

MEENA LLC

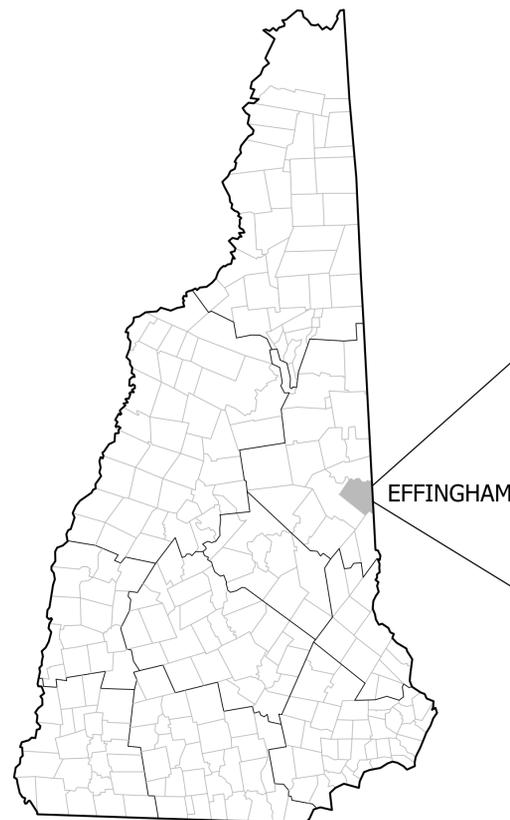
41 ROUTE 25

TAX MAP 401 LOT 5

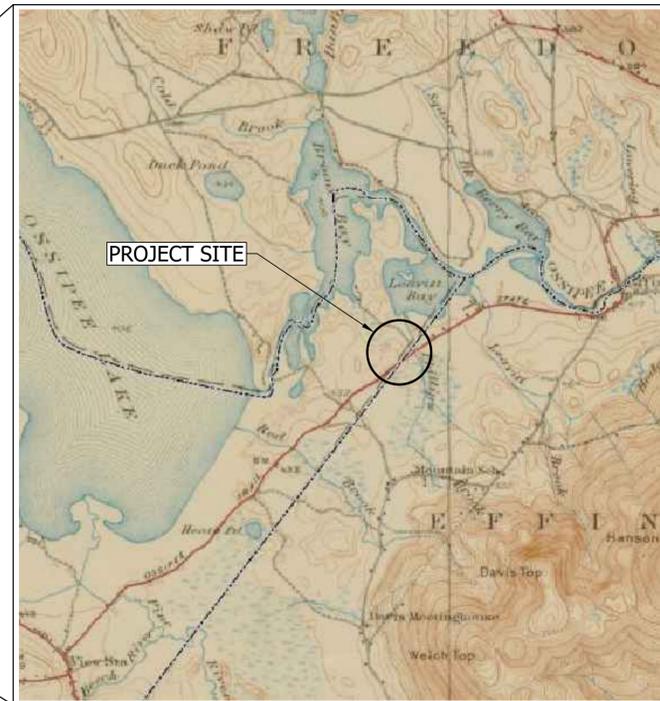
EFFINGHAM, NEW HAMPSHIRE

JULY, 2022

REVISED SEPTEMBER 8, 2022



EFFINGHAM



LOCATION PLAN

OWNER:

MEENA, LLC
41 NH ROUTE 25
EFFINGHAM NH 03882

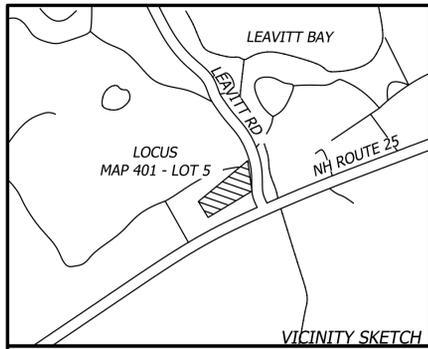
ENGINEER & SURVEYOR:

horizons
Engineering

34 SCHOOL STREET
LITTLETON, NH 03561
(603) 444-4111

NEW HAMPSHIRE
SHEET INDEX:

