIGINAL, NATURAL DRAINAGE POINTS AND IN THE NATURAL PROPORTIONS OF FLOW, FOR EXCAVATION PROJECTS WHICH REQUIRE A PERMIT FROM THE DEPARTMENT OF ENVIRONMENTAL SERVICES PURSUANT TO RSA 485-A:17, THE PROVISIONS OF THAT STATUTE, AND RULES ADOPTED UNDER IT, SHALL SUPERSEDE THIS PARAGRAPH AS TO AREAS OF EXCAVATION SITES COVERED THEREBY. THE EXCAVATOR SHALL FILE A COPY OF PERMITS ISSUED UNDER RSA 485-A:17 WITH THE REGULATOR.
- CONSTRUCTION MATERIAL AND EQUIPMENT STORAGE AREA WILL BE RELOCATED DEPENDING UPON THE PHASE AND AREA OF THE GRAVEL OPERATION. SAID AREA WILL START AT UPPER LIMITS OF EXCAVATION AND SYSTEMATICALLY RELOCATE AS EXCAVATION PROGRESSES. THE AREA ILLUSTRATED ON THIS PLAN REPRESENTS THE FINAL LOCATION OF THE STORAGE AND STAGING AREA.

RECLAMATION NOTES:

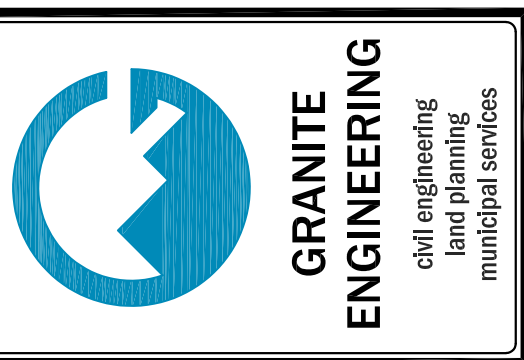
- ANY EXCAVATED AREA OF 5 CONTIGUOUS ACRES OR MORE, WHICH IS DEPLETED OF COMMERCIAL EARTH MATERIALS, EXCLUDING BEDROCK, OR ANY EXCAVATION FROM WHICH EARTH MATERIALS OF SUFFICIENT WEIGHT OR VOLUME TO BE COMMERCIALY USEFUL HAVE NOT BEEN REMOVED FOR A 2-YEAR PERIOD, SHALL BE RECLAIMED IN ACCORDANCE WITH RSA 155-E:5, WITHIN 12 MONTHS FOLLOWING SUCH DEPLETION OR 2-YEAR NON-USE, REGARDLESS OF WHETHER OTHER EXCAVATION IS OCCURRING ON ADJACENT LAND IN CONTIGUOUS OWNERSHIP. EACH OPERATOR, OTHER THAN THE OPERATOR OF STATIONARY MANUFACTURING PLANTS WHICH ARE EXEMPT FROM PERMIT REQUIREMENTS PURSUANT TO RSA 155-E:2, III, SHALL PREPARE AND SUBMIT FOR THE REGULATOR'S RECORD A RECLAMATION PLAN FOR THE AFFECTED LAND, INCLUDING A TIMETABLE FOR RECLAMATION OF THE DEPLETED AREAS WITHIN THE RECLAMATION SITE.
- TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR SUBSEQUENT USE IN RECLAMATION OF THE SITE.
- NATURAL VEGETATION ADJACENT TO NEIGHBORING PROPERTIES ON WHICH EXCAVATION IS NOT INTENDED SHALL BE MAINTAINED FOR THE PURPOSE OF EROSION CONTROL, SCREENING, NOISE REDUCTION, DUST CONTROL, AND PROPERTY EVALUATION.
- STOCKPILED TOPSOIL SHALL BE SPREAD OVER THE DISTURBED AREA TO ALLOW REVEGETATION. THESE DISTURBED AREAS WILL BE ADEQUATELY FERTILIZED AND RESEEDED TO MAINTAIN A HEALTHY VEGETATED COVER.



"I HEREBY CERTIFY THAT THE EXISTING CONDITIONS SHOWN ARE THE RESULT OF A FIELD SURVEY PERFORMED BY PROMISED LAND SURVEY, LLC DURING THE MONTH OF AUGUST/SEPTEMBER."



THOMAS SOKOLOSKI, CERTIFIED WETLAND SCIENTIST #127, OF TES ENVIRONMENTAL CONSULTANTS, LLC OF BOW, NH, PERFORMED THE WETLAND MAPPING ON AUGUST 5, 2019 ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH-CENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS.



NO.	DATE	REVISIONS	COMMENTS
0	09/16/2019		PROJECT SUBMITTAL

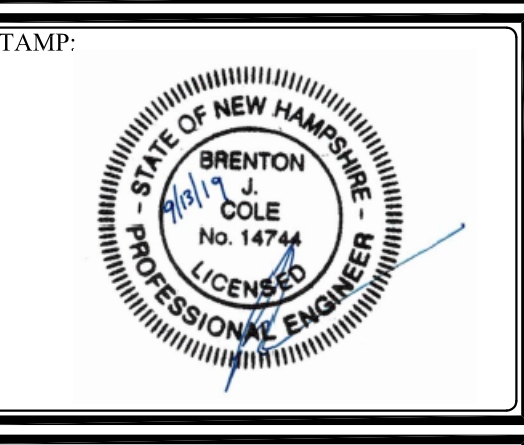
OWNER: SPRING CREEK SAND AND GRAVEL, LLC
 320 MALE SLIP ROAD
 MILFORD, NH 03055-3310
 BOOK 77:51 PAGE 2619

APPLICANT: LEVISON, A. WHITE, INC.
 135 ELM STREET
 MILFORD, NH 03055

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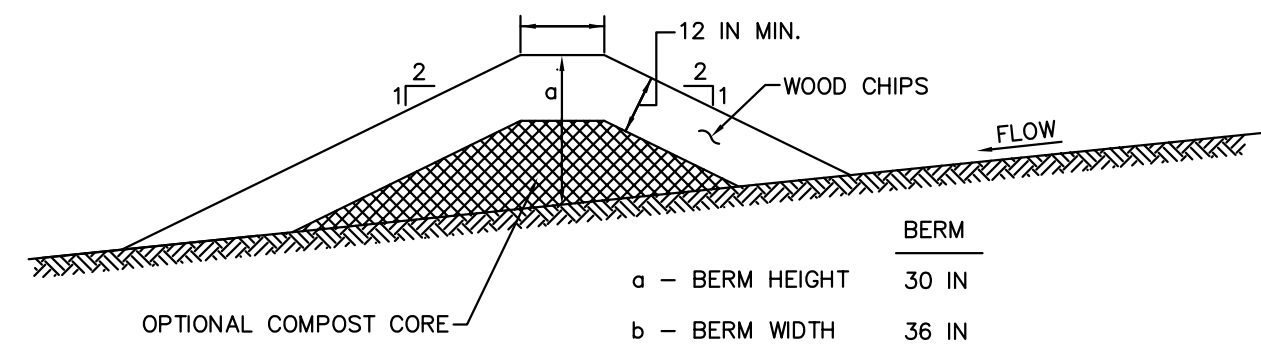
LOCATION: TAX MAP 50 LOT 4-4
 MILE SLIP ROAD
 MILFORD, NEW HAMPSHIRE
 HILLSBOROUGH COUNTY

PROJECT: **SPRING CREEK SAND & GRAVEL**

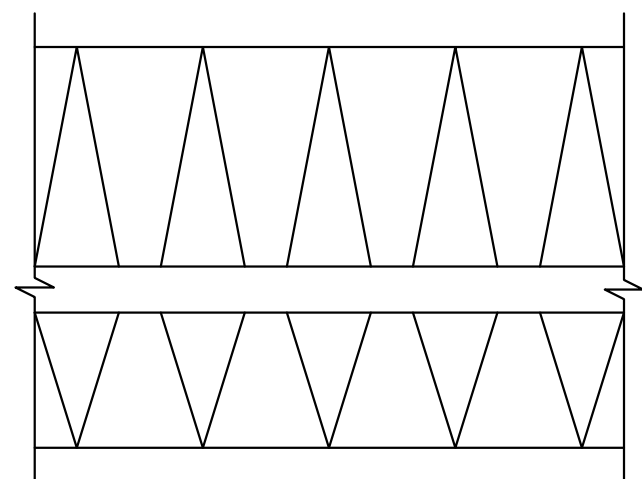
TITLE: **EXCAVATION & RECLAMATION PLAN**

