# HERITAGE LANDING

## CONDITIONAL USE PERMIT APPLICATION #08-21

### **STAFF REPORT**

June 16, 2021

### SITE: 112 & 114 Greeley Street; Map 140 Lot 002-000 & Lot 003-000

**ZONING:** General (G)

**PURPOSE OF PLAN:** To request a conditional use permit for wetland and wetland buffer impacts for the proposed age restricted detached condominium development at 112 and 114 Greeley Street.

**PLANS UNDER REVIEW:** Heritage Landing, Map 140 Lots 2 & 3, 112 & 114 Greeley Street, Hudson, New Hampshire, Hillsborough County; prepared by Keach-Nordstrom Associates, Inc., 10 Commerce Park North, Suite 3B, Bedford, New Hampshire 03110; prepared for K&M Developers, LLC, 46 Lowell Road, Hudson, New Hampshire 03051; consisting of 10 sheets (see the following list with original sheet number and date):

### **ATTACHMENTS:**

A. Zoning Administrator's Comment and Attached Plans, dated June 3, 2021.

### **APPLICATION TRACKING:**

- May 28, 2021 Application received.
- June 14, 2021 Application reviewed by the Hudson Conservation Commission. Site walk scheduled on June 21, 2021.
- June 23, 2021 Public hearing scheduled.

### **COMMENTS & RECOMMENDATIONS:**

### BACKGROUND

There is an existing residential home, a detached garage, a shed, and a driveway on Lot 2 and an abandoned house on Lot 3. Both lots, totaling 16.931 acres, are primarily undeveloped and wooded. An intermittent stream bisects both lots from north to south.

On a separate and yet to be submitted site plan application, the applicant is proposing the consolidation of the two lots and a 47-unit detached single family age restricted condominium development (62+). The existing structures and driveway will be demolished. The development will include a loop roadway with access from Greeley Street, as well as onsite improvements such as two stormwater ponds.

CUP #08-21 Staff Report Page 1 of 3 The proposed loop roadway will cross designated wetland and wetland buffer areas at two location. The two proposed stormwater ponds will both intrude upon wetland buffer areas. Due to the intermittent stream, permanent impacts to the Wetland Conservation District caused by the proposed development are necessary to use more than half of the property's buildable area.

### **STAFF COMMENTS**

1. Use within Wetland Conservation District (§ 334-36): The proposed private roadway and stormwater areas are conditional uses permitted under § 334-36:C, in accordance with subsections 2 and 3:

**§ 334-36:C.2:** Construction of streets, roads, and other access ways, including driveways, footpaths, bridges, and utilities if essential to the productive use of land beyond the Wetland Conservation Overlay District. These uses shall be located and constructed in such a way as to minimize the potential for detrimental impact to the District and be planned, designed, and constructed in a manner consistent with applicable state and local standards. Such construction may be permitted within the District only when no viable alternative is available.

**§ 334-36:C.3:** Water impoundments for the purposes of creating a water body for wildlife, fire protection, stormwater management, or recreational use. Construction of impoundments for on-site detention and/or treatment of stormwater runoff in the Wetland Conservation Overlay District, provided the Planning Board finds that it is not practical or possible to locate them outside of the District.

At the time of this report, the Conservation Commission has yet to make its findings.

2. Hudson Conservation Commission Comments: The HCC had not provided any formal comments but scheduled a site walk on June 21, 2021 at 6:30pm as part of its review of this application.

### 3. Department Comments:

- a. The Zoning Administrator recommended adding wetland buffer boundary markers particularly at units 7, 8, 24, 30, 38, and 47. This provision is permitted by the Zoning Ordinance and can be made a requirement for the proposal.
- b. The Town Engineer offers the following comments:
  - i. The Applicant shall show the water lines on the plans.
  - ii. The proposed water lines will be shown on the side of the wing walls, not under the proposed drainage structures. This will eliminate any future maintenance access issues.
  - iii. Applicant shall state if such changes will change the wetland impact areas.

## DRAFT MOTIONS <u>ACCEPT</u> the conditional use permit application:

I move to accept the conditional use permit application for Heritage Landing on 112 Greeley Street, Map 140 Lot 2 and 114 Greeley Street, Map 140 Lot 3.

Motion by: \_\_\_\_\_\_Second: \_\_\_\_\_Carried/Failed: \_\_\_\_\_

### **<u>CONTINUE</u>** the public hearing to a date certain:

I move to continue the public hearing for the conditional use permit application for Heritage Landing on 112 Greeley Street, Map 140 Lot 2 and 114 Greeley Street, Map 140 Lot 3. to date certain, \_\_\_\_\_, 2021.

Motion by: \_\_\_\_\_Second: \_\_\_\_\_Carried/Failed: \_\_\_\_\_

### <u>APPROVE</u> the site plan application:

I move to approve the conditional use permit for Heritage Landing, Map 140 Lots 2 & 3, 112 & 114 Greeley Street, Hudson, New Hampshire, Hillsborough County; prepared by Keach-Nordstrom Associates, Inc., 10 Commerce Park North, Suite 3B, Bedford, New Hampshire 03110; prepared for K&M Developers, LLC, 46 Lowell Road, Hudson, New Hampshire 03051; consisting of 10 sheets; subject to, and revised per, the following stipulations:

- 1. All stipulations of approval shall be incorporated into the Notice of Decision and the Development Agreement, which shall be recorded at the HCRD, together with the Plan.
- 2. All improvements shown on the Plan, including construction notes 1-4, shall be completed in their entirety and at the expense of the applicant or his assigns.
- 3. Prior to the issuance of a final certificate of occupancy, an L/LIS/Certified "as-built" site plan shall be provided to the Town of Hudson Land Use Development, confirming that the site conforms to the Plan approved by the Planning Board.
- 4. The onsite drainage system shall be constructed and maintained in compliance with NHDES requirements for such systems.
- 5. Prior to the Planning Board endorsement of the Plan, it shall be subject to final administrative review by Town Planner and 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. The applicant shall affix tags to trees or other durable objects (e.g., four-inch-by-fourinch wood posts) at fifty-foot intervals along the upland boundary of the Wetlands Conservation Overlay District, and maintain said tags as needed to provide evidence of the upland side buffer boundary. Tags shall be obtained from the municipality at the applicant's cost.

Motion by:	Second:	Carried/Failed:

CUP #08-21 Staff Report Page 3 of 3

# LEGEND

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© IPP−F △ RRS−F ℃	
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OHU	
•* © ₪	
<u>ss</u>	

GRANITE BOUND FOUND IRON PIN FOUND DRILL HOLE FOUND IRON PIPE FOUND RAILROAD SPIKE FOUND UTILITY POLE SIGN LIGHT ABUTTER LINE PROPERTY LINE STREAM WETLAND SWALE OVERHEAD UTILITIES EDGE OF PAVEMENT VERTICAL GRANITE CURB 10' CONTOUR 2' CONTOUR STONEWALL SCS SOIL LINE BUILDING SETBACK EASEMENT PROPOSED SIGN PROPOSED LIGHT PROPOSED SEWER MANHOLE PROPOSED DRAINAGE MANHOLE PROPOSED CATCH BASIN PROPOSED PROPERTY LINE PROPOSED CHAIN LINK FENCE PROPOSED GUARDRAIL PROPOSED OVERHEAD UTILITIES PROPOSED UNDERGROUND UTILITIES PROPOSED GAS LINE PROPOSED WATER LINE PROPOSED SEWER LINE PROPOSED DRAINAGE LINE PROPOSED TREELINE PROPOSED EDGE OF PAVEMENT PROPOSED VERTICAL GRANITE CURB PROPOSED 2' CONTOUR PROPOSED SWALE PROPOSED RETAINING WALL OCOCOCOCOCO PROPOSED STONEWALL \_\_\_\_ \_ \_ \_ \_ \_ \_ EASEMENT

## **REFERENCE PLANS:**

- 1. "PLAN OF LAND IN HUDSON, N.H." SCALE: 1"=200'. DATED: 1967. PREPARED BY: DAVID M. HAMILTON. H.C.R.D. PLAN #3605
- 2. "SURVEY OF OLD ORIGINAL LAND SUBDIVISION, A & W SAND & GRAVEL CORP." SCALE 1"=200'. DATED: DECEMBER 15, 1972. PREPARED BY: ROLAND P. THERRIEN H.C.R.D. PLAN #14653
- 3. "CONSOLIDATION & SUBDIVISION PLAN, HIGHLAND ACRES." SCALE: 1"=100'. DATED: JUNE, 1977. PREPARED BY: A.E. MAYNARD CIVIL ENGINEER H.C.R.D. PLAN #10317
- 4. "POND VIEW ESTATES LOT LINE RELOCATION & CONSOLIDATION PLAN." SCALE: 1"=100'. DATED: FEBRUARY 26, 1996. PREPARED BY: HAYNER/SWANSON, INC. H.C.R.D. PLAN #28726

1.53

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# NOTES (CONTINUED):

# 14. WAIVERS REQUIRED: 15. STATE PERMITS REQUIRED;

### - AOT PERMIT - SEWER CONNECTION PERMIT

16. CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO THE HOURS BETWEEN 7:00 AM AND 7:00 PM, MONDAY THROUGH SATURDAY. CONSTRUCTION ACTIVITIES SHALL BE PROHIBITED ON SUNDAYS.

- 17. IF LOT DEVELOPMENT INVOLVES BLASTING AND/OR RAMMING OF BEDROCK MATERIALS, SAID ACTIVITIES SHALL BE LIMITED TO THE HOURS BETWEEN 7:00 AM AND 5:00 PM MONDAY THROUGH FRIDAY ONLY. SAID BLASTING/RAMMING
- ACTIVITIES ARE PROHIBITED ON SATURDAY AND SUNDAY. 18. THE ROAD NAME SHALL BE POSTED AT THE BEGINNING OF THE ROAD FOR CERTIFICATION OF OCCUPANCY SIGN BY THE HUDSON FIRE DEPARTMENT.
- 19. OPEN SPACE: REQUIRED = 40%
- PROVIDED = 74%
- 20. BUILDING COVERAGE: REQUIRED=20%

REQUIREMENTS.

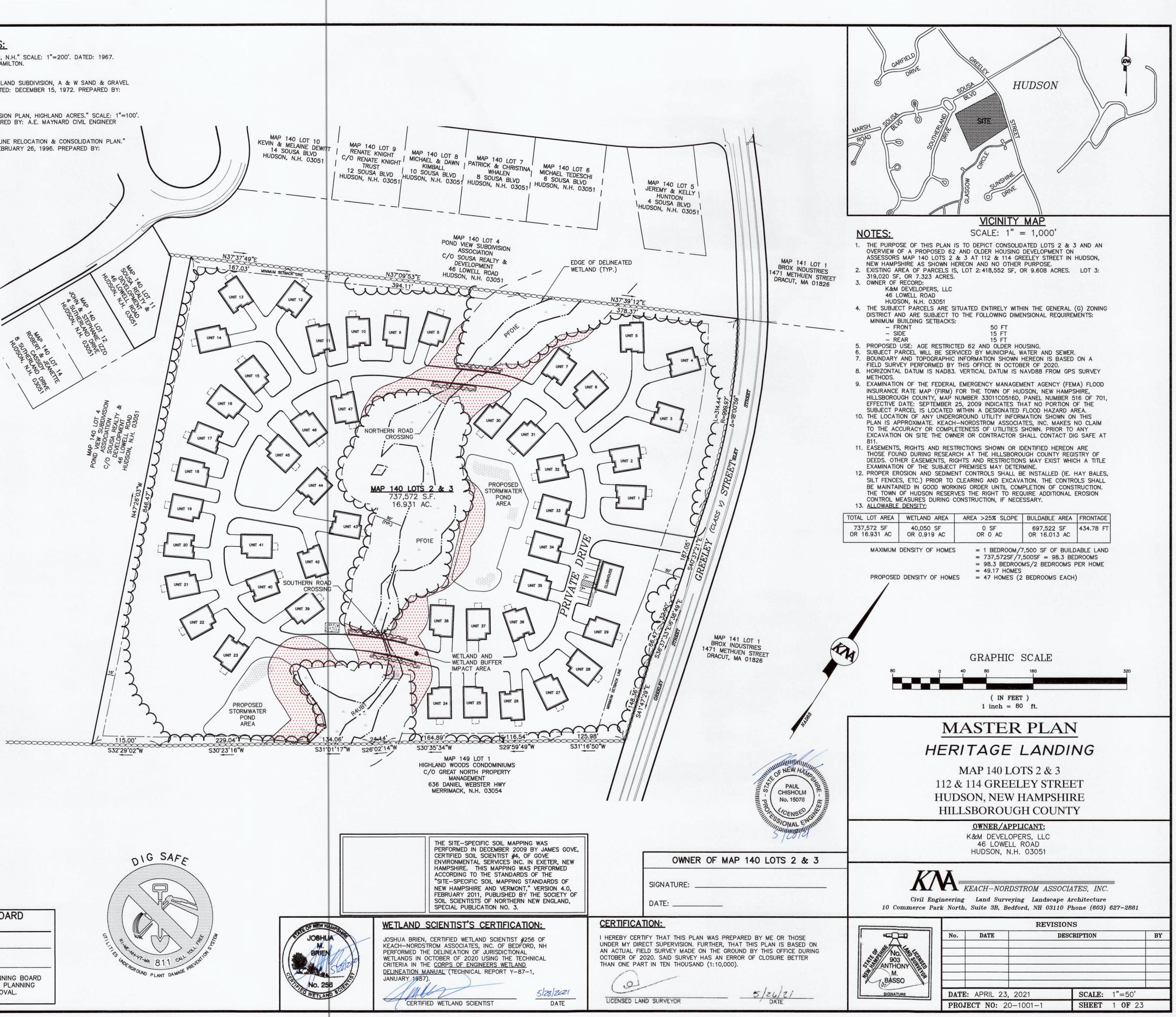
### PROVIDED: TOTAL BUILDING COVERAGE SF = 95,685 SF