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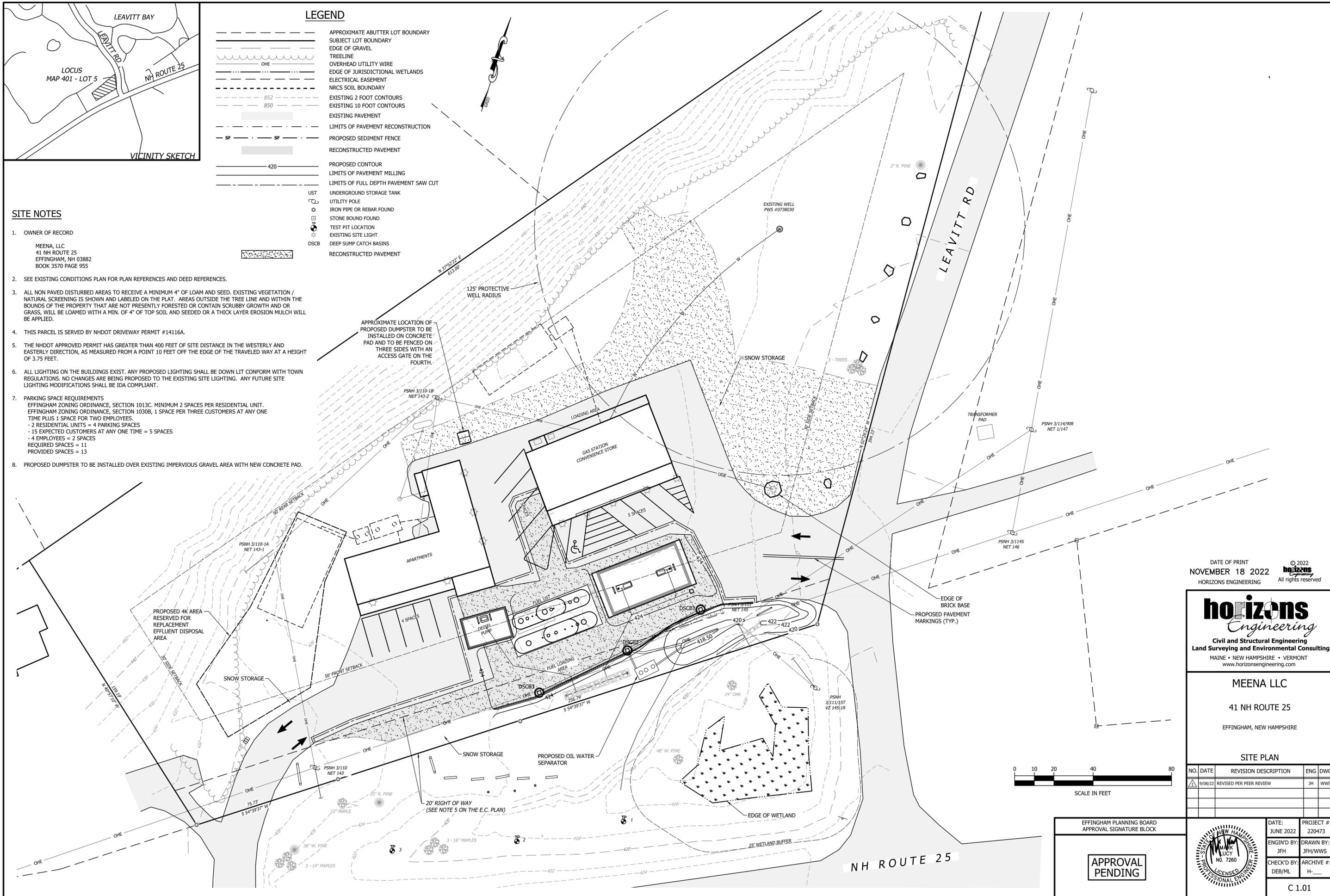


LEGEND

- APPROXIMATE ABUTTER LOT BOUNDARY
- SUBJECT LOT BOUNDARY
- EDGE OF GRAVEL
- TREELINE
- OVERHEAD UTILITY WIRE
- EDGE OF JURISDICTIONAL WETLANDS
- ELECTRICAL EASEMENT
- NRCS SOIL BOUNDARY
- EXISTING 2 FOOT CONTOURS
- EXISTING 10 FOOT CONTOURS
- EXISTING PAVEMENT
- LIMITS OF PAVEMENT RECONSTRUCTION
- PROPOSED SEDIMENT FENCE
- RECONSTRUCTED PAVEMENT
- PROPOSED CONTOUR
- LIMITS OF PAVEMENT MILLING
- LIMITS OF FULL DEPTH PAVEMENT SAW CUT
- UST
- UTILITY POLE
- IRON PIPE OR REBAR FOUND
- STONE BOUND FOUND
- TEST PIT LOCATION
- EXISTING SITE LIGHT
- DEEP SUMP CATCH BASINS
- RECONSTRUCTED PAVEMENT