PROJECT No. DATE: 19-0414-1 SEPTEMBER 16, 2019 SCALE: 1"=50'
 SHEET: 2 OF 4

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CROSS SECTION



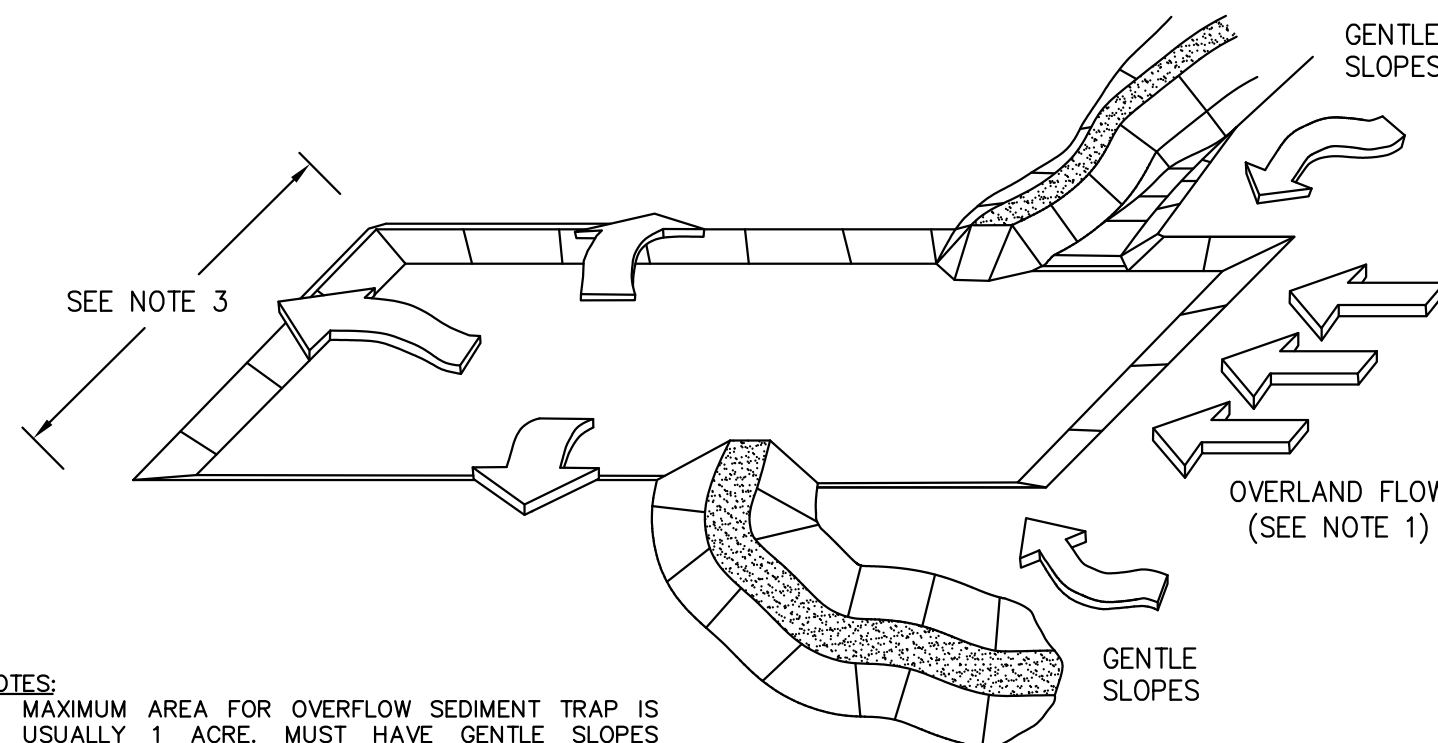
PLAN VIEW

NOTES:

1. PLACE BERM ON THE CONTOUR WITH ENDS TURNED UPGRADE TO PREVENT BYPASS. DO NOT EXCEED GRADES OF 5 PERCENT ALONG THE BERM FOR A DISTANCE GREATER THAN 50 FEET.
2. CONSTRUCT BERM OF CLEAN WOOD CHIPS A MINIMUM SIZE OF 1X2 INCH AND A MAXIMUM OF 3X3 INCH.
3. COMPACT AND SHAPE MATERIAL TO CONFORM TO DIMENSIONS SPECIFIED ON THE APPROVED PLAN.
4. DO NOT PLACE UN-CHIPPED TREE PIECES, BRUSH, OR STUMPS IN THE BERM. BERM MUST BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES.
5. THE BERM MAY CONTAIN UP TO 50% COMPOST MATERIAL IN ACCORDANCE WITH SECTION H-1 MATERIALS.
6. MAINTAIN LINE, GRADE, AND CROSS SECTION. ADD WOOD CHIPS OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN SPECIFIED DIMENSIONS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN THEY REACH 25% OF BERM HEIGHT.

MULCH FILTER BERM DETAIL

NOT TO SCALE



NOTES:

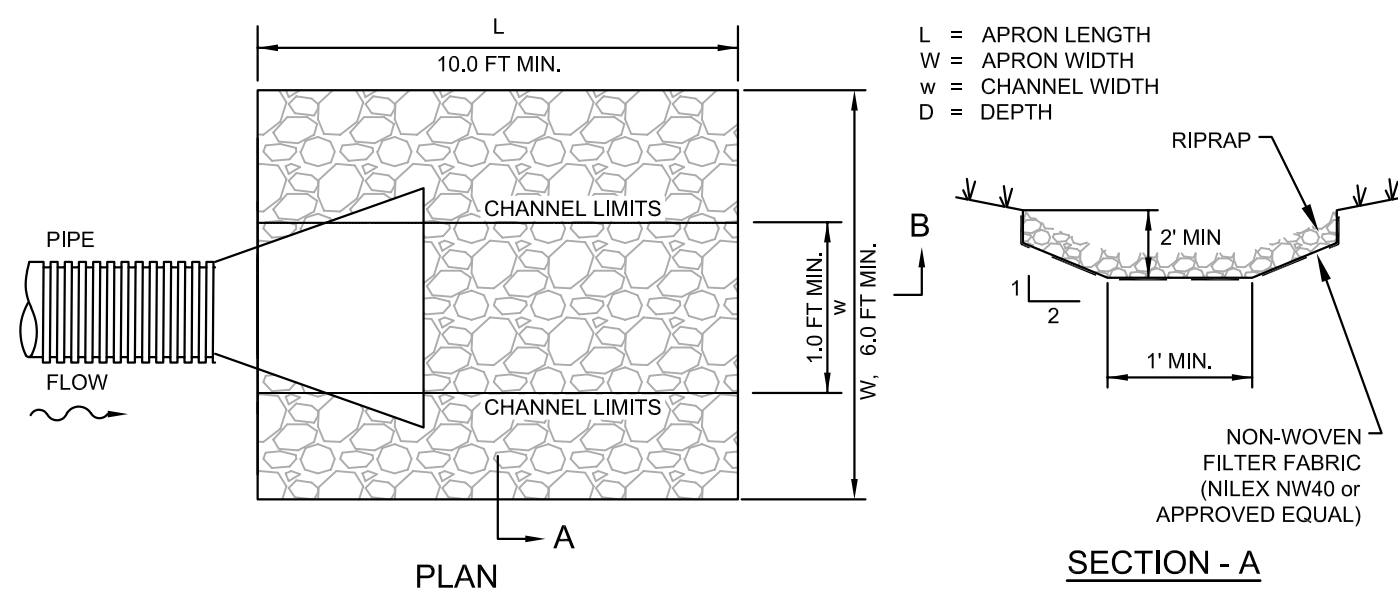
1. MAXIMUM AREA FOR OVERFLOW SEDIMENT TRAP IS USUALLY 1 ACRE. MUST HAVE GENTLE SLOPES (LESS THAN 2% GRADUALLY) AND PREDOMINATELY OVERLAND SHEET FLOW.
2. MAXIMUM PERMANENT WET DEPTH IS 2 FEET. OVERFLOW SEDIMENT TRAPS MAY NOT BE EFFECTIVE FOR HIGH GROUNDWATER TABLE AND INFLOWS.
3. USE THE MOST PERMEABLE SEDIMENT CONTROL IN LABELED AREA SO AS TO MAXIMIZE TRAVEL TIME AND SETTLING OF SEDIMENT.

