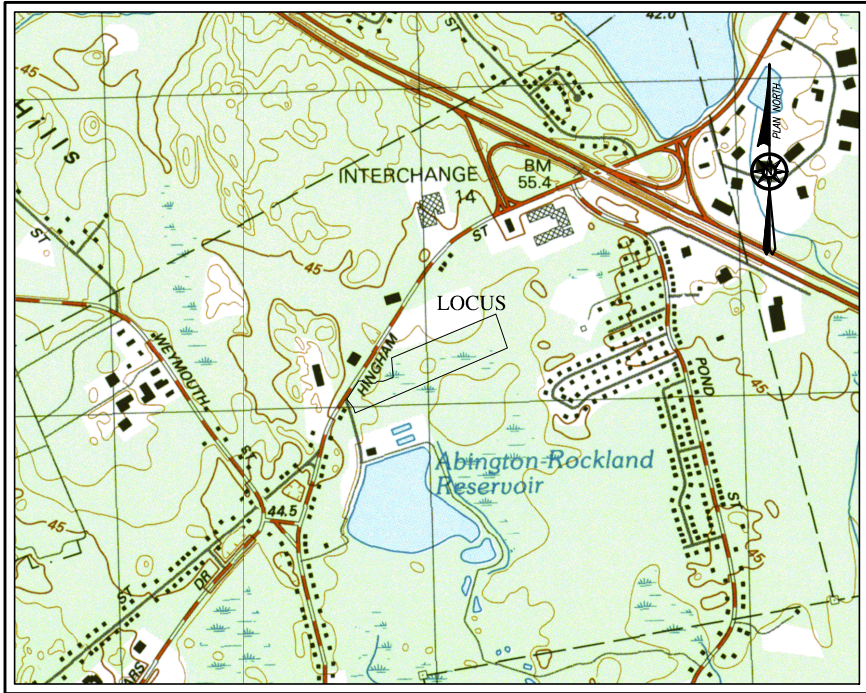


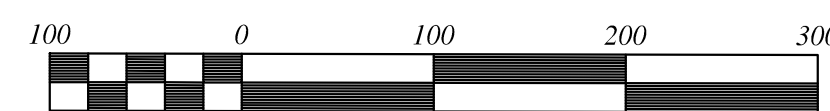
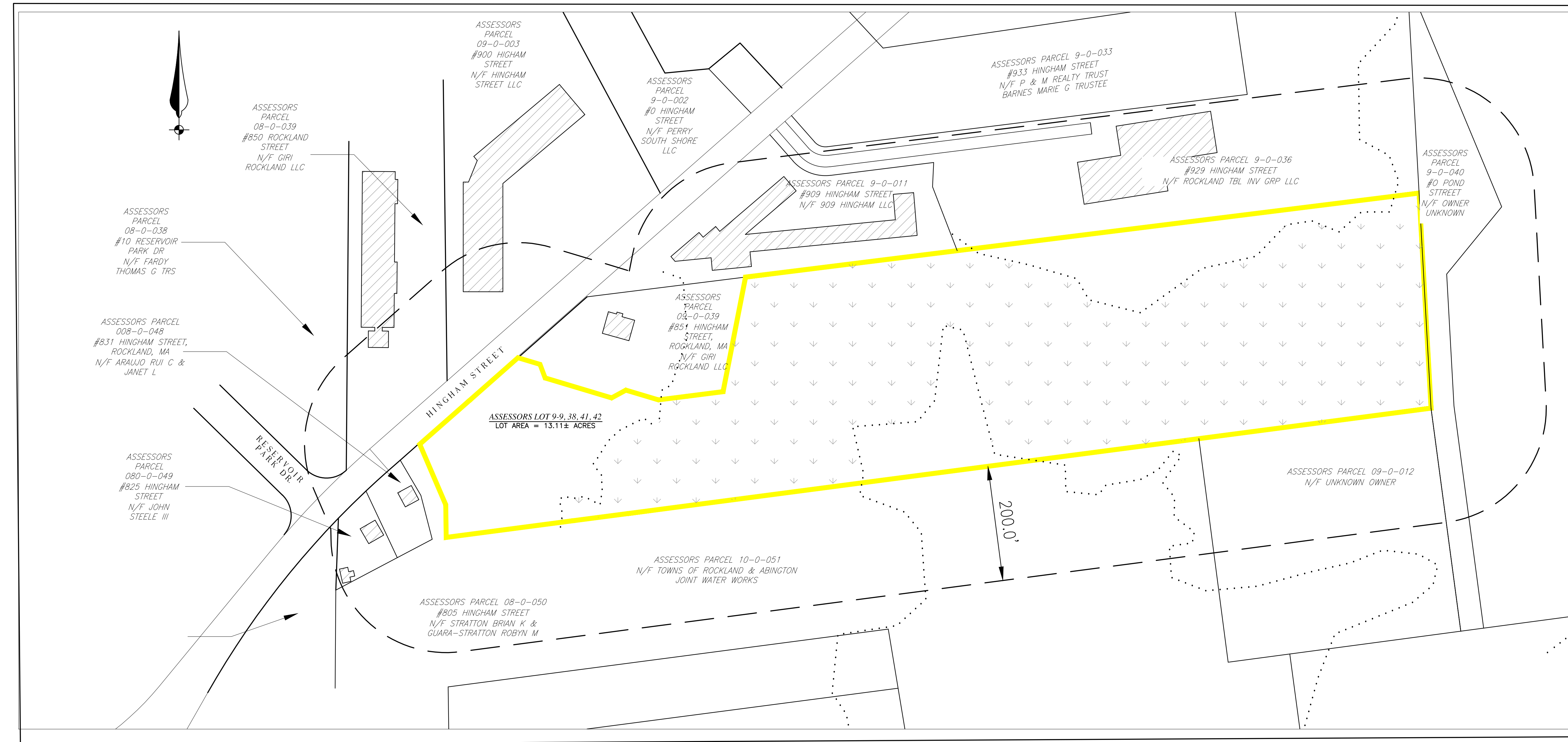
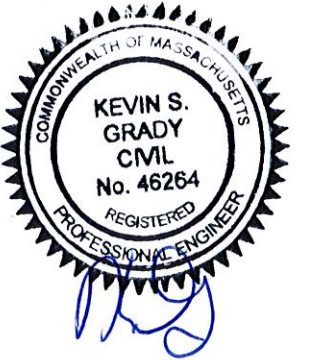


LOCATION MAP SCALE: 1"=2000'±



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PRIMROSE SCHOOL FRANCHISE COMPANY

FOR REGISTRY USE ONLY



Scale 1" = 100'

## LEGEND

|                    |  |
|--------------------|--|
| PROPERTY LINE      |  |
| EXISTING STRUCTURE |  |

## SHEET INDEX

|          |                                                |
|----------|------------------------------------------------|
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| SHEET 2  | ZONING & PARKING                               |
| SHEET 3  | EXISTING CONDITIONS, TESTHOLES                 |
| SHEET 4  | LAYOUT (PARKING)                               |
| SHEET 5  | GRADING 20 SCALE, EROSION CONTROL              |
| SHEET 6  | GRADING 10 SCALE WALKWAYS                      |
| SHEET 7  | UTILITIES                                      |
| SHEET 8  | LANDSCAPE, LIGHTING, EMERGENCY VEHICLE TURNING |
| SHEET 9  | DETAILS (DRAINAGE)                             |
| SHEET 10 | DETAILS (DRAINAGE & RETAINING WALL)            |
| SHEET 11 | DETAILS (PARKING LOT)                          |
| SHEET 12 | DETAILS (UTILITIES)                            |
| SHEET 13 | DETAILS (LANDSCAPE)                            |
| SHEET 14 | EROSION CONTROL & SNOW STORAGE                 |

## ROCKLAND PLANNING BOARD

SITE PLAN APPROVAL

DATE \_\_\_\_\_

## SITE PLAN - PRIMROSE SCHOOL

HINGHAM STREET

ASSESSORS MAP 9 LOTS 9, 38, 41 & 42  
ROCKLAND, MASSACHUSETTS

PREPARED FOR:  
ADA ARCHITECTS  
C/O MELISSA PLESS  
17710 DETROIT ROAD  
LAKEWOOD, OHIO 44107

AUGUST 4, 2020  
SCALE: 1"=100'  
JOB No. 20-183



GRADY CONSULTING, L.L.C.

Civil Engineers, Land Surveyors &  
Landscape Architects  
71 Evergreen Street, Suite 1, Kingston, MA 02364  
Phone (781) 585-2300 Fax (781) 585-2378

FOR REGISTRY USE ONLY

**RECORD OWNER:**  
DELUCA PROPERTIES LIMITED PARTNERSHIP  
885 WASHINGTON STREET  
WEYMOUTH MA 02189  
CERTIFICATE 121663 - LOT 9  
CERTIFICATE 118363 - LOT 38  
CERTIFICATE 119222 - LOT 41  
CERTIFICATE 121663 - LOT 42

**ROCKLAND PLANNING BOARD**  
SITE PLAN APPROVAL

DATE \_\_\_\_\_

**SITE PLAN - PRIMROSE SCHOOL**  
**HINGHAM STREET**  
ASSESSORS MAP 9 LOTS 9, 38, 41 & 42  
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ADA ARCHITECTS  
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LAKEWOOD, OHIO 44107

AUGUST 4, 2020  
SCALE: 1"=30'  
JOB No. 20-183

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ZONE: I-2 INDUSTRIAL PARK  
PER PLANNING BOARD APPROVAL AUGUST 11, 1989

EXISTING USE: VACANT

PROPOSED USE: SCHOOL / DAYCARE

MGL ch 40A Section 3- No zoning ordinance or bylaw in any city or town shall prohibit, or require a special permit for, the use of land or structures, or the expansion of existing structures, for the primary, accessory or incidental purpose of operating a child care facility; provided, however, that such land or structures may be subject to reasonable regulations concerning the bulk and height of structures and determining yard sizes, lot area, setbacks, open space, parking and building coverage requirements. As used in this paragraph, the term "child care facility" shall mean a child care center or a school-aged child care program, as defined in section 1A of chapter 150.

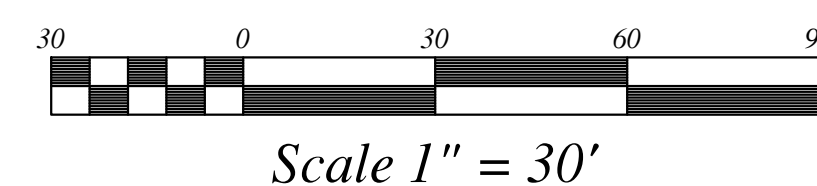
PARCEL SIZE 571,389 S.F. 74,135 SF CONTIGUOUS UPLAND

DIMENSIONAL REQUIREMENTS: 415-5 INTERPRETATION OF BOUNDARIES:  
WHERE A DISTRICT BOUNDARY LINE DIVIDES A LOT EXISTING AT THE TIME SUCH LINE IS ADOPTED, THE REGULATIONS APPLYING TO THE PORTION OF SUCH LOT IN THE LESS RESTRICTED DISTRICT MAY BE CONSIDERED AS EXTENDING NOT MORE THAN 30 FEET INTO THE MORE RESTRICTED PORTION, BUT ONLY IF THE LOT HAS FRONTAGE ON A STREET IN THE LESS RESTRICTED DISTRICT. THE PROVISION SHALL NOT BE USED TO DIMINISH THE BUFFER ZONE (REAR YARD DIMENSIONS) REQUIREMENTS BETWEEN RESIDENTIAL AND NON-RESIDENTIAL DISTRICTS AS CONTAINED IN§ 415-22.

| REQUIRED               | REQUIRED     | EXISTING     | PROPOSED     |
|------------------------|--------------|--------------|--------------|
| MINIMUM LOT AREA       | 571,389 S.F. | 571,389 S.F. | 571,389 S.F. |
| LOT FRONTAGE           | 110 FT       | 227.15 FT    | 227.15 FT    |
| LOT WIDTH @ 50'SETBACK | 110'         | 258.63'      | 258.63'      |
| FRONT YARD             | 50 FT        | 59.3 FT      | 59.3 FT      |
| SIDE YARD              | 30 FT        | 40.4 FT      | 40.4 FT      |
| REAR YARD              | 30 FT        | 103.4 FT     | 103.4 FT     |
| MAX BUILDING COVERAGE  | 50%          | 1.2%         | 1.2%         |
| BUILDING HEIGHT        | 3            | 2            | 2            |
| STORIES                | 36 FT        | 30           | 30           |
| HEIGHT                 |              |              |              |

ZBL 415-35 - OFF STREET PARKING REQUIREMENTS: D.(4) SCHOOLS 1.5 SPACES PER CLASSROOM AND 1 SPACE FOR EVERY NON-PROFESSIONAL EMPLOYEE  
REQUIRED PARKING: 14 CLASSROOMS , 10 NON-PROFESSIONAL EMPLOYEES  
REQUIRED: 14x1.5 + 10 = 31 SPACES REQUIRED  
PROPOSED = 49 SPACES PROPOSED

- WAIVERS FROM THE RULES AND REGULATIONS OF THE ROCKLAND PLANNING BOARD
- SECTION III.C.2.a.1 TO USE HDPE DRAIN PIPE INSTEAD OF CLASS III RCP AND REDUCTION IN PIPE COVER REQUIREMENTS TO LESS THAN 2.5 FT.
  - SECTION III.C.2.F.1 SUBSURFACE DETENTION/RETENTION BASINS SHALL NOT BE PERMITTED WITHOUT A WAIVER.
  - SECTION III.C.2.F.13 A FIFTY (50) FOOT BUFFER ZONE OF EXISTING VEGETATION SHALL BE RETAINED BETWEEN ALL BASIN COMPONENTS AND ADJACENT USES, STRUCTURES AND PARCEL PROPERTY LINES. A THIRTY(30) FOOT BUFFER ZONE OF EXISTING VEGETATION SHALL BE RETAINED BETWEEN ALL POINT SOURCE DISCHARGES OF STORMWATER AND SURFACE WATERS AND/OR WETLANDS.
  - SECTION III.B.1.g.2 TO ALLOW REDUCED SIGHT TRIANGLES FROM 450 FT TO 400 FT.



ASSESSORS PARCEL 08-0-039  
#850 HINGHAM STREET  
N/F ROCKLAND HINGHAM REALTY LLC

ASSESSORS PARCEL 09-0-003  
#900 HINGHAM  
N/F HINGHAM STREET LLC

ASSESSORS PARCEL 09-0-039  
#851 HINGHAM STREET  
N/F ROCKLAND REAL EST INVS CO LLC

ASSESSORS PARCEL 08-0-038  
#10 RESERVOIR PARK DRIVE  
N/F FARDY THOMAS G TRS

ASSESSORS PARCEL  
008-0-048  
#831 HINGHAM STREET  
N/F ARAUJO RUI C &  
JANET L

ASSESSORS PARCEL 10-0-051  
N/F TOWNS OF ROCKLAND & ABINGTON  
JOINT WATER WORKS

BENCHMARK  
CH/CS (FND)  
ELEVATION = 138.078  
(NAD83 DATUM)

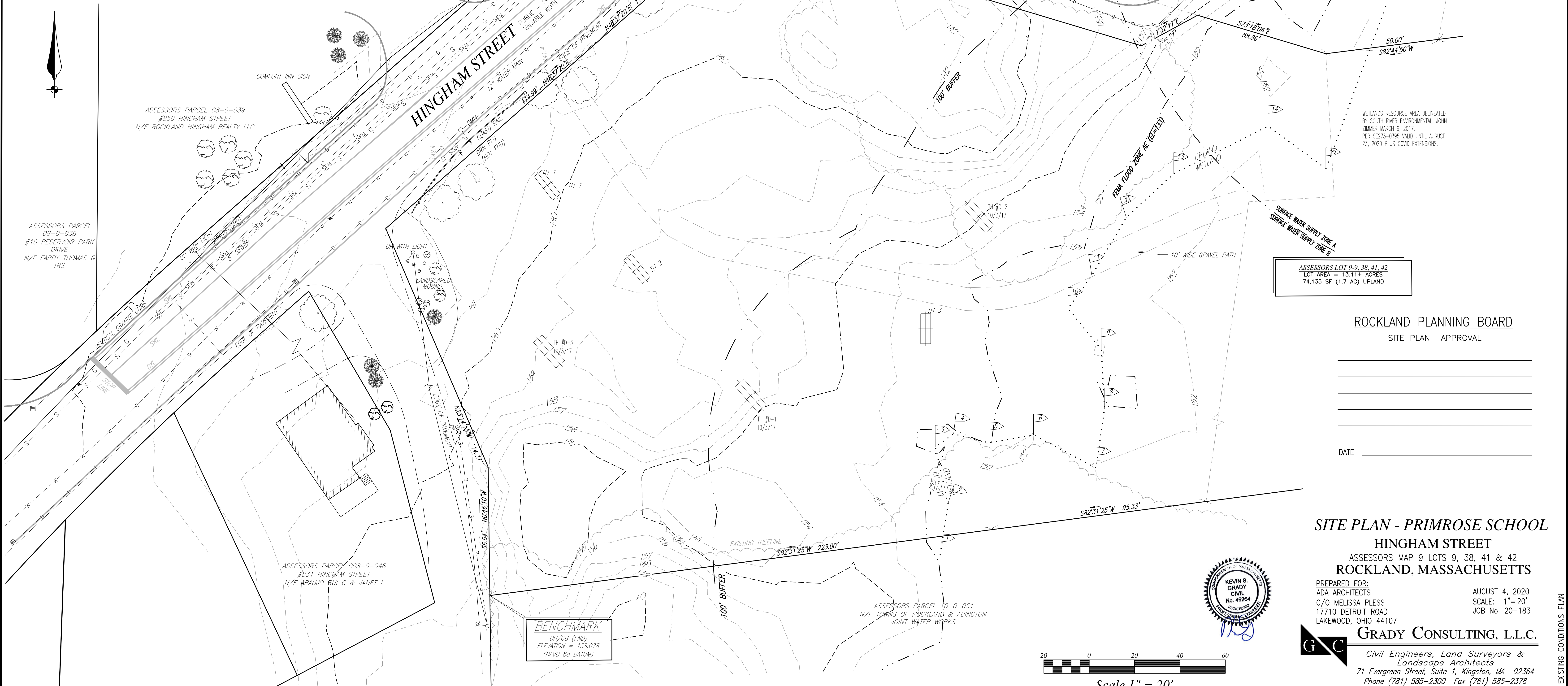
ASSESSORS LOT 9-9, 38, 41, 42  
LOT AREA = 13.11± ACRES  
74,135 SF (1.7 AC) UPLAND

WETLANDS RESOURCE AREA  
DELINEATED BY SOUTH RIVER  
ENVIRONMENTAL, JOHN  
ZIMMER MARCH 6, 2017.  
PER SE273-0395 VALID UNTIL  
AUGUST 23, 2020 PLUS  
COVID EXTENSIONS.

| T.H.#1<br>EL. 140.46                                                      | T.H.#2<br>EL. 137.33                                                    | T.H.#3<br>EL. 132.93                                                                                    | T.H.#D-1<br>EL. 136.27                                                    | T.H.#D-2<br>EL. 135.06                                                                                   | T.H.#D-3<br>EL. 139.34                                                    |
|---------------------------------------------------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| 0"-78" FILL                                                               | 0"-42" FILL                                                             | 0"-10" FILL                                                                                             | 0"-36" FILL                                                               | 0"-6" FILL                                                                                               | 0"-40" FILL                                                               |
| 133.96                                                                    | 133.83                                                                  | 132.10                                                                                                  | 133.27                                                                    | 133.93                                                                                                   | 136.00                                                                    |
| 78"-86" A LOAM                                                            | 42"-54" C1 FINE LOAMY SAND                                              | 10"-60" C1 FINE SAND                                                                                    | 36"-50" C1 GRAVELLY SAND                                                  | 6"-10" A LOAM                                                                                            | 40"-44" A LOAM                                                            |
| 133.29                                                                    | 132.83                                                                  | 127.93                                                                                                  | 132.10                                                                    | 133.60                                                                                                   | 135.67                                                                    |
| 86"-106" B LOAMY SAND                                                     | 54"-70" C GRAVELLY COARSE SAND                                          | 60"-84" C GRAVELLY COARSE SAND                                                                          | 50"-96" C2 MEDIUM TO COARSE SAND                                          | 24"-48" C1 GRAVELLY SAND                                                                                 | 44"-100" C1 GRAVELLY LOAMY SAND                                           |
| 131.62                                                                    | 131.49                                                                  | 125.93                                                                                                  | 130.34                                                                    | 128.93                                                                                                   | 131.00                                                                    |
| 106"-120" C GRAVELLY COARSE SAND                                          |                                                                         |                                                                                                         | 48"-100" C2 MEDIUM TO COARSE SAND                                         | 100"-114" C2 LOAMY SAND                                                                                  |                                                                           |
| 130.46                                                                    |                                                                         |                                                                                                         | 127.77                                                                    | 129.84                                                                                                   |                                                                           |
| D= 10'-0" MOTTLING<br>8'-10" (EL=131.62)<br>WEeping<br>8'-10" (EL=131.62) | D= 5'-10" MOTTLING<br>4'-6" (EL=132.83)<br>WEeping<br>5'-0" (EL=132.33) | D= 7'-0" MOTTLING<br>2'-4" (EL=130.60)<br>WEeping<br>3'-0" (EL=129.93)<br>STANDING<br>5'-0" (EL=127.93) | D= 8'-0" MOTTLING<br>3'-4" (EL=132.93)<br>NO WEeping<br>OR STANDING WATER | D= 8'-4" MOTTLING<br>2'-10" (EL=132.77)<br>WEeping<br>7'-2" (EL=127.89)<br>STANDING<br>7'-5" (EL=127.64) | D= 9'-6" MOTTLING<br>4'-6" (EL=134.84)<br>NO WEeping<br>OR STANDING WATER |

SOILS TESTING BY KEVIN GRADY, GRADY CONSULTING, L.L.C. APRIL 13, 2017.  
SOIL LOGS

SOILS TESTING BY KEVIN GRADY, GRADY CONSULTING, L.L.C. WITNESSED BY HENRY NOVER, P.E. OCTOBER 3, 2017.