SITE NOTES

1. OWNER OF RECORD
MEENA, LLC
41 NH ROUTE 25
EFFINGHAM, NH 03882
BOOK 3570 PAGE 955
2. SEE EXISTING CONDITIONS PLAN FOR PLAN REFERENCES AND DEED REFERENCES.
3. ALL NON PAVED DISTURBED AREAS TO RECEIVE A MINIMUM 4" OF LOAM AND SEED. EXISTING VEGETATION / NATURAL SCREENING IS SHOWN AND LABELED ON THE PLAT. AREAS OUTSIDE THE TREE LINE AND WITHIN THE BOUNDS OF THE PROPERTY THAT ARE NOT PRESENTLY FORESTED OR CONTAIN SCRUBBY GROWTH AND OR GRASS, WILL BE LOAMED WITH A MIN. OF 4" OF TOP SOIL AND SEEDED OR A THICK LAYER EROSION MULCH WILL BE APPLIED.
4. THIS PARCEL IS SERVED BY NHDOT DRIVEWAY PERMIT #14116A.
5. THE NHDOT APPROVED PERMIT HAS GREATER THAN 400 FEET OF SITE DISTANCE IN THE WESTERLY AND EASTERLY DIRECTION, AS MEASURED FROM A POINT 10 FEET OFF THE EDGE OF THE TRAVELED WAY AT A HEIGHT OF 3.75 FEET.
6. ALL LIGHTING ON THE BUILDINGS EXIST. ANY PROPOSED LIGHTING SHALL BE DOWN LIT CONFORM WITH TOWN REGULATIONS. NO CHANGES ARE BEING PROPOSED TO THE EXISTING SITE LIGHTING. ANY FUTURE SITE LIGHTING MODIFICATIONS SHALL BE IDA COMPLIANT.
7. PARKING SPACE REQUIREMENTS
EFFINGHAM ZONING ORDINANCE, SECTION 1013C. MINIMUM 2 SPACES PER RESIDENTIAL UNIT.
EFFINGHAM ZONING ORDINANCE, SECTION 1030B, 1 SPACE PER THREE CUSTOMERS AT ANY ONE TIME PLUS 1 SPACE FOR TWO EMPLOYEES.
- 2 RESIDENTIAL UNITS = 4 PARKING SPACES
- 15 EXPECTED CUSTOMERS AT ANY ONE TIME = 5 SPACES
- 4 EMPLOYEES = 2 SPACES
REQUIRED SPACES = 11
PROVIDED SPACES = 13
8. PROPOSED DUMPSTER TO BE INSTALLED OVER EXISTING IMPERVIOUS GRAVEL AREA WITH NEW CONCRETE PAD.