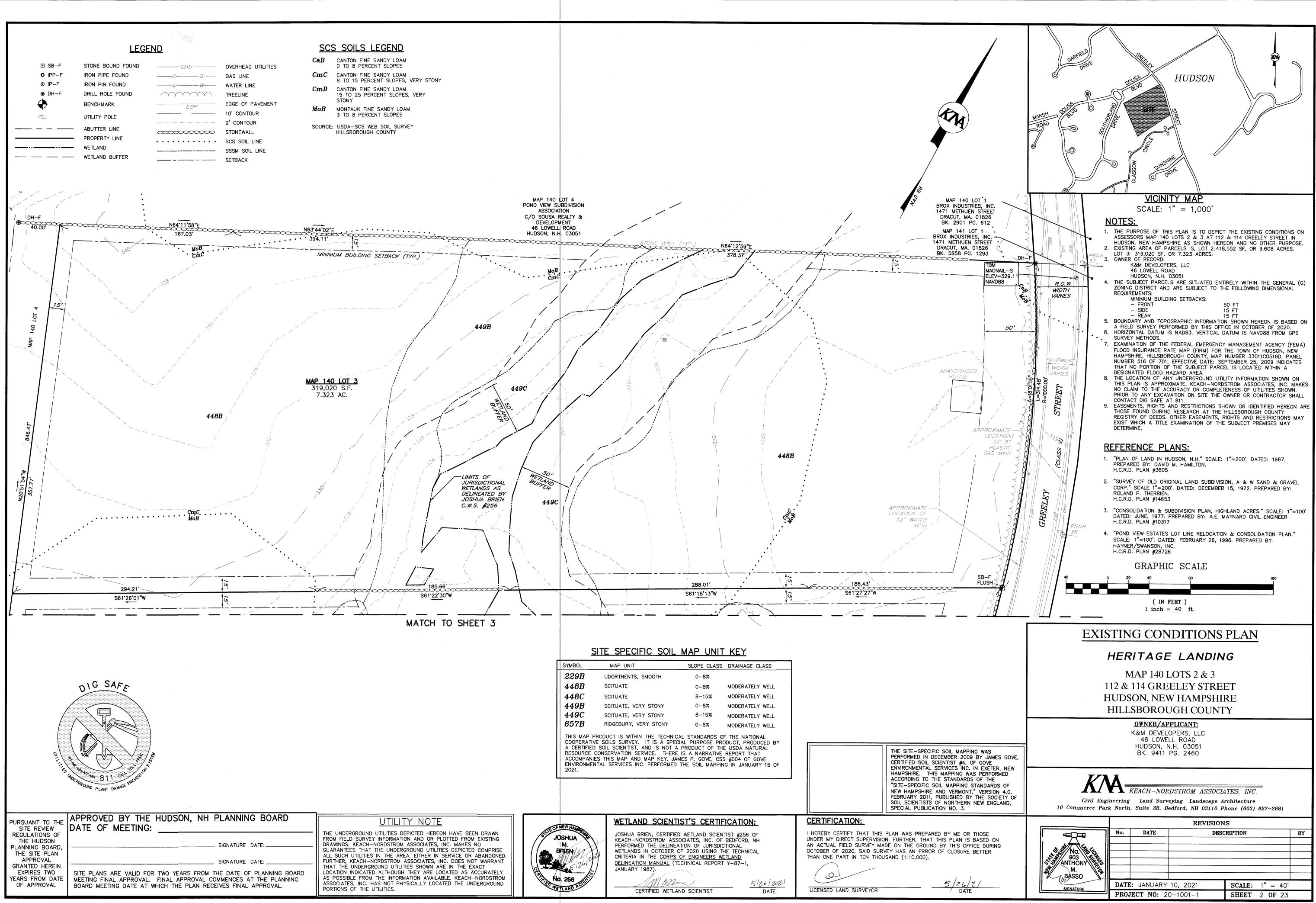
- TOTAL BUILDING COVERAGE =13%
- 21. ALL SITE IDENTIFICATION SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH ARTICLE XII OF THE HUDSON ZONING ORDINANCE.
- 22. AFTER THE ISUANCE OF THE FOUNDATION PERMIT FOR EACH OF THE STRUCTURES INCLUDED IN THIS SITE PLAN AND PRIOR TO THE FOUNDATION "AS-BUILT" PLANS ON A TRANSPARENCY AND TO THE SAME SCALE AS THE APPROVED SITE PLAN. EACH FOUNDATION "AS-BUILT" PLAN SHALL INCLUDE ALL STRUCTURAL DIMENSIONS AND LOT LINE SETBACK MEASUREMENTS TO THE FOUNDATION AND BE STAMPED BY A LICENSE LAND SURVEYOR. ANY DISCREPANCY BETWEEN THE APPROVED SITE PLAN AND FOUNDATION "AS-BUILT" PLAN SHALL BE DOCUMENTED BY THE APPLICANT AND BE PART OF THE FOUNDATION "AS-BUILT" SUBMISSION.
- 23. PRIOR TO THE ISSUANCE OF A FINAL CERTIFICATE OF OCCUPANCY, A 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 RECORD SITE PLAN.
- 24. IF DURING LOT DEVELOPMENT, SLOPES OF 2:1 EXCEED 20 FEET, 3:1 EXCEEDS 30 FEET, OR 4:1 EXCEEDS 40 FEET THE CONTRACTOR SHALL ADD BENCHING PER NHDES REQUIREMENTS. 25. THE PROPOSED PROJECT HAS BEEN DESIGNED TO MEET THE 2018 AND 2019 MS4

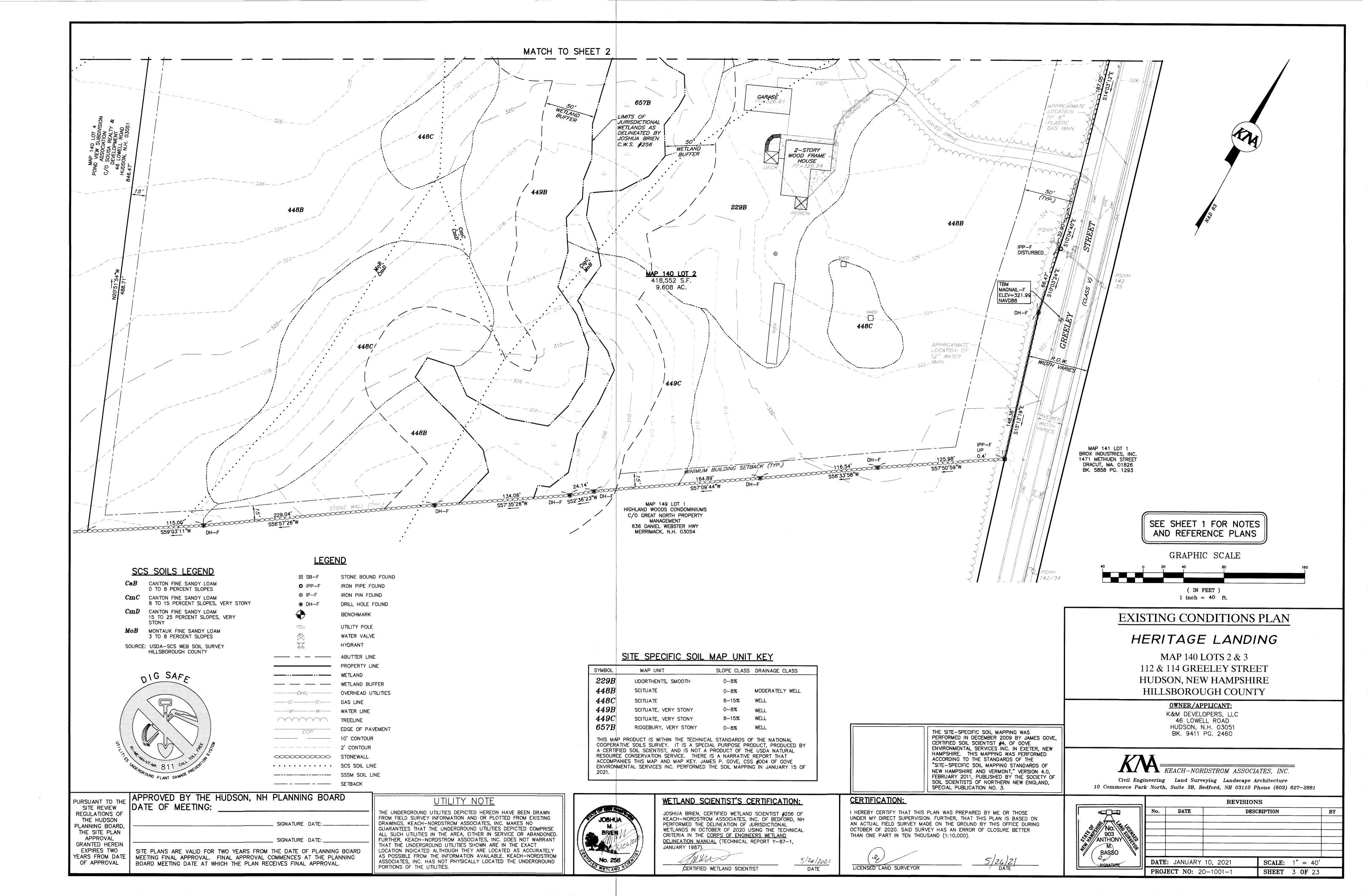
## NPDES NOTE

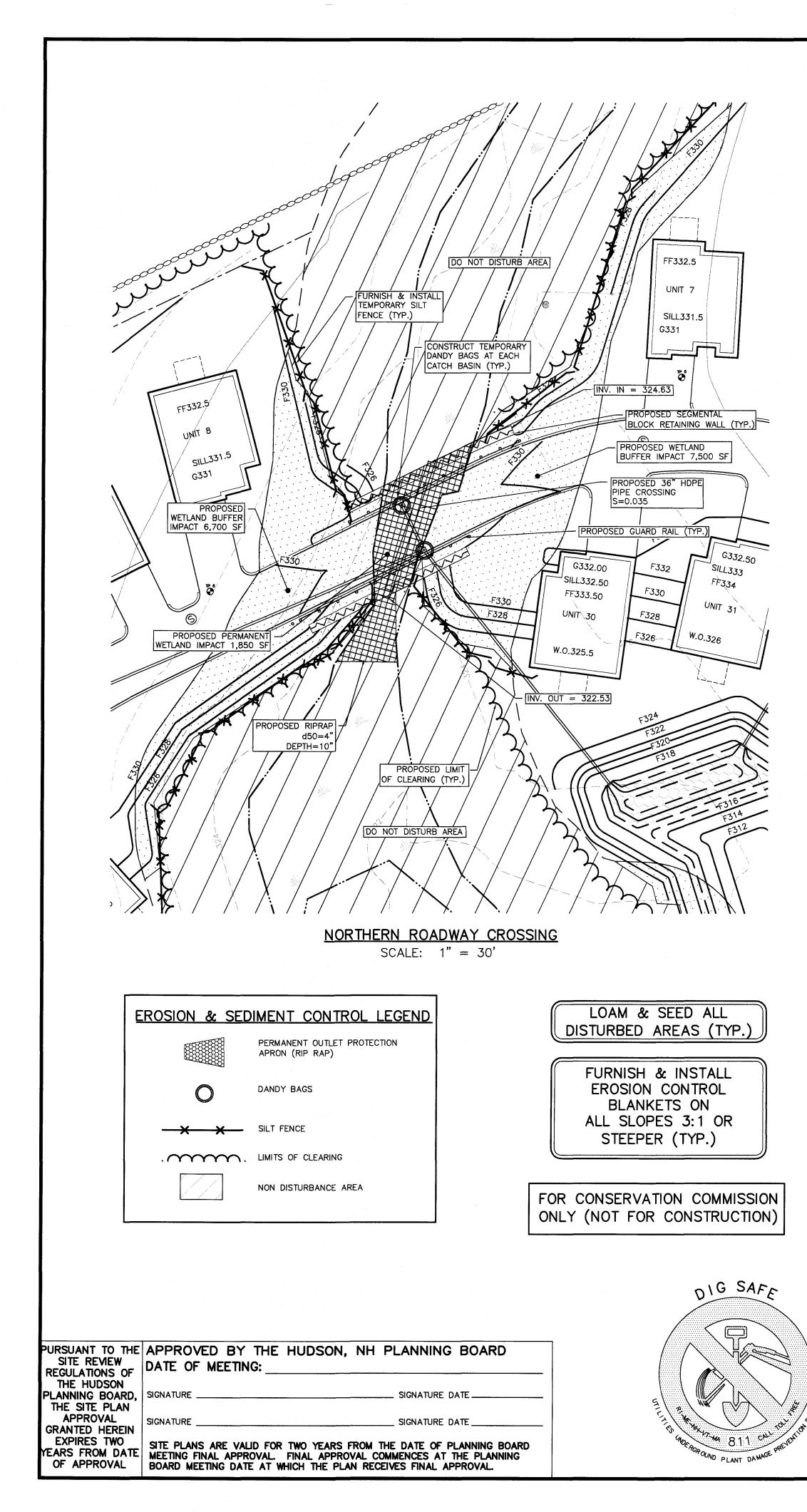
THIS PROJECT DISTURBS IN EXCESS OF 1-ACRE OF LAND. THEREFORE IT WILL
BE REQUIRED TO OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES) PERMIT COVERAGE AS ISSUED BY THE ENVIRONMENTAL PROTECTION
AGENCY (EPA). THE OWNER/DEVELOPER AND "OPERATOR" (GENERAL
CONTRACTOR) SHALL EACH BE REQUIRED TO 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.

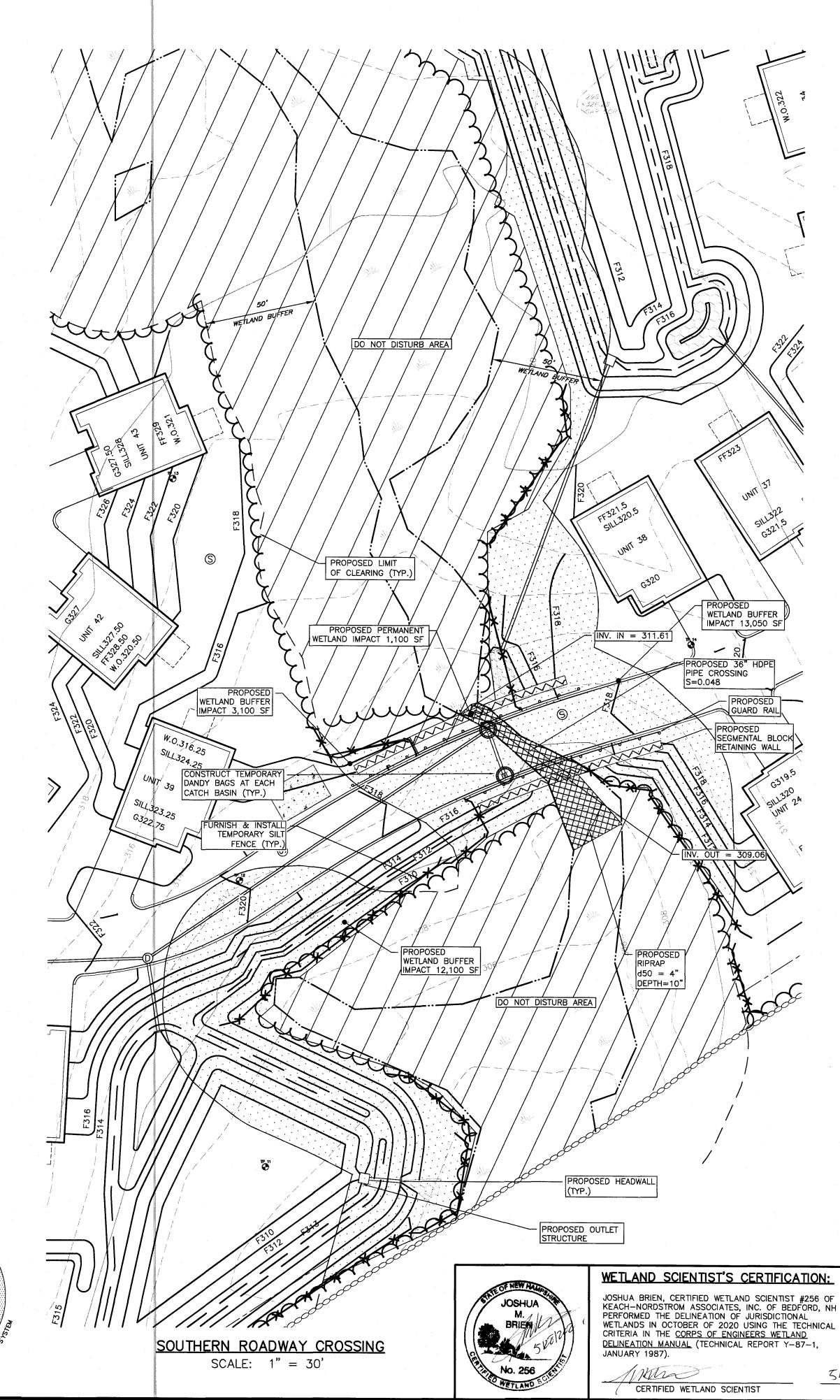
A CONTRACTOR OF THE OWNER	
PURSUANT TO THE SITE REVIEW	APPROVED BY THE HUDSON, NH PLANNING BOARD DATE OF MEETING:
REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN	SIGNATURE DATE:
APPROVAL GRANTED HEREIN	SIGNATURE DATE:
EXPIRES TWO YEARS FROM DATE OF APPROVAL	SITE PLANS ARE VALID FOR TWO YEARS FROM THE DATE OF PLANNING BOAR MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.