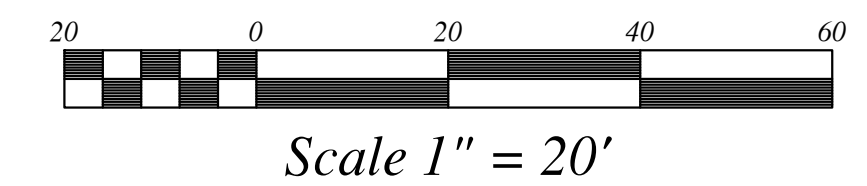
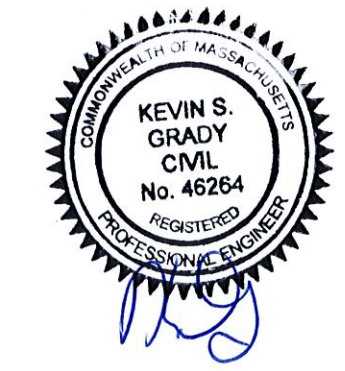
FOR REGISTRY USE ONLY

ROCKLAND PLANNING BOARD  
SITE PLAN APPROVAL

DATE

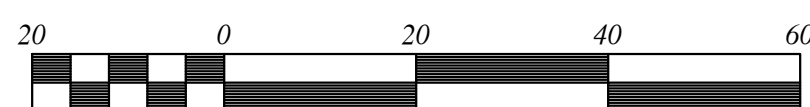
SITE PLAN - PRIMROSE SCHOOL  
HINGHAM STREET  
ASSESSORS MAP 9 LOTS 9, 38, 41 & 42  
ROCKLAND, MASSACHUSETTS

PREPARED FOR:  
ADA ARCHITECTS  
C/O MELISSA PLESS  
17710 DETROIT ROAD  
LAKEWOOD, OHIO 44107  
AUGUST 4, 2020  
SCALE: 1"= 20'  
JOB No. 20-183  
GRADY CONSULTING, L.L.C.  
Civil Engineers, Land Surveyors &  
Landscape Architects  
71 Evergreen Street, Suite 1, Kingston, MA 02364  
Phone (781) 585-2300 Fax (781) 585-2378



Scale 1" = 20'

EXISTING CONDITIONS PLAN

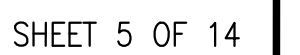


SHEET 4 OF 14

BENCHMARK  
DH/CB (FND)  
ELEVATION = 138.078  
(NAVD 88 DATUM)



AVOIT DI ANI



FOR REGISTRY USE ONLY

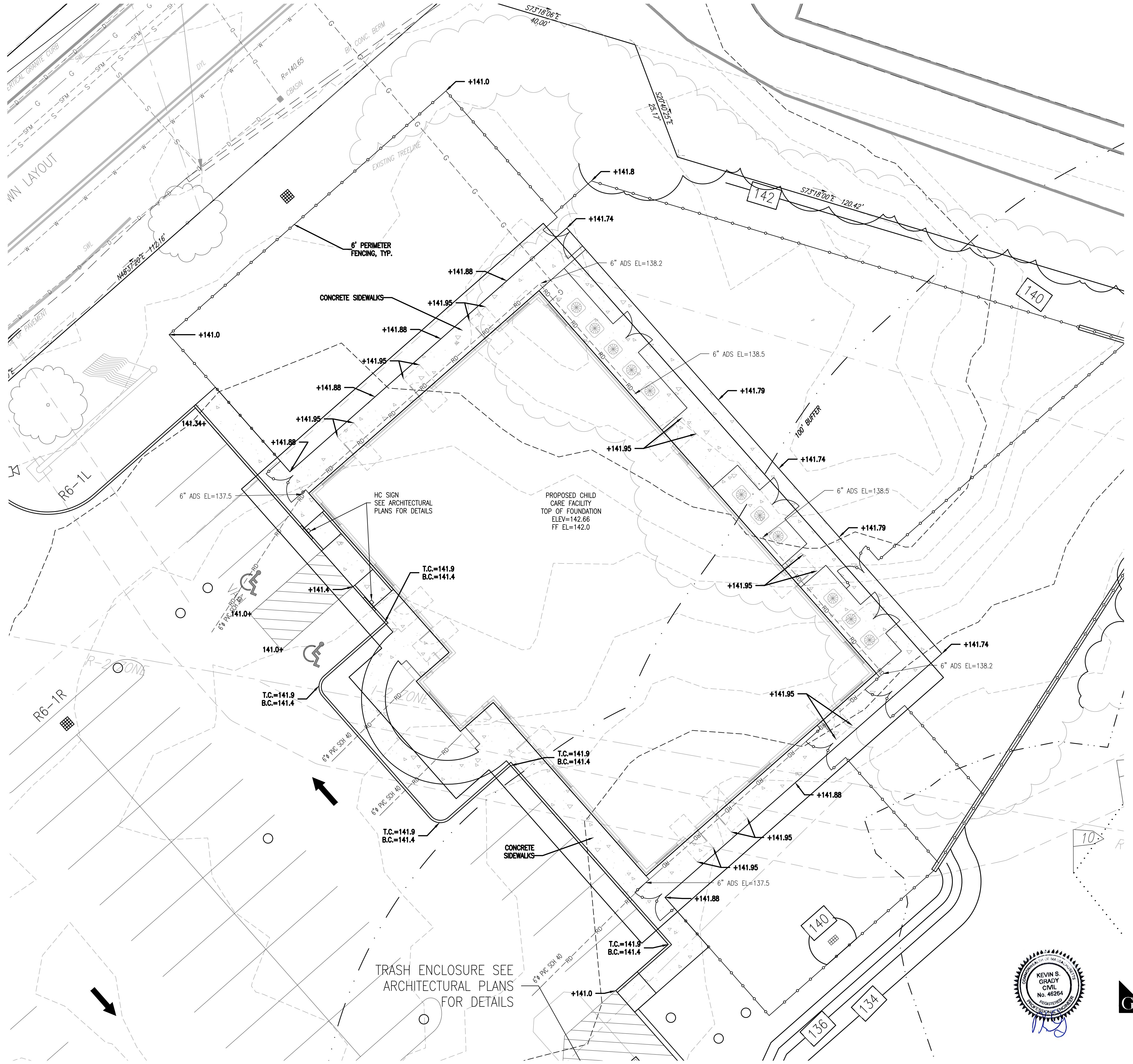
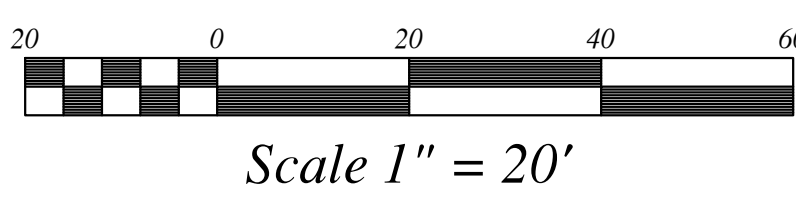
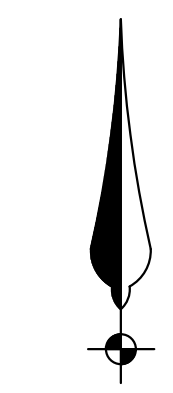
NOTE:  
CONCRETE AREAS AT EXTERIOR DOORS SHALL BE FLUSH WITH FINISH FLOOR AND HAVE A 1% MAXIMUM SLOPE AWAY FROM THE BUILDING. THIS AREA SHALL BE 5'x5' AND EXTEND 1'-6" PAST THE LATCH SIDE OF THE DOOR. ADJACENT CONCRETE SHALL BE FLUSH AND SLOPE AWAY AT 2%.

ROCKLAND PLANNING BOARD  
SITE PLAN APPROVAL

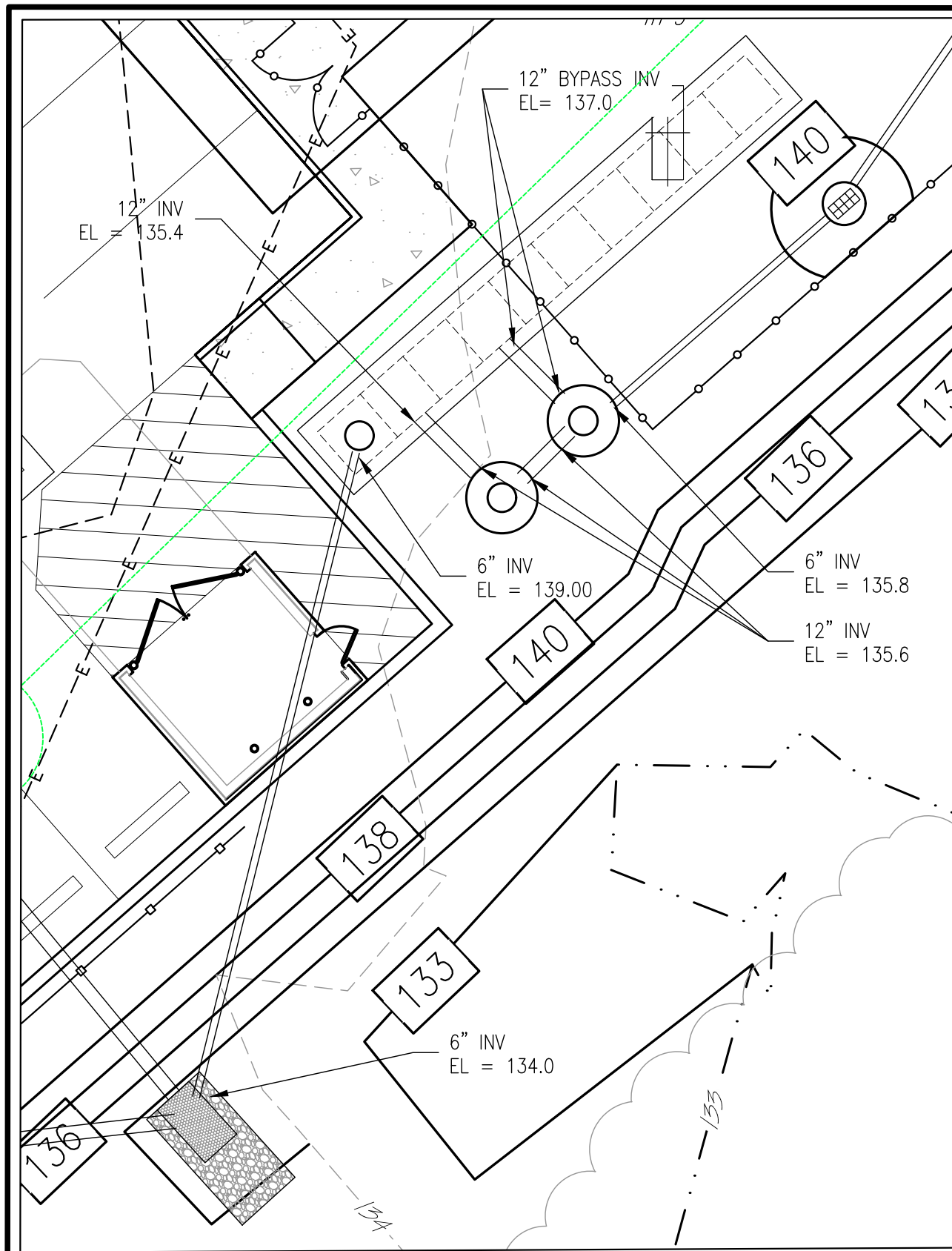
DATE \_\_\_\_\_

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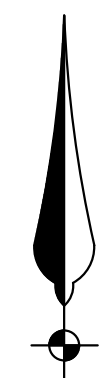


GRADING PLAN



DETAIL - SUBSURFACE SYSTEM#2

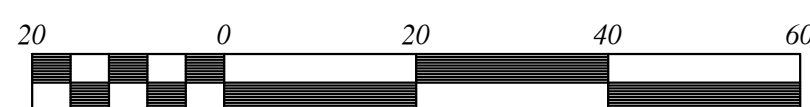
SCALE 1" = 10'



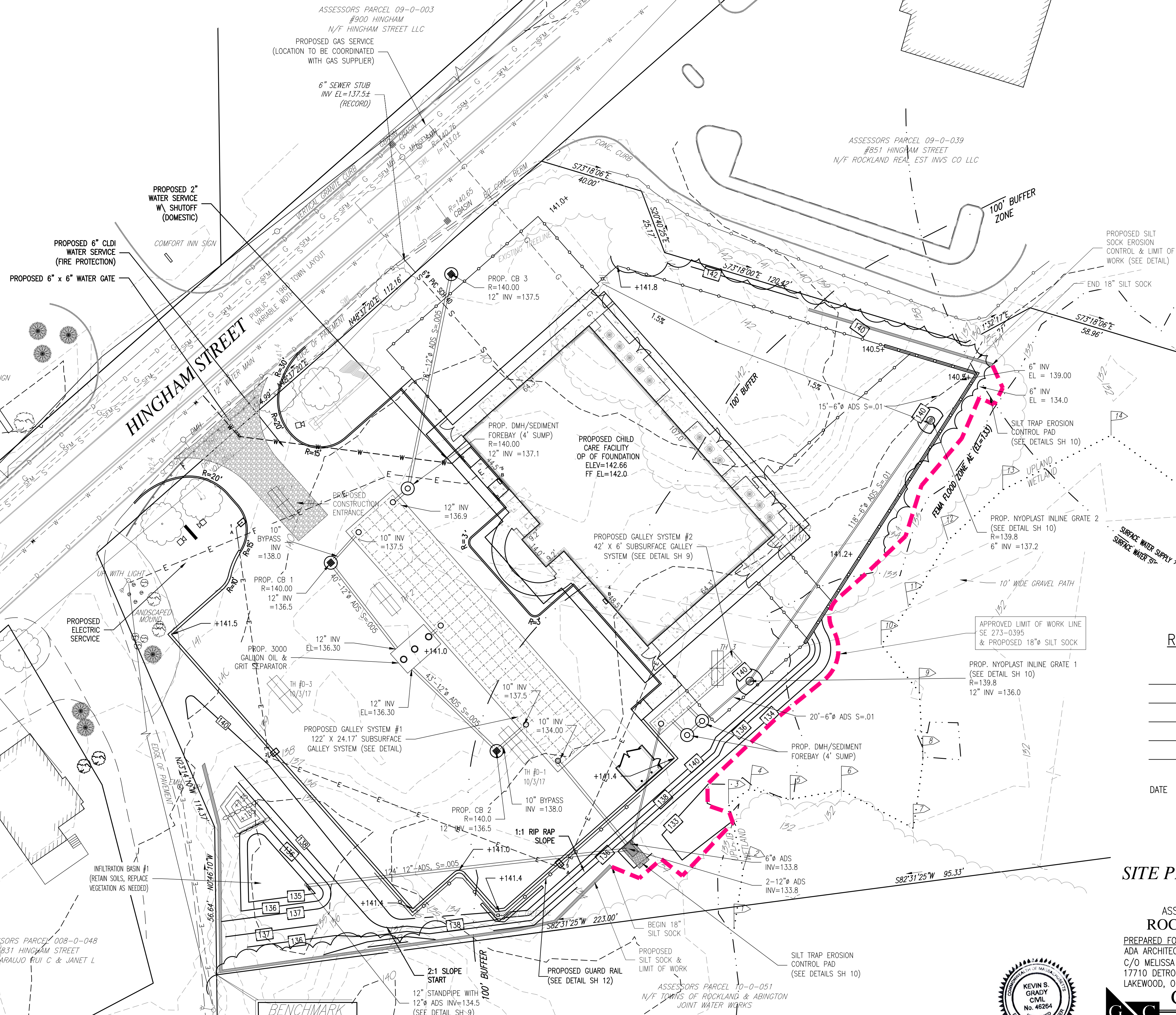
ASSESSORS PARCEL 08-0-038  
#10 RESERVOIR PARK DRIVE  
N/F FARDY THOMAS G TRS

ASSESSORS PARCEL 08-0-039  
#850 HINGHAM STREET  
N/F ROCKLAND HINGHAM REALTY LLC

ASSESSORS PARCEL 008-0-048  
#831 HINGHAM STREET  
N/F ARAUJO RUI C & JANET L



Scale 1" = 20'



FOR REGISTRY USE ONLY

WETLANDS RESOURCE AREA DELINEATED  
BY SOUTH RIVER ENVIRONMENTAL, JOHN  
ZIMMER MARCH 6, 2017.  
FER SE273-0395 VALID UNTIL AUGUST  
23, 2020 PLUS COVID EXTENSIONS.

**UTILITY NOTE:**  
IT IS THE RESPONSIBILITY OF THE  
CONTRACTOR TO LOCATE ALL UNDERGROUND  
UTILITIES AS SHOWN HERE AND AS  
IDENTIFIED BY THE LOCAL "CALL BEFORE  
DIGGING" AUTHORITY. ALL UNDERGROUND  
UTILITIES SHALL BE PROTECTED AT THE  
CONTRACTOR'S EXPENSE.