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SITE PLAN

NO.	DATE	REVISION DESCRIPTION	ENG	DWG
1	9/08/22	REVISED PER PEER REVIEW	JH	WWS



EFFINGHAM PLANNING BOARD
APPROVAL SIGNATURE BLOCK
APPROVAL PENDING

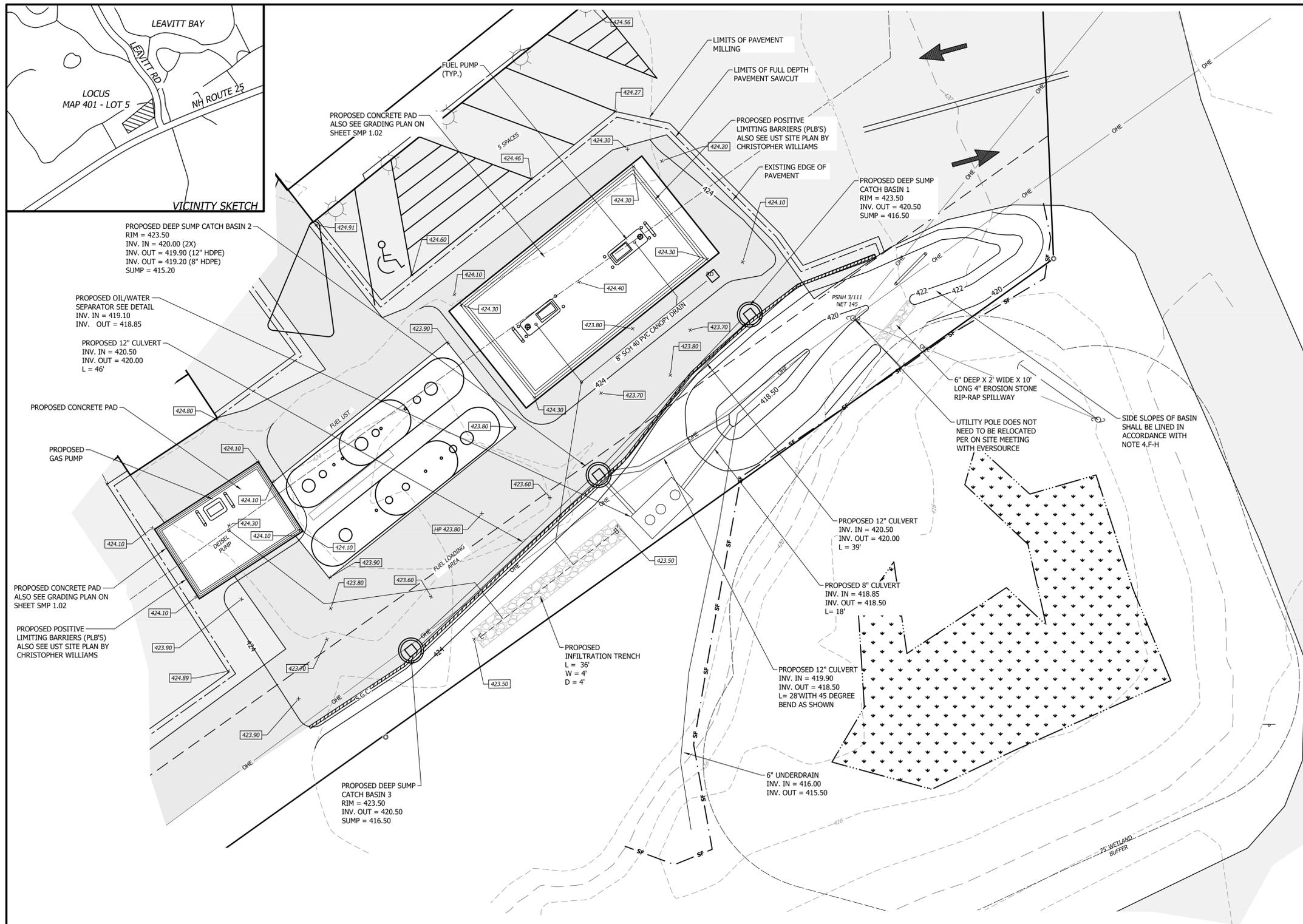


DATE:	JUNE 2022	PROJECT #:	220473
ENGINE'D BY:	JFH	DRAWN BY:	JFH/WWS
CHECK'D BY:	DEB/ML	ARCHIVE #:	H-
C 1.01			

STORMWATER MANAGEMENT GUIDELINES

GENERAL
EXCEPT WHERE MODIFIED HEREIN, ALL CONDITIONS, MEANS, METHODS AND MATERIALS SHALL COMPLY WITH THE NHDOT'S MOST RECENT EDITIONS OF STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION AND AS MAY BE FURTHER SPECIFIED WITHIN THE TOWN'S MOST RECENTLY ADOPTED ROAD OR STREET REGULATIONS.

- (1) CURBING
ALL PROPOSED GRANITE CURBING SHALL BE SLOPED OR VERTICAL FACE CURBING MEETING NEW HAMPSHIRE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, HIGHWAY DESIGN MANUAL, STANDARD CR-1 PLATES 1 THROUGH 4. "BACKFILL MATERIAL" DEPICTED ON PLATE 1 SHALL BE CLASS B CONCRETE PLACED ON VEHICLE SIDE OF CURB.
- (2) PRECAST CONCRETE DRAINAGE STRUCTURES
ALL PROPOSED DRAINAGE STRUCTURES SHALL MEET NEW HAMPSHIRE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DIVISION 600, SECTION 604.
- (3) CULVERTS AND STORM DRAINS
ALL PROPOSED PIPING SHALL BE AS INDICATED IN PLAN VIEW:
A. CORRUGATED EXTERIOR, SMOOTH WALL INTERIOR HDPE PIPE COMPLYING WITH AASHTO M294, TYPE 5.
B. FLARED STEEL END SECTIONS SHALL BE GALVANIZED COMPLYING WITH AASHTO M 36/M 36 AND SHALL BE INSTALLED WHERE STONE RIPRAP OUTLET PROTECTION IS NOT USED.
C. ALL STREET CROSS CULVERTS SHALL HAVE PRECAST CONCRETE, CAST IN PLACE CONCRETE OR MORTARED RUBBLE MASONRY HEADWALLS AT BOTH ENDS OF THE CULVERTS.
- (4) LOAMING AND LOAM AMENDMENTS
A. ALL REMAINING DISTURBED AREAS SHALL HAVE FOUR INCHES OF LOAM INSTALLED. LOAM SHALL BE FRIABLE, FREE OF STUMPS, ROOTS AND OTHER UNSUITABLE MATERIAL AND SHALL NOT BE SPREAD WHEN WET.
B. ALL LOAMED AREAS SHALL BE FERTILIZED AND SEEDED BY HAND, BROADCAST OR HYDROSEED, AS FOLLOWS:
FERTILIZER
C. BEYOND 100 FEET FROM ANY RIVER, STREAM, POND OR LAKE, THE FOLLOWING MAY BE USED:
LIMESTONE AT 100 LBS PER 1000 SF 10-20-20 AT 12 LBS PER 1,000 SF
PERMANENT SEED MIXES
AREAS WITHIN ROAD ROW AND DITCHES AND SWALES: NHDOT SLOPE SEED TYPE 44 AT 80 LBS PER ACRE
AREAS OUTSIDE OF THE ROAD WORK: NHDOT PARK SEED TYPE 15 AT 120 LBS PER ACRE
TEMPORARY SEED MIX
SPRING PLANTING (BEFORE MAY 15): OATS AT 34 LBS PER ACRE OR ANNUAL RYEGRASS AT 16 LBS. PER ACRE
FALL PLANTING (AFTER AUGUST 15): WINTER RYE AT 45 LBS. PER ACRE OR ANNUAL RYEGRASS AT 16 LBS. PER ACRE
D. MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING UNLESS HYDROSEEDING IS USED THAT INCLUDES A MULCH AND TACKIFIER. HYDROSEEDING NOTWITHSTANDING, MULCH SHALL CONSIST OF DRY STRAW OR SEEDLESS HAY SPREAD BY HAND OR MACHINE AND SHALL EITHER CONTAIN A TACKIFIER OR HAVE A TACKIFIER APPLIED.
E. DRAINAGE BASINS' AND CUT/FILL SLOPES STEEPER THAN 3:1 SHALL BE TREATED WITH EROSION CONTROL BLANKET PER MANUFACTURERS' SPECIFICATIONS FOLLOWING THE LOAMING AND LOAM AMENDMENTS' APPLICATION. EROSION CONTROL BLANKET SHALL BE EQUIVALENT TO GEOCOIR DEKOWE 400. THESE AREAS NEED NOT BE MULCHED.
F. SLOPES SHOWN STEEPER THAN 2:1, IF NOT PROTECTED BY STONE RIPRAPING, SHALL BE PROTECTED WITH JUTE EROSION CONTROL BLANKET INSTALLED PER MANUFACTURER'S SPECIFICATIONS FOLLOWING THE LOAMING AND LOAM AMENDMENTS' APPLICATION. JUTE EROSION CONTROL BLANKET SHALL BE EQUIVALENT TO GEOCOIR DEKOWE 700. THESE AREAS NEED NOT BE MULCHED.
G. DITCHES' AND SWALES' SIDESLOPES AND INVERTS, IF NOT PROTECTED BY STONE RIPRAPING, SHALL BE PROTECTED WITH JUTE EROSION CONTROL BLANKET INSTALLED PER MANUFACTURER'S SPECIFICATIONS FOLLOWING THE LOAMING AND LOAM AMENDMENTS' APPLICATION. JUTE EROSION CONTROL BLANKET SHALL BE EQUIVALENT TO GEOCOIR DEKOWE 900. THESE AREAS NEED NOT BE MULCHED.
- (5) ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE IS STABILIZED.
- (6) THE GAS STATION IS CONSIDERED A "HIGH LOAD AREA" AND THE FOLLOWING DESIGN METHODS ARE REQUIRED.
1. CANOPIES OVER THE FUELING AREAS
2. POSITIVE LIMITING BARRIERS AROUND THE FUELING ISLAND
3. FUELING ISLANDS HIGHER THAN THE SURROUNDING PAVEMENT.