# NOTES:

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- THE PURPOSE OF THIS PLAN IS TO DEPICT THE PERMANENT WETLAND AND WETLAND BUFFER IMPACTS ASSOCIATED WITH THE CONSTRUCTION OF TWO ROADWAY WETLAND CROSSINGS AND TWO STORMWATER PONDS.
- WETLAND MAPPING PERFORMED BY JOSHUA BRIEN CWS#256 IN OCTOBER OF 2020.
   TOTAL PERMANENT WETLAND IMPACT = 2,950 SF TOTAL WETLAND BUFFER IMPACT = 42.450 SF
- 4. PROPER EROSION AND SEDIMENT CONTROL SHALL BE INSTALLED (I.E. SILT FENCE, HAY BALES, ETC.) PRIOR TO COMMENCING EXCAVATION EFFORTS. THE CONTROLS SHALL BE MAINTAINED IN GOOD WORKING ORDER UNTIL COMPLETION OF CONSTRUCTION. THE TOWN OF HUDSON RESERVES THE RIGHT TO REQUIRE ADDITIONAL EROSION CONTROL MEASURES DURING CONSTRUCTION, IF NECESSARY.
- TEMPORARY EROSION CONTROLS SHALL BE REMOVED UPON FINAL STABILIZATION OF DISTURBED AREAS.
   TEMPORARY EROSION CONTROLS SHALL BE REMOVED UPON FINAL STABILIZATION OF
- 6. THE CONTRIBUTING WATERSHED AREA FOR THE ON-SITE WETLAND IS 12.8 ACRES.

# LEGEND

STONE BOUND FOUND

IRON PIPE FOUND

IRON PIN FOUND

DRILL HOLE FOUND

BENCHMARK

UTILITY POLE

WATER VALVE

ABUTTER LINE

PROPERTY LINE

WETLAND BUFFER

OVERHEAD UTILITIES

EDGE OF PAVEMENT

WETLAND BUFFER IMPACT

PERMANENT WETLAND IMPACT

HYDRANT

WETLAND

WATER LINE

TREELINE

SB-F

O IPP-F

⊚ IP–F

OH-F

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EOP

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GAS LINE

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10' CONTOUR

2' CONTOUR

····· SCS SOIL LINE

SSSM SOIL LINE

GRAPHIC SCALE

( IN FEET )

1 inch = 40 ft.

WETLAND/WETLAND BUFFER IMPACT PLAN

HERITAGE LANDING

MAP 140 LOTS 2 & 3

112 & 114 GREELEY STREET

HUDSON, NEW HAMPSHIRE

HILLSBOROUGH COUNTY

OWNER/APPLICANT:

K&M DEVELOPERS, LLC 46 LOWELL ROAD

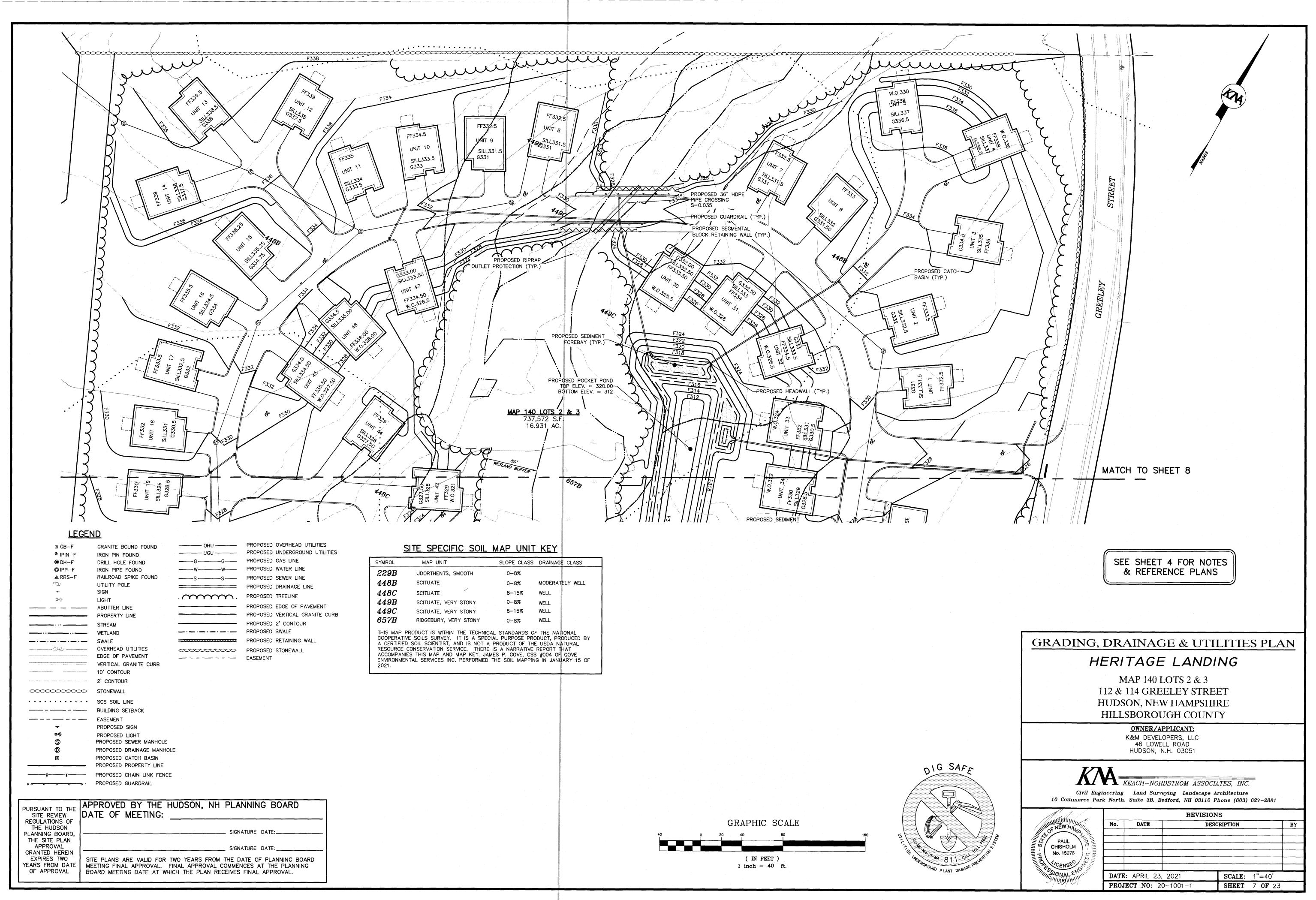
SETBACK

HUDSON, N.H. 03051 BK. 9411 PG. 2460 KEACH-NORDSTROM ASSOCIATES, INC. Civil Engineering Land Surveying Landscape Architecture 10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2861

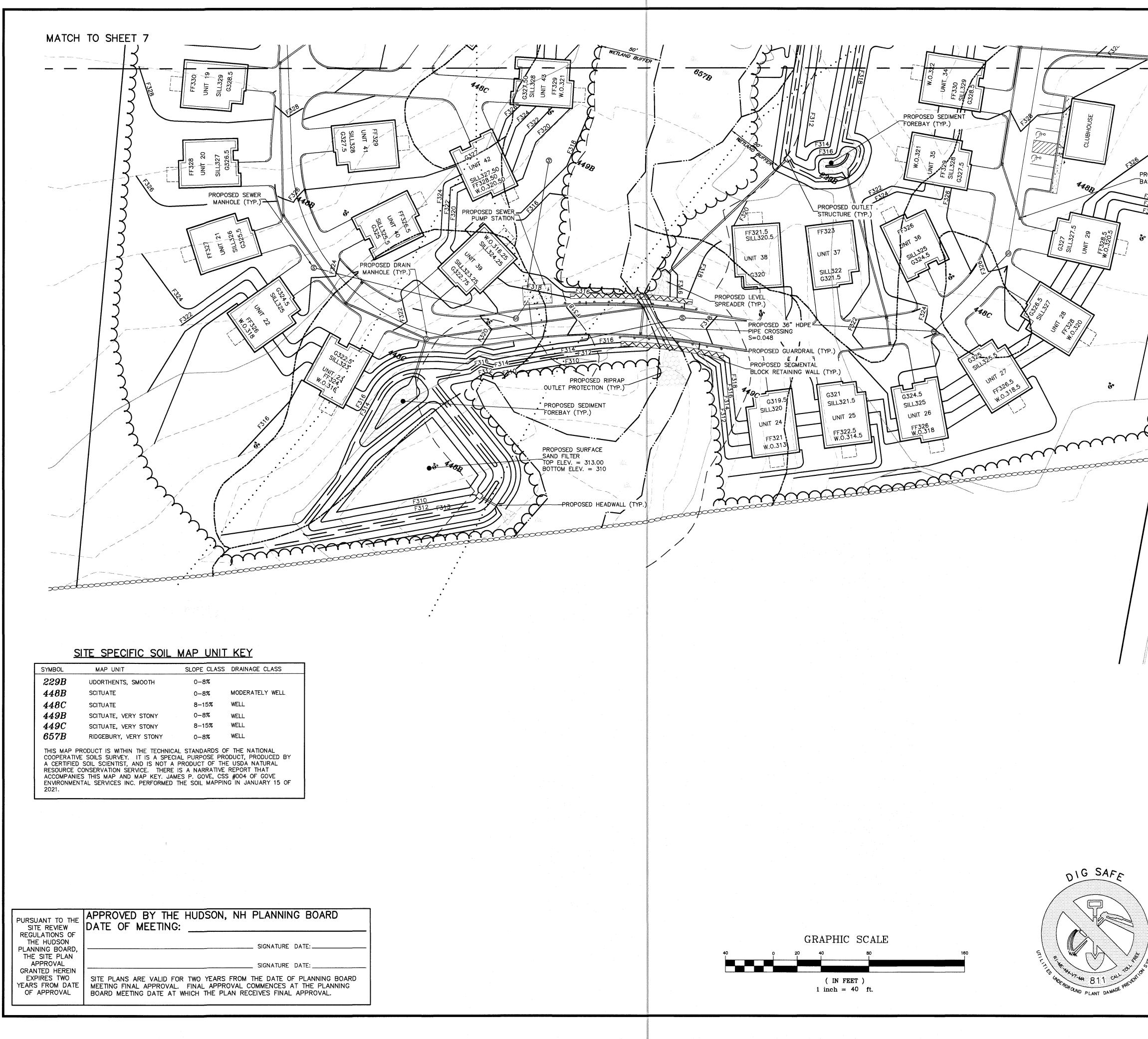
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	No. 15076
5170/2021	STONAL EN

DATE

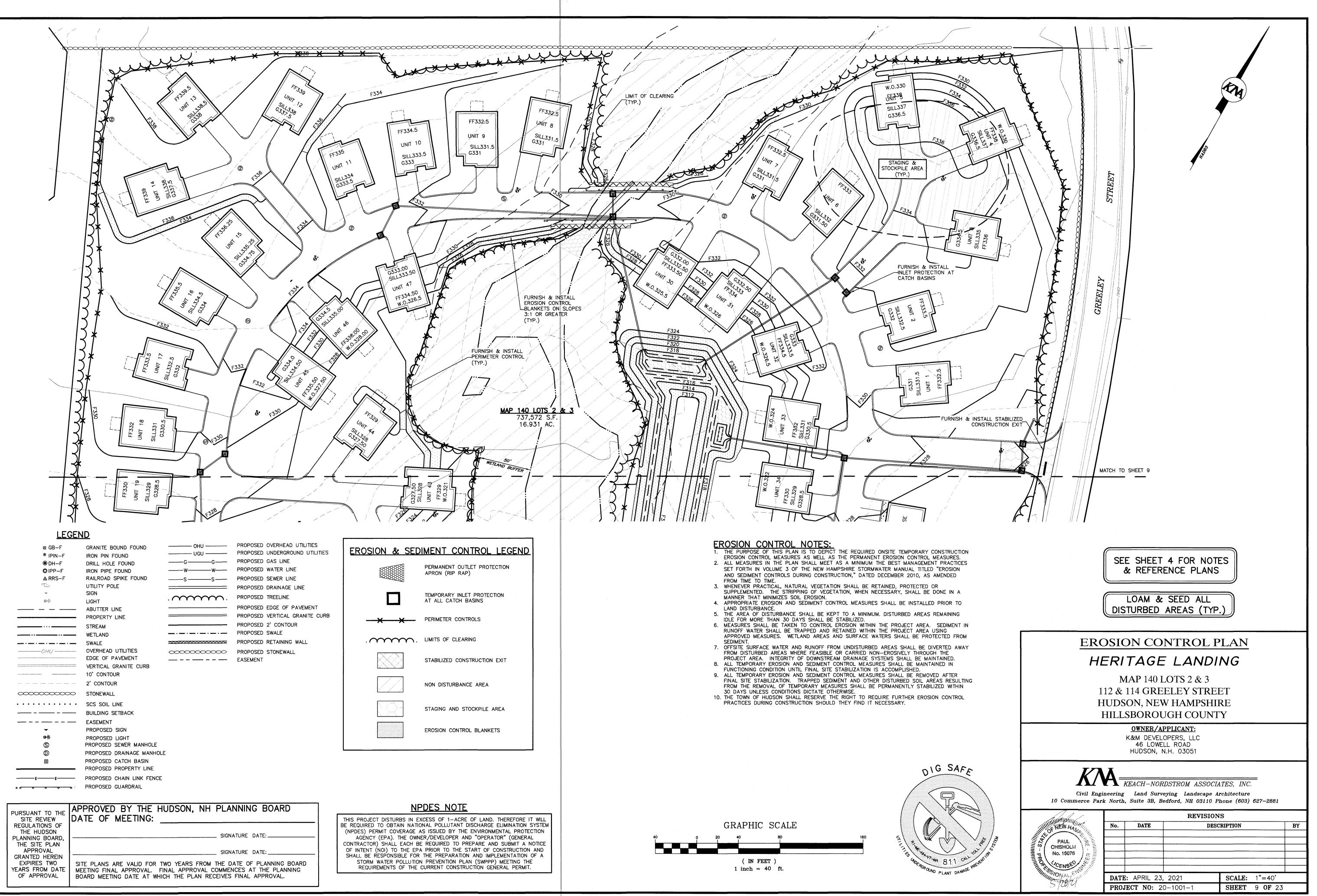
		REVI	SIONS		
 No.	DATE		DESCRIPTION		BY
DATE	JANUARY	10, 2021	SCALE:	1" = 40'	
PROJ	ECT NO: 2	0-1001-1	SHEET	3 <b>OF</b> 23	