SEDIMENT TRAP DETAIL

NOT TO SCALE

1. 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 "EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" AS PUBLISHED AND AMENDED BY THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES.
2. THIS PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 5800 RELATIVE TO INVASIVE SPECIES.
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.
7. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN FUNCTIONING CONDITION UNTIL FINAL SITE STABILIZATION IS ACCOMPLISHED.
8. 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.
9. THE TOWN OF MILFORD SHALL RESERVE THE RIGHT TO REQUIRE FURTHER EROSION CONTROL PRACTICES DURING CONSTRUCTION SHOULD THEY FIND IT NECESSARY.
10. THE RESPONSIBLE PARTY SHALL INSTALL, INSPECT, REPORT, OPERATE, AND MAINTAIN ALL STORMWATER MANAGEMENT AND EROSION CONTROL MEASURES REQUIRED BY THESE PLANS.
11. 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.
12. 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.
13. 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.
14. DUST SHALL BE CONTROLLED BY THE USE OF WATER AS NECESSARY THROUGHOUT THE CONSTRUCTION PERIOD, IN ACCORDANCE WITH ENV-A 1000.
15. 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.
16. EARTHWORK SHALL BE LIMITED TO THE AREAS WITHIN THE LIMITS OF CLEARING AS SHOWN ON THE PLAN. AT NO TIME SHALL MORE THAN FIVE (5) ACRES OF SITE AREA BE IN AN UNSTABLE CONDITION. NO GIVEN AREA OF THE SITE SHALL BE LEFT IN AN UNSTABILIZED CONDITION FOR A PERIOD OF TIME EXCEEDING THIRTY (30) CALENDAR DAYS.
17. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
18. PERIMETER CONTROLS MUST BE INSTALLED PRIOR TO EARTHWORK.
19. EROSION CONTROL MEASURES USED SHALL BE INSPECTED AT LEAST WEEKLY AND WITHIN 24 HOURS AFTER 0.25" OF RAINFALL OR MORE. ALL DEFICIENCIES SHALL BE FIXED IN ORDER TO KEEP OPERATION EFFECTIVE. THEY SHALL BE CLEANED AND MAINTAINED AND OTHERWISE KEPT IN AN EFFECTIVE OPERATING MANNER THROUGHOUT THE CONSTRUCTION PERIOD.
20. ALL STORMWATER PRACTICES AND DRAINAGE SWALES ARE TO BE INSTALLED PRIOR TO ROUGH GRADING OF THE SITE. THEY SHOULD BE FULLY STABILIZED PRIOR TO RECEIVING STORMWATER. PERIODIC INSPECTION AND MAINTENANCE TO MAINTAIN DESIGN INTENT IS REQUIRED.
21. ALL DISTURBED AREAS DESIGNATED TO BE TURF, SHALL RECEIVE THE REQUIRED AMOUNT OF LOAM (COMPACTED THICKNESS), PRIOR TO FINAL SEEDING AND MULCHING.
22. IF DURING CONSTRUCTION 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.
23. 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.
23. ALL DUST SHALL BE CONTROLLED BY THE USE OF WATER IN ACCORDANCE WITH ENV-A 1000.
24. IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION AND SEDIMENT CONTROL DEVICES ARE REQUIRED, THE OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY DEVICES OR CONSULT WITH THE ENGINEER.
25. JUTE MATTING INSTALLED TO CONFORM TO THE RECOMMENDED BEST MANAGEMENT PRACTICE OUTLINED IN VOLUME 3 OF THE NEW HAMPSHIRE STORMWATER MANUAL "EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" ON ALL 3:1 SLOPES OR GREATER.
26. ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS.
27. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS.

EROSION CONTROL NOTES



GRADATION:

STONE SIZE	D ₅₀ = x"	% FINER BY WEIGHT
0.25x"		0-15%
0.5x"		15-30%
0.8x"		30-50%
x"		50-90%
1.5x"		100%

NOTES:

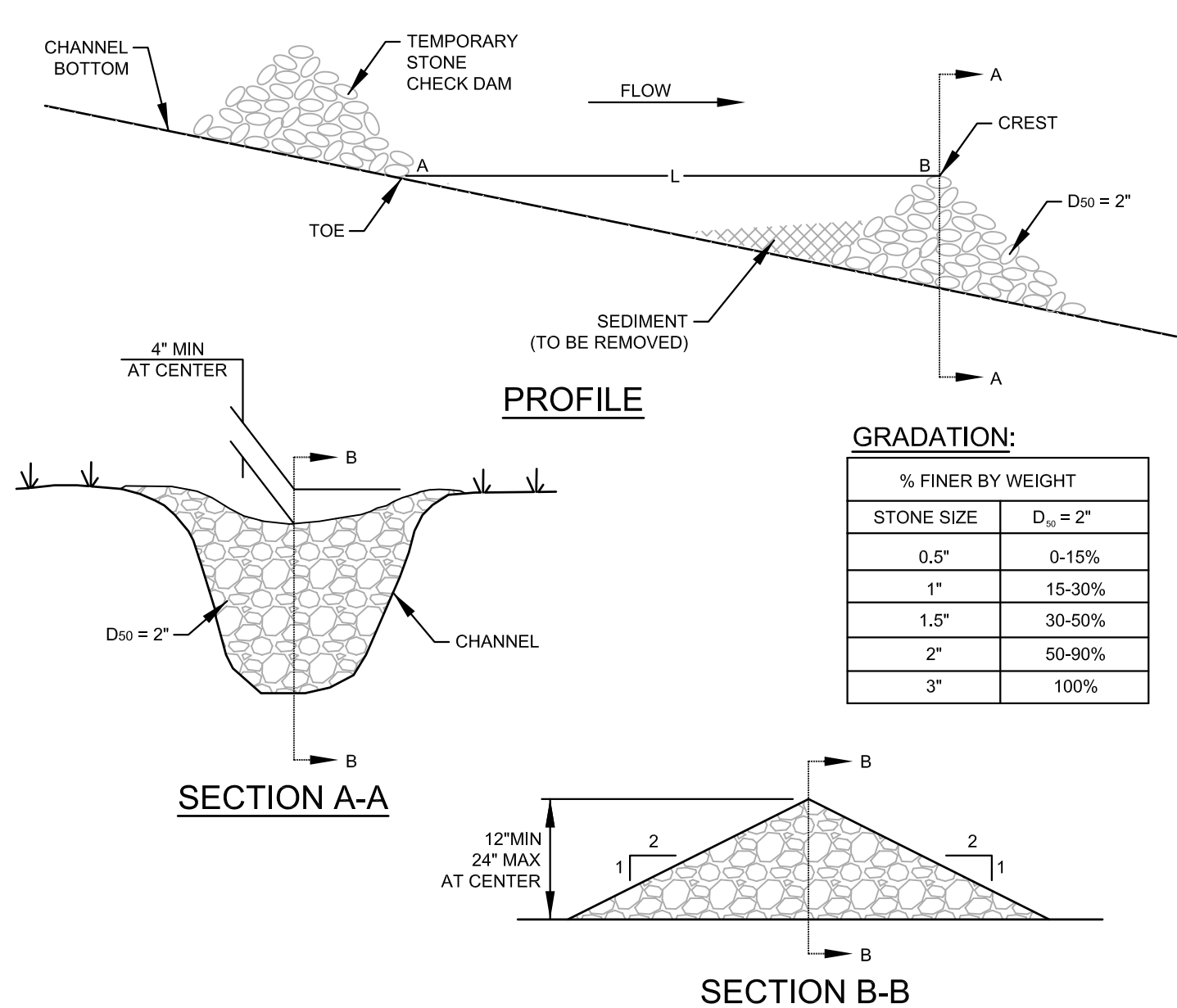
1. THE APRON SUBGRADE TO BE PREPARED TO THE GRADES SHOWN ON THE APPROVED PLANS.
2. THE FRACTURED ROCK (RIP-RAP) SHALL CONFORM TO THE SPECIFIED GRADATION (D₅₀=4" MIN.).
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE RIP-RAP PLACEMENT. DAMAGED FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS SHALL BE A MINIMUM OF 12.0 INCHES.
4. RIP-RAP PLACEMENT SHALL BE IN ONE CONTINUOUS LIFT TO THE DEPTH SPECIFIED, AVOIDING MATERIAL SEGREGATION.

MAINTENANCE

THE APRON SHOULD BE INSPECTED AFTER EVERY MAJOR RAIN EVENT (≥ 3"). IF THE RIPRAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE VEGETATED CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE PERIODICALLY INSPECTED FOR DEGRADATION. IF DEGRADATION HAS OCCURRED, REPAIR IMMEDIATELY. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS AND SEDIMENT THAT COULD IMPAIR UPSTREAM CHANNEL CHARACTERISTICS. ALL DEBRIS OR SEDIMENT SHOULD BE REMOVED OFF SITE AND DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LAWS.