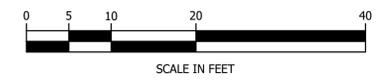


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LEGEND

	852	EXISTING 2 FOOT CONTOURS
	850	EXISTING 10 FOOT CONTOURS
		PROPERTY LINE
		EDGE OF WETLANDS
	SF	PROPOSED SEDIMENT FENCE
	420	PROPOSED CONTOUR
	RD	ROOF DRAIN CLEAN OUT
		PROPOSED CONTOUR



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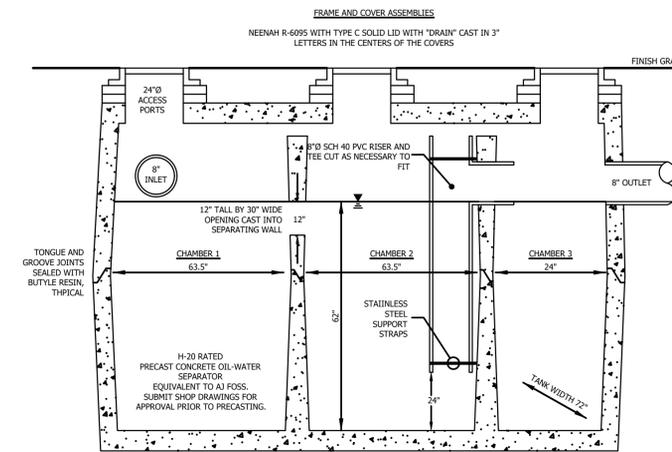
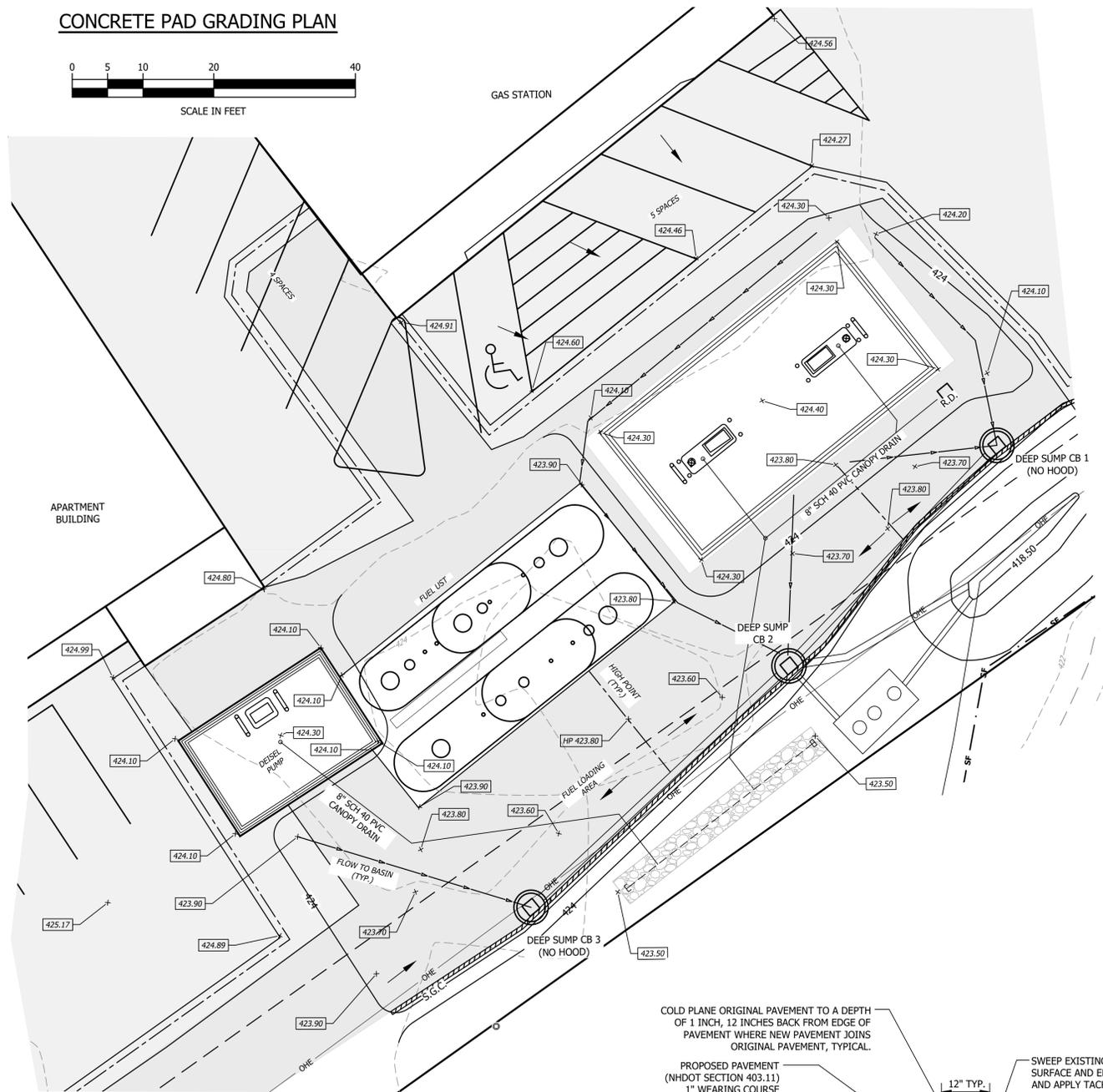
MEENA LLC
41 NH ROUTE 25
EFFINGHAM, NEW HAMPSHIRE

STORMWATER MANAGEMENT PLAN

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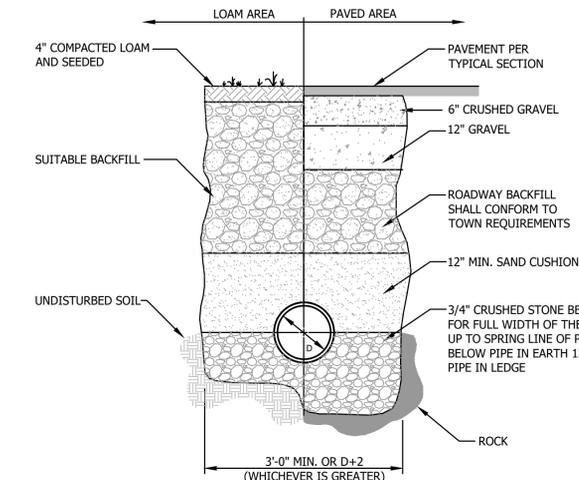
EFFINGHAM PLANNING BOARD APPROVAL SIGNATURE BLOCK		DATE: JUNE 2022	PROJECT #: 220473
APPROVAL PENDING		ENG'D BY: JFH	DRAWN BY: JFH/WWS
		CHECK'D BY: DEB/ML	ARCHIVE #: H-
		SMP 1.01	