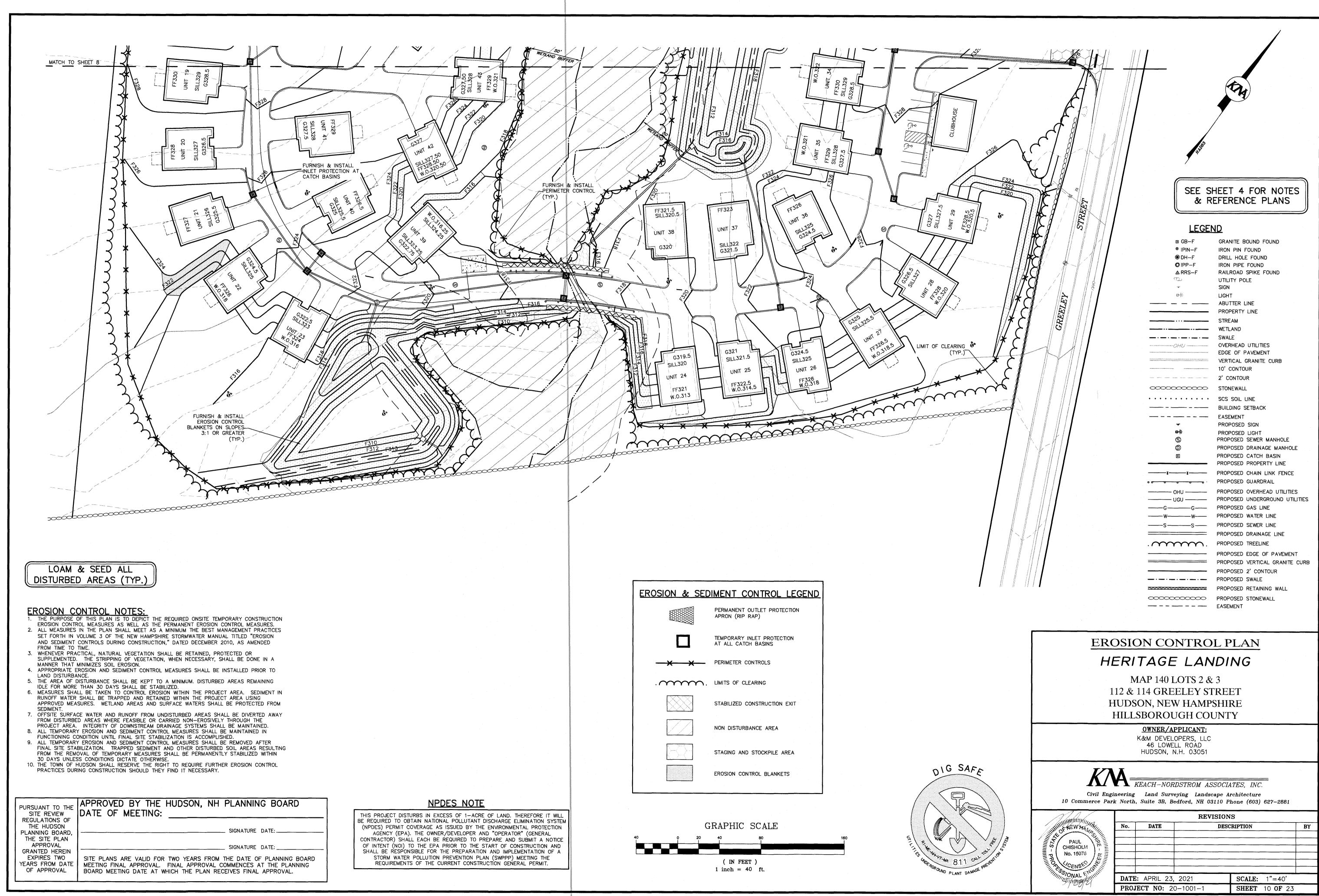


	SLOPE CLASS	DRAINAGE CLASS
S, SMOOTH	0-8%	
	0-8%	MODERATELY WELL
/	8-15%	WELL
ERY STONY	0-8%	WELL
ERY STONY	8-15%	WELL
VERY STONY	0-8%	WELL



	_
Improveded output       Improveded output	
GRADING, DRAINAGE & UTILITIES PLAN HERITAGE LANDING MAP 140 LOTS 2 & 3 112 & 114 GREELEY STREET HUDSON, NEW HAMPSHIRE HILLSBOROUGH COUNTY	1
OWNER/APPLICANT: K&M DEVELOPERS, LLC 46 LOWELL ROAD HUDSON, N.H. 03051         AFE         Civil Engineering Land Surveying Landscape Architecture 10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627–2881         REVISIONS         No. DATE         DESCRIPTION	87
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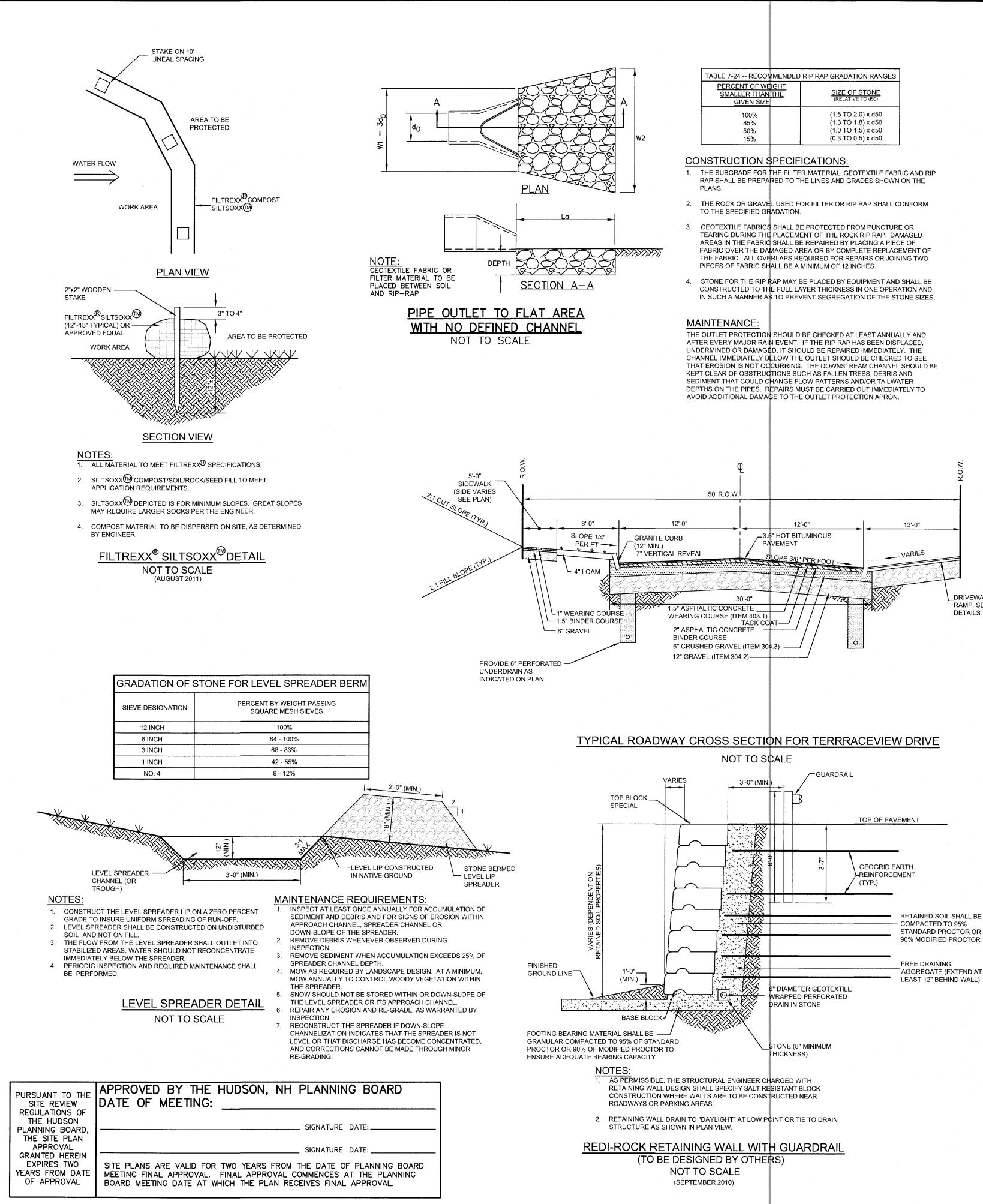


TABLE 7-24 RECOMMENDE	D RIP RAP GRADATION RANGES		
PERCENT OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE (RELATIVE TO 050)		
100% 85% 50% 15%	(1.5 TO 2.0) x d50 (1.3 TO 1.8) x d50 (1.0 TO 1.5) x d50 (0.3 TO 0.5) x d50		
53			

SEDIMENT FOREBAYS (ELEVATION VARIES - SEE SITE PLAN) 30 MIL IMPERVIOUS LINER

PROPOSED RIP RAP LINED -

SHALL BE REQUIRED UNLESS DETERMINED OTHERWISE BY THE DESIGN ENGINEER DURING CONSTRUCTION WHEN THE POND IS AT SUBGRADE, AND IS EITHER MORE THAN 5 FEET BELOW SEASONAL HIGH WATER TABLE AND/OR IN COMPLETE LEDGE. DO NOT INSTALL LINER IN INFILTRATION POND.

CRUSHED GRAVEL SUB-BASE (NHDOT 304.3) COMPACTED TO MINIMUM OF 95%

OUTLET CONTROL STRUCTURE. SEE DETAIL

EXIST. GROUND

BASIN BOTTOM

# STORMWATER PONDS CONSTRUCTION SEQUENCE

- TOPS AND BRUSH TO BE PROPERLY DISPOSED OF BY CONTRACTOR. CONTROL MEASURES SHALL BE INSTALLED AS CALLED FOR ON PROJECT PLANS.
- PREVENT LOSS DUE TO EROSION
- CONSTRUCT CUT-OFF TRENCH (PART OF ZONE I). PROTECTION AS SHOWN ON PLANS.
- CONSTRUCT ZONE | PORTION OF EARTH EMBANKMENT. CONSTRUCT ZONE II PORTION OF EARTH EMBANKMENT. AREAS UNTIL A HEALTHY STAND OF GRASS HAS BECOME ESTABLISHED.
- CULVERT AND RIP RAP OUTLET PROTECTION.

12"

1 1

W

MORTAR RUBBLE MASONRY

SECTION ON CENTERLINE

1.73

DIMENSIONS SHOWN ARE TO PAYMENT

STEPPED OUTSIDE PAYMENT LINES ON

MASONRY PER FOOT OF WALL (CLL XD.) MASONRY PER HOLE (CU. FT.)

A CONTRACTOR OF THE AVERAGE AND A CONTRACTOR OF THE AVERAGE AVE

SLOPING FACES.

DIAMETER AREA OF

D (INCH) PIPE (SF)

STORM SEWER -

LIFT STRAPS USED

MOVEMENT AND INSPECTION OF UNIT

STORM SEWER -

GRATE

HI-FLOW DANDY BAG<sup>®</sup> (SAFETY ORANGE)

MECHANICAL PROPERTIES | TEST METHOD

GRAB TENSILE STRENGTH ASTM D 4632

GRAB TENSILE ELONGATION ASTM D 4632

MULLEN BURST STRENGTH

UV RESISTANCE

APPARENT OPENING SIZE

FLOW RATE

PERMITTIVITY

PUNCTURE STRENGTH ASTM D 4833

TRAPEZOID TEAR STRENGTH ASTM D 4533

FOR EASY

GRATE

1.23

MASONRY PER

(CU. YD.)

0.202

1.77 0.222 2.52

30" 4.91 0.301 7.67

LINES. MORTAR RUBBLE MASONRY TO BE

SLOPE VARIES

(2:1, 3:1 OR 4:1)

MASONRY PER

HEADER

(CU. YD.)