ROCKLAND PLANNING BOARD  
SITE PLAN APPROVAL

DATE \_\_\_\_\_

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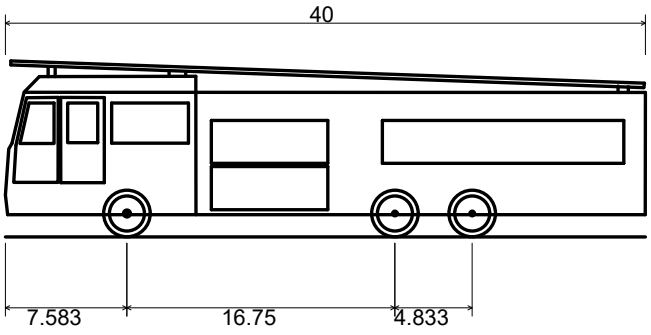
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UTILITIES PLAN

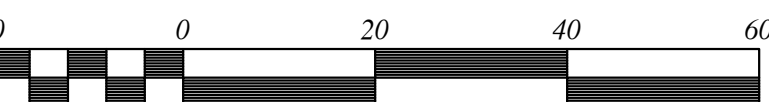
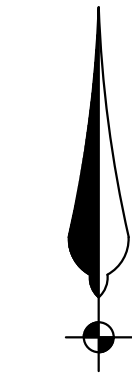
PLANT SCHEDULE

| SHRUBS             | QTY      | BOTANICAL / COMMON NAME                                           | SIZE     | SIZE        |
|--------------------|----------|-------------------------------------------------------------------|----------|-------------|
| HIB SYR            | 1        | HIBISCUS SYRIACUS 'LUCY' / ROSE OF SHARON TREE FORM               | B & B    | 4-5' HGT.   |
| HY ES              | 1        | HYDRANGEA MACROPHYLLA 'ENDLESS SUMMER' TM / BAILMER HYDRANGEA     | B & B    | 2-2.5' SPR. |
| ILE CGL            | 12       | ILEX CRENATA 'GREEN LUSTRE' / GREEN LUSTER JAPANESE HOLLY         | B & B    | 18-24" HGT. |
| ANNUALS/PERENNIALS | QTY      | BOTANICAL / COMMON NAME                                           | SIZE     | SIZE        |
| ASR PER            | 5        | ASSORTED PERENNIALS / TO BE SELECTED BY GC                        | 1 GAL.   |             |
| GRASSES            | QTY      | BOTANICAL / COMMON NAME                                           | SIZE     | SIZE        |
| PEN HAM            | 3        | PENNISETUM ALOPECUROIDES 'HAEMELN' / HAEMELN DWARF FOUNTAIN GRASS | 3 GAL.   |             |
| GROUND COVERS      | QTY      | BOTANICAL / COMMON NAME                                           | CONT     | SIZE        |
| AST PER            | 16       | ASSORTED PERENNIALS / ASSORTED PERENNIALS                         | 24" o.c. |             |
| HEM YHI            | 39       | HEMEROCALLIS X / HYBRID DAYLILY                                   | 1 GAL.   |             |
| LIR BIG            | 39       | LIRIOPE MUSCARI 'BIG BLUE' / BIG BLUE LILYTURF                    | 1 GAL.   |             |
| NE WRM             | 6,952 SF | N.E. NATIVE WARM SEASON GRASS MIX / LOAM, FINE GRADE & SEED       | SEED     |             |
| NE ROA             | 6,140 SF | N.E. ROADSIDE MATRIX / LOAM, FINE GRADE & SEED                    | SEED     |             |
| NE WET             | 3,275 SF | N.E.WET MIX / LOAM, FINE GRADE & SEED                             | SEED     |             |

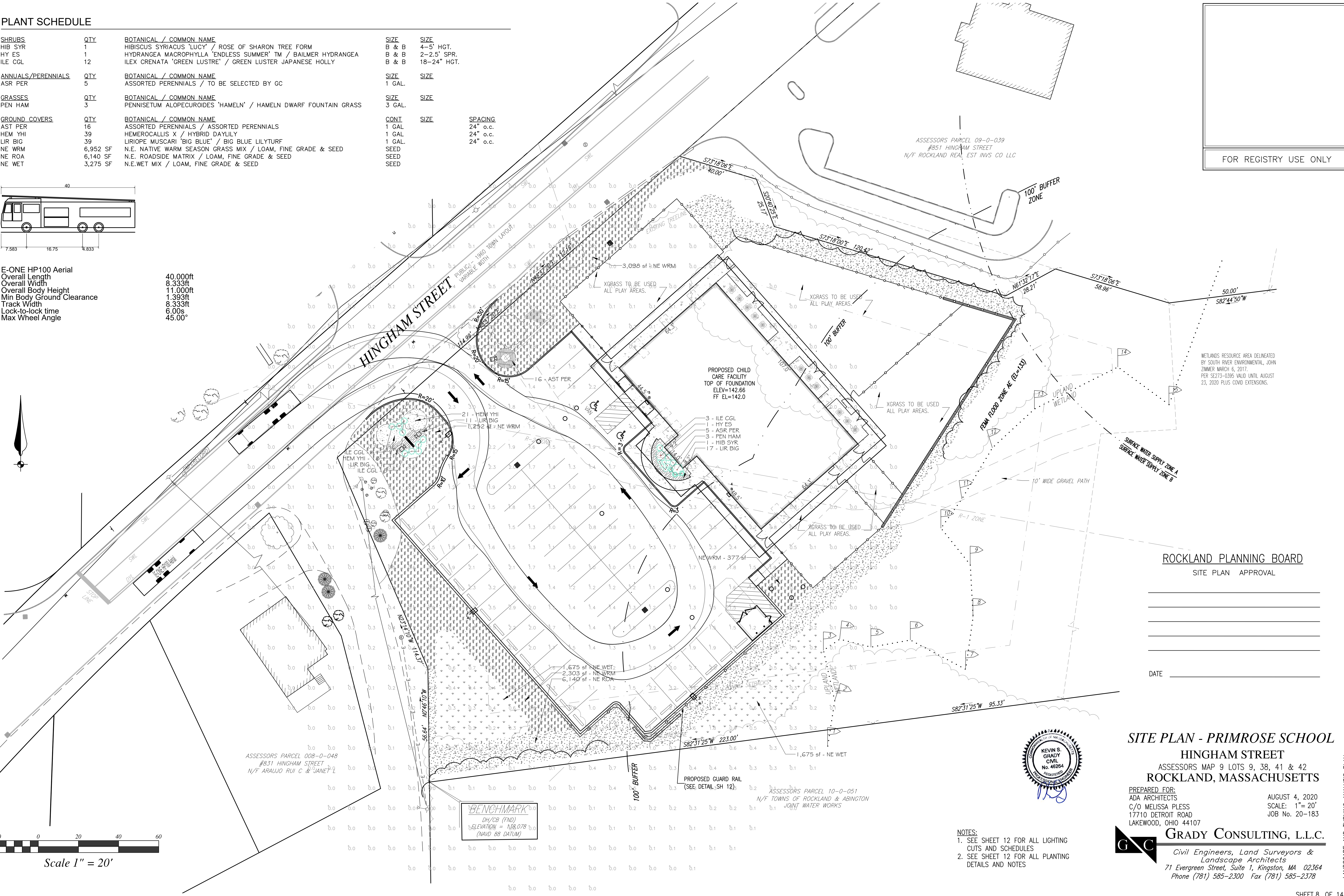


E-ONE HP100 Aerial  
Overall Length  
Overall Width  
Overall Height  
Min Body Ground Clearance  
Track Width  
Lock-to-lock time  
Max Wheel Angle

40,000ft  
8.333ft  
11.000ft  
1.393ft  
8.333ft  
6.00s  
45.00°



Scale 1" = 20'



ROCKLAND PLANNING BOARD  
SITE PLAN APPROVAL

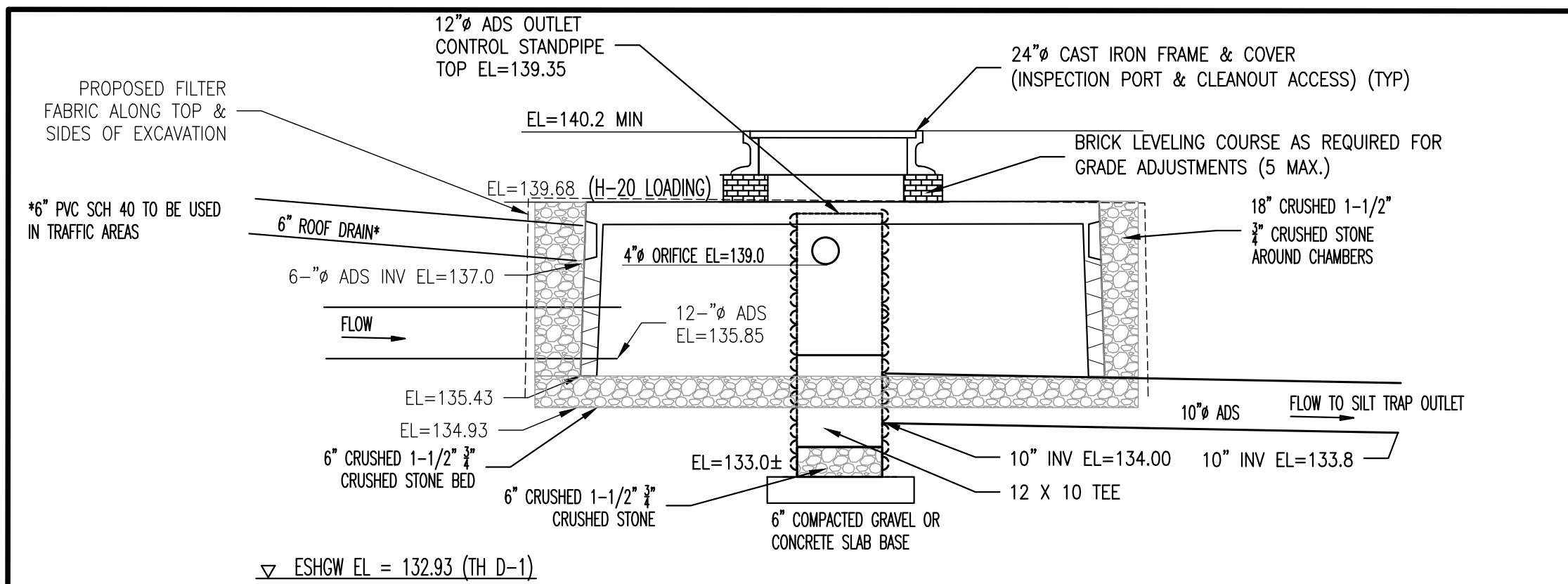
DATE \_\_\_\_\_

**SITE PLAN - PRIMROSE SCHOOL**  
**HINGHAM STREET**  
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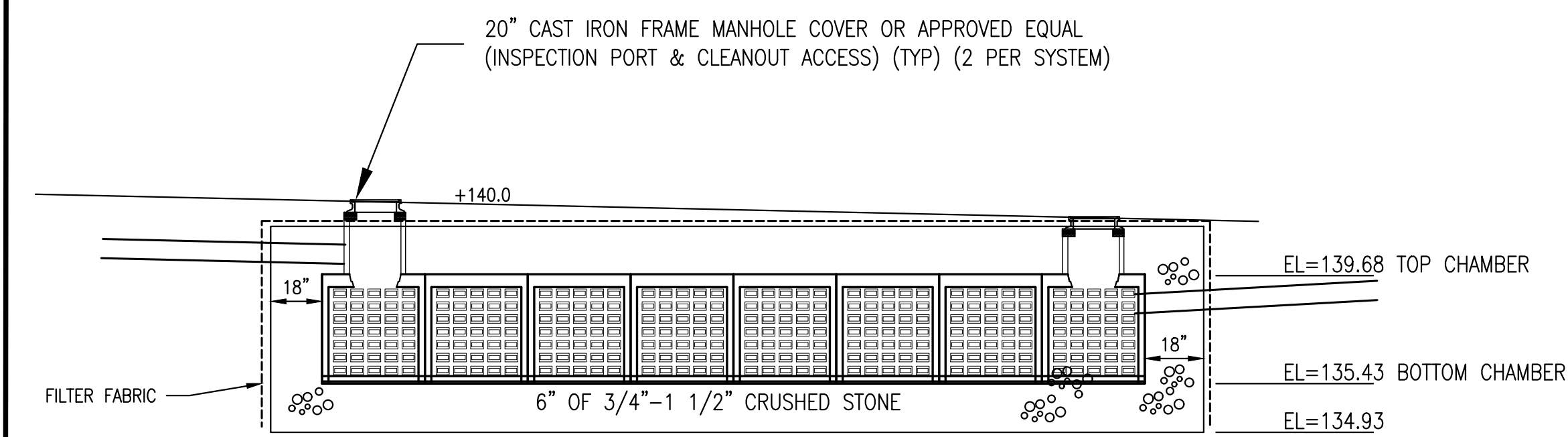
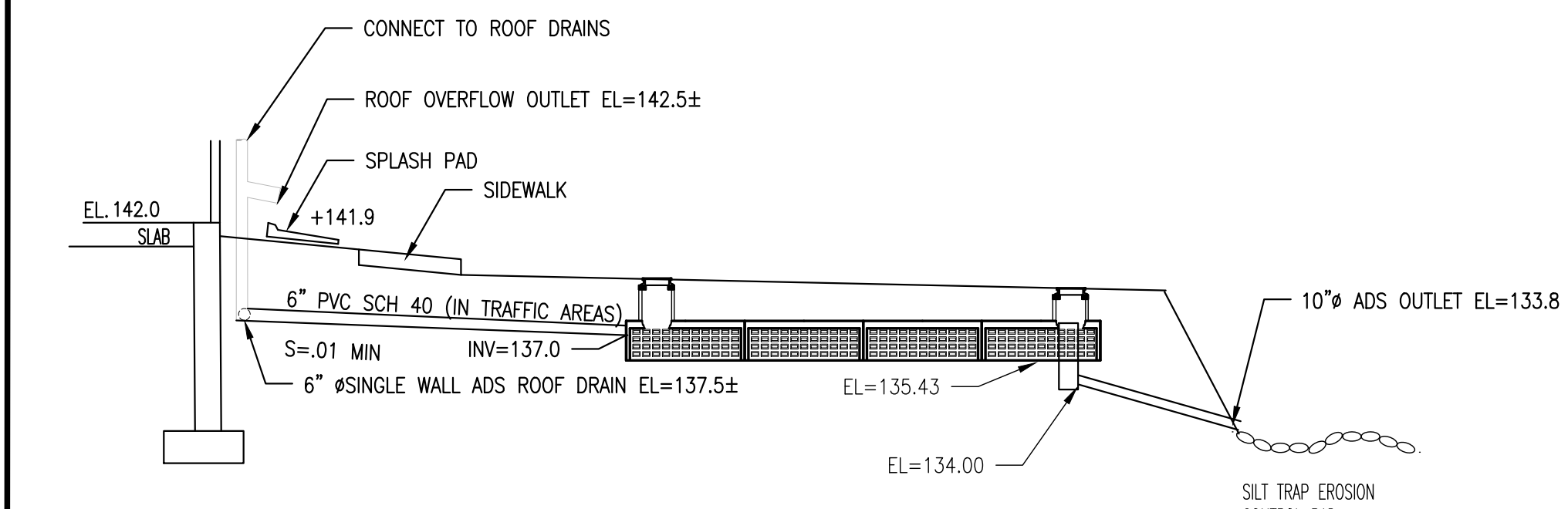
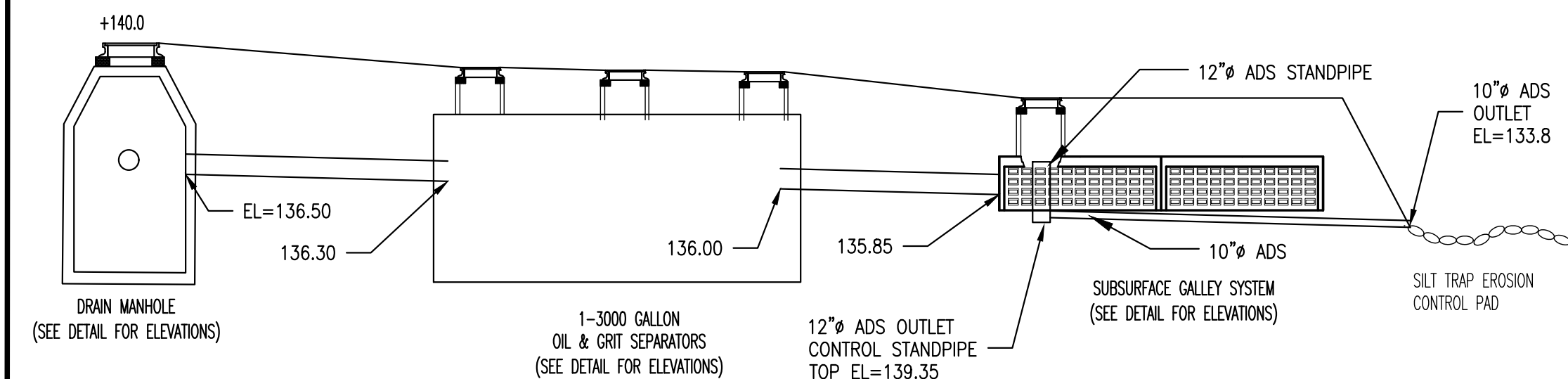
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NOTES:  
1. SEE SHEET 12 FOR ALL LIGHTING  
CUTS AND SCHEDULES  
2. SEE SHEET 12 FOR ALL PLANTING  
DETAILS AND NOTES

LANDSCAPE AND TURNING ANALYSIS PLAN



EXCAVATE ALL MATERIAL TO GRAVELLY SAND C1 LAYER (TH D-1), (EL=133.2±). REPLACE WITH COARSE LOAMY SAND. EXCAVATION TO BE INSPECTED BY GRADY CONSULTING L.L.C. AND TOWN PRIOR TO SOIL REPLACEMENT  
APPROXIMATE PERC SAND VOLUME = 2928 (BELOW CHAMBERS) S.F. x (134.9-133.2) / 27 + 20% = 220± C.Y.