CONCRETE PAD GRADING PLAN

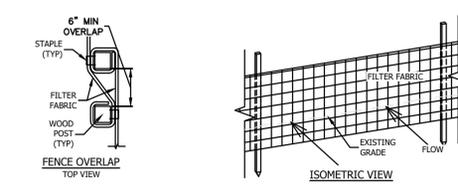


OIL/WATER SEPARATOR DETAIL

NO SCALE
 TANK DIMENSIONS ARE BASED ON THE A3 FOSS 1,500 GALLON H-20 RATED TANK. PER NHDES ADMINISTRATIVE RULE Env-Wq 1508.14(C). THE FIRST AND SECOND CHAMBERS SHALL HAVE A MINIMUM STORAGE VOLUME OF 400 CF/ACRE OF CONTRIBUTING IMPERVIOUS AREA. THIS PROPOSAL: 0.40 ACRES. THEREFORE: (0.40 AC * 400 CF/ACRES) = 160 CF (MINIMUM VOLUME REQUIRED). CHAMBERS 1 AND 2 EACH CONTAIN 90 CF (180 CF TOTAL); CHAMBER 3 CONTAINS 16 CF. UPSTREAM DSCB HAS OUTLETS CONFIGURED TO DIRECT RAIN EVENT "FIRST FLUSH" TO THE O/W SEPARATOR.

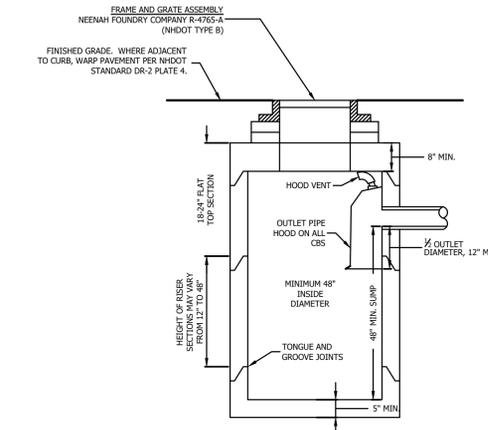


TYPICAL STORM DRAIN TRENCH DETAIL



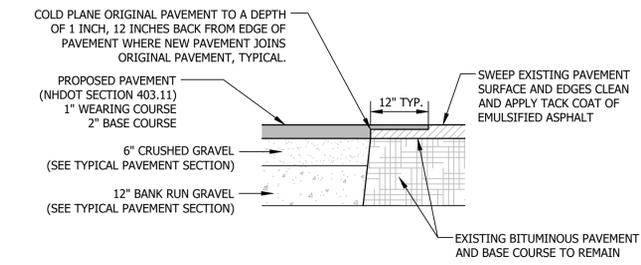
SILT FENCE DETAIL

- INSTALL AROUND STOCKPILED MATERIALS AND THROUGHOUT THE SITE USING BEST MANAGEMENT PRACTICES**
- A. FILTER FABRIC AND POSTS**
1. FILTER FABRIC SHALL BE A PERMEABLE SHEET OF PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN CERTIFIED TO CONTAIN ULTRAVIOLET RAY INHIBITORS/STABILIZERS WITH A MINIMUM 6 MONTHS USABLE CONSTRUCTION BETWEEN TEMPERATURES OF 0 TO 120° F.
 2. FILTER FABRIC SHALL BE PURCHASED IN A ROLL AND CUT TO THE LENGTH OF THE BARRIER.
 3. FILTER FABRIC SHALL BE PURCHASED IN A ROLL AND CUT TO THE LENGTH OF THE BARRIER.
 4. ALTERNATIVELY, A MANUFACTURED SYSTEM WITH INTEGRAL POSTS SPACED AT 6 FEET MAX MAY BE USED WITH SUPPORT POSTS SIZED AND ANCHORED PER MANUFACTURER'S INSTRUCTIONS.
- B. INSTALLATION**
1. FENCES SHALL BE INSTALLED FOLLOWING THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE. FLARED UPHILL WITH J-HOOKS AT THE ENDS.
 2. EXCAVATE A TRENCH A MINIMUM OF 4 INCHES WIDE AND 4 INCHES DEEP UPSLOPE OF POSTS AND BARRIER. EMBED A MINIMUM OF 8 INCHES OF FILTER FABRIC IN TRENCH AND BACKFILL OVER THE FILTER FABRIC. ALTERNATIVELY, INSTALL WITH SPECIFICALLY DESIGNED MECHANICAL EQUIPMENT.
 3. IF UNABLE TO TRENCH, ANCHOR THE BASE OF THE FABRIC WITH 3/4-INCH CRUSHED STONE, MINIMUM 8 INCHES THICK. FILTER FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE EXISTING GRADE.
 4. PLACE POSTS DOWNSLOPE OF THE FABRIC SPACED 6 FEET APART MAX. DO NOT STAPLE OR NAIL TO TREES.
 5. JOIN SECTIONS BY OVERLAPPING FABRIC (MIN 6 INCHES, 24 INCHES PREFERRED), FOLD AND STAPLE TO A SUPPORT POST. FOR METAL POSTS, WIRE-TIE FABRIC DIRECTLY TO THE POSTS WITH THREE DIAGONAL TIES.
- C. MAINTENANCE**
1. THE USEFUL LIFE OF SILT FENCE IS ONE SEASON. REPLACE PERIODICALLY AS REQUIRED TO MAINTAIN EFFECTIVENESS ON PROJECTS.
 2. INSPECT AND MAINTAIN IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
 3. AT A MINIMUM, REMOVE SEDIMENT WHEN DEPOSITION ACCUMULATES TO HALF THE HEIGHT OF THE FENCE AND REMOVE TO A LOCATION NOT UPSLOPE OF SILT FENCE.
 4. REPAIR SILT FENCE IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION DOWNSLOPE. REPLACE WITH A TEMPORARY CHECK DAM IF UNDERCUTTING OR IMPOUNDING OF LARGE VOLUMES OF WATER OCCURS.
 5. EXTEND SILT FENCE UPHILL OR REPLACE WITH TEMPORARY DIVERSIONS OR SEDIMENT TRAPS IF THERE IS EVIDENCE OF END FLOW.
 6. REPLACE IMMEDIATELY IF DECOMPOSITION OR INEFFECTIVENESS OCCURS PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND IS STILL REQUIRED.
 7. SEDIMENT DEPOSITS TO REMAIN AFTER REMOVAL SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.
 8. REMOVE SILT FENCE ONCE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.