0.85

2.58

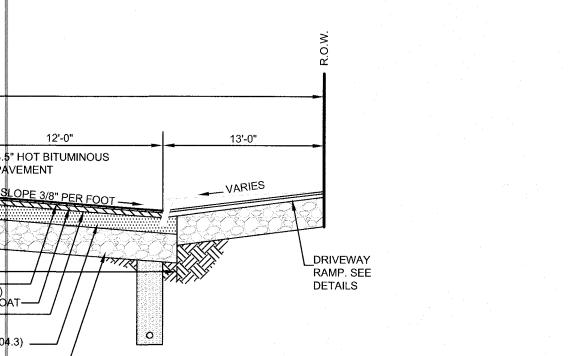
VELCRO

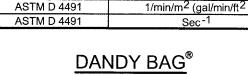
– DANDY BAG<sup>®</sup>

CLOSURE

STANDARD

CLASS A





ASTM D 3786

ASTM D 4355

ASTM D 4751

NOT TO SCALE (APRIL 2010)

UNITS

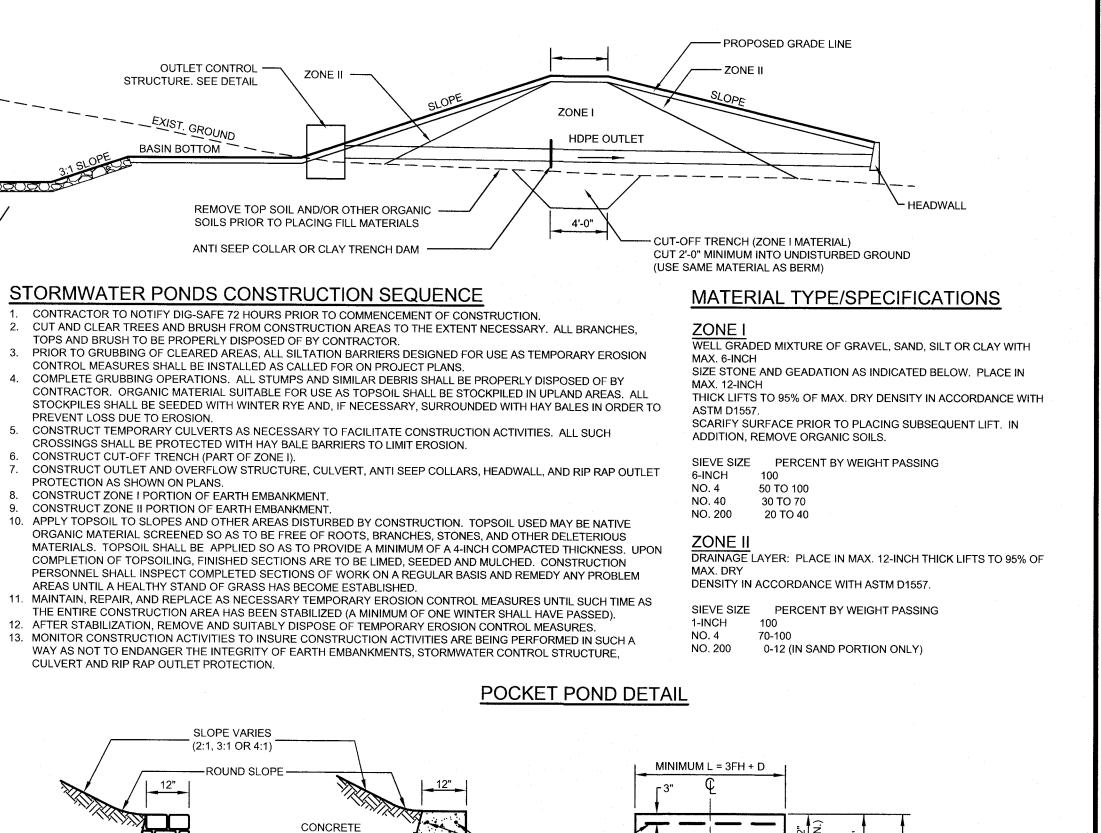
kN (lbs)

kN (lbs)

kN (lbs)

Mm (US Std Sieve)

kPa (psi)



									"L" HE	ADWALL
STEEL PER STANDARD HEADER (LB)	LENGTH OF BARS	PIPE EXC. 1' DEPTH 1' LENGTH (CU. YD.)	HEADER EXC. PER HEADER 1' DEPTH (CU. YD.)	ITEM 209 PER LINEAR FOOT	HEADER LENGTH L	Header Height H	FILL HEIGHT FH	WIDTH AT BOTTOM OF HEADER W	MASONRY IN CORNER FRUSTRUM (CU. YD)	HEADER EXC. PER HEADER 1' DEPTH (CU. YD.)
11	3'-10"	0.120	0.947	0.35	4'-6"	3'-9"	1'-1"	1'-11 1/4"	0.31	1.232
14	5'-2"	0.130	1.111	0.39	5'-6"	4'-0"	1'-4"	2'-0"	0.35	1.406
25	9'-2"	0.185	1.810	0.65	9'-6"	5'-0"	2'-4"	2'-3"	0.51	2.164

ELEVATION

GRANULAR BACKFILL

(ITEM 209)

- WHEN LESS THAN 4'-0" OF

FILL OVER CROWN OF PIPE

NOTE: STEEL QUANTITIES ARE FOR CONCRETE HEADWALLS ONLY

CONCRETE SECTION

ON CENTERLINE

## CONCRETE HEADWALLS

4" WEEPER IN OUTLET

HEADWALL (SUBSID.)

			· .				
	CC	DNS	TRUC	<b>FION DET</b>	AILS		
	H	ERI	TAGE	E LANDI	NG		
	H H	12 & IUDS	114 GRI SON, NE	LOTS 2 & 3 EELEY STRE W HAMPSHI UGH COUNT	RE		
			K&M DEVE	<b>PPLICANT:</b> LOPERS, LLC ELL ROAD N.H. 03051	· · · · · · · · · · · · · · · · · · ·		
	K	Ā=	KEACH-NO	RDSTROM ASSOCIA	ATES, INC.		
MARV 2 (365) x 0.89 (200)				veying Landscape A Redford, NH 03110 P	rchitecture hone (603) 627–2881		
24 x 10 0.40 (90)	ANTIMARIA			REVISION	IS		
3097 (450) 1 (115) x 0.33 (75)	HINHHIM OF NEW HAND	No.	DATE	DESC	CRIPTION	BY	
90 0.425 (40) 5907 (145) 2.1	PAUL CHISHOLM No. 15076 PONAL ENGINE	· · · · · · · · · · · · · · · · · · ·					
	1990 ONAL ENGININ	DATE	L S: APRIL 23	. 2021	SCALE: AS SHO	)WN	
	PROJECT NO: 20-1001-1 SHEET 19 OF 23						

## 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 SEEDED 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
- IF THE pH OF THE SOIL NEEDS TO BE RAISED, 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 FERTILIZER AND MIX WITH THE UPPER 2 INCHES OF LOAM. DETERMINE APPROPRIATE MIXTURE FOR AREA TO BE SEEDED BASED ON EXAMINATION OF PROJECT PLANS. UNIFORMLY SPREAD THE SEED BY BROADCASTING OR HYDROSEEDING. IF BROADCASTING, LIGHTLY RAKE INTO THE PREPARED SURFACE AND ROLL. IF, HYDROSEEDING, USE 4 TIMES THE RECOMMENDED RATE OF INOCULANT. AFTER SEED IS SPREAD, WATER THOROUGHLY WITH A FINE
- SEEDING AND INITIAL FERTILIZING SHALL BE DONE BETWEEN APRIL 1 AND JUNE 1 OR BETWEEN AUGUST 15 AND OCTOBER 14, OR AS PERMITTED. SEEDING SHALL NOT BE DONE DURING WINDY WEATHER OR WHEN THE GROUND IS FROZEN, 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.
- 0. WHEN IT IS IMPRACTICAL TO ESTABLISH PERMANENT GROWTH ON DISTURBED EARTH BY OCTOBER 14, A TEMPORARY SEED MIXTURE SHALL BE USED. WHEN TEMPORARY SEEDING CANNOT ESTABLISH VISIBLE GROWTH, THE DISTURBED AREA SHALL BE COVERED WITH SIX INCHES OF MULCH FOR THE WINTER

### MAINTENANCE

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

### APPLICATION RATES:

LOAM SHALL BE APPLIED AT A MINIMUM COMPACTED THICKNESS OF 4 INCHES. LIME SHALL BE USED WHEN NECESSARY TO RAISE THE PH OF THE SOIL AND APPLIED AT ONE OF THE FOLLOWING RATES:

EXISTING SOIL Ph	TONS/ACRE	POUNDS/CUBIC YARD
4.0 - 4.4	3	1.2
4.5 - 4.9	2	0.8
5.0 - 5.4	1	0.4

3. FERTILIZER SHALL BE APPLIED AT THE FOLLOWING RATE:

INITIAL APPLICATION	POUNDS/1,000 SF	MEASUREMENT FACTOR
10-10-10	20.0	1.0
15-15-15	13.4	1.5
19-19-19	10.5	1.9
REFERTILIZATION	POUNDS/1,000 SF	MEASUREMENT FACTOR
10-3-6	20.0	1.0
12-2-8	16.7	1.2
12-4-8	16.7	1.2

MULCH SHALL BE APPLIED AT A RATE OF 13 CUBIC YARDS PER 1,000 S.F. OF LANDSCAPE BED.

### MATERIALS:

- LOAM SHALL CONSIST OF LOOSE, FRIABLE TOPSOIL WITH NO ADMIXTURE OF REFUSE OR MATERIAL TOXIC TO PLANT GROWTH. LOAM SHALL BE FREE OF VIABLE PARTS OF PROHIBITED INVASIVE PLANTS AND BE GENERALLY FREE OF STONES, LUMPS, STUMPS AND SIMILAR OBJECTS LARGER THAN 2 INCHES IN GREATEST DIAMETER, SUBSOIL, ROOTS AND WEEDS. THE MINIMUM AND MAXIMUM pH VALUE SHALL BE FROM 5.5 TO 7.6.
- LIME SHALL BE A CALCIC OR DOLOMITIC GROUND AGRICULTURAL LIMESTONE CONTAINING NOT LESS THAN 95% OF EITHER CALCIUM OR MAGNESIUM CARBONATE, OR BOTH. IT SHALL CONFORM TO THE STANDARDS OF THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS AND SHALL COMPLY WITH ALL STATE AND FEDERAL RULES AND REGULATIONS.
- FERTILIZER SHALL BE STANDARD COMMERCIAL GRADE FERTILIZER CONFORMING TO ALL STATE AND FEDERAL RULES AND REGULATIONS AND TO THE STANDARDS OF THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS. EXCEPT AS PERMITTED, THE ANALYSIS RATIO SHALL BE 1:1:1 FOR INITIAL APPLICATION AND 3:1:2 FOR REFERTILIZATION APPLICATION.
- GRASS SEED SHALL MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE AGRICULTURAL AND VEGETABLE SEED LAWS AND SHALL INCLUDE NO "PRIMARY NOXIOUS WEED SEEDS."
- SEED MIXTURE FOR LAWN AREAS SHALL CONSIST OF THE FOLLOWING:

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

SEED MIXTURE FOR SLOPE AREAS SHALL CONSIST OF THE FOLLOWING:

KIND OF SEED	MINIMUM PURITY (%)	MINIMUM GERMANATION (%)	POUNDS/ACRE (TOTAL 95 POUNDS)
CREEPING RED FESCUE	96	85	35
PERENNIAL RYEGRASS	98	90	30
REDTOP	95	80	5
ALSIKE CLOVER	97	90	5
BIRDSFOOT TREFOIL	98	80	5
LANCE-LEAVED COREOPSIS	95	80	4
OXEYE DAISY	95	80	3
BLACKEYED SUSAN	95	80	4
WILD LUPINE	95	80	4

### 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, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS
- APPROPRIATE FOR THE DESIGN FLOW CONDITIONS. 3. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3
- INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3 OR, IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON, BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT. 4. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
  - A. BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
  - B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
  - C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

PURSUANT TO THE SITE REVIEW	APPROVED BY THE HUDSON, NH PLANNING BOARD DATE OF MEETING:
REGULATIONS OF THE HUDSON PLANNING BOARD.	
THE SITE PLAN APPROVAL	SIGNATURE DATE:
GRANTED HEREIN EXPIRES TWO YEARS FROM DATE OF APPROVAL	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.

- TEMPORARY SEEDING MIXTURE SHALL BE APPLIED AT A RATE OF 2 POUNDS 7. PER 1,000 SF AND SHALL BE AN APPROVED CONSERVATION MIX OR CONSIST OF THE FOLLOWING:
  - 15% BLACKWELL OR SHELTER SWITCHGRASS 30% NIAGRA OR KAW BIG BLUESTEM
  - 30% CAMPER OR BLAZE LITTLESTEM 15% NE-27 OR BLAZE SAND LOVEGRASS
  - **10% VIKING BIRDSFOOT TREFOIL**
  - INOCULUM SPECIFIC TO BIRDSFOOT TREFOIL 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 STORMWATER MANAGEMENT AREAS, INCLUDING DETENTION BASINS AND VEGETATED TREATMENT SWALES, SHALL BE APPLIED AT A RATE OF 70 POUNDS PER ACRE OR 1.6 POUNDS PER 1,000 SF, AND 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, INVASIVE SPECIES OR OTHER DELETERIOUS MATERIAL AND ROT OR MOLD.

### SOD SPECIFICATIONS

- SOD SHALL BE PROVIDED WITH A STRONG ROOT SYSTEM, NOT LESS THAN TWO YEARS OLD AND SHALL BE FREE OF ANY UNDESIRABLE NATIVE
- GRASSES OR WEEDS. SOD SHALL BE MACHINE CUT TO A THICKNESS NOT LESS THAN 3/4", EXCLUDING THATCH, AND SHALL BE CAPABLE OF VIGOROUS GROWTH
- WHEN PLANTED SOD PADS SHALL BE OF UNIFORM SIZE AND COMPOSED OF AT LEAST TWO
- LOCAL GRASS VARIETIES. LAY SOD TO FORM A SOLID MASS WITH TIGHTLY FITTED JOINTS, DO NOT OVERLAP. STAGGER STRIPS TO OFFSET JOINTS IN ADJACENT COURSES.
- TAMP SOD TO ENSURE CONTACT WITH WITH SOIL. WATER WITHIN ONE HOUR OF PLANTING WITH A FINE SPRAY.
- DITCH, OR DIVERSION, TO DIVERT SURFACE FLOW BERM 1'-0" MINIMUM DEPTH 6'-0" MINIMUM WIDTH BERM TO DRAIN TO A STABLE