OUTLET PROTECTION DETAIL

NOT TO SCALE



GRADATION:

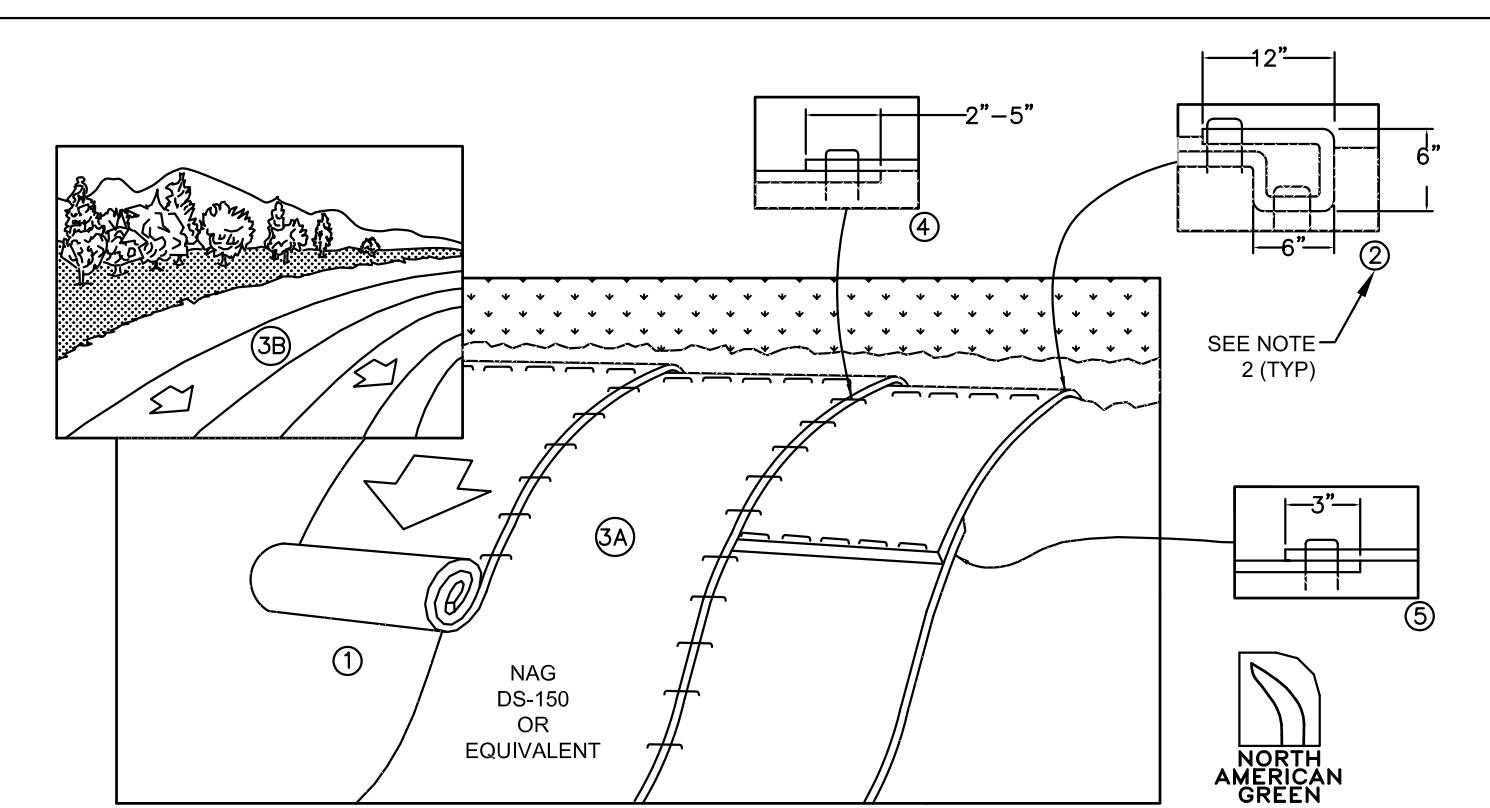
STONE SIZE	D ₅₀ = 2"	% FINER BY WEIGHT
0.5"		0-15%
1"		15-30%
1.5"		30-50%
2"		50-90%
3"		100%

NOTES:

1. PLACE TEMPORARY STONE CHECK DAM (D₅₀ = 2" MIN) TO THE LINES, GRADES AND LOCATIONS AS SHOWN ON THE APPROVED PLAN OR AS FIELD DIRECTED BY THE ENGINEER.
2. STONE SIZE TO BE INCREASED TO D₅₀ = 4" WHEN GRADES EXCEED 8% OR VELOCITIES EXCEED 6.0 FPS.
3. SET SPACING OF STONE CHECK DAMS SO THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH EROSION STONE (D₅₀ = 4" MIN) OR LINER (NAG DS-150) AS NEEDED OR DIRECTED BY THE ENGINEER.
5. REMOVE STONE CHECK DAM WHEN NO LONGER NEEDED. AFTER BARRIER IS REMOVED, STABILIZE WITH VEGETATION.
6. REMOVE ALL SEDIMENT, REGRADE/VEGETATE AS NECESSARY OR AS FIELD DIRECTED BY THE ENGINEER.

STONE CHECK DAM DETAIL

NOT TO SCALE



NOTES:

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/ STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5cm-12.5cm) OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5cm) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30cm) APART ACROSS ENTIRE BLANKET WIDTH.
NOTE: *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15cm) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

EROSION CONTROL BLANKETS - SLOPE INSTALLATION

NOT TO SCALE



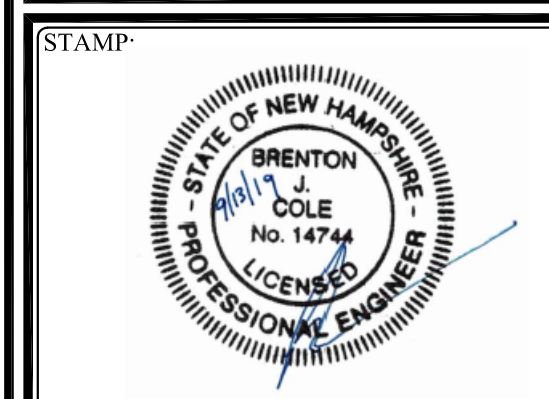
NO.	DATE	REVISIONS	COMMENTS
0	09/16/2019		PROJECT SUBMITTAL

OWNER: SPRING CREEK SAND AND GRAVEL, LLC
320 MALE SLIP ROAD
MILFORD, NH 03055-3310
BOOK 77:51 PAGE 2619

APPLICANT: BRENTON J. COLE, INC.
135 ELM STREET
MILFORD, NH 03055



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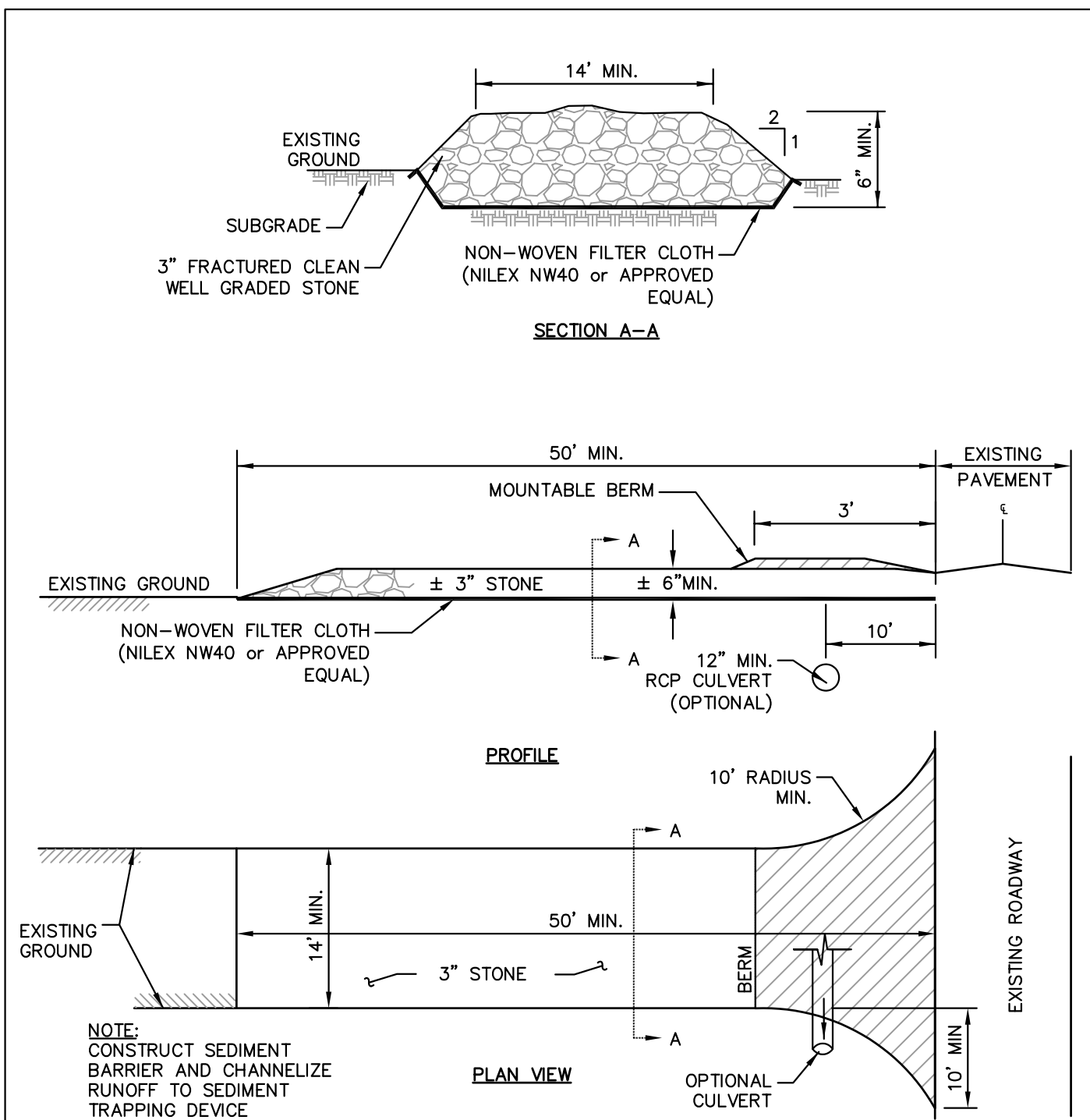