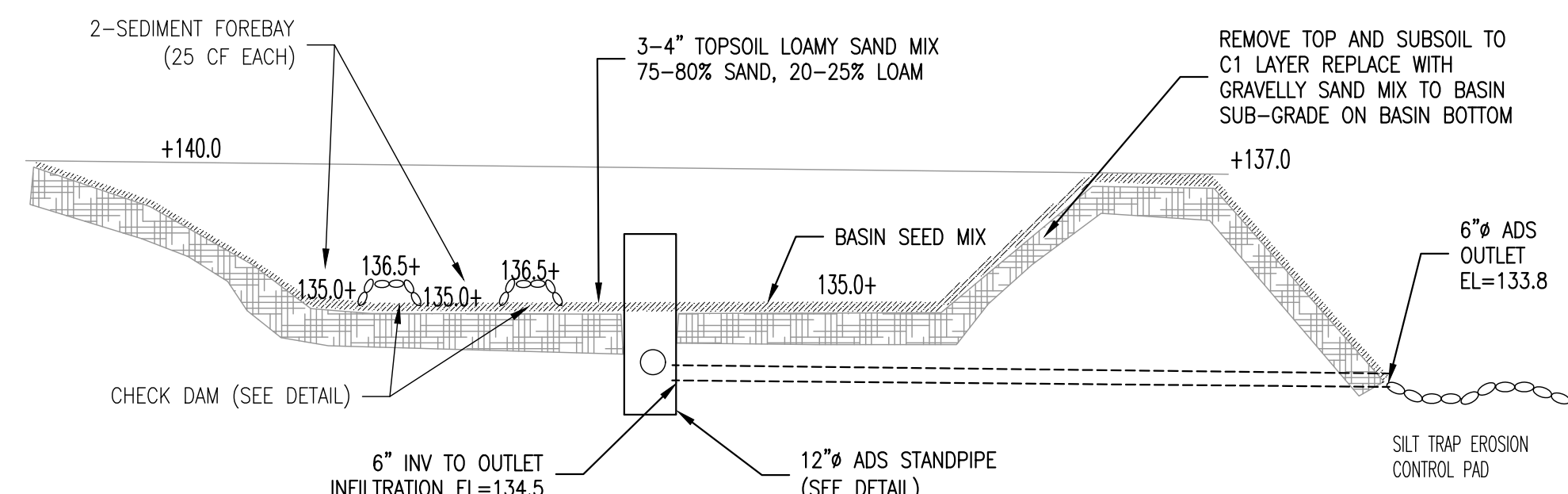


52.8" Wide x 0.5" Spacing = 53.3" C-C Row Spacing  
30 Chambers/Row x 4.00' Long = 120.00' Row Length +18.0" End Stone x 2 = 123.00' Base Length  
5 Rows x 52.8" Wide x 0.5" Spacing x 4 + 18.0" Side Stone x 2 = 25.17' Base Width  
6.0" Base + 48.0" Chamber Height = 4.50' Field Height  
150 Chambers  
515.9 cy Field  
188.8 cy Stone

| Event (cfs) | Inflow (cfs) | Outflow (cfs) | Discarded (cfs) | Primary Elevation (feet) | Storage (cubic-feet) |
|-------------|--------------|---------------|-----------------|--------------------------|----------------------|
| 2-Year      | 2.56         | 0.20          | 0.20            | 0.00                     | 136.49               |
| 10-Year     | 3.65         | 0.21          | 0.21            | 0.00                     | 137.34               |
| 25-Year     | 4.40         | 0.22          | 0.22            | 0.00                     | 138.03               |
| 100-Year    | 5.65         | 0.37          | 0.24            | 0.13                     | 139.26               |

SUBSURFACE GALLEY SYSTEM #1  
(NOT TO SCALE)

SUBSURFACE GALLEY SYSTEM #1 DETAILS  
(NOT TO SCALE)

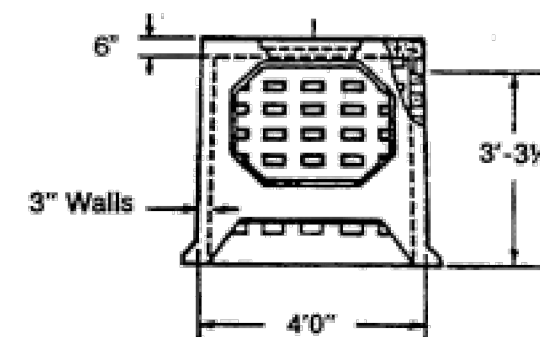
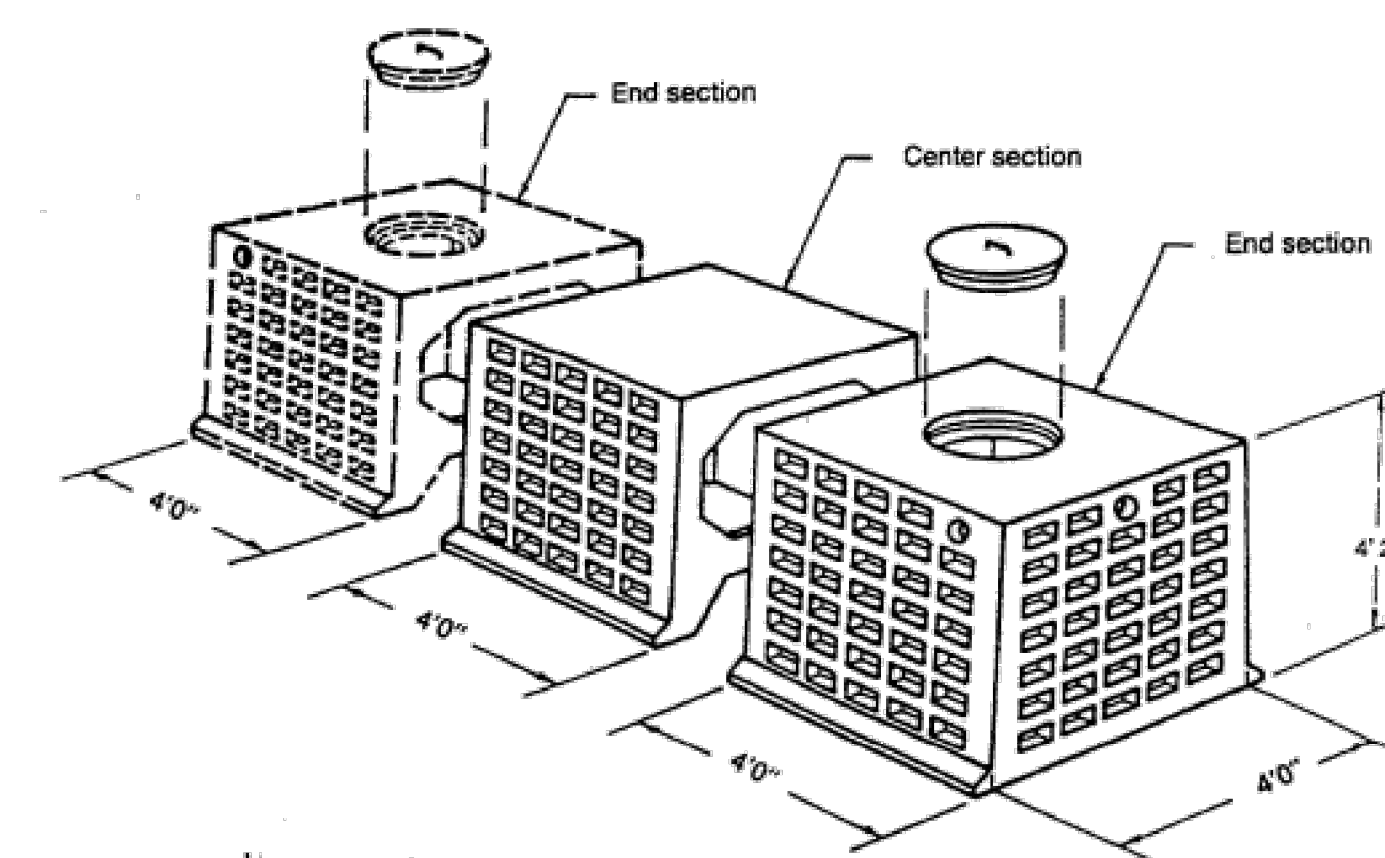


| Event    | Inflow (cfs) | Discarded (feet) | Elevation | Storage (cubic-feet) |
|----------|--------------|------------------|-----------|----------------------|
| 2-Year   | 0.00         | 0.00             | 135.00    | 2                    |
| 10-Year  | 0.00         | 0.00             | 135.07    | 29                   |
| 25-Year  | 0.01         | 0.00             | 135.16    | 69                   |
| 100-Year | 0.06         | 0.01             | 135.36    | 165                  |

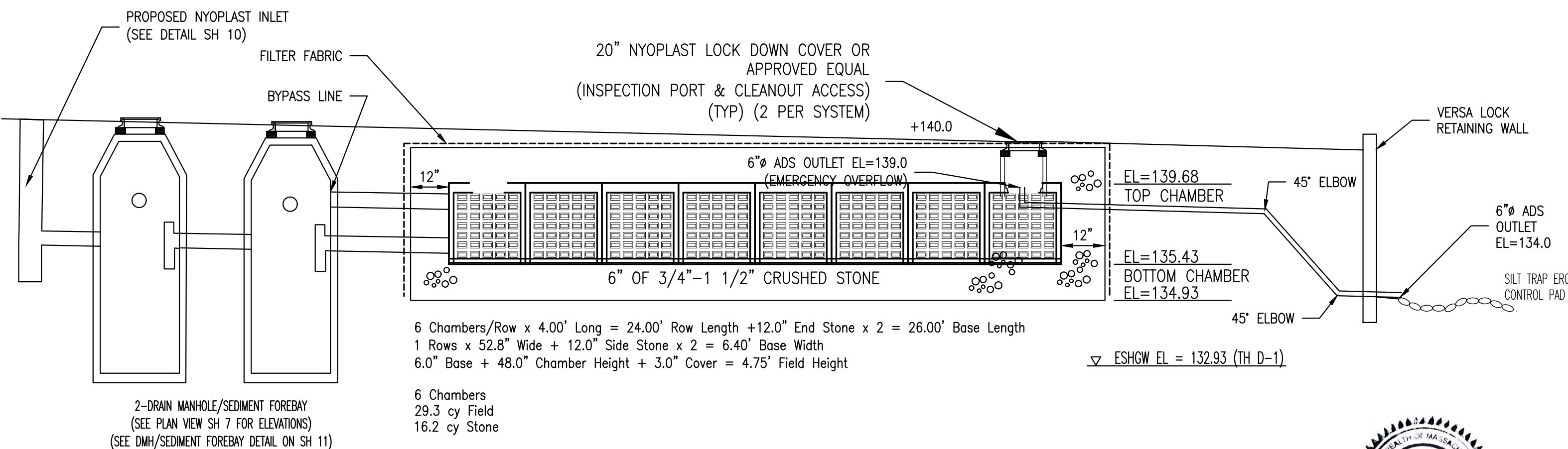
INFILTRATION BASIN #1 DETAIL  
(NOT TO SCALE)



**Leaching Chambers**  
4FT x 4FT x 4FT Precast Galley  
Design notes:  
1. Available in 4' sections. A combination of sections may be used to reach desired length.  
2. Concrete 4,000 P.S.I. @ 28 days  
3. Available in with 20" or 24" straight opening or concrete cover  
4. Available in H-10 or h-20 covers



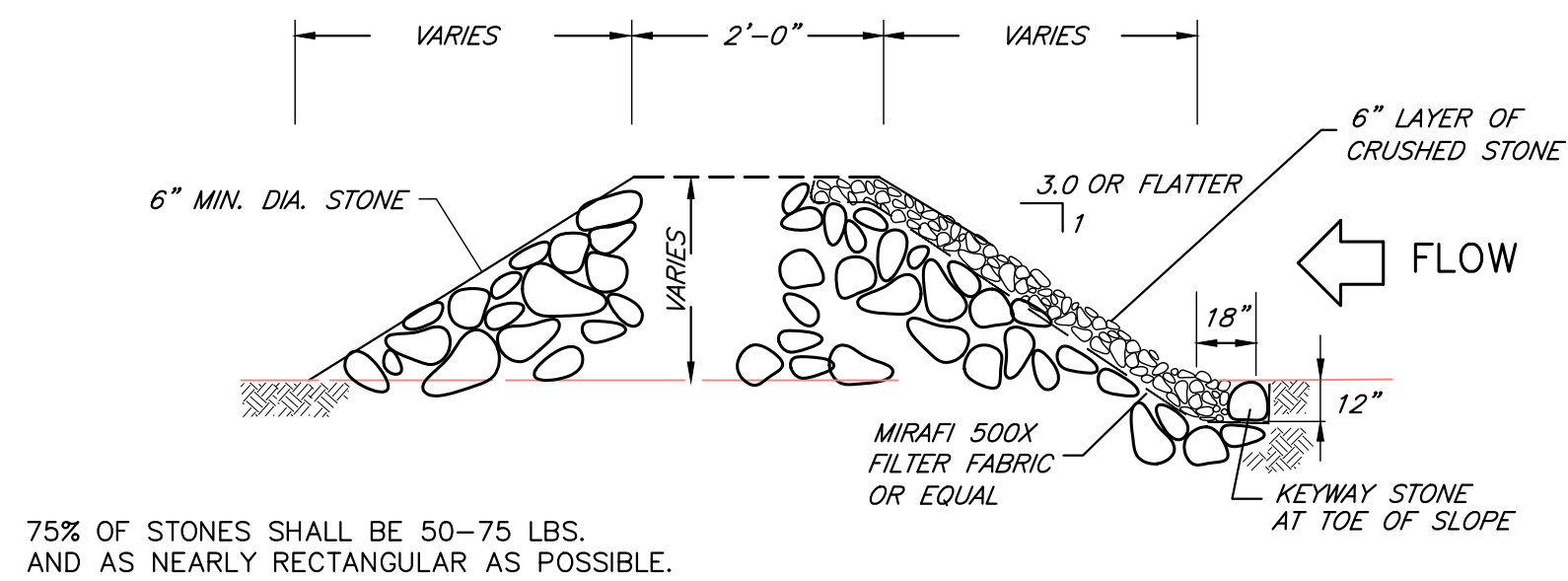
GALLEY SYSTEM #1 DETAIL  
(NOT TO SCALE)



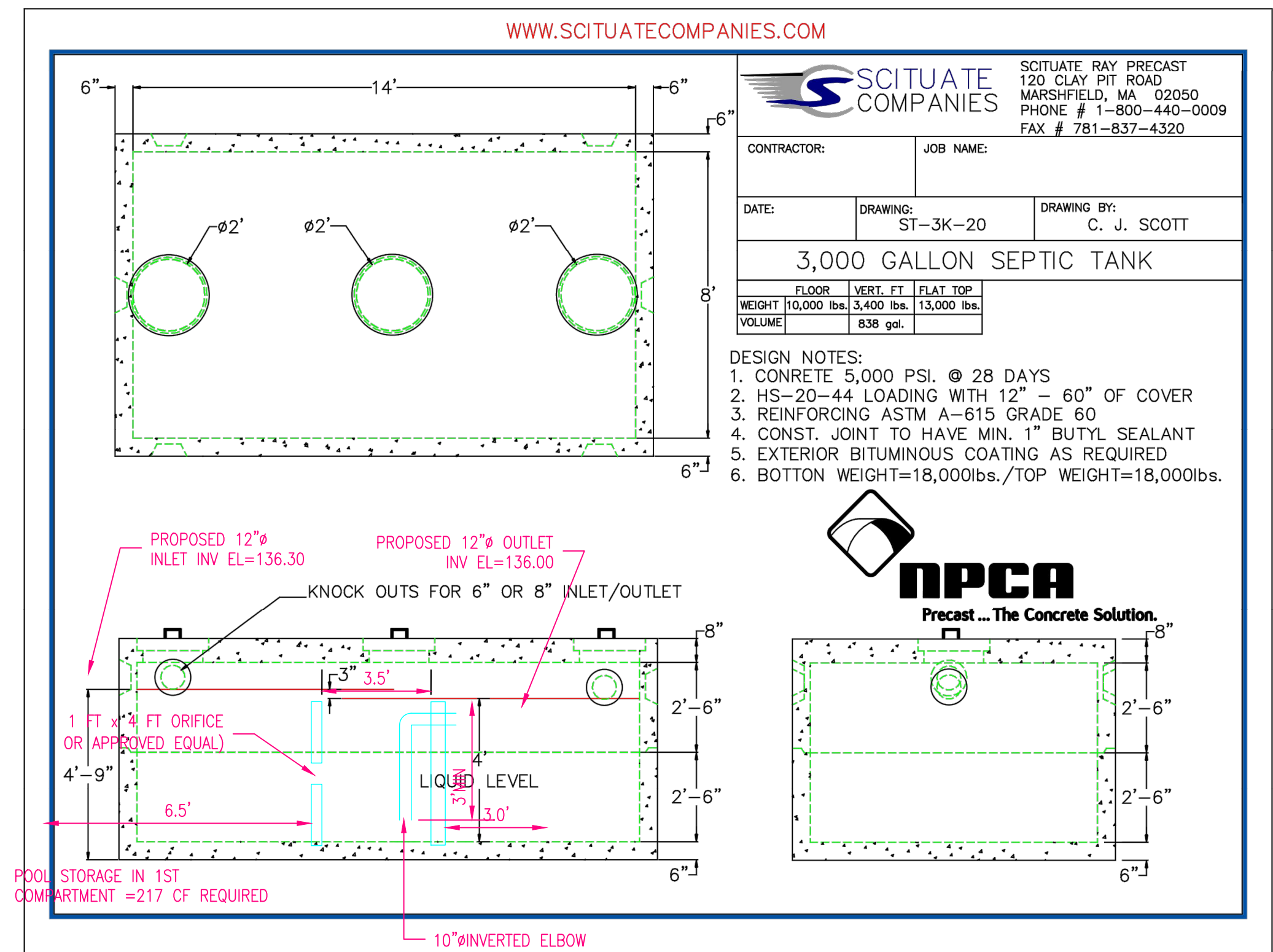
6 Chambers/Row x 4.00' Long = 24.00' Row Length +12.0" End Stone x 2 = 26.00' Base Length  
1 Rows x 52.8" Wide + 12.0" Side Stone x 2 = 6.40' Base Width  
6.0" Base + 48.0" Chamber Height + 3.0" Cover = 4.75' Field Height

| Event (cfs)a) | Inflow (cfs) | Primary Elevation (feet) | Storage (cubic-feet) |
|---------------|--------------|--------------------------|----------------------|
| 2-Year        | 0.01         | 0.01                     | 134.94               |
| 10-Year       | 0.07         | 0.04                     | 135.48               |
| 25-Year       | 0.17         | 0.05                     | 136.52               |
| 100-Year      | 0.39         | 0.08                     | 138.83               |

SUBSURFACE GALLEY SYSTEM #2  
(NOT TO SCALE)



DETAIL - CHECK DAM  
(NOT TO SCALE)



OIL & GRIT SEPARATOR  
(NOT TO SCALE)