DIVERSION AT BOTTOM OF SLOPE

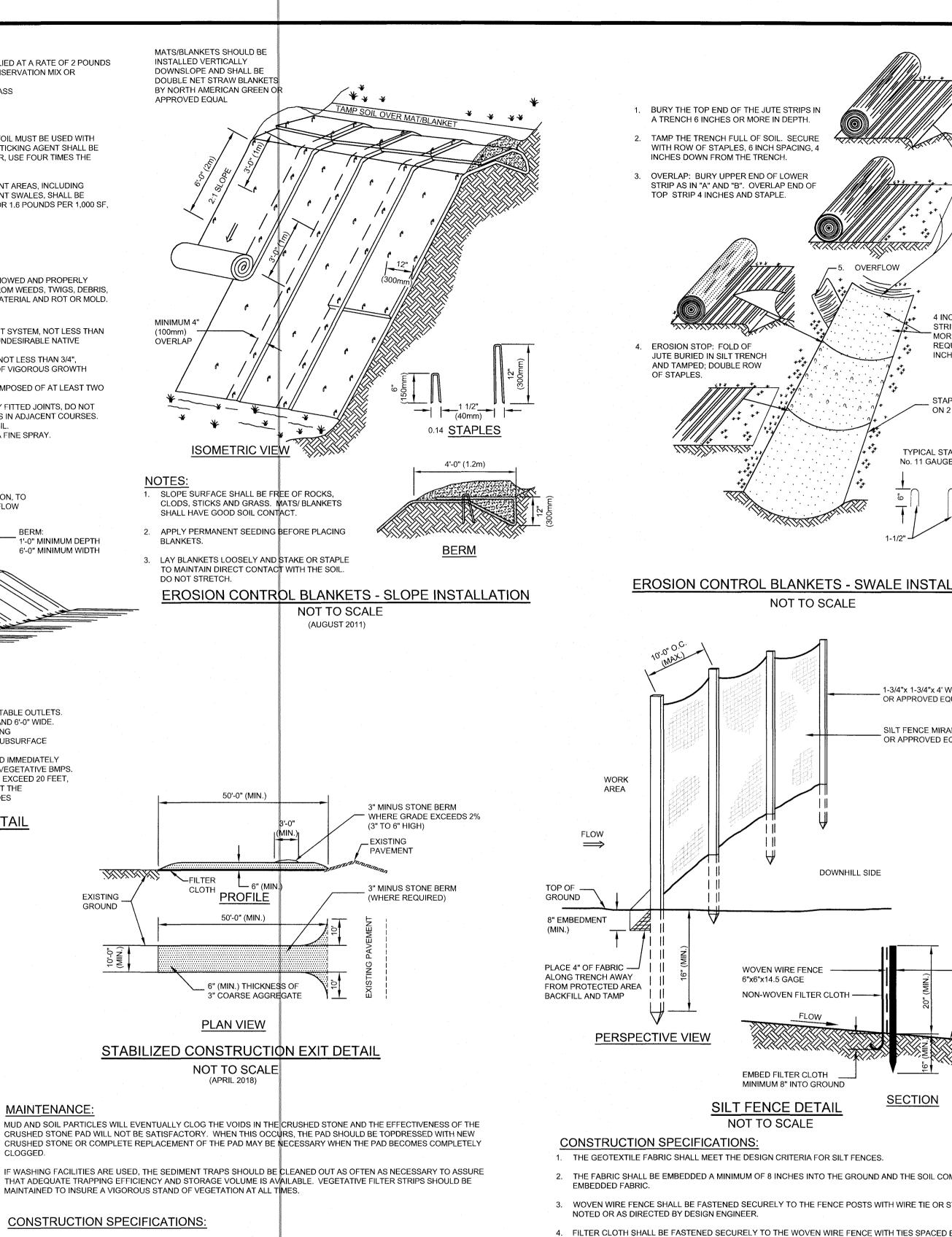
OUTLET

- DIVERSIONS AND BERMS MUST EMPTY INTO STABLE OUTLETS. 2. BERMS SHOULD BE A MINIMUM OF 1'-0" DEEP AND 6'-0" WIDE. 3. SEEPS AND/OR SPRINGS ENCOUNTERED DURING
- CONSTRUCTION SHOULD BE HANDLED WITH SUBSURFACE
- 4. ALL DISTURBED AREAS SHOULD BE STABILIZED IMMEDIATELY AFTER CONSTRUCTION USING APPROPRIATE VEGETATIVE BMPS. 5. IF DURING LOT DEVELOPMENT, SLOPES OF 2:1 EXCEED 20 FEET,
- 3:1 EXCEEDS 30 FEET, OR 4:1 EXCEEDS 40 FEET THE CONTRACTOR SHALL ADD BENCHING PER NHDES REQUIREMENTS.
- TYPICAL BENCHING SLOPE DETAIL NOT TO SCALE

# MAINTENANCE:

CLOGGED.

- CONCRETE EQUIVALENT.



1. STONE FOR A STABILIZED CONSTRUCTION EXIT SHALL BE 1 TO 2 INCH STONE, RECLAIMED STONE OR RECYCLED

2. THE LENGTH OF THE STABILIZED EXIT SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.

3. THE THICKNESS OF THE STONE FOR THE STABILIZED EXIT SHALL NOT BE LESS THAN 6 INCHES.

4. THE WIDTH OF THE EXIT SHALL NOT BE LESS THAN THE FULL WIDTH OF THE AREA WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICHEVER IS GREATER.

5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENCE LOT OR DUPLEX.

6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION EXIT SHALL BE PIPED BENEATH THE EXIT. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.

7. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES US∄D TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.

8. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY . WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

4. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

1. SURY THE TOP END OF THE JUTE STRIPS IN         1. SURY THE TOP END OF THE JUTE STRIPS IN         1. SURY THE TOP END OF THE JUTE STRIPS IN         1. SURY THE TOP END OF THE JUTE STRIPS IN         1. SURY THE TOP END OF THE JUTE STRIPS IN         1. SURY THE TOP END OF THE JUTE STRIPS IN         1. SURY THE TOP END OF STAPLES, 8 INCH SPACING, 5         1. SURY THE TOP END OF THE TERNOR.         1. SURY THE TOP END OF TOWER         1. SURY THE TOP END OF THE SURY THE TOWER AND TO YOUR AND T	<ol> <li>CONSTRUCTION SEQUENCE</li> <li>CONTRACTOR TO NOTIFY DIG-SAFE 72-HOURS PRORE TO COMMENCEMENT OF CONSTRUCTION.</li> <li>PROSION CONTROL MEAGURES SHALL BE INSTALLED AS CALLED FOR ON PROJECT PLANS. INSTALL STABILIZED CONSTRUCTION EXIT AT LOGATION OF CLEARED ACCESS AT LOCATION OF INTERSECTION WITH EXISTING PAVENENT.</li> <li>CUT AND CLEAR THESE AND BRUBH FOM CONSTRUCTION ACCESS AT LOCATION OF INTERSECTION WITH EXISTING PAVENENT.</li> <li>CUT AND CLEAR THESE AND BRUBH TO BE PROPERLY DISPOSED OF BY CONTRACTOR. THIS PROJECT IS MANAGED TO MEET THE REGUIREMENTS AND DITENT OF RSA 43053 AND ACR 3300 RELITANT NECESSARY. ALL BESAND BRUBH TO BE PROPERLY DISPOSED OF BY CONTRACTOR. OR 3300 RELITANT NECTOR SAND SIMILAR DEBRING OPERATIONS UNDER THE ROADWAY AND SLOPE SECTIONS. ALL STUMPS AND SIMILAR DEBRIS SHALL BE STOCKPILED IN UPLAND AREAS. ALL STOCKPILES SHALL BE SECTION WITH WINTER RYE AND. IF NECESSARY, SULF DEBRIS SHALL BE STOCKPILED IN UPLAND AREAS. ALL STOCKPILES SHALL BE SECTION SULF WITH WINTER RYE AND. IF NECESSARY, SULF DEBRIS SHALL BE STOCKPILED IN UPLAND AREAS. ALL STOCKPILES SHALL BE SECTION RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BEST MANAGEMENT PRACTICES ARE STABLIZED.</li> <li>CONSTRUCT TEMPORARY CULVERTS AS NECESSARY TO FACILITATE CONSTRUCTION ACTIVITIES. ALL SUCH CROSSINGS SHALL BE PROTECTED WITH HAY BALLES IN DRUCK MUST DETAIN REAS HAVE BEEN FULLY STABLIZED.</li> <li>DO NO THECT SURGARY PRACTICES UNTIL STORMWATER BEST MANAGEMENT PRACTICES ARE STABLLZED.</li> <li>DO NO THECT SUBJECTION OF ROADWAY, PERFORM EXCAVATION ACTIVITIES REQUIRED TO ACHIEVE SUBGRADE ELEVATION FOR TO THE ROADWAY CHOSS CULVERTS SHALL BE INSTALLED AND STABLIZED. ALL SWALES AND DITCHLINES SHALL BE CONSTRUCTION ACHIEVE SUBGRADE TO THE CONSTRUCTION ACTIVITIES REQUIRED TO ACHIEVE SUBGRADE ELEVATION OF RADADWAY CHOSES AND DITCHLINES SHALL BE INSTALLED AND ACCESS ASHIPWIND MORED TO THRE STABLIZED AND ACHIEVE SUBJECTION TO ACHIEVE SUBGRADE ELEVATION OF RADADWAY CHOSS CULVERTS SHALL BE</li></ol>
EROSION CONTROL BLANKETS - SWALE INSTALLATION NOT TO SCALE	
WORK AREA FLOW	<ul> <li>EROSION CONTROL NOTES:</li> <li>EXPOSED EARTHWORK SHALL BE CONFINED TO AS LIMITED AN AREA AS IS PRACTICAL AT ANY GIVEN TIME THROUGHOUT THE CONSTRUCTION SEQUENCE. AT NO TIME SHALL MORE THAN FIVE (5) ACRES OF SITE AREA BE IN AN UNSTABLE CONDITION. NO GIVEN AREA OF THE SITE SHALL BE LEFT IN AN UNSTABILIZED CONDITION FOR A PERIOD OF TIME EXCEEDING THIRTY (30) CALENDAR DAYS.</li> <li>TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH PROJECT PLANS. IN ADDITION, SIMILAR MEASURES SHALL BE INSTALLED WHER THE FIELD CONDITION, OR FIELD OPERATION OF THE INDIVIDUAL SITE CONTRACTOR, MAY WARRANT. ALL TEMPORARY EROSION CONTROL MEASURES USED SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER 0.25" OF RAINFALL OR MORE. THEY SHALL BE CLEANED AND MAINTAINED AND OTHERWISE KEPT IN AN EFFECTIVE OPERATING MANNER THROUGHOUT THE CONSTRUCTION PERIOD.</li> <li>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.</li> <li>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 TO WARDS THEM.</li> <li>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.</li> <li>AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED: A. BASE COUNSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED; B. 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.</li> <li>DUST SHALL BE CONTROLED BY THE USE OF WATER AS NECESSARY THROUGHOUT THE CONSTRUCTION PERIOD, IN ACCORDANCE WITH ENV-A 1000.</li> <li>NO NAY ARE THOSE TEMPORARY EROSION CONTROL MEASURES</li></ul>
	<ul> <li>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."</li> <li>10. ALL DETENTION PONDS AND TREATMENT SWALES SHALL BE CONSTRUCTED PRIOR TO ANY EARTH MOVING ACTIVITIES THAT WILL INFLUENCE STORMWATER RUNOFF.</li> <li>11. ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.</li> </ul>
EMBED FILTER CLOTH	CONSTRUCTION DETAILS
SILT FENCE DETAIL SECTION NOT TO SCALE	HERITAGE LANDING
<ul> <li>INOT TO SCALE</li> <li>CONSTRUCTION SPECIFICATIONS:</li> <li>THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.</li> <li>THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.</li> <li>WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIE OR STAPLES WHERE NOTED OR AS DIRECTED BY DESIGN ENGINEER.</li> <li>FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MIDSECTION AND BOTTOM.</li> <li>WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.</li> </ul>	MAP 140 LOTS 2 & 3 112 & 114 GREELEY STREET HUDSON, NEW HAMPSHIRE HILLSBOROUGH COUNTY <u>OWNER/APPLICANT:</u> K&M DEVELOPERS, LLC 46 LOWELL ROAD HUDSON, N.H. 03051
<ul> <li>AND STAPLED.</li> <li>6. FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 16 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.</li> <li>7. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.</li> <li>MAINTENANCE:</li> </ul>	KEACH-NORDSTROM ASSOCIATES, INC. Civil Engineering Land Surveying Landscape Architecture 10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881
<ol> <li>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.</li> <li>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.</li> <li>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</li> </ol>	REVISIONS New HAMPONIAL PAUL CHISHOLM No. DATE DESCRIPTION BY

YONA

DATE: APRIL 23, 2021

**PROJECT NO:** 20–1001–1

SCALE: AS SHOWN

**SHEET** 20 **OF** 23

# Wetland Conservation District Conditional Use Permit Application

# HERITAGE LANDING

Tax Map 140; Lots 2 & 3 112 & 114 Greeley Street Hudson, New Hampshire May 12, 2021 KNA Project No. 20-1001-1

- Prepared For: K&M Developers, LLC 46 Lowell Road Hudson, New Hampshire 03051
- Prepared By: Keach-Nordstrom Associates, Inc. 10 Commerce Park North, Suite 3 Bedford, New Hampshire 03110 (603) 627-2881 (603) 627-2915 (fax)



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# 1. CONDITIONAL USE PERMIT APPLICATION

### **APPLICANT INFORMATION**

Date of Application:	Tax Map #: 140 Lot #: 2 & 3
Site Address: 112 & 114 Greeley Street	
Name of Project: Heritage Landing	
Zoning District: General (G)	General CUP#:
Z.B.A. Action:	(For Town Use Only)
PROPERTY OWNER:	DEVELOPER:
Name: K&M Developers, LLC	:
Address: 46 Lowell Road	
Address: Hudson, NH 03051	
Telephone # 603-880-7799	
Email: msousa@sousarealty.com	
PROJECT ENGINEER or SURVEYOR:	<b>CERTIFIED WETLANDS SCIENTIST:</b>
Name: Keach-Nordstrom Associates Inc.	Keach-Nordstrom Associates Inc.
Address: 10 Commerce Park North	10 Commerce Park North
Address: Suite 3, Bedford, NH 03110	Suite 3, Bedford, NH 03110
Telephone # 603-627-2881	603-627-2881
Email: _alewis@keachnordstrom.com	jbrien@keachnordstrom.com

<u>PURPOSE OF PLAN:</u> The purpose of this application and plan set is to request a conditional use permit for wetland and wetland buffer impacts for the proposed age restricted detached

condominium development at 112 and 114 Greeley Street

	(For Town	n Use Only)	
Routing Date:	Deadline Date:	Meeting Date:	
I have no co	mments I hav	re comments (attach to form)	
Title: (Initials)		Date:	
Department:			
Zoning: Engineerin	g: Assessor: Polic	e:Fire:DPW:Consultant: _	

# SITE DATA SHEET

PLAN TYPE: (Site Plan, Subdi	MAP_140 LOT_2&3
DATE:	
Location by Street:	112 & 114 Greeley Street
Zoning:	General (G)
Proposed Land Use:	Age restricted condominium development
Existing Use:	Residential
Total Site Area:	S.F.: 737,572 Acres: 16.931
Total Wetland Area (SF):	40,050 SF
Permanent Wetland Impact Are	a (SF): _2,650 SF
Permanent Wetland Buffer Imp	act Area (SF): 41,700
Temporary Wetland Impact Are	ea (SF): 0 SF
Temporary Wetland Buffer Imp	
Flood Zone Reference:	Map 33011C016D
Proposed Mitigation:	

	(For Town Use Only)	
Data Sheets Checked By:		Date:

# 2. WETLAND CONDITIONAL USE PERMIT CHECKLIST

Yes	No	NA	Questions/Information Needed	HCC COMMENTS
80	0	ο	Estimated water quality characteristics of runoff at each point of discharge for both pre- and post-development	
00	0	0	Erosion control practices	
8	0	ο	If using rip-rap, attach documentation explaining why other erosion control methods are not feasible	
80	0	0	How storm water runoff will be handled	
3D	ο	0	If backyards or lots include a buffer area, buffer restriction wording shall be included in each deed (A physical marker may be requested to designate buffer boundaries at site)	
			Mitigation	
0	Ø	0	Square footage of mitigation wetland and upland areas	
0	Q	0	Wetland or upland plants identified to replace any losses	
0	ø	0	Restoration plan for planting and vegetation	
0	Ø	0	Conservation easements, including location and aesthetic, wildlife and vegetative values	
0	00	0	<ul> <li>If easement is on or added to the site(s), a copy of the legal document shall be given to the HCC (HCC conservation easement markers may also be required along the easement)</li> </ul>	