LOCATION: TAX MAP 50 LOT 4-4
MILE SLIP ROAD
MILFORD, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

PROJECT: **SPRING CREEK SAND & GRAVEL**

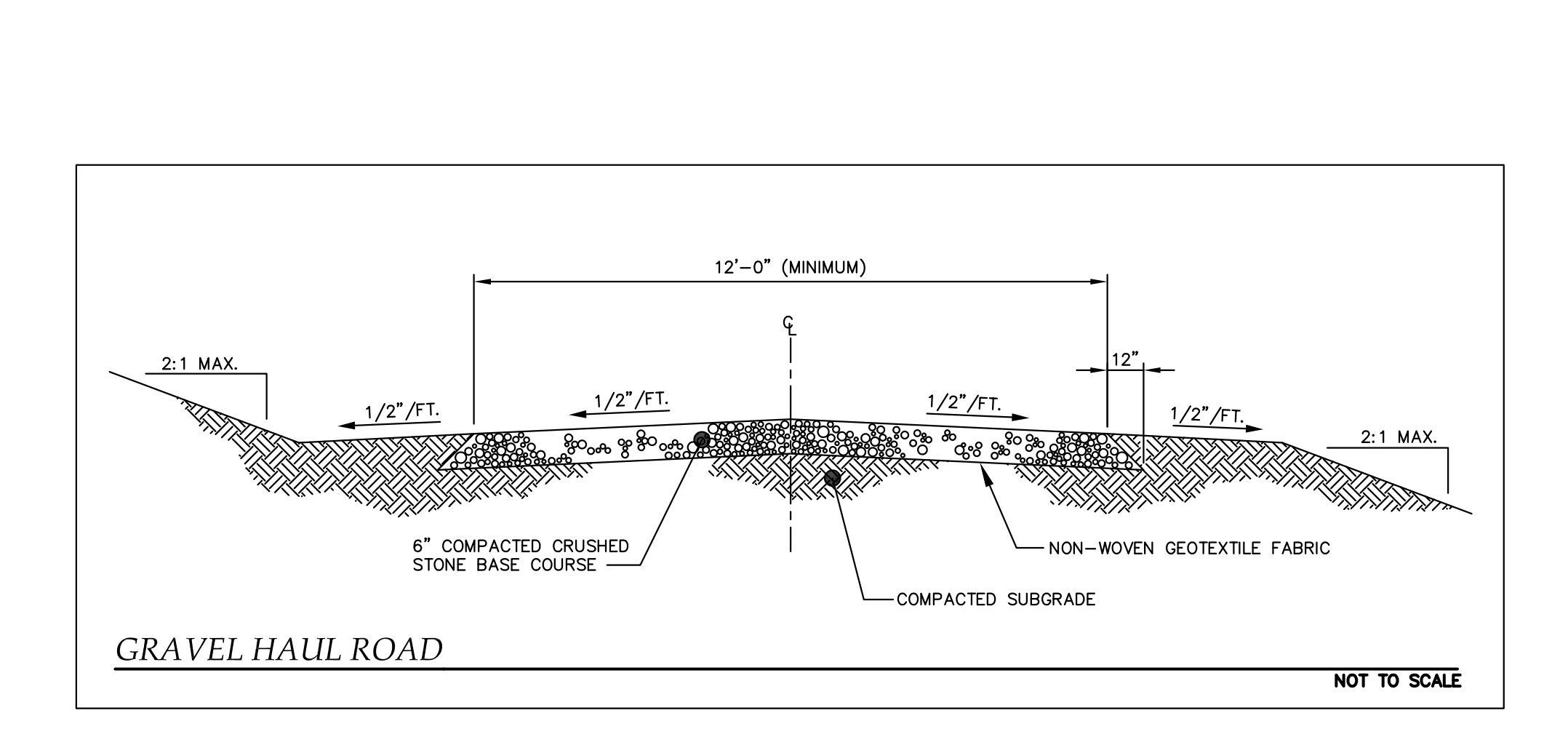
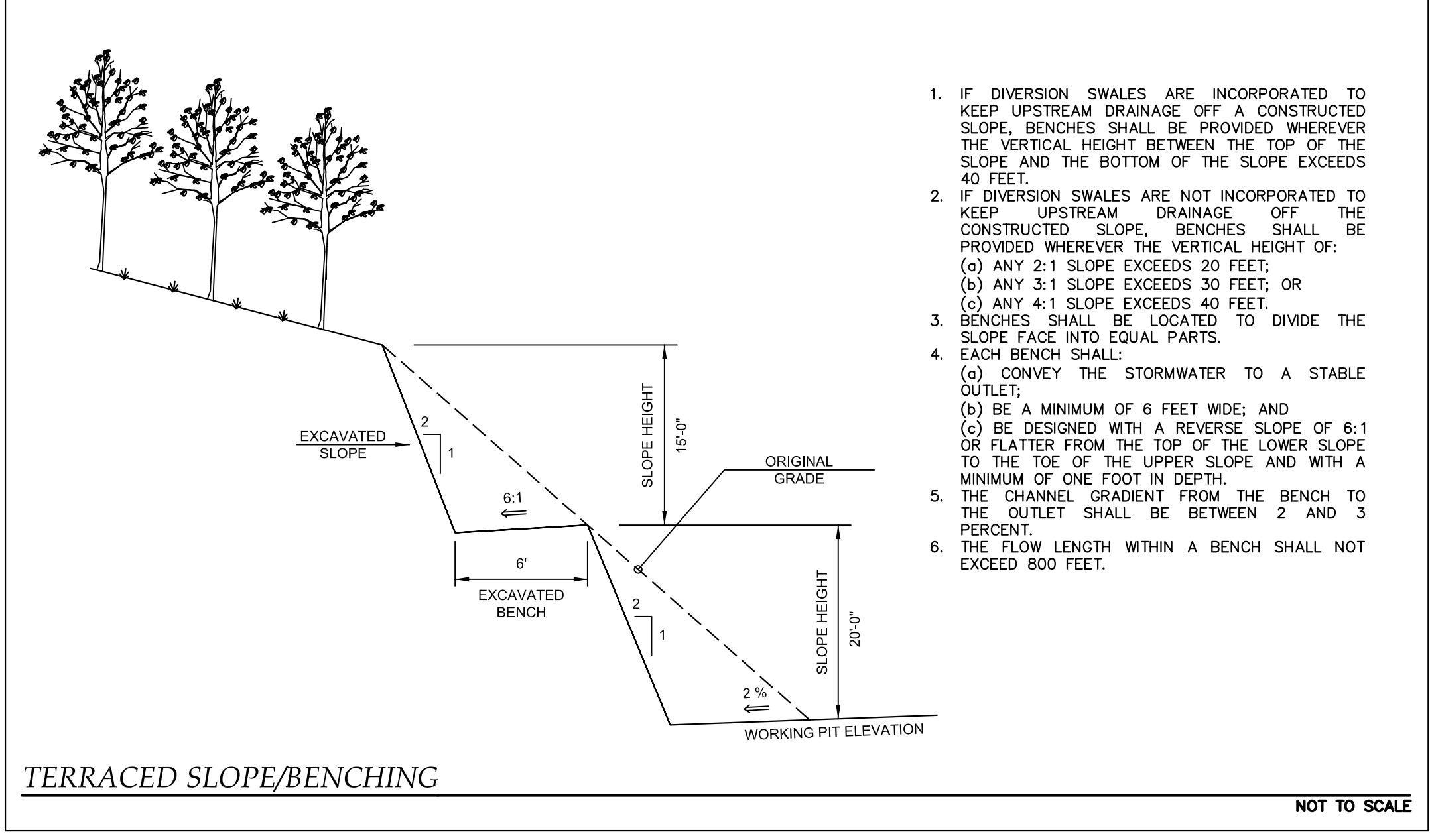
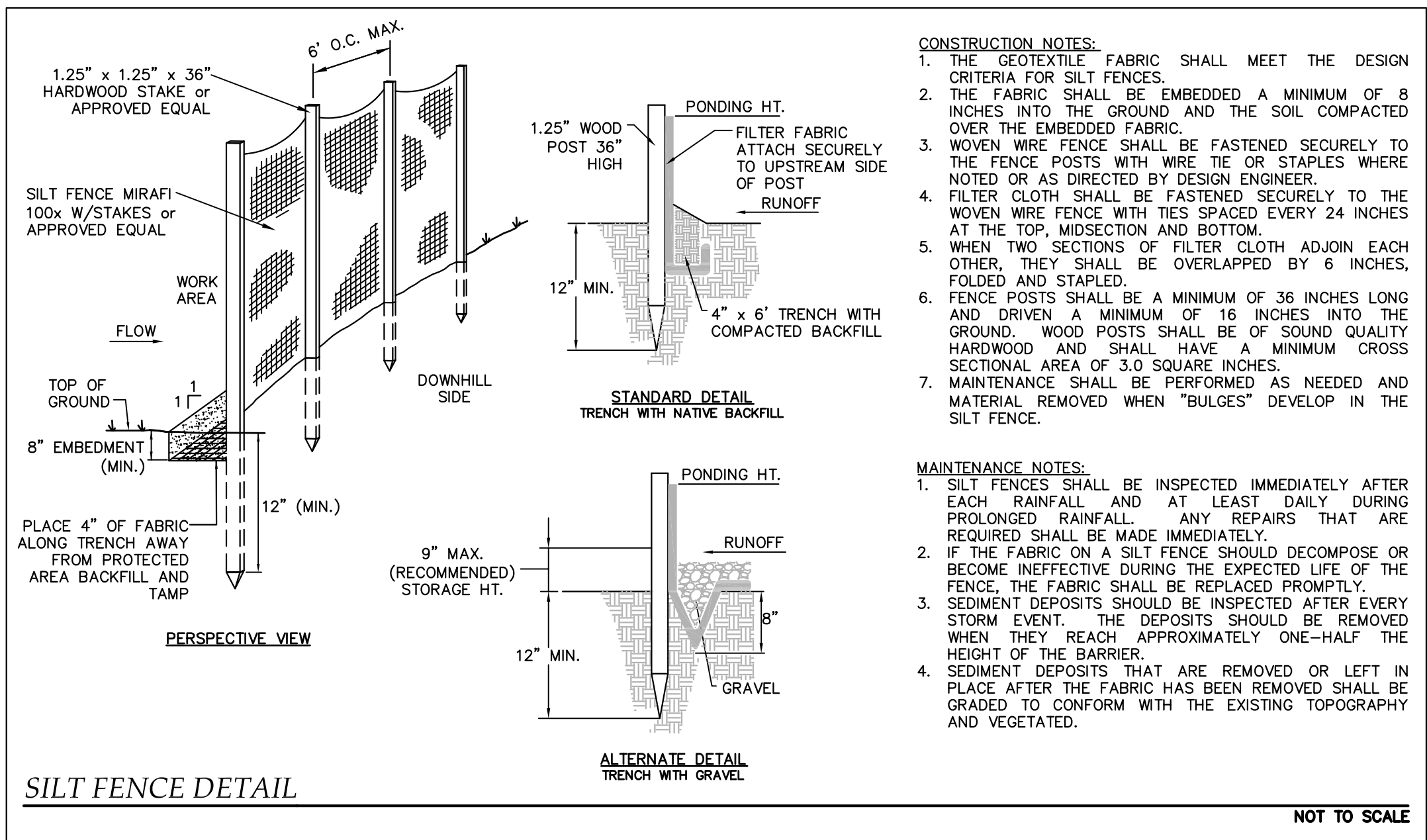
TITLE: **CONSTRUCTION DETAILS**