ROCKLAND PLANNING BOARD  
SITE PLAN APPROVAL

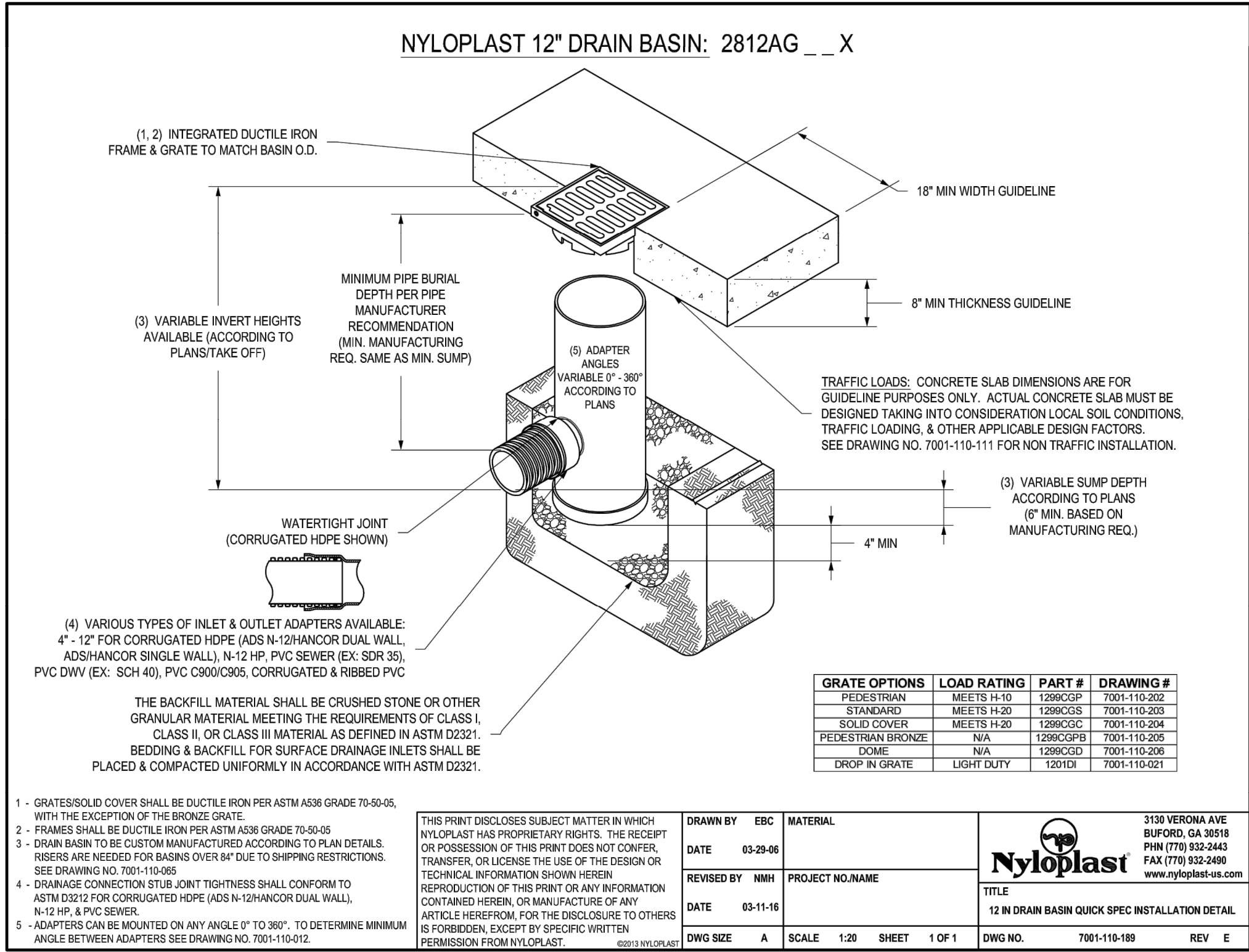
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DATE \_\_\_\_\_

**SITE PLAN - PRIMROSE SCHOOL**  
**HINGHAM STREET**  
ASSESSORS MAP 9 LOTS 9, 38, 41 & 42  
**ROCKLAND, MASSACHUSETTS**

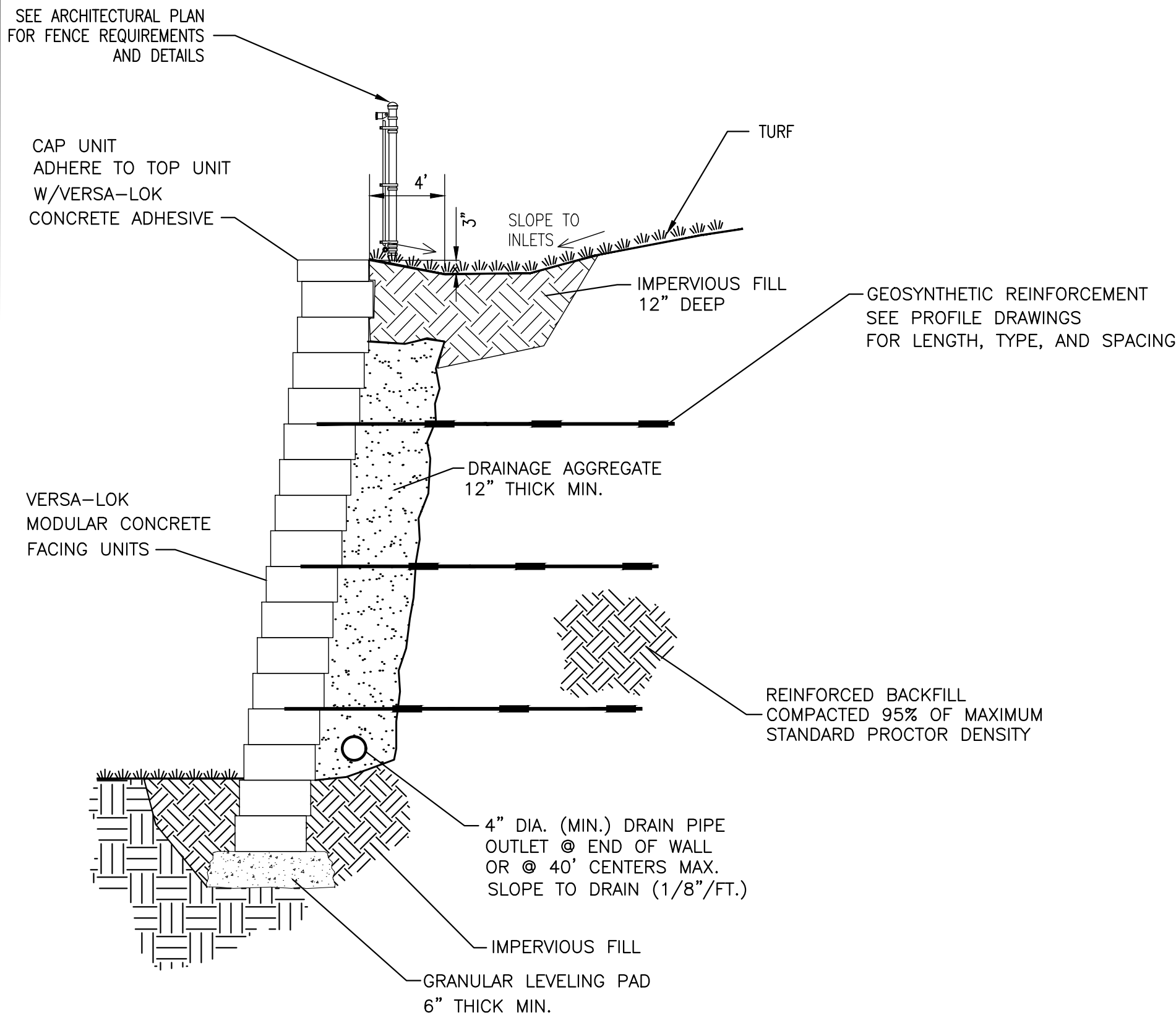
PREPARED FOR:  
ADA ARCHITECTS  
C/O MELISSA PLESS  
17710 DETROIT ROAD  
LAKEWOOD, OHIO 44107  
AUGUST 4, 2020  
SCALE: 1"= AS NOTED  
JOB No. 20-183  
**GRADY CONSULTING, L.L.C.**  
Civil Engineers, Land Surveyors &  
Landscape Architects  
71 Evergreen Street, Suite 1, Kingston, MA 02364  
Phone (781) 585-2300 Fax (781) 585-2378



DETAILS DRAINAGE

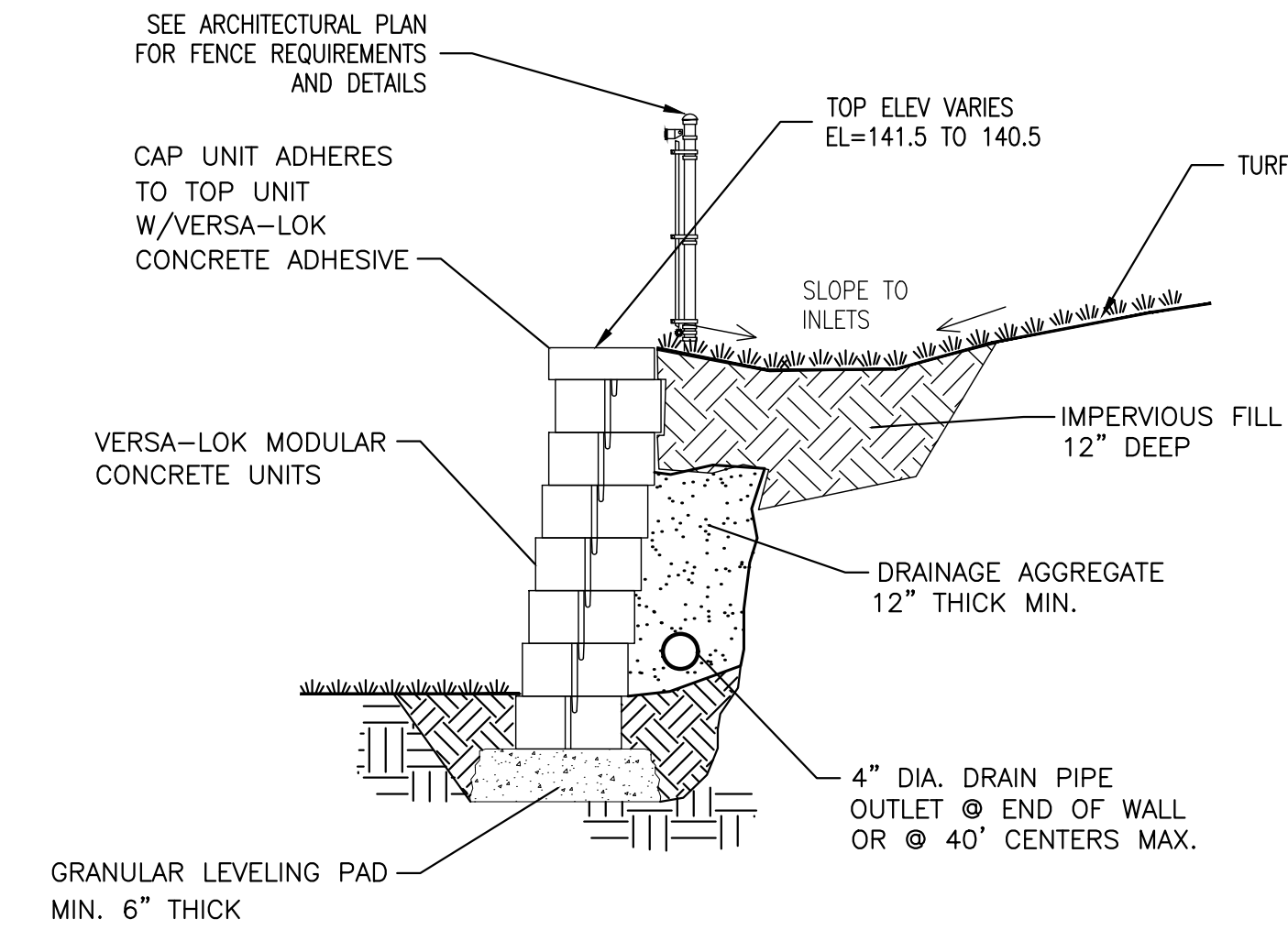


All drain basins used inside the playground shall be Nyloplast 12" x 6" N-12 and SW (2712AG6N) inline drains with 12" square H-10 rated pedestrian grates with locking covers. NO metal inlet covers or manhole can occur in playgrounds.

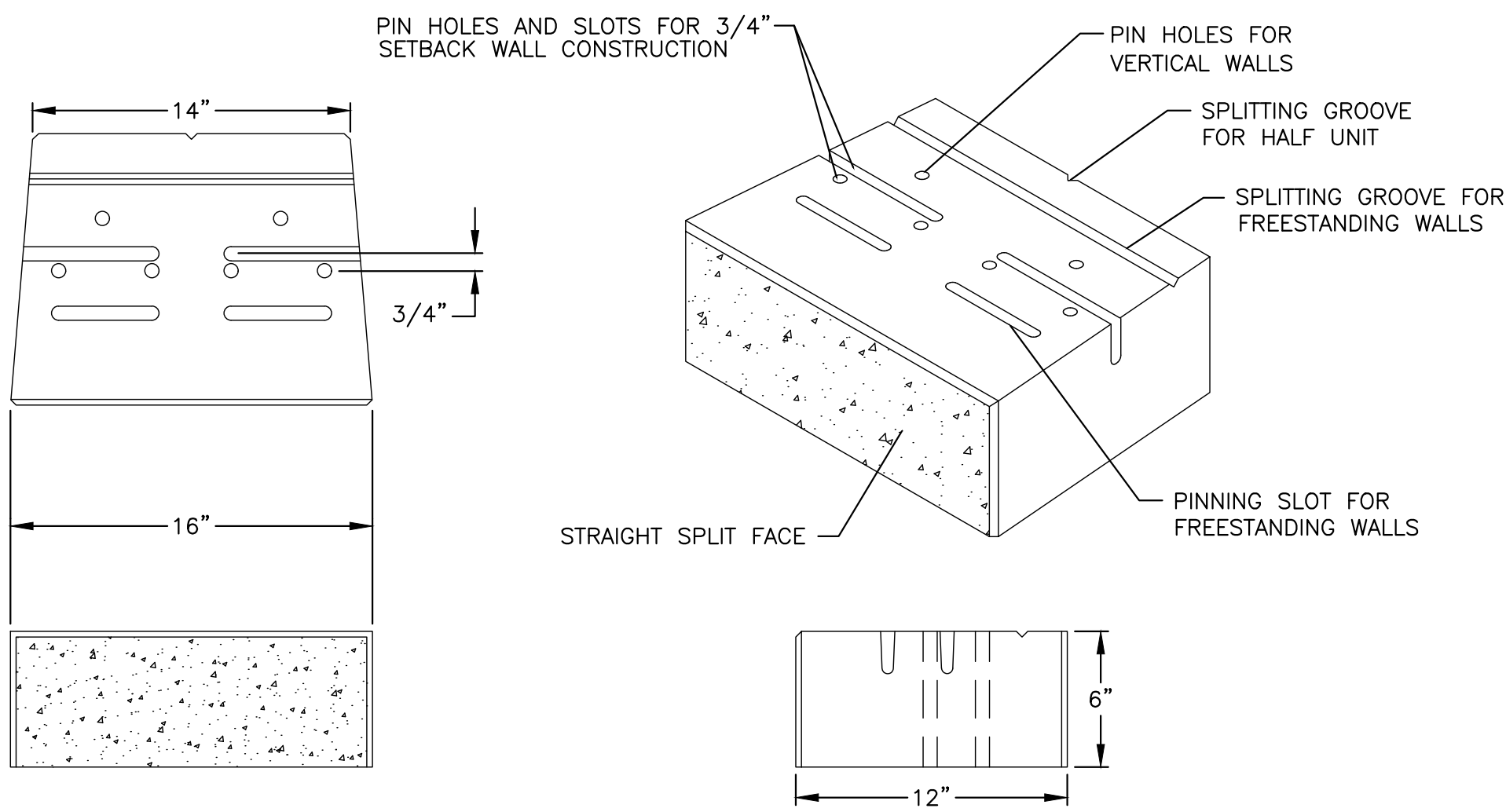


TYPICAL SECTION-REINFORCED RETAINING WALL  
MODULAR CONCRETE UNIT  
SCALE: NONE

NOTE:  
STRUCTURAL ENGINEERING DESIGN TO BE COMPLETED BY OTHERS



TYPICAL SECTION-UNREINFORCED RETAINING WALL  
SCALE: NONE



VERSA-LOK UNIT  
UNIT DIMENSIONS  
SCALE: NONE

## TECHNICAL NOTE

Minimum and Maximum Burial Depth for Single Wall Corrugated HDPE Pipe

TN 2.03  
July 2009

### Introduction

The information in this document is designed to provide answers to general cover height questions; the data provided is not intended to be used for project design. The design procedure described in the Structures section (Section 2) of the Drainage Handbook provides detailed information for analyzing most common installation conditions. This procedure should be utilized for project specific designs.

The two common cover height concerns are minimum cover in areas exposed to vehicular traffic and maximum cover heights. Either may be considered "worst case" scenario from a loading perspective, depending on the project conditions.

### Minimum Cover in Traffic Applications

Pipe diameters from 3- through 24-inch (75-600 mm) installed in traffic areas (AASHTO H-25 or HS-25 loads) must have at least one foot (0.3m) of cover over the pipe crown. The backfill envelope must be constructed in accordance with the Installation section (Section 5) of the Drainage Handbook and the requirements of ASTM D2321. The backfill envelope must be of the type and compaction listed in Table 2-3 of the Drainage Handbook. In Table 1 below, this condition is represented by a Class III material compacted to 90% standard Proctor density, although other material can provide similar strength at slightly lower levels of compaction. Structural backfill material should extend six inches (0.15m) over the crown of the pipe; the remaining cover should be appropriate for the installation and as specified by the design engineer. If settlement or rutting is a concern, it may be appropriate to extend the structural backfill to grade. Where pavement is involved, sub-base material can be considered in the minimum burial depth. While rigid pavements can be included in the minimum cover, the thickness of flexible pavements should not be included in the minimum cover.

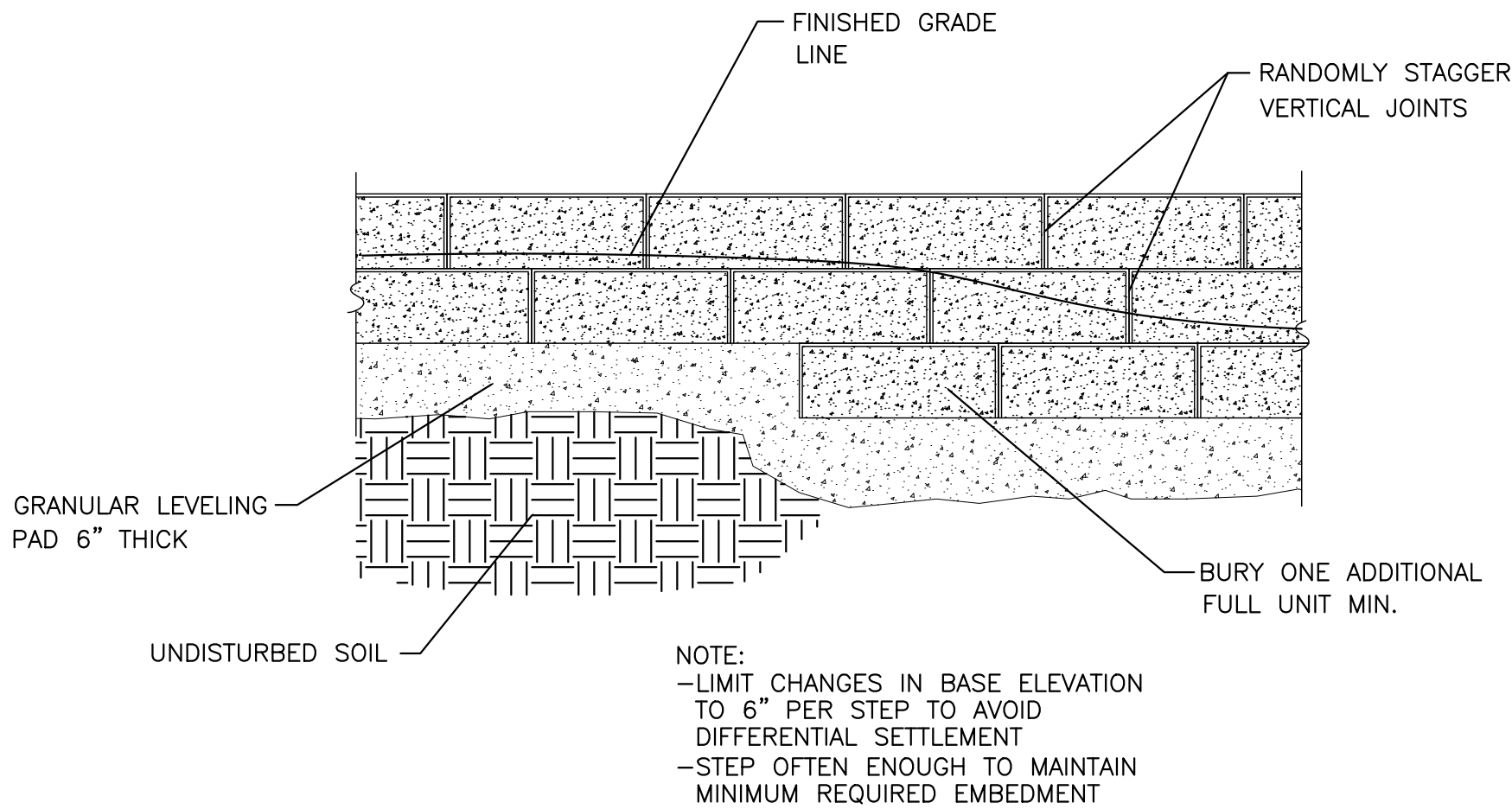
Additional information that may affect the cover requirements is included in the Installation section (Section 5) of the Drainage Handbook. Some examples of what may need to be considered are temporary heavy equipment, construction loading, paving equipment and similar loads that are less than the design load, the potential of pipe flotation, and the type of surface treatment which will be installed over the pipe zone.