			<b>CONCEPTUAL SITE PLAN/DRAWING</b>	
8	0	0	Locus map depicting project site and vicinity within approximately $\frac{1}{2}$ mile and also on a larger scale	
80	0	0	All prime and other wetlands in the vicinity	
Ø	0	0	Wetland(s) impacted (identified as prime or other) and the wetland boundaries with 50', buffer areas highlighted in color	
80	0	0	Assessor's sheet(s), lot(s), and property account number(s)	
80	0	0	Existing and proposed structures	
92	0	0	Square footage listed for temporary and permanent impact	
10	0	0	Erosion control plan (Suggested: Biodegradable silt fences so area won't be disturbed again and no hay to avoid invasive species)	
<b>0</b> 0	0	0	Topographical map with contours	
Ø	0	0	Storm water treatment swales and basins highlighted in color if in buffer area	
0	0	80	Conservation and utility easements	
8	0	0	Grading plan	
50	0	0	Culvert, arch, bridge - sizes, material, etc.	
20	0	0	Vegetative cover types	
0	0	ø	Vernal pools	
8	0	0	Existing and proposed stone walls, tree lines, and unusually large, rare or beautiful trees, and other notable site features	

# WETLAND CONDITIONAL USE PERMIT CHECKLIST

Yes	No	NA	QUESTIONS/INFORMATION NEEDED	HCC Comments
NAI	RRA	TIVE	REPORT	

### **Existing Conditions**

			-		
0	80	0	Has a DES Dredge and Fill Permit been issued for any part of this site? If yes, provide number, date, and description.		
0	8	0	Is there evidence of altered wetlands or surface waters on site?		
80	0	0	All prime and other wetlands in the vicinity, plus any wetlands/watersheds past the immediate vicinity affected by this project		
<b>8</b> 0	0	0	Description of each wetland and associated values		
08	0	0	Wetland mapping results – Including the flagging date and technique plus the name, company and qualifications of the wetland scientist		
80	0	0	Was property surveyed? If yes, the date of survey. (Please attach the survey plan)		
			National Wetland Inventory		
00	0	0	Vegetative cover types		
80	0	0	Existence of vernal pools and associated habitat		
00	0	0	Unique geological and cultural features		
80	0	0	NH Natural Heritage inventory – For list of rare and endangered species, contact the NH Division of Forests and Lands (603)271-3623		
60	0	0	• Wildlife and fauna species, including estimated number and locations (large projects)		
		_			
8	0	0	Public or private wells located within the vicinity		
08	0	0	Monitoring well(s) located on site		
80	0	0	Current land use and zoning district		
œ	0	0	Photos of existing area (please use color photos)		
			Proposed Project Description		
80	0	0	Entire project and associated activities		
0	80	0	Time table of project and anticipated phasing		
00	0	0	Land use		
8	0	0	Grading plan		
			Impact to Wetlands and/or Buffers		
0	0	ø	Depending on size and proposed impacts, a report from a biologist may be appropriate		
60	0	ο	Removing, filling, dredging, or altering (Area square ft. and locations)		
0	0	00	Intercepting or diverging of ground or surface water (Locations and size)		
8	0	0	Change in run-off characteristics		
Ø	0	0	Delineation of drainage area contributing to each discharge point		

# 3. CONDITIONAL USE PERMIT APPLICATION AUTHORIZATION

### **CONDITIONAL USE PERMIT APPLICATION AUTHORIZATION**

I hereby apply for *Conditional Use Permit* 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 *Conditional Use Permit* 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 Hudson Conservation Commission, 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: Manuel J. Sousa Date: 5/26/21 Print Name of Owner: MANUEL 7. SOUSA

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

Signature of Developer: Manuel J. Source Date: 5/24/21 Print Name of Developer: MANUEL 7. SOUSA

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.

### 4. OWNER AFFIDAVIT

I, <u>Manuel Sousa</u>, authorized representative of Sousa Realty & Development and owner of the properties referenced on Tax Map 140 as Lots 2 & 3, located along Greeley Street, Hudson, New Hampshire, hereby verify that I have authorized Keach-Nordstrom Associates, Inc. to submit on my behalf, any and all applicable State and local permit applications as they pertain to improvements on said property.

Additionally, I authorize Keach-Nordstrom Associates, Inc. to aid in the representation of these applications throughout the approval process.

Signature of Owner: Manuel J. Sausa

Printed Name of Owner:

MANUEL 7. SOUSA

Address of Owner:

46 Lowell Road

Hudson, NH 03051

Date:

5/20/21

### 5. ABUTTERS LIST

## Abutter's List Greeley Street Hudson, NH KNA #20-1001-1 Updated 5-27-21

<b>Tax Map</b> 140	Lot 2 3	<b>Owner/Applicant</b> K&M Developers, LLC 46 Lowell Road Hudson, NH 03051
<b>Tax Map</b> 140 141	<b>Lot</b> 1 1	<b>Direct Abutter</b> Brox Industries, Inc. 1471 Methuen Street Dracut, MA 01826
140	4	Pond View Subdivision Associates c/o Sousa Realty & Development 46 Lowell Road Hudson, NH 03051
149	1	Highland Woods Condominium c/o Harvard Management P.O. Box 2019 Merrimack, NH 03054
<b>Tax Map</b> 140	Lot 5	Indirect Abutter Jeremy & Kelly Huntoon 4 Sousa Boulevard Hudson, NH 03051
140	6	Frances A. & Michael T. Tedeschi 6 Sousa Boulevard Hudson, NH 03051
140	7	Patrick D. & Christina L. Whalen 8 Sousa Boulevard Hudson, NH 03051
140	8	Michael & Dawn Kimball Trustees Michael & Dawn Kimball Trust 10 Sousa Boulevard Hudson, NH 03051

140	9	Renate M. Knight, Trustee Renate M. Knight Trust 12 Sousa Boulevard Hudson, NH 03051
140	10	Kevin T. & Melanie A. Dewitt 14 Sousa Boulevard Hudson, NH 03051
140	11	Sousa Realty and Development Corp. 46 Lowell Road Hudson, NH 03051
140	12	John E. & Stephanie J. Izzo 4 Sutherland Drive Hudson, NH 03051
140	13	Donald S. & Jennifer Buchanan 6 Sutherland Drive Hudson, NH 03051
140	19	Ellen B. & Michael P. Haight, Trustees 1 Sutherland Drive Hudson, NH 03051
140	29	Pond View Subdivision Associates c/o Sousa Realty & Development 46 Lowell Road Hudson, NH 03051

Professionals to be notified:

Engineer/Surveyor Keach-Nordstrom Associates Inc. 10 Commerce Park North, Suite 3B Bedford, NH 03110

### 6. PROJECT NARRATIVE



May 14, 2021

Town of Hudson Conservation Commission 12 School Street Hudson, New Hampshire 03051

Subject: Heritage Landing Application for Conditional Use Permit for Wetland Impact Map 140 Lots 2 & 3 112 & 114 Greeley Street, Hudson, New Hampshire KNA #20-1001-1

To Members of the Conservation Commission:

### **Project Narrative:**

The proposed project entails the construction of a 47-unit detached single family age restricted condominium development. The project will include a loop roadway with access from Greeley Street. The proposed development is situated on a two lots of record (Lots 2 & 3) with frontage on Greeley Street that will be consolidated into a single parcel. Development will include the construction of individual driveways, clubhouse, and associated parking. Onsite improvements will include the construction of stormwater ponds, landscaping, and site lighting.

The parcel, found within the General (G) Zoning District, is currently primarily undeveloped, with the only development being an existing residential home, sheds, and its driveway. The site is 16.931 acres in total and contains almost one acre (0.919 AC) of wetlands that run through the middle of the property. Approximately 8.5 acres of the developable portion of the site is completely separated from the proposed access drive due to jurisdictional wetlands, which bisect the lot. Consequently, in order to use more than half of the property's buildable area, permanent impacts are required.

The wetland proposed for impact has two classifications. The majority of the wetland is classified as palustrine forested, broad-leafed, deciduous, seasonally flooded/saturated. Within the southern portion is an ephemeral stream that is classified as riverine, intermittent with an unconsolidated cobble gravel bottom as determined by Joshua Brien (New Hampshire Certified Wetland Scientist #256) of Keach-Nordstrom Associates. The permanent impacts will support the installation of two wetland crossings and two stormwater ponds.

The New Hampshire Natural Heritage Inventory has been notified and asked to check their database for any know occurrences of threatened or endangered species within the project site. Their response dated March 4, 2021 states that there are records of blandings turtle, eastern box turtle, and eastern hognose snake in the general area. NHDES Best Management Practices will be used throughout the construction process to minimize soil erosion and downstream pollution by stormwater. As part of the project approval process, a Standard Dredge and Fill Application will be submitted to NHDES.

Although the project proposes wetland crossings to access the large upland portion of the property, the areas will be restabilized following construction. The crossings are situated at two of the thinnest portions of the wetland to accomplish the least amount of impact. These crossings amount to 2,950 SF of wetland impact and 25,800 SF of buffer impact. Two stormwater ponds are located within the wetland buffer but will not require any wetland impact. The proposed buffer impact to construct the stormwater ponds is 16,650 SF. The total wetland impact on the site is 2,950 SF and buffer impact is 42,450 SF.

The construction of the stormwater ponds will ensure that no untreated water is sent to the wetland. The proposed roadway is curbed with closed drainage, thus directing all untreated water to the stormwater ponds. The two ponds are a proposed pocket pond and surface sand filter that will treat the water before flowing into the wetland. There will be no increase in run-off between pre-development conditions and post-development. Stormwater design and calculations will follow the Town of Hudson stormwater management regulations and NHDES Alteration of Terrain regulations.

Additionally, in submitting the enclosed application for conditional use permit, the applicant recognizes the need to successfully demonstrate to the satisfaction of the Town of Hudson Conservation Commission, that each of following criteria have been or will be fulfilled. Specifically:

### A. Support fish and wildlife;

The wetland is characterized as seasonally flooded and an intermittent stream. As such, there are no fish in this wetland. The New Hampshire Natural Heritage Bureau report has found records of rare species within the area. The Blanding's turtle, Eastern box turtle, and eastern hognose snake have been found in the vicinity of the project and can be seen in the attached NHB report. Wildlife including these three species will be able to re-populate the area once the roadway has been constructed and stabilized.

### B. Attenuate flooding;

The stormwater ponds proposed on the site ensure that post development run-off conditions will not be increased compared to pre-development conditions. The roadway crossings have been evaluated in a 50-year storm event and cause no flooding issues.

### C. Supply and protect surface and groundwater resources;

The stormwater ponds on site are there not only to help attenuate flooding, but to also ensure the protection of surface and groundwaters. The closed drainage system captures sediment and debris that may be harmful to these water resources. The run-off then flows through sediment forebays before reaching the individual treatment ponds. All of these items are in place to protect natural water resources.

### D. Remove sediments;

The proposed pocket pond and surface sand filter pond on the site have sediment forebays that water is directed to before entering the pond itself. The sediment forebays help to remove sediment from any of the run-off before entering the ponds. The forebays and ponds help to limit the amount sediment that enters the wetlands.

### E. Remove pollutants;

Both ponds (one surface sand and one pocket pond) remove pollutants in accordance with all applicable standards. According to the <u>New Hampshire</u> <u>Stormwater Manual Volume 2</u>, pocket ponds are designed to remove urban pollutants, trace metals, hydrocarbons, BOD, nutrients, and pesticides. The surface sand filter removes pollutants through the 18 inches of filter media below the pond. This filter media absorbs pollutants as the water filters through it. With these two ponds in use, pollutants will be removed before run-off reaches the wetland.

### F. Support wetland vegetation;

With the exception of the two roadway crossings the wetlands will be left untouched. Wetland vegetation will be left to grow unencumbered once the crossings have been stabilized.

### G. Promote public health and safety.

The ponds in association with the wetland will improve natural water quality, provide flood protection, and maintain a natural vegetated area for the residents of the proposed development. These factors all promote public health and safety.

### H. Moderate fluctuations in surface water levels.

This is a seasonally flooded wetland, so there will be fluctuations in surface water levels. This proposed design will not be adding any more run-off than is already contributing to this wetland. This decrease in peak run-off will help to moderate the fluctuations.

### I. No increase to potential for erosion, siltation, and turbidity of surface waters.

This site has been designed with erosion control measures to ensure there is no increase to erosion potential. The stormwater ponds and roadway crossings have been designed in a way to limit all possible siltation and turbidity of surface waters in the wetland.

### J. No loss of fish and wildlife habitat.

As stated above, there is no fish in this specific location. Once the crossings have been finished and stabilized there will be no loss to wildlife habitat.

# K. No loss of unique habitat having demonstrable natural, scientific, or educational value.

This is not a unique wetland; Fthis is a fairly common type of wetland for the New Hampshire area. Therefore, any permanent impacts to the wetland or wetland buffer will cause no loss to unique habitats.

L. No loss or decrease of beneficial aquatic organisms and wetland plants and their habitat.

The wetland and surrounding buffer will be able to grow once the site is stabilized. This means there will be no decrease in organisms or wetland plants.

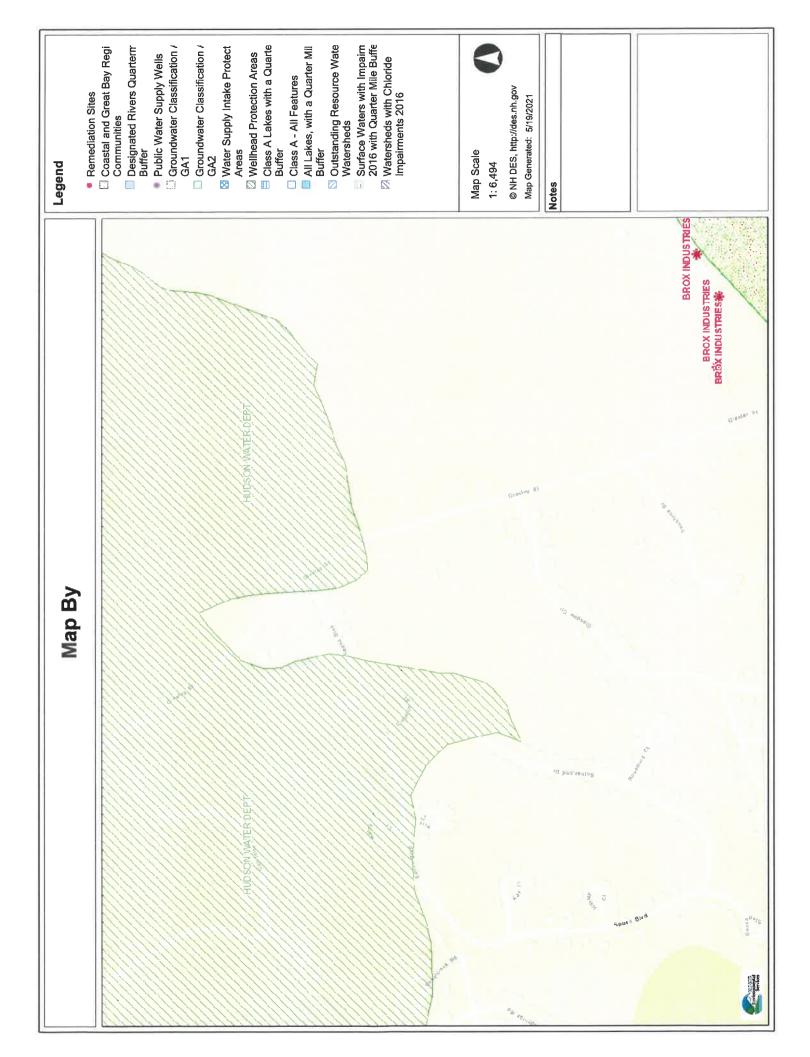
M. No increased danger of flooding and/or transport of pollutants

As stated earlier, the stormwater ponds ensure that flooding and transportation of pollutants will not be an issue on this site.