PROJECT No. DATE: 19-0414-1 SEPTEMBER 16, 2019 AS SHOWN
SCALE: AS SHOWN
SHEET: 3 OF 4



- NOTES:**
- STONE FOR A STABILIZED CONSTRUCTION EXIT SHALL BE 3 INCH 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 6 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 TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.
 - WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

STABILIZED CONSTRUCTION EXIT DETAIL NOT TO SCALE



- CONTACT DIG SAFE AT LEAST 72 HOURS BEFORE ANY EXCAVATION WORK.
- CUT AND CLEAR TREES AND BRUSH WITHIN LIMITS OF CLEARING SHOWN ON PLAN.
- INSTALL ALL APPLICABLE TEMPORARY EROSION CONTROL MEASURES PRIOR TO COMMENCEMENT OF ANY EARTHMOVING OPERATIONS. THE STABILIZED CONSTRUCTION EXIT SHALL BE IN PLACE AS SHOWN ON THE PROJECT PLANS.
- REMOVE STUMPS FROM THE SITE FOR SITE GRADING TO COMMENCE. ALL STUMPS AND SIMILAR ORGANIC DEBRIS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR UNLESS A STUMP DUMP IS NOTED ON THE PLAN. 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 SEEDED WITH WINTER RYE AND BE SURROUNDED BY PERIMETER CONTROLS TO PREVENT EROSION.
- THIS PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
- ALL PERMANENT EROSION CONTROL MEASURES AND DETENTION FACILITIES SHOULD BE INSTALLED PRIOR TO GRADING FOR PROJECT.
- COMMENCE EARTHWORK OPERATIONS.
- ALL DRAINAGE SYSTEMS AND OTHER UTILITIES SHOULD BE CONSTRUCTED FROM LOW GRADE TO HIGH GRADE. INCOMPLETE WORK SHALL BE PROTECTED FROM SILTATION BY THE USE OF PERIMETER CONTROLS UNTIL THE SITE HAS BECOME FULLY STABILIZED.
- AN AREA IS DEEMED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - A BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
 - A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - A MINIMUM OF 3\"/>
- IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION AND SEDIMENT CONTROL DEVICES ARE REQUIRED, THE OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY DEVICES OR CONSULT WITH THE ENGINEER.
- ALL STORMWATER FLOWS SHALL NOT BE DIRECTED TO THE STORMWATER MEASURES UNTIL ALL CONTRIBUTING AREAS HAVE BEEN DEEMED STABLE. ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- COMPLETE GRADING ACTIVITIES AND WHEN COMPLETE, BEGIN TOPSOILING PROPOSED TURF AREAS USING STOCKPILED LOAM SUPPLEMENTED WITH BORROW LOAM, IF NECESSARY, TO LEAVE THE SPECIFIED THICKNESS.
- FINE GRADE ALL TURF AREAS AND COMPLETE PERMANENT SEEDING AND LANDSCAPING BY HYDROSEEDING WITH THE SPECIFIED SEED MIXTURE IMMEDIATELY AFTER FINE GRADING IS COMPLETED. ALL AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
- REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDED AREAS HAVE ESTABLISHED THEMSELVES.

CONSTRUCTION SEQUENCE

- CONSTRUCTION NOTES:**
- 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.
- MAINTENANCE NOTES:**
- 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.

- 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 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT BE DONE 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, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
 - AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL (NHDOT 304.3).
- ALL AREAS TO BE SEEDED SHALL BE PREPARED TO PROVIDE A REASONABLY FIRM BUT FRIABLE SEED BED.
 - SLOPED AREAS SHALL NOT BE LEFT TOO SMOOTH; THE SURFACE SHALL BE LEFT IN A RUFFLED CONDITION SUCH AS MAY BE PRODUCED BY THE USE OF TRACKED VEHICLES RUN UP AND DOWN THE SLOPES. SMOOTH, COMPACTED SLOPES, SUCH AS FROM PLADING, WHICH MIGHT ALLOW THE FREE FLOW OF WATER DOWN THEM SHALL BE DISKED, HARROWED, DRAGGED WITH A CHAIN-WORKED OR HAND-WORKED TO GIVE THE EFFECT OF MINIATURE TERRACES, PARTICULARLY IN SILTY OR CLAYEY SOILS. THE SLOPES SHALL BE LEFT SMOOTH ENOUGH TO ENABLE MOWING.
 - LAWN AREAS, SUCH AS WHERE LOAM HAS BEEN SPREAD, SHALL BE PREPARED FOR SEEDING. THE LOAM SHALL BE SPREAD UPON THE PREVIOUSLY PREPARED SUBGRADE SURFACE TO THE DEPTH OF 4 ± 1/2" UNLESS OTHERWISE SPECIFIED AND SHALL BE RAKED CAREFULLY TO REMOVE ALL OBJECTIONABLE MATERIALS. LOAM SHALL BE SPREAD IN SUCH A MANNER AS TO ESTABLISH A LOOSE, FRIABLE SEEDBED. IN ORDER TO MAINTAIN A CONSISTENT GRADE, LOAM PLACED ADJACENT TO LAWNS OR WHERE DIRECTED SHALL BE COMPACTED WITH A ROLLER WEIGHING APPROXIMATELY 100 POUNDS PER FOOT OF ROLLER WIDTH. ALL DEPRESSIONS EXPOSED DURING THE ROLLING PROCEDURE SHALL BE FILLED WITH ADDITIONAL LOAM, AND ROLLED.
 - LOAM SHALL CONSIST OF LOOSE FRIABLE TOPSOIL WITH NO ADMIXTURE OF REFUSE OR MATERIAL TOXIC TO PLANT GROWTH. LOAM SHALL BE FREE OF VISIBLE PARTS OF PROHIBITED INVASIVE PLANTS LISTED IN TABLE 300.1 OF PART AGR 3800. LOAM SHALL BE GENERALLY FREE FROM STONES, LUMPS, STUMPS, OR SIMILAR OBJECTS LARGER THAN 2" IN GREATEST DIAMETER, SUBSOIL, ROOTS, AND WEEDS. THE MINIMUM AND MAXIMUM PH VALUE SHALL BE FROM 5.5 TO 7.6. LOAM SHALL CONTAIN A MINIMUM OF 3 PERCENT AND A MAXIMUM OF 10 PERCENT OF ORGANIC MATTER AS DETERMINED BY LOSS BY IGNITION. NOT MORE THAN 65 PERCENT SHALL PASS A NO. 200 SIEVE AS DETERMINED BY THE WASH TEST IN ACCORDANCE WITH ASTM D 1140. IN NO INSTANCE SHALL MORE THAN 20% OF THAT MATERIAL PASSING THE NO. 4 SIEVE CONSIST OF CLAY SIZE PARTICLES.
 - ALL AREAS TO BE SEEDED SHALL MEET THE SPECIFIED GRADES AND SHALL BE FREE OF GROWTH AND DEBRIS. CARE SHALL BE TAKEN TO PREVENT THE FORMATION OF LOW PLACES AND POCKETS WHERE WATER WILL STAND.
 - WHERE RYEGRASS HAS BEEN PLANTED FOR TEMPORARY EROSION CONTROL AND HAS NOT BEEN ELIMINATED PRIOR TO THE COMPLETION OF THE WORK, SUCH AREAS SHALL BE DISC-HARROWED AT LEAST 3\"/>