Table 1  
Minimum Cover Requirements for ADS Single Wall Highway and Heavy Duty Pipe with AASHTO H-25 or HS-25 Load

| Inside Diameter, ID, in. (mm) | Minimum Cover ft. (m) | Inside Diameter, ID, in. (mm) | Minimum Cover ft. (m) |
|-------------------------------|-----------------------|-------------------------------|-----------------------|
| 3 (75)                        | 1 (0.3)               | 24 (600)                      | 1 (0.3)               |
| 4 (100)                       | 1 (0.3)               | 12 (300)                      | 1 (0.3)               |
| 6 (150)                       | 1 (0.3)               | 15 (375)                      | 1 (0.3)               |
| 8 (200)                       | 1 (0.3)               | 18 (450)                      | 1 (0.3)               |
| 10 (250)                      | 1 (0.3)               |                               |                       |

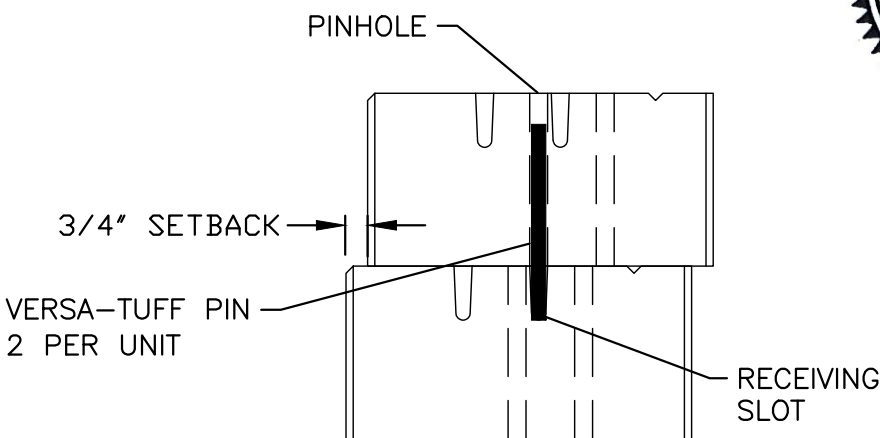
Note: Minimum covers presented here were calculated assuming Class III backfill material compacted to 90% standard Proctor density around the pipe and a minimum of 6-inches (0.15m) structural backfill over the pipe crown, as recommended in Section 5 of the Drainage Handbook, with an additional layer of compacted traffic lane sub-base for a total cover as required. In shallow traffic installations, especially where pavement is involved, a good quality compacted material to grade is required to prevent surface settlement and rutting.

4640 TRUEMAN BLVD. HILLIARD, OH 43026 (800) 921-6710 www.ads-pipe.com 1  
ATN203 © ADS 2009



### STEPPING BASE DETAIL

SCALE: NONE



### PINNING DETAIL

CROSS SECTION  
SCALE: NONE

### ROCKLAND PLANNING BOARD

SITE PLAN APPROVAL

DATE

### SITE PLAN - PRIMROSE SCHOOL

HINGHAM STREET  
ASSESSORS MAP 9 LOTS 9, 38, 41 & 42  
ROCKLAND, MASSACHUSETTS

PREPARED FOR:  
ADA ARCHITECTS  
C/O MELISSA PLESS  
17710 DETROIT ROAD  
LAKEWOOD, OHIO 44107

AUGUST 4, 2020  
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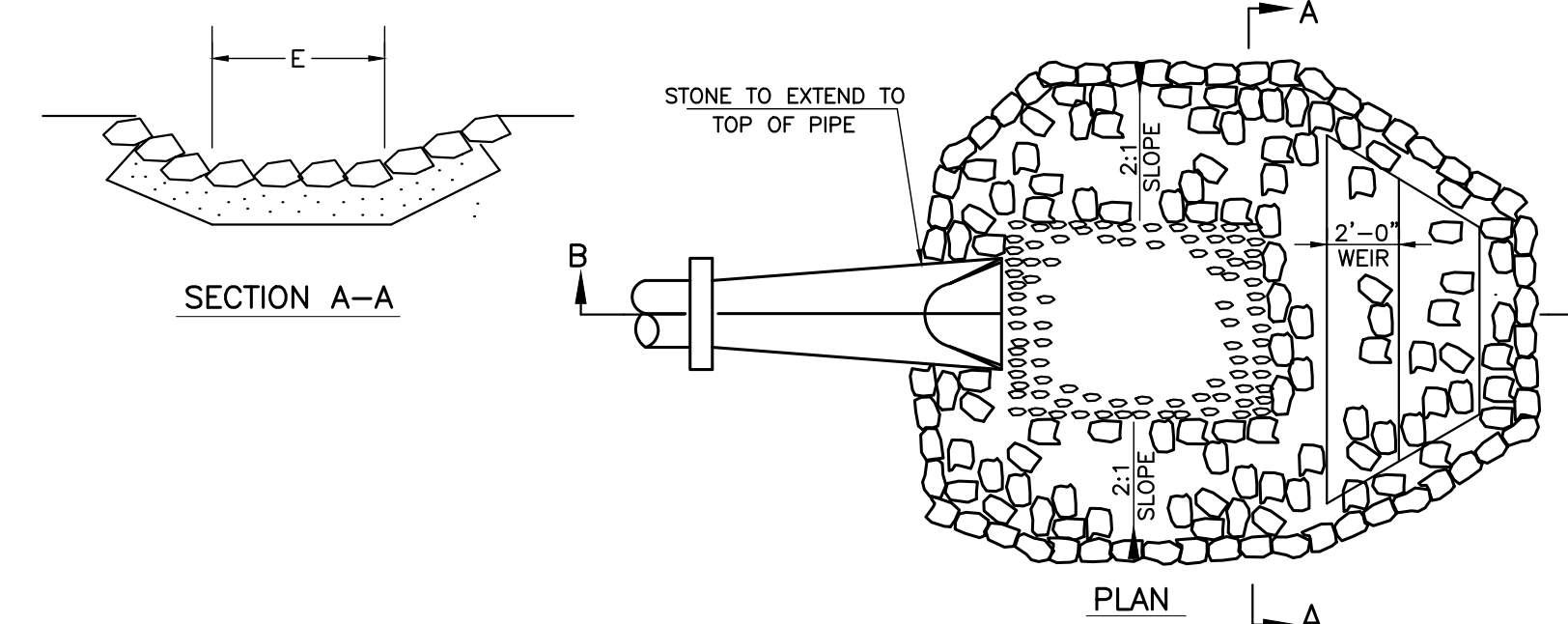
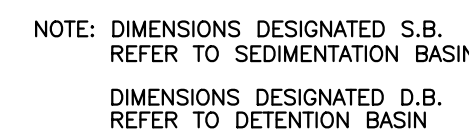
**GRADY CONSULTING, L.L.C.**  
Civil Engineers, Land Surveyors & Landscape Architects  
71 Evergreen Street, Suite 1, Kingston, MA 02364  
Phone (781) 585-2300 Fax (781) 585-2378

**GENERAL:**

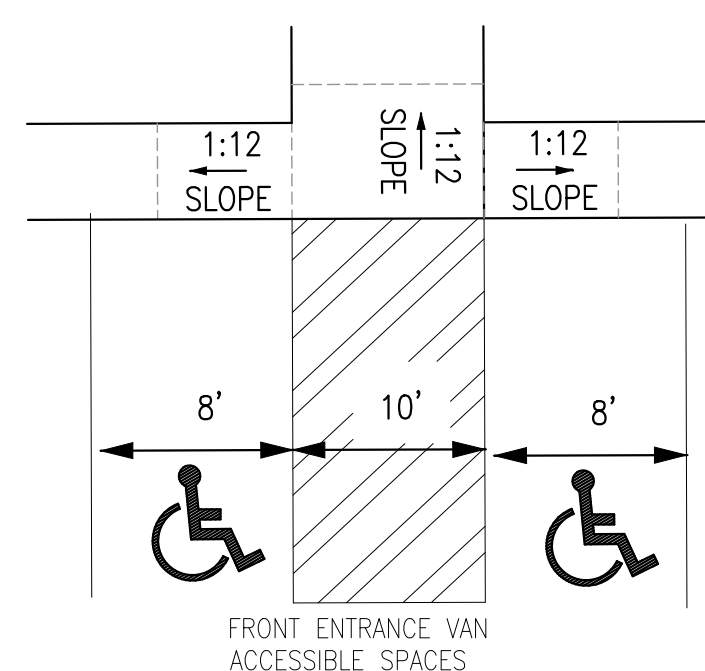
1. TOPOGRAPHIC DATA BY GRADY CONSULTING. L.L.C.
2. REFERENCE: ASSESSORS MAP 9 LOT 9, 38, 41, 42.
3. THE ACCURACY OF EXISTING UTILITY LOCATIONS, DIMENSIONS AND LINES IS FROM EXISTING INFORMATION OF RECORD AND IS NOT WARRANTED. CONTRACTOR TO VERIFY PRIOR TO INITIATING CONSTRUCTION.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SECURE ALL NECESSARY STATE, MUNICIPAL AND OTHER UTILITY PERMITS AND VERIFY THE PROPOSED LOCATIONS OF UTILITIES.
5. CONTRACTOR SHALL NOTIFY "DIG SAFE" (1-888-344-7233) AT LEAST 4 DAYS PRIOR TO CONSTRUCTION.
6. UNDERGROUND UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE APPROPRIATE DEPARTMENT OR COMPANY. THE CONTRACTOR SHALL NOTIFY THE ROCKLAND D.P.W. AT LEAST 4 DAYS PRIOR TO CONSTRUCTION OF DRAINAGE & WATER SYSTEMS.
7. ALL STUMPS SHALL BE DISPOSED OFF SITE.

1. CONTACT THE DESIGN ENGINEER FOR APPROVAL OF ANY CONSTRUCTION PHASE CHANGES.
2. CONTRACTOR TO AVOID SOILS COMPACTION WITHIN DRAINAGE SYSTEM AREA. CONTRACTOR SHOULD AVOID MACHINERY OR VEHICLE USE OVER STORM WATER SYSTEMS.

STAKE LIMIT OF WORK CLEARING  
INSTALL CONSTRUCTION ENTRANCE  
INSTALL SILT SOCK EROSION CONTROL BARRIER  
CLEAR AND GRUB SITE AREAS  
BRING CUT AREAS TO SUBGRADE  
STAKE BUILDING PARKING LOT & DRAINAGE BASIN LOCATION  
INSTALL SILT FENCE FOR STOCKPILE AREA  
INSTALL FOUNDATION  
INSTALL TEMPORARY DRAINAGE AREAS WHERE NECESSARY  
INSTALL ELECTRIC, GAS & WATER UTILITIES  
PLACE FILL MATERIAL TO BASE COURSE  
INSTALL DRAINAGE STRUCTURES  
COMPLETE FINISH GRADING  
INSTALL ENERGY DISSIPATORS AND CONNECT ALL OUTLETS  
COMPLETE BUILDING CONSTRUCTION  
INSTALL VASE MANHOLE STRUCTURES (DRAIN, SEWER) TO FINISH GRADE  
LOOSE & SEPARATE TOPSOIL, MULCH AND PLANT LANDSCAPE AREAS  
INSTALL FINISH PAVEMENT COAT  
SCHEDULE FINAL SITE INSPECTION FOR CERTIFICATION  
REMOVE SEDIMENT CONTROLS



ROCKLAND PLANNING BOARD  
SITE PLAN APPROVAL



**massDOT**  
Massachusetts Department of Transportation

**CONSTRUCTION STANDARDS**

**WHEELCHAIR RAMPS**

**LESS THAN 12'-4" SIDEWALK**

**LEGEND**

HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9.0R)  
W = SIDEWALK WIDTH  
W<sub>c</sub> = CURB WIDTH  
W<sub>1</sub> = PERPENDICULAR RAMP LENGTH  
CC = CEMENT CONCRETE  
\* = TOLERANCE FOR CONSTRUCTION ±0.5%  
USABLE SIDEWALK WIDTH PER AAB = W-W<sub>c</sub>  
RAMP LENGTH, W<sub>1</sub> = W-4'-0" Min

**SECTION A-A**



A diagram of a standard octagonal stop sign. The word "STOP" is written in bold, black, sans-serif capital letters in the center. Above the sign, a horizontal dimension line indicates a width of 30 in. To the right of the sign, a vertical dimension line indicates a height of 30 in.

STOP SIGN SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES WITH THE EXCEPTION OF BEING DIAMOND GRADE

12" WIDE X 12 FT LONG STOP LINE TO BE PLACED 4 FT IN ADVANCE OF NEAREST CROSSWALK.

IN THE ABSENCE OF MARKED CROSSWALK THE STOP LINE SHALL BE PLACED NO MORE THAN 30 FT NOR LESS THAN 4 FT FROM THE NEAREST EDGE OF THE INTERSECTING TRAVELED WAY.

| SIGN LEGEND |                                                                                       |
|-------------|---------------------------------------------------------------------------------------|
| R1-1        |  |
| R6-1L       |  |
| R6-1R       |  |

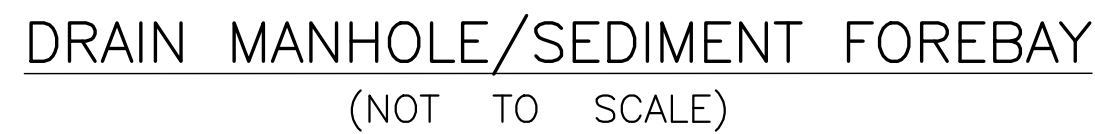
PREPARED FOR:  
ADA ARCHITECTS  
C/O MELISSA PLESS  
17710 DETROIT ROAD  
LAKEWOOD, OHIO 44107

AUGUST 4, 2020  
SCALE: 1"= AS NOTED  
JOB No. 20-183

**GRADY CONSULTING, L.L.C.**

*Civil Engineers, Land Surveyors &  
Landscape Architects*  
71 Evergreen Street, Suite 1, Kingston, MA 02364  
Phone (781) 585-2300 Fax (781) 585-2378

1. PRECAST CONCRETE UNITS TO CONFORM TO THE MASS HIGHWAY SECTION M4.02.14
2. 4000 PSI MINIMUM COMPRESSIVE STRENGTH
3. PRECAST UNITS TO BE HS-20 LOADING
4. EXTERIOR SURFACES TO BE SEALED W/ COLD APPLIED BITUMINOUS SEALER
5. CASTINGS FOR FRAME, GRATES, COVERS & HOODS TO CONFORM TO ASTM A48, GRADE 30 MINIMUM & COATED WITH APPROVED BLACK ASPHALTUM.

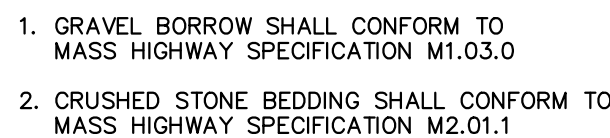


1. THE CONNECTION AT THE EXISTING SEWER LINE IS TO BE AS DIRECTED BY THE D.P.W. OR SEWER DEPARTMENT
2. CONSTRUCTION MATERIALS AND METHODS SHALL CONFORM TO TOWN OF ROCKLAND AND STATE OF MASSACHUSETTS STANDARDS AND REQUIREMENTS.
3. DE-WATERING OF TRENCH, IF REQUIRED, SHOULD BE CONDUCTED IN CONFORMITY WITH LOCAL REGULATIONS.
4. PRIOR TO ANY CONSTRUCTION, A STREET OPENING PERMIT AND A SEWER CONSTRUCTION PERMIT MUST BE OBTAINED BY THE CONTRACTOR FROM THE TOWN OF ROCKLAND D.P.W. (UNLESS SEWER CONNECTION IS NOT IN R.O.W.)
5. SEWER MAINS TO BE PVC SCH 40 OR AS OTHERWISE NOTED.
6. CONTRACTOR SHALL NOTIFY THE TOWN OF ROCKLAND D.P.W. AND SEWER DIVISION OF TIMING OF CONSTRUCTION
7. SURPLUS EXCAVATION MATERIAL TO BE HAULED OFF AND LEGALLY DISPOSED OF BY CONTRACTOR.
8. THE CONTRACTOR MUST INSTALL DETECTABLE "GREEN" MARKING TAPE, APPROXIMATELY ONE (1) FOOT ABOVE THE PROPOSED SEWER MAIN FOR ITS ENTIRE LENGTH.
9. THERE SHALL BE NO FIELD CHANGES TO THIS PLAN WITHOUT PRIOR NOTIFICATION OF BOTH THE DESIGN ENGINEER AND THE TOWN OF ROCKLAND SEWER DIVISION.
10. THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO BACKFILLING SO THAT AN "AS-BUILT" PLAN MAY BE COMPILED AND SUBMITTED TO THE ROCKLAND D.P.W.
11. ALL INTERIOR PLUMBING CHANGES SHALL BE MADE BY A LICENSED PLUMBER AND IN FULL COMPLIANCE WITH THE STATE AND LOCAL PLUMBING CODE REQUIREMENTS.
12. CONTRACTOR IS TO RESTORE TO ORIGINAL CONDITION ANY UTILITIES OR IMPROVEMENTS DAMAGED DURING CONSTRUCTION INCLUDING LOAMING AND SEEDING OF LAWNS.
13. CONTRACTOR TO VERIFY EXISTING SEWER ELEVATIONS.

1. THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN A PUBLIC OR PRIVATE POTABLE WATER SUPPLY SYSTEM AND A SEWER, OR APPURTENANCE THERETO WHICH WOULD PERMIT THE PASSAGE OF ANY WASTEWATER OR POLLUTED WATER INTO THE POTABLE SUPPLY.
2. THE SEWER MAY BE LAID CLOSER THAN 10 FEET TO A WATER MAIN PROVIDED THAT IT IS
  - A. LAID IN A SEPARATE TRENCH, AND
  - B. THE ELEVATION OF THE TOP(CROWN) OF THE SEWER IS AT LEAST 18 INCHES BELOW THE BOTTOM(INVERT) OF THE WATER MAIN.
3. WHENEVER SEWERS MUST CROSS UNDER WATER MAINS, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE TOP OF THE SEWER IS AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN. WHEN THE ELEVATION OF THE SEWER CANNOT BE VARIED TO MEET THIS REQUIREMENT, THE WATER MAIN SHALL BE RELOCATED TO PROVIDE THIS SEPARATION OR RECONSTRUCTED WITH MECHANICAL JOINT PIPE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE SEWER. ONE FULL LENGTH OF WATER MAIN SHOULD BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE.
4. WHEN IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED ABOVE, BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF MECHANICAL JOINT CAST IRON PIPE AND SHALL BE PRESSURE TESTED TO ASSURE WATER TIGHTNESS.