N. No destruction of the economic, aesthetic, recreational, and other public and private uses and values of the wetland to the community

The two roadway crossings, while permanent, will not aid in the destruction of private or public uses of the wetland. The wetland will still be able to flow as it has and maintain its aesthetic and recreational value. Any buffer impacts work to ensure that there are no harmful impacts to the wetland either.

## 7. SURFACE WATER IMPAIRMENTS



### 8. NHDES WELL INVENTORY MAP

Legend Public_Water_Supply_Entiti	<ul> <li>Public Water Supply Wells</li> <li>Registered Water Users</li> <li>Water Well Inventory</li> </ul>		Map Scale	1: 5,000 © NH DES, http://des.nh.gov Map Generated: 5/19/2021 Notes	
Heritage Landing Well Map		TURSALE			

### 9. NWI MAP

National Wetlands Inventory **U.S. Fish and Wildlife Service** 

## Heritage Landing



Wetlands

Estuarine and Marine Deepwater **Estuarine and Marine Wetland** 

Freshwater Forested/Shrub Wetland

Freshwater Pond

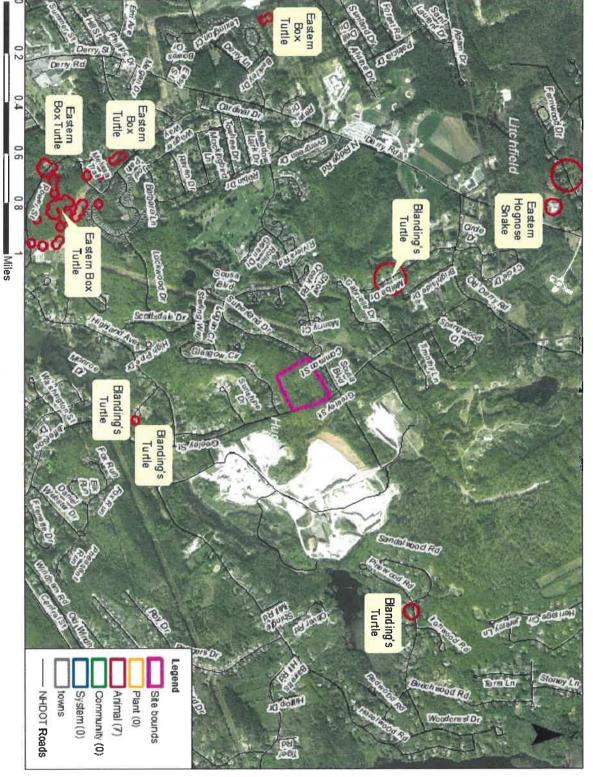
Riverine Other

National Wetlands Inventory (NWI)

### 10. NEW HAMPSHIRE NATURAL HERITAGE INVENTORY LETTER

# **CONFIDENTIAL** – NH Dept. of Environmental Services review

### NHB21-0624



### Eastern Hognose Snake (Heterodon platirhinos)

Legal Status		Conservation Status				
Federal: Not listed	Global:	Global: Demonstrably widespread, abundant, and secure				
State: Listed Enda	ingered	State:	Critically	imperiled due to rarity or vulnerability		
Description at this L	ocation					
Conservation Rank:	Not ranked					
Comments on Rank:						
Detailed Description:	vn. 2011: Area 12922: 3 hatchlings					
General Area:	2013: Area 13481: Resident school. 2005: Area 11711: 1			rous forest. 2011; Area 12922: At door of		
General Comments:	2013: Area 13481: Observat			e was killed by landowner.		
Management				-		
Comments:						
Location Survey Site Name: Cutler Road, Litchfield Managed By:						
County: Hillsborou	ıgh					
Town(s): Litchfield	8					
Size: 11.5 acres	<b>b</b>	Elevatio	n:			
Precision: Within (but not necessarily restricted to) the area indicated on the map.						
Directions: 2013: Area 13481: Between #65 and #61 Page Road, Litchfield. 2011: Area 12922: Tabernacle Christian School in Litchfield. 2005: Area 11711: 21 Cutler Road, approx200' off of road in garden.						
Dates documented						
First reported: 2	2005-08-15	Last rep	orted:	2013-05-10		
•		•				

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact themat 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

### Blanding's Turtle (Emydoidea blandingii)

Legal Status	Conservation Status					
Federal: Not listed	Global: Apparently secure but with cause for concern					
State: Listed Endangered	State: Critically imperiled due to rarity or vulnerability					
Description at this Location						
Conservation Rank: Not ranked						
Comments on Rank:						
Detailed Description: 2009: Area 12302: 1 obso	arved shall was 10, 12" long					
General Area: 2009: Area 12302: Forst						
General Comments:	alu watel galuell.					
Management Comments:						
Comments.						
Location						
Survey Site Name: Robinson Pond						
Managed By:						
County: Hillsborough						
Town(s): Hudson						
Size: 7.7 acres	Elevation:					
Precision: Within (but not necessarily restricted to) the area indicated on the map.						
Directions: 2009: Area 12302: 16 Melba Drive, Hudson.						
Dates documented						
First reported: 2009-06-27	Last reported: 2009-06-27					

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact themat 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

### Blanding's Turtle (Emydoidea blandingii)

Legal Status		Conser	vation Status					
Federal: Not listed		Global:	Apparently secure but with cause for concern					
State: Listed Enda	ngered	State:	Critically imperiled due to rarity or vulnerability					
Description at this Lo								
Conservation Rank:	Notranked							
Comments on Rank:								
Detailed Description:								
General Area:	2011: Area 13123M: Nesting	g in resid	ential yard.					
General Comments:								
Management								
Comments:								
Location								
Survey Site Name: Robinson Pond Managed By:								
County: Hillsborou Town(s): Hudson	gh							
Size: 1.9 acres		Elevatio	n:					
Precision: Within (but not necessarily restricted to) the area indicated on the map.								
Directions: 2011: Area 13123M: 28 Pinewood Road, Hudson.								
Dates documented								
First reported: 2	011-06-20	Last rep	orted: 2011-06-20					

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact themat 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

### Blanding's Turtle (Emydoidea blandingii)

Legal Status	Conservation Status							
Federal: Not listed	Global: Apparently secure but with cause for concern							
State: Listed Endangered	State: Critically imperiled due to rarity or vulnerability							
Description at this Location								
Conservation Rank: Not ranked								
Comments on Rank:								
Detailed Description: 2013: Area 13420: 1 adul								
	ential yard, coniferous forest.							
General Comments:								
Management								
Comments:								
Location								
Managed By:	Survey Site Name: Robinson Pond Managed By:							
County: Hillsborough Town(s): Hudson								
Size: .4 acres	Elevation:							
Precision: Within (but not necessarily restricted to) the area indicated on the map.								
Directions: 2013: Area 13420: 11 Glover Brook Lane, Hudson.								
Dates documented								
First reported: 2013-06-17	Last reported: 2013-06-17							

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact themat 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

### Blanding's Turtle (Emydoidea blandingii)

Legal Status		Conser	vation St	atus		
Federal: Not listed		Global:	Apparer	tly secure but with cause for concern		
State: Listed Enda	ngered	State:	Critically	imperiled due to rarity or vulnerability		
Description at this Lo						
Conservation Rank:	Not ranked					
Comments on Rank:						
			1			
	2014: Area 13571: 1 adult m					
General Area:	2014: Area 13571: Marshya	irea leadu	ng to smal	llstream. Roads surrounding the marshy area.		
General Comments:						
Management	61.6F					
Comments:						
Location						
	RobinsonPond					
Managed By:	comsoni ond					
Managod Dy.						
County: Hillsborou	gh					
Town(s): Hudson	6					
Size: .4 acres		Elevatio	on:			
Precision: Within (but not necessarily restricted to) the area indicated on the map.						
Directions: 2014: Area 13571: Greeley Street, Hudson, at crossing of Glover Brook.						
Dates documented						
First reported: 2	014-05-02	Last rep	orted:	2014-05-02		

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact themat 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

### Eastern Box Turtle (Terrapene carolina)

Legal Status		Conser	vation Sta	atus			
Federal: Not listed		Global:		trably widespread, abundant, and secure			
State: Listed Enda	ingered	State:	Critically	imperiled due to rarity or vulnerability			
Description at this Location							
Conservation Rank:	Not ranked						
Comments on Rank:							
Detailed Description:	Radiotracked male. Turtle 70 2016: Adult male tracked via recapture on 6/30. Second ac tracked via telemetry. Believ evidence.	013: Radio a telemetr dult male o red to hav	otracked f y. Initial c captured a re laid egg	Furtle 7011: Radiotracked male. Turtle 7012: Turtle 7014: Radiotracked female. Papture on 6/2. First recapture on 6/7. Second and tagged on 9/9. 2014: Adult female as during telemetry survey, but no direct			
General Area:		•		cover. Appalachian oak - pine forest on een woods and adjacent powerline corridor.			
General Comments:		.014,1010 (	III OCCW	cen woods and adjacent powermic contact.			
Management							
Comments:							
Location							
	Musquash Brook						
County: Hillsborou	lgh						
Town(s): Hudson							
Size: 45.5 acres	i	Elevatio	n:				
Precision: Within (but not necessarily restricted to) the area indicated on the map.							
Directions:							
Dates documented							
First reported: 2	2014-06-18	Last rep	orted:	2019-09-10			

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact themat 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

### Eastern Box Turtle (Terrapene carolina)

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact themat 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

### 11. WETLAND/WETLAND BUFFER IMPACT PLAN

### 12. WETLAND PHOTO PLAN AND ASSOCIATED WETLAND PHOTOS



**<u>Photo No. 1:</u>** Looking west at the wetlands.



**<u>Photo No. 2:</u>** Looking south along the wetland.



Civil EngineeringLand SurveyingLandscape Architecture10 Commerce Park North, Suite 3BBedford, NH 03110Phone (603) 627-2881Fax (603) 627-2915

**Photo No. 3:** Looking south along the wetlands toward the property line.



Photo No. 4: Looking west at the wetland.



Civil Engineering

Land Surveying

Landscape Architecture

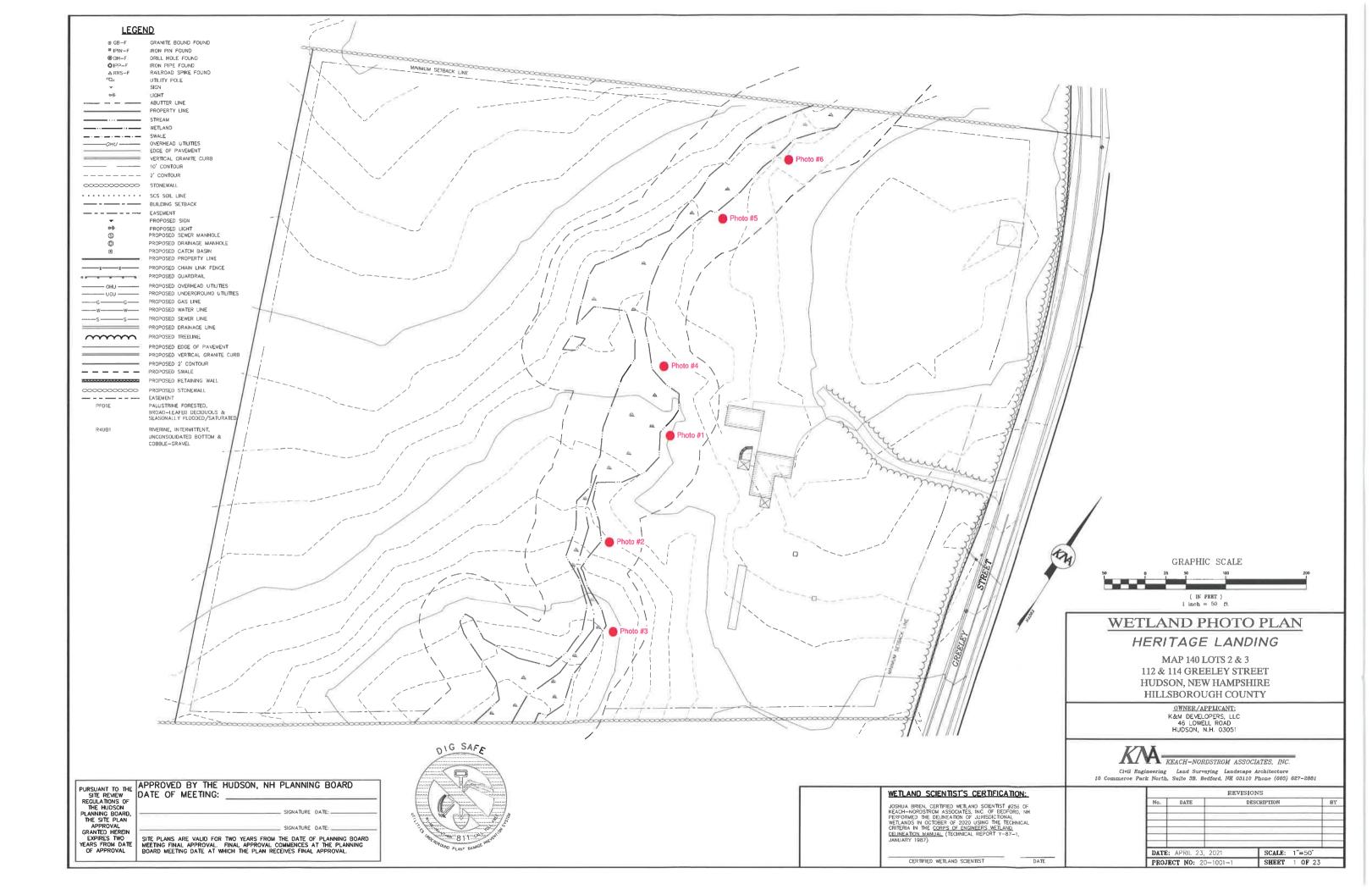
Photo No. 5: Looking west at the wetland



Photo No. 6: Looking north at the wetland and property line.



Civil Engineering	Land Surveying	Lands	Landscape Architecture	
10 Commerce Park North, Suite 3B	Bedford, NH 03110	Phone (603) 627-2881	Fax (603) 627-2915	



13. PLANS