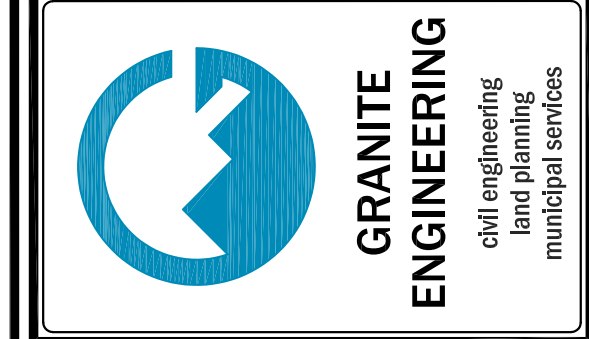
TYPICAL LAWN MIX

KIND OF SEED	MINIMUM PURITY (%)	MINIMUM GERMINATION (%)	POUNDS/ACRE (TOTAL 120 LBS)
CREeping RED FESCUE	96	85	40
PERENNIAL RYEGRASS	98	90	50
KENTUCKY BLUEGRASS	97	85	25
REDTOP	95	80	5

TYPICAL SLOPE SEED (3:1 OR GREATER NHDOT TYPE 44)

KIND OF SEED	MINIMUM PURITY (%)	MINIMUM GERMINATION (%)	POUNDS/ACRE (TOTAL 80 LBS)
CREeping RED FESCUE	96	85	35
PERENNIAL RYEGRASS	98	90	30
REDTOP	95	80	5
ALSIKE CLOVER	97	90	5
BIRDSFOOT TREFLOIL	98	80	5

TURF ESTABLISHMENT SPECIFICATIONS



REVISIONS

NO.	DATE	COMMENTS
0	09/16/2019	PROJECT SUBMITTAL

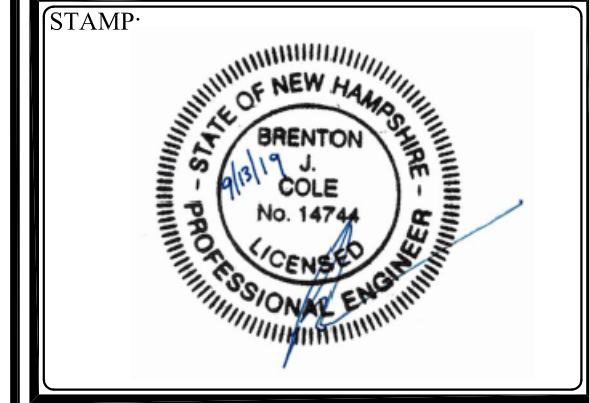
OWNER: SPRING CREEK SAND AND GRAVEL, LLC
 320 MILE SLIP ROAD
 MILFORD, NH 03055-3310
 BOOK 77:31 PAGE 2619

APPLICANT: LEVISON, A. WHITE, INC.
 135 ELM STREET
 MILFORD, NH 03055

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 Manchester, New Hampshire 03101
 603.518.8030

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LOCATION:
 TAX MAP 50 LOT 4-4
 MILE SLIP ROAD
 MILFORD, NEW HAMPSHIRE
 HILLSBOROUGH COUNTY

PROJECT:
 SPRING CREEK
 SAND & GRAVEL

TITLE:
 CONSTRUCTION
 DETAILS

PROJECT NO. / DATE: 19-0414-1 / SEPTEMBER 16, 2019
SCALE: AS SHOWN
SHEET: 4 OF 4

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NO.	DATE	REVISIONS
0	09/16/2019	PROJECT SUBMITTAL

OWNER: SPRING CREEK SAND AND GRAVEL, LLC
320 MILE SLIP ROAD
MILFORD, NH 03065-3310
BOOK 77:51 PAGE 2619

APPLICANT: LEIGHTON A. WHITE, INC.
135 ELM STREET
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STAMP: BRENTON J. DOLE
No. 14744
LICENSED PROFESSIONAL ENGINEER

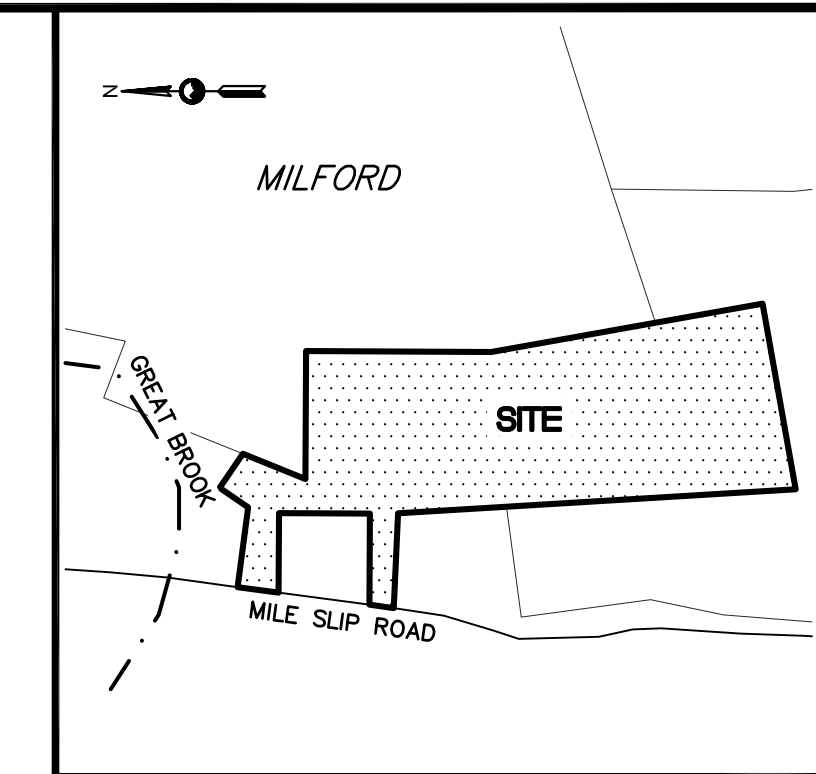
LOCATION:
TAX MAP 50 LOT 4-4
MILE SLIP ROAD
MILFORD, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

PROJECT:
SPRING CREEK SAND & GRAVEL

TITLE:
DRAINAGE PLAN

PROJECT No. DATE: 19-0414-1 SEPTEMBER 16, 2019
SCALE: HORIZ. 1"=150'

SHEET: 1 OF 1



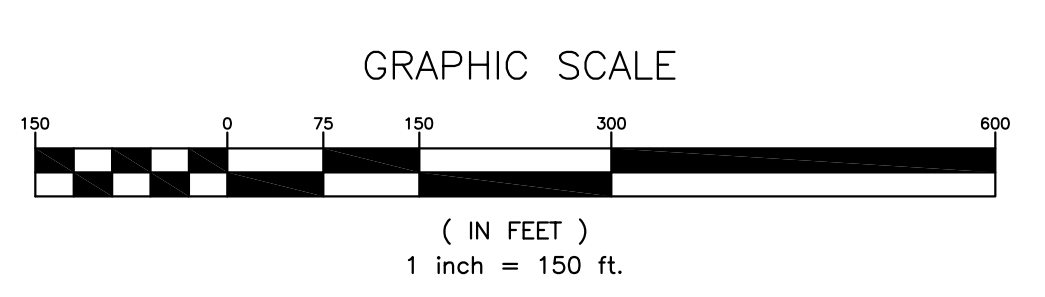
- SEE EXCAVATION/RECLAMATION PLAN EROSION CONTROL BMPS
- SEE EXCAVATION/RECLAMATION PLAN FOR STUMP REMOVAL AREA
- SEE EXCAVATION/RECLAMATION PLAN FOR STOCKPILE, EQUIPMENT, & STAGING AREAS

EROSION CONTROL NOTES:

- 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 "EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" AS PUBLISHED AND AMENDED BY THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES.
- THIS PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
- WHENEVER PRACTICAL, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED OR SUPPLEMENTED. THE STRIPPING OF VEGETATION SHALL BE DONE IN A MANNER THAT MINIMIZES SOIL EROSION.
- APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO LAND DISTURBANCE.
- THE AREA OF DISTURBANCE SHALL BE KEPT TO A MINIMUM. DISTURBED AREAS REMAINING IDLE FOR MORE THAN 30 DAYS SHALL BE STABILIZED.
- 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.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN FUNCTIONING CONDITION UNTIL FINAL SITE STABILIZATION IS ACCOMPLISHED.
- 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.
- THE TOWN OF MILFORD SHALL RESERVE THE RIGHT TO REQUIRE FURTHER EROSION CONTROL PRACTICES DURING CONSTRUCTION SHOULD THEY FIND IT NECESSARY.
- THE RESPONSIBLE PARTY SHALL INSTALL, INSPECT, REPORT, OPERATE, AND MAINTAIN ALL STORMWATER MANAGEMENT AND EROSION CONTROL MEASURES REQUIRED BY THESE PLANS.
- 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 DISTURBED AREAS DESIGNATED TO BE TURF, SHALL RECEIVE A MINIMUM APPLICATION OF 4 INCHES OF LOAM (COMPACTED THICKNESS), PRIOR TO FINAL SEEDING AND MULCHING.
- 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.
- DUST SHALL BE CONTROLLED BY THE USE OF WATER AS NECESSARY THROUGHOUT THE CONSTRUCTION PERIOD, IN ACCORDANCE WITH ENV-A 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.
- EARTHWORK SHALL BE LIMITED TO THE AREAS WITHIN THE LIMITS OF CLEARING AS SHOWN ON THE PLAN. AT NO TIME SHALL MORE THAN FIVE (5) ACRES OF SITE AREA BE IN AN UNSTABLE CONDITION. NO GIVEN AREA OF THE SITE SHALL BE LEFT IN AN UNSTABILIZED CONDITION FOR A PERIOD OF TIME EXCEEDING THIRTY (30) CALENDAR DAYS.
- THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
- PERIMETER CONTROLS MUST BE INSTALLED PRIOR TO EARTHWORK.
- EROSION CONTROL MEASURES USED SHALL BE INSPECTED AT LEAST WEEKLY AND WITHIN 24 HOURS AFTER 0.25" OF RAINFALL OR MORE. ALL DEFICIENCIES SHALL BE FIXED IN ORDER TO KEEP OPERATION EFFECTIVE. THEY SHALL BE CLEANED AND MAINTAINED AND OTHERWISE KEPT IN AN EFFECTIVE OPERATING MANNER THROUGHOUT THE CONSTRUCTION PERIOD.
- ALL STORMWATER PRACTICES AND DRAINAGE SWALES ARE TO BE INSTALLED PRIOR TO ROUGH GRADING OF THE SITE. THEY SHOULD BE FULLY STABILIZED PRIOR TO RECEIVING STORMWATER. PERIODIC INSPECTION AND MAINTENANCE TO MAINTAIN DESIGN INTENT IS REQUIRED.
- ALL DISTURBED AREAS DESIGNATED TO BE TURF, SHALL RECEIVE THE REQUIRED AMOUNT OF LOAM (COMPACTED THICKNESS), PRIOR TO FINAL SEEDING AND MULCHING.
- IF DURING CONSTRUCTION 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.
- ALL DUST SHALL BE CONTROLLED BY THE USE OF WATER IN ACCORDANCE WITH ENV-A 1000.
- IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION AND SEDIMENT CONTROL DEVICES ARE REQUIRED, THE OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY DEVICES OR CONSULT WITH THE ENGINEER.
- 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" ON ALL 3:1 SLOPES OR GREATER.
- ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS.
- ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS.

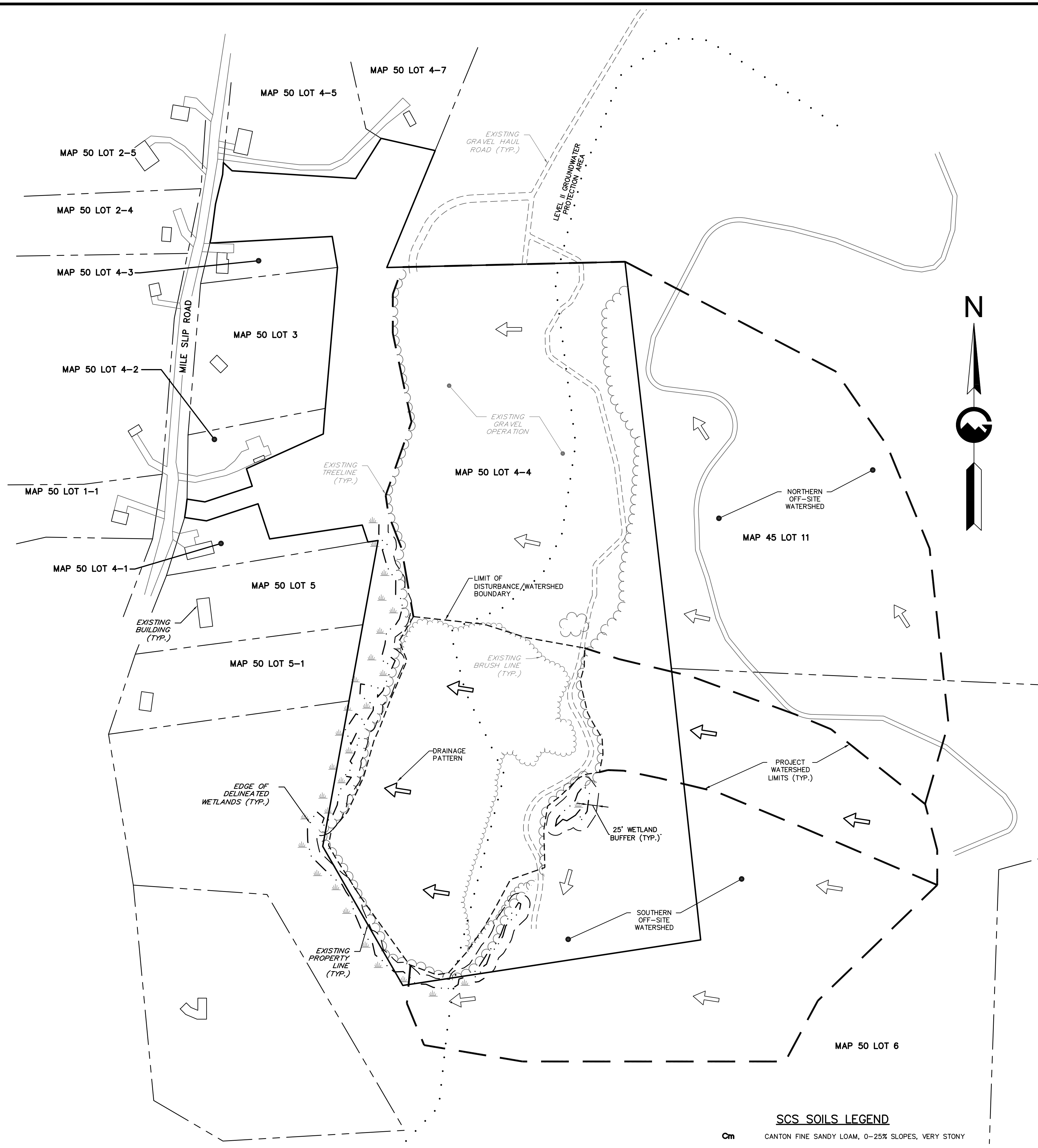
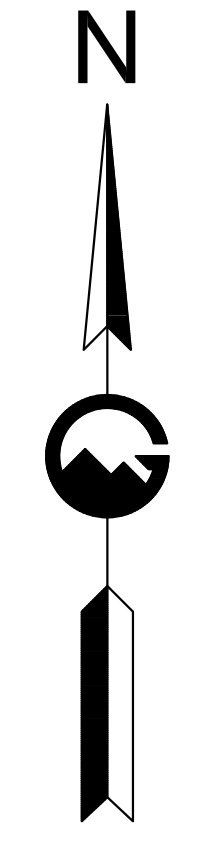
LEGEND

- BUTTER LINE
- PROPERTY LINE
- WETLAND
- TREELINE
- BRUSHLINE
- EDGE OF GRAVEL
- GROUNDWATER PROTECTION AREA
- BUILDING SETBACK
- WETLAND BUFFER
- WATERSHED BOUNDARY



SCS SOILS LEGEND

Cm CANTON FINE SANDY LOAM, 0-25% SLOPES, VERY STONY



C:\Users\Owner\Granite Engineering, LLC\Granite - Documents\19-0414-1\Map\Products\19-0414-1-001\Map.dwg, DSC416AC, 9/14/2019 8:40:34 AM, Owner, D:\stream PDF, ANEL_D_22,00_34,00,1.mxd, 1:1