GRATES AND COVERS  
(NOT TO SCALE)



## SITE PLAN APPROVAL

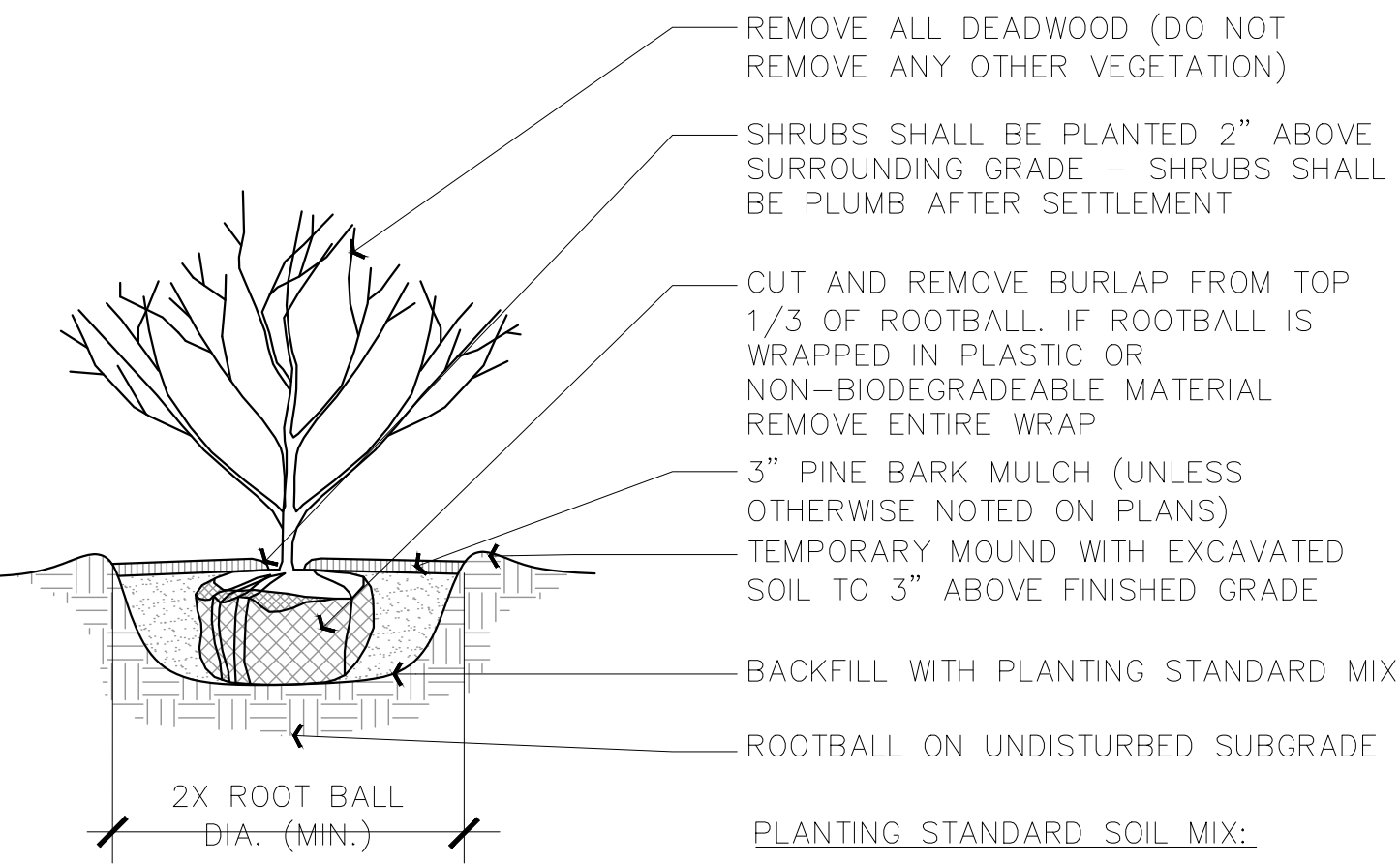
DATE \_\_\_\_\_

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C/O MELISSA PLESS  
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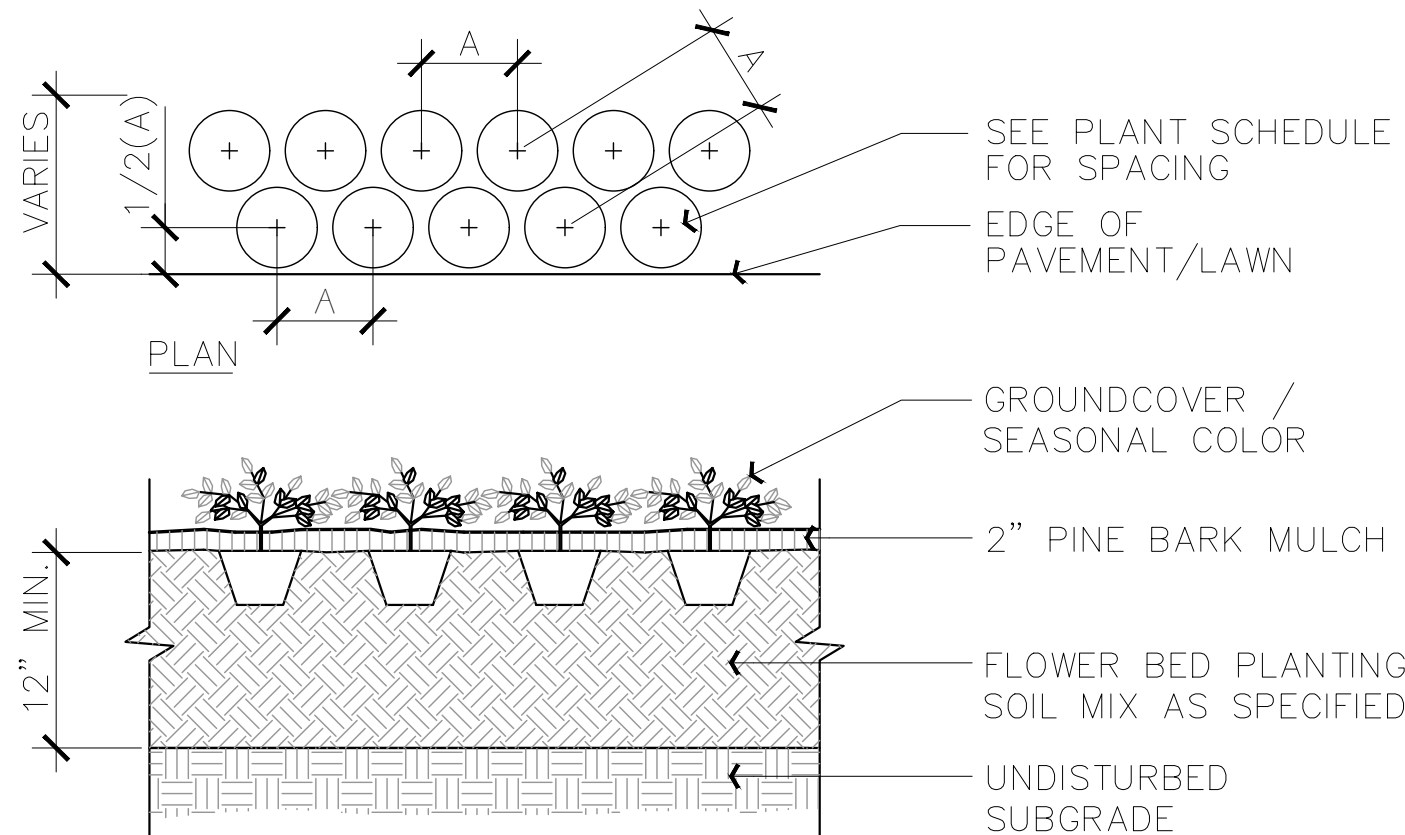
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SHRUB DETAIL  
1" = 1'-0" 329333.00-02



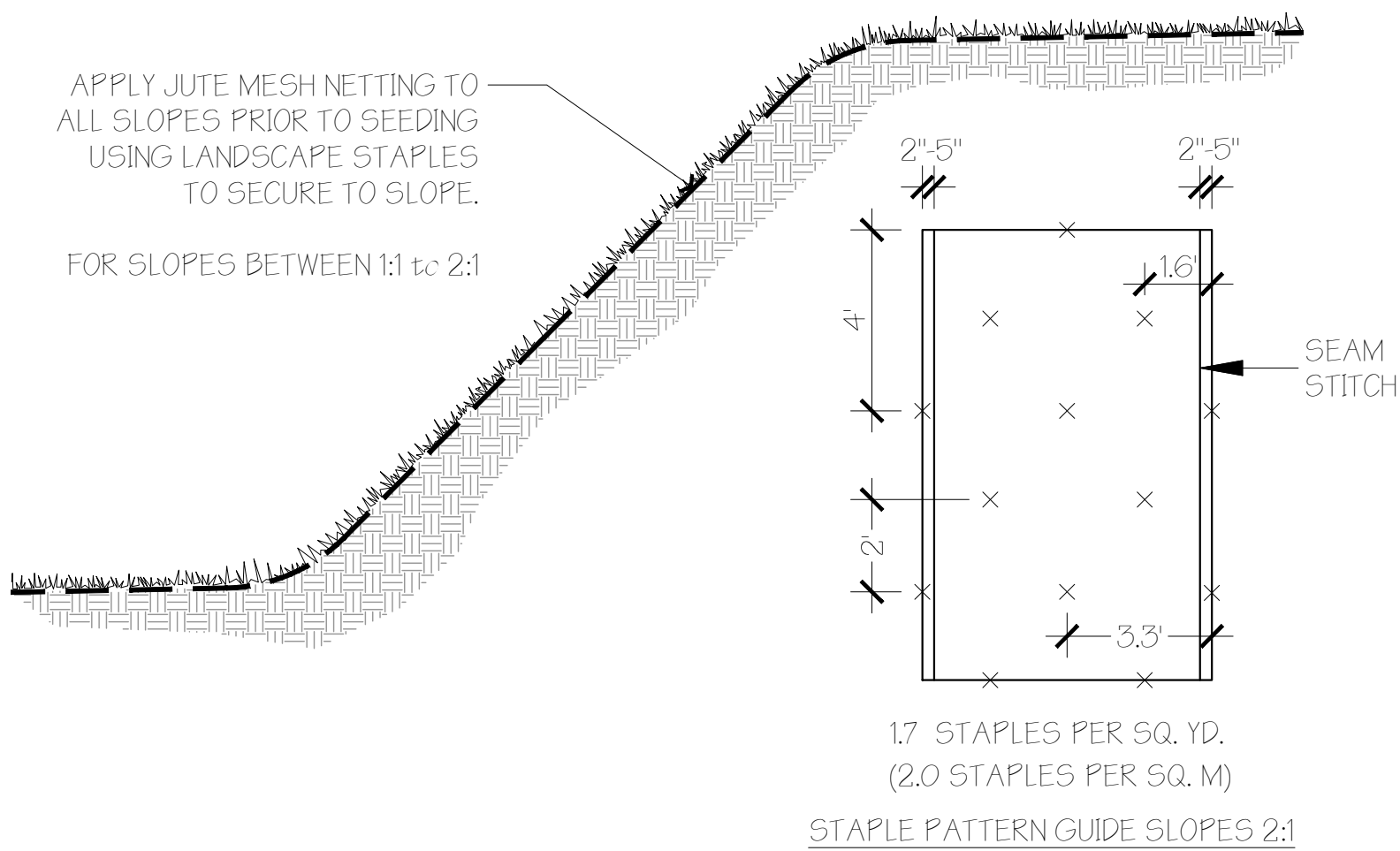
SEASONAL COLOR / PERENNIAL / GROUNDCOVER  
1" = 1'-0" 329302.02-01

| LOCATION                                    | DEPTH | DESCRIPTION                                                                                                                                                                              |
|---------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GENERAL PLANTING BEDS                       | 6"    | 1/3 PEAT - MANURE BLEND<br>1/3 HIGH ORGANIC LOAM<br>1/3 EXISTING SOIL                                                                                                                    |
| FLOWER BEDS                                 | 6"    | SCREENED LOAM<br>1/3 PEAT - MANURE BLEND LIME - PELATIZED OR GROUND (50 LB. PER 100 SF.)<br>GROUND BONE MEAL (50 LB. PER 100 SF.)<br>10-10-10 INORGANIC FERTILIZER (50 LB. PER 5000 SF.) |
| LAWNS - SOD & SEED                          | 6"    | 6" SCREENED LOAM                                                                                                                                                                         |
| PITS/TREE WELLS "STANDARD MIX" FOR BACKFILL | 12"   | SOIL MIX 'A' - 1/3 PEAT - MANURE BLEND<br>1/3 HIGH ORGANIC LOAM<br>1/3 EXISTING SOIL                                                                                                     |
| PITS/TREE WELLS "LITE WEIGHT MIX"           | 12"   | SOIL MIX 'B' - 70% LIGHT WEIGHT SHALE<br>20% SAND<br>10% COMPOST                                                                                                                         |
| PITS/TREE WELLS "STRUCTURAL MIX"            | 12"   | SOIL MIX 'C' - MIX COMPOSITION TO BE SUPPLIED BY LANDSCAPE ARCHITECT.                                                                                                                    |

SCHEDULE OF TOPSOILS & ADDITIVES  
1" = 1'-0" 329301.03-01

## PLANTING NOTES

- NOTIFY DIG-SAFE AND LOCAL AUTHORITIES PRIOR TO ANY TYPE OF SITE PREPARATION OR CONSTRUCTION
- ALL PLANTS TO HAVE THE SAME RELATIONSHIP TO FINISH GRADE AFTER SETTLEMENT AS TO THEIR ORIGINAL GRADE BEFORE DIGGING. LOCATE PLANT COLLAR TWO OR THREE INCHES HIGHER THAN PLANTING SOIL MIX TO INSURE CORRECT FINAL RELATIONSHIP.
- APPLY AN APPROVED ANTI-DESSICANT TO ALL PLANTS IN LEAF AT PLANTING TIME, AND TO ALL EVERGREENS BEFORE THEIR FIRST WINTER.
- FLOOD ALL PLANTS WITH CLEAN WATER TWICE IN THE FIRST 24 HOURS AFTER PLANTING. CONTRACTOR TO ARRANGE FOR ALL PLANTS TO BE PLANTED WITHIN THREE DAYS AFTER DELIVERY TO THE SITE UNLESS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT.
- NEVER CUT A LEADER.
- TRIM ONLY BROKEN OR DEAD BRANCHES FROM EVERGREEN PLANTS.
- THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIAL AND LANDSCAPE IN SUFFICIENT QUANTITIES TO COMPLETE PLANTING AS SHOWN ON THE DRAWINGS. DRAWING QUANTITIES TAKE PRECEDENCE OVER PLANT LIST QUANTITIES.
- ALL PLANT MATERIAL SHALL CONFORM TO THE GUIDELINES BY "THE AMERICAN STANDARD FOR NURSERY STOCK," PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSEYMEN, INC.
- ALL TREES SHALL HAVE "BEST FACE" SIDE TAGGED AT NURSERY PRIOR TO DIGGING.
- ALL PLANTS SHALL BE BALLED AND BURLAPPED OR CONTAINER GROWN, UNLESS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT.
- CONTRACTOR TO STAKE TREE LOCATIONS FOR APPROVAL BY LANDSCAPE ARCHITECT.
- LANDSCAPE ARCHITECT TO APPROVE IN PLACE ALL SHRUBS, PERENNIALS AND VINES PRIOR TO PLANTING.
- ALL TREES TO RECEIVE A MINIMUM OF THREE INCHES OF MULCH. ALL SHRUBS, VINES AND GROUND COVERS TO RECEIVE A MINIMUM OF TWO INCHES OF MULCH.
- WHERE SPECIFIED, CALIPER SIZE TO BE OVERRIDING FACTOR IN TREE SELECTION.
- STAKE OR GUY ALL TREES AND LARGE EVERGREEN MATERIAL.
- CONTRACTOR TO PROVIDE TWO YEAR GUARANTEE ON ALL MATERIAL. CONTRACTOR TO MAINTAIN ALL PLANTING AND LAWNS UNTIL FINAL PROJECT ACCEPTANCE. GUARANTEE PERIOD TO BEGIN AT FINAL ACCEPTANCE.
- ALL PLANT MATERIAL SHALL BE INSTALLED PRIOR TO FINAL TOP-DRESSING AND SODDING/SEEDING.
- COORDINATE LANDSCAPE INSTALLATION WITH INSTALLATION OF UNDERGROUND SPRINKLER SYSTEM & LANDSCAPE LIGHTING (IF APPLICABLE).
- NO PLANTING BEFORE THE ACCEPTANCE OF ROUGH GRADING.
- CONTRACTOR TO PROVIDE SOIL TESTS IN AREAS DESIGNATED BY LANDSCAPE ARCHITECT IN FIELD FOR EXISTING SOILS TO DETERMINE APPROPRIATE SOIL AMENDMENTS PRIOR TO THE DISTURBANCE OF SITE.
- ALL PLANTING BEDS TO BE TREATED WITH PREEN AND GREEN OR APPROVED EQUAL TO PROHIBIT WEED GERMINATION AND GROWTH PRIOR TO THE SPREADING OF MULCH.
- ALL PERENNIALS ARE TO BE PLANTED INTO DAMP SOIL.
- PLANT LIST: A COMPLETE LIST OF PLANTS INCLUDING A SCHEDULE OF QUANTITIES, SIZES, TYPES AND NAMES IS INCLUDED IN THIS SET OF DRAWINGS. IN THE EVENT OF DISCREPANCIES BETWEEN QUANTITIES OF PLANTS IN THE PLANT LIST AND THE QUANTITIES SHOWN ON THE DRAWINGS, THE PLAN SHALL GOVERN. WHEN MULTIPLE PLANT SPECIES ARE LISTED IN ONE PLANT CATEGORY, THE GOAL IS TO PROVIDE THE BEST PLANTS AVAILABLE AT THE TIME OF INSTALLATION. THE LANDSCAPE ARCHITECT SHALL SELECT OR COORDINATE THE SELECTION OF THE APPROPRIATE PLANTS AT LOCAL NURSERIES. GRADY CONSULTING HAS THE RIGHT TO REJECT ANY PLANT THAT DOES NOT MEET THE SPECIFICATIONS LISTED IN THE PLANT TABLE.
- PLANT SUBSTITUTION ARE NOT ALLOWED UNLESS APPROVED BY LANDSCAPE ARCHITECT.
- ALL DISTURBED AREAS TO BE LOAMED AND SEEDED AND BLENDED INTO EXISTING GRADE AND CONDITIONS (REFER TO ENGINEER'S SOIL STABILIZATION AND EROSION CONTROL PLAN FOR FURTHER INFORMATION).
- CONTRACTOR SHALL (IF APPLICABLE) REVIEW WITH CLIENT ALL IRRIGATION PROCEDURES AND PROCESSES (i.e. TIMERS, ZONES AND ALL OTHER ITEMS INVOLVED W/ THE IRRIGATION SYSTEM).



JUTE MESH SLOPE  
1" = 1'-0" 312508-01

XGRASS | INNOVATIVE TURF SOLUTIONS

## XGRASS PRIME

### SPECIFICATIONS:

|                                                                                       |
|---------------------------------------------------------------------------------------|
| Face Weight: 53 oz                                                                    |
| Pile Height: 1.5"                                                                     |
| Color: Summer Blend                                                                   |
| Thatch: Green                                                                         |
| Secondary Backing: Duraflo, 10.0 oz/yd <sup>2</sup>                                   |
| Fiber Type: Omega 5, 100% Polyethylene                                                |
| Fiber Mass: 10800 Denier, 7300 Denier Thatch                                          |
| Tufting Gauge: 1/4"                                                                   |
| Primary Backing: 2.1 oz/yd <sup>2</sup><br>Stabilized Multi-Layer Woven Polypropylene |
| Non Woven Scrim: 2.7 oz/yd <sup>2</sup>                                               |
| Total Weight: 72.7 oz/yd <sup>2</sup>                                                 |

\* Specifications provided above are listed measurements. Final measurements can change during building process. Thatch height may vary based on lot. XGrass is not responsible for typing errors on specifications listed above.



BACKING: DURAFO



RECYCLABLE COMPONENTS



HEAT BLOCK  
With Heat Block color options, our turf is cooler than the competitors' artificial grass systems.



SHINE BLOCK  
Shine Block shade profiles reduce the reflective quality of the fiber allowing our grass to appear more like a healthy, well-maintained, natural lawn.

TECHLIGHT  
High Lumen Output  
Scimitar LED Area Light  
LSMT SERIES

ORDERING INFORMATION  
Example: LSMTXSTW1H-BZ

LSMT Series  
LSMT Series  
LSMT Series

LSMT Scimitar High Lumen Output Area Light  
LUMINAIRE CHARACTERISTICS

| Model     | Series | Color | Beam Angle | Beam Diameter | Beam Length | Beam Width | Beam Height | Beam Depth | Beam Weight | Beam Price |
|-----------|--------|-------|------------|---------------|-------------|------------|-------------|------------|-------------|------------|
| LSMT1000  | 1000   | White | 120°       | 10.0"         | 10.0"       | 10.0"      | 10.0"       | 10.0"      | 10.0"       | 10.0"      |
| LSMT1500  | 1500   | White | 120°       | 15.0"         | 15.0"       | 15.0"      | 15.0"       | 15.0"      | 15.0"       | 15.0"      |
| LSMT2000  | 2000   | White | 120°       | 20.0"         | 20.0"       | 20.0"      | 20.0"       | 20.0"      | 20.0"       | 20.0"      |
| LSMT2500  | 2500   | White | 120°       | 25.0"         | 25.0"       | 25.0"      | 25.0"       | 25.0"      | 25.0"       | 25.0"      |
| LSMT3000  | 3000   | White | 120°       | 30.0"         | 30.0"       | 30.0"      | 30.0"       | 30.0"      | 30.0"       | 30.0"      |
| LSMT3500  | 3500   | White | 120°       | 35.0"         | 35.0"       | 35.0"      | 35.0"       | 35.0"      | 35.0"       | 35.0"      |
| LSMT4000  | 4000   | White | 120°       | 40.0"         | 40.0"       | 40.0"      | 40.0"       | 40.0"      | 40.0"       | 40.0"      |
| LSMT4500  | 4500   | White | 120°       | 45.0"         | 45.0"       | 45.0"      | 45.0"       | 45.0"      | 45.0"       | 45.0"      |
| LSMT5000  | 5000   | White | 120°       | 50.0"         | 50.0"       | 50.0"      | 50.0"       | 50.0"      | 50.0"       | 50.0"      |
| LSMT5500  | 5500   | White | 120°       | 55.0"         | 55.0"       | 55.0"      | 55.0"       | 55.0"      | 55.0"       | 55.0"      |
| LSMT6000  | 6000   | White | 120°       | 60.0"         | 60.0"       | 60.0"      | 60.0"       | 60.0"      | 60.0"       | 60.0"      |
| LSMT6500  | 6500   | White | 120°       | 65.0"         | 65.0"       | 65.0"      | 65.0"       | 65.0"      | 65.0"       | 65.0"      |
| LSMT7000  | 7000   | White | 120°       | 70.0"         | 70.0"       | 70.0"      | 70.0"       | 70.0"      | 70.0"       | 70.0"      |
| LSMT7500  | 7500   | White | 120°       | 75.0"         | 75.0"       | 75.0"      | 75.0"       | 75.0"      | 75.0"       | 75.0"      |
| LSMT8000  | 8000   | White | 120°       | 80.0"         | 80.0"       | 80.0"      | 80.0"       | 80.0"      | 80.0"       | 80.0"      |
| LSMT8500  | 8500   | White | 120°       | 85.0"         | 85.0"       | 85.0"      | 85.0"       | 85.0"      | 85.0"       | 85.0"      |
| LSMT9000  | 9000   | White | 120°       | 90.0"         | 90.0"       | 90.0"      | 90.0"       | 90.0"      | 90.0"       | 90.0"      |
| LSMT9500  | 9500   | White | 120°       | 95.0"         | 95.0"       | 95.0"      | 95.0"       | 95.0"      | 95.0"       | 95.0"      |
| LSMT10000 | 10000  | White | 120°       | 100.0"        | 100.0"      | 100.0"     | 100.0"      | 100.0"     | 100.0"      | 100.0"     |

WJM SQUARE STRAIGHT ALUMINUM (SA)  
POLE SHAFT  
BASE PLATE  
ANCHOR BOLT  
HANDHOLE  
FINISH

| Luminaire Schedule |     |       |             |             |       |                                                        |
|--------------------|-----|-------|-------------|-------------|-------|--------------------------------------------------------|
| Symbol             | Qty | Label | Lumens/Lamp | Arrangement | LLF   | Description                                            |
| 1                  | 3   | A     | N.A.        | SINGLE      | 0.900 | LSMT-1-N-X-T4-F-ONE BRICK TYPE 4 1400MA LED            |
| 2                  | 2   | B     | N.A.        | SINGLE      | 0.900 | LHMWP-1-N-M-T3-D-ONE BRICK TYPE 3 1050MA LED WALL PACK |

| Calculation Summary |             |       |      |     |     |         |         |
|---------------------|-------------|-------|------|-----|-----|---------|---------|
| Label               | CalcType    | Units | Avg  | Max | Min | Avg/Min | Max/Min |
| SITE                | ILLUMINANCE | Fc    | 0.68 | 4.5 | 0.0 | N.A.    | N.A.    |
| PARKING AND DRIVE   | ILLUMINANCE | Fc    | 1.75 | 4.5 | 0.8 | 2.19    | 5.63    |

| Luminaire Location Summary |       |                    |      |
|----------------------------|-------|--------------------|------|
| LumNo                      | Label | Z—luminaire height | Tilt |
| 1                          | A     | 27.5               | 0    |
| 2                          | A     | 27.5               | 0    |
| 3                          | A     | 27.5               | 0    |
| 4                          | B     | 18                 | 0    |
| 5                          | B     | 18                 | 0    |

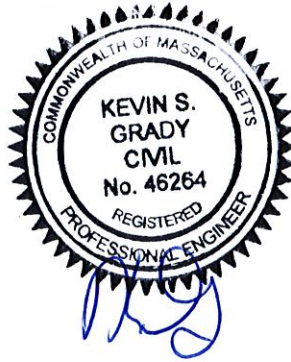
- Notes:  
1. Calculation at grade.  
2. Based on 25' poles plus 2.5' AFG bases.  
Building mnt 18' AFG.

ROCKLAND PLANNING BOARD  
SITE PLAN APPROVAL

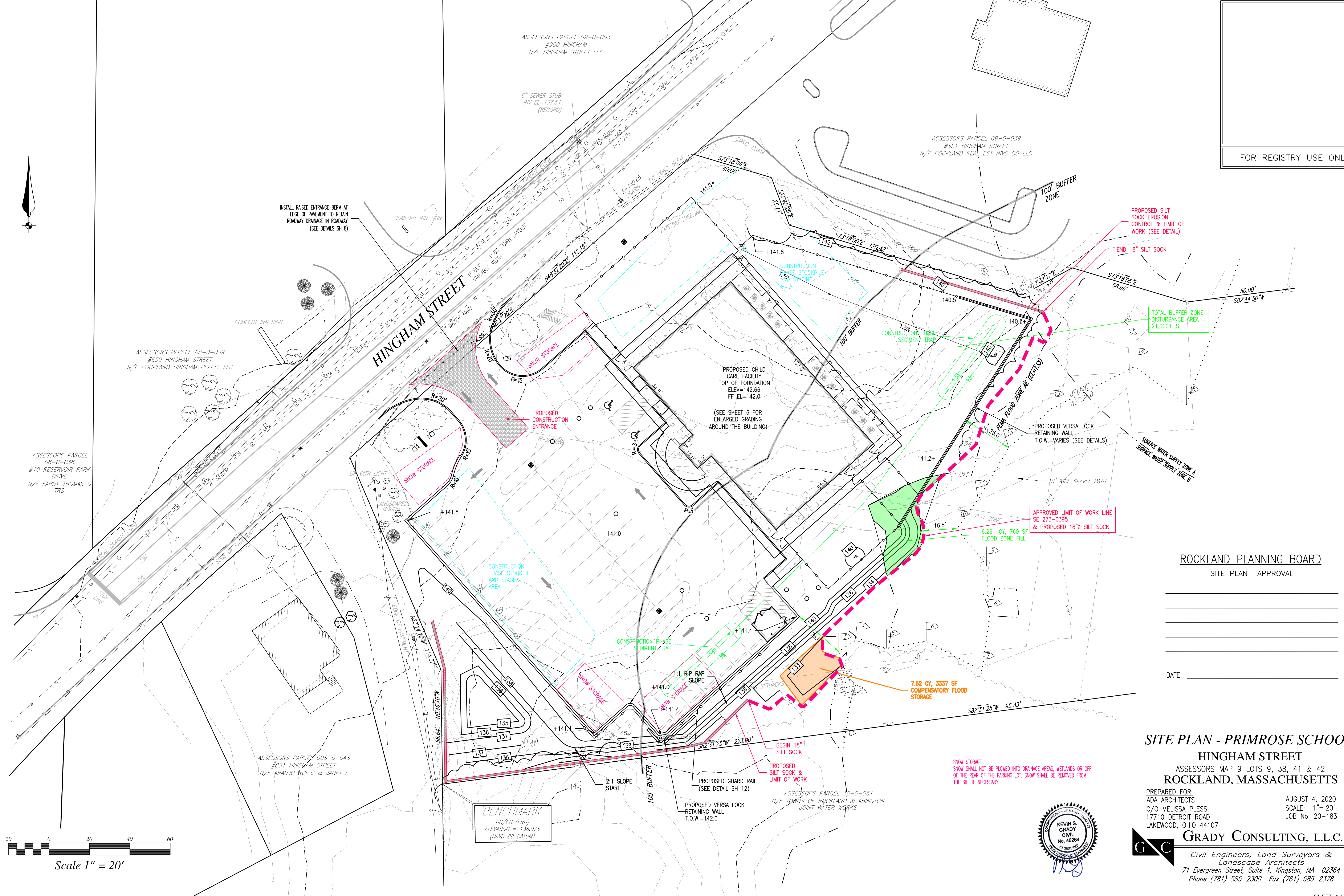
DATE \_\_\_\_\_

SITE PLAN - PRIMROSE SCHOOL  
HINGHAM STREET  
ASSESSORS MAP 9 LOTS 9, 38, 41 & 42  
ROCKLAND, MASSACHUSETTS

PREPARED FOR:  
ADA ARCHITECTS  
C/O MELISSA PLESS  
17710 DETROIT ROAD  
LAKEWOOD, OHIO 44107  
GRADY CONSULTING, L.L.C.  
Civil Engineers, Land Surveyors & Landscape Architects  
71 Evergreen Street, Suite 1, Kingston, MA 02364  
Phone (781) 585-2300 Fax (781) 585-2378



FOR REGISTRY USE ONLY

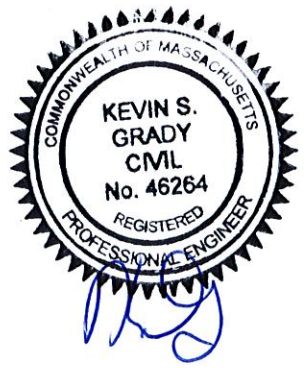


ROCKLAND PLANNING BOARD  
SITE PLAN APPROVAL

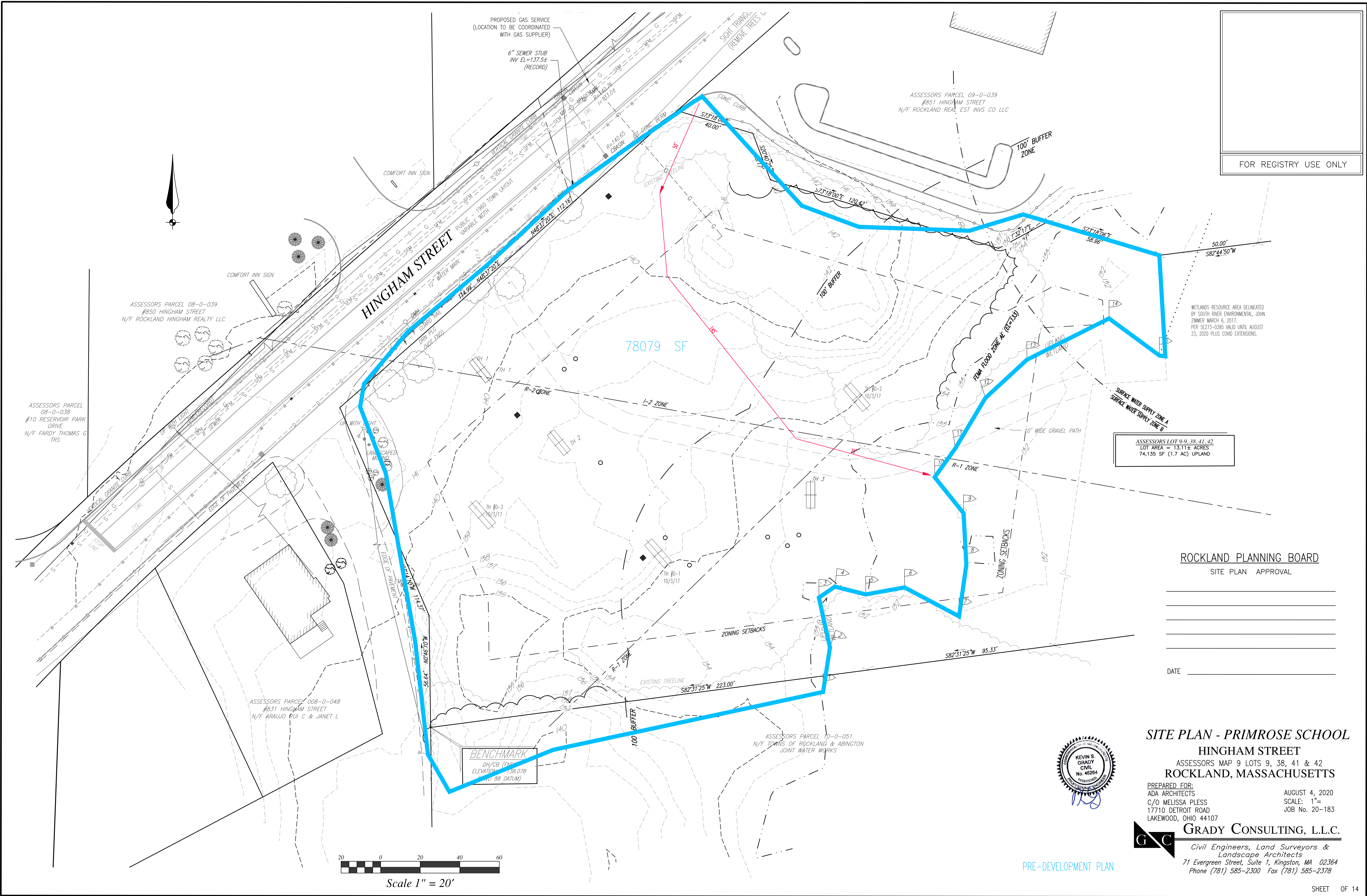
DATE \_\_\_\_\_

**SITE PLAN - PRIMROSE SCHOOL**  
**HINGHAM STREET**  
ASSESSORS MAP 9 LOTS 9, 38, 41 & 42  
**ROCKLAND, MASSACHUSETTS**

PREPARED FOR:  
ADA ARCHITECTS  
C/O MELISSA PLESS  
17710 DETROIT ROAD  
LAKEWOOD, OHIO 44107  
AUGUST 4, 2020  
SCALE: 1" = 20'  
JOB No. 20-183  
**GRADY CONSULTING, L.L.C.**  
Civil Engineers, Land Surveyors &  
Landscape Architects  
81 Evergreen Street, Suite 1, Kingston, MA 02364  
Phone (781) 585-2300 Fax (781) 585-2378



GRADING PLAN



FOR REGISTRY USE ONLY

WETLANDS RESOURCE AREA DELINEATED  
BY SOUTH RIVER ENVIRONMENTAL, JOHN  
ZIMMER MARCH 6, 2017.  
PER SE273-0395 VALID UNTIL AUGUST  
23, 2020 PLUS COVID EXTENSIONS.

ASSESSORS LOT 9-9, 38, 41, 42  
LOT AREA = 13.11 ± ACRES  
74,135 SF (1.7 AC) UPLAND

ROCKLAND PLANNING BOARD  
SITE PLAN APPROVAL

DATE \_\_\_\_\_

**SITE PLAN - PRIMROSE SCHOOL**  
**HINGHAM STREET**  
ASSESSORS MAP 9 LOTS 9, 38, 41 & 42  
**ROCKLAND, MASSACHUSETTS**

PREPARED FOR:  
ADA ARCHITECTS  
C/O MELISSA PLESS  
17710 DETROIT ROAD  
LAKEWOOD, OHIO 44107

AUGUST 4, 2020  
SCALE: 1"=\_\_\_\_\_  
JOB No. 20-183

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Landscape Architects  
71 Evergreen Street, Suite 1, Kingston, MA 02364  
Phone (781) 585-2300 Fax (781) 585-2378

PRE-DEVELOPMENT PLAN

FOR REGISTRY USE ONLY

WETLANDS RESOURCE AREA DELINEATED  
BY SOUTH RIVER ENVIRONMENTAL, JOHN  
ZIMMER MARCH 6, 2017.  
PER SE273-0395 VALID UNTIL AUGUST  
23, 2020 PLUS COVID EXTENSIONS.

ROCKLAND PLANNING BOARD  
SITE PLAN APPROVAL

DATE \_\_\_\_\_

**SITE PLAN - PRIMROSE SCHOOL**  
**HINGHAM STREET**

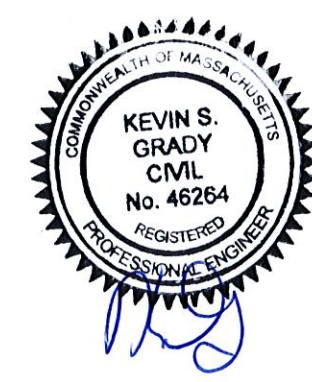
ASSESSORS MAP 9 LOTS 9, 38, 41 & 42  
**ROCKLAND, MASSACHUSETTS**

PREPARED FOR:  
ADA ARCHITECTS  
C/O MELISSA PLESS  
17710 DETROIT ROAD  
LAKEWOOD, OHIO 44107

AUGUST 4, 2020  
SCALE: 1"=\_\_\_\_\_  
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POST-DEVELOPMENT PLAN