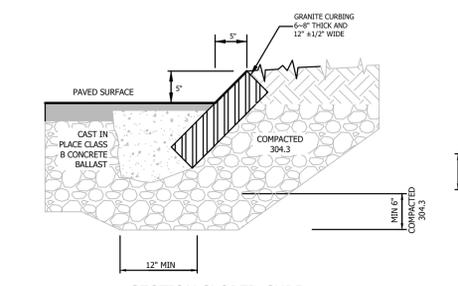


1. ALL PRECAST SECTIONS SHALL BE CONCRETE CLASS A (4000 PSI) H-20 RATED.
2. CIRCUMFERENTIAL REINFORCING SHALL BE 0.12 SQ. IN. PER LIN. FT. IN ALL SECTIONS, AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL 0.12 SQ. IN. PER LIN. FT.
4. RISERS OF 12", 24", 36" AND 48" CAN BE USED TO REACH DESIRED ELEV.
5. WHERE THE DSCB IS PLACED ADJACENT TO CURBING USE ECCENTRIC CONE OR FLAT TOP AND GRADE PAVEMENT PER NHDOT PLATE DR-D-A, D-880-E.
6. OUTLET HOODS EQUIVALENT TO ADS "ELIMINATOR".

DEEP SUMP CATCH BASIN DETAIL



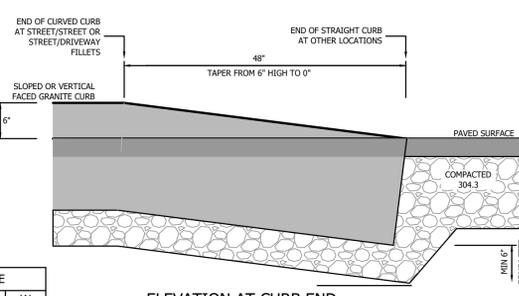
PAVEMENT JOINING DETAIL



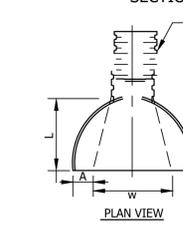
SECTION SLOPED CURB

DIMENSIONS TABLE

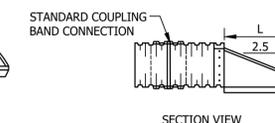
PIPE DIA. (IN.)	A (IN.)	L (IN.)	W (IN.)
12	6	20	24
15	7	26	30
18	8	30	36
24	10	40	48
30	12	50	60
36	14	60	72



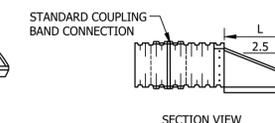
ELEVATION AT CURB END



PLAN VIEW



ELEVATION VIEW

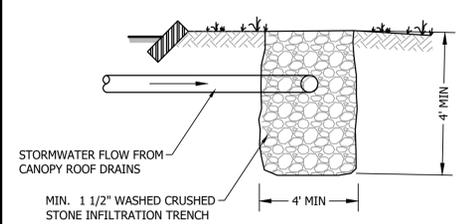


FLARED END SECTION DETAIL

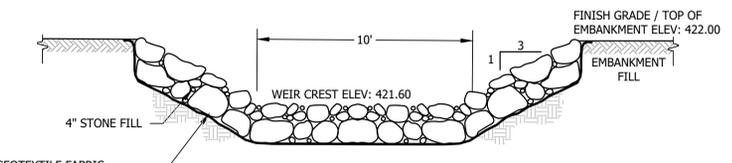
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INFILTRATION TRENCH



SPILLWAY DETAIL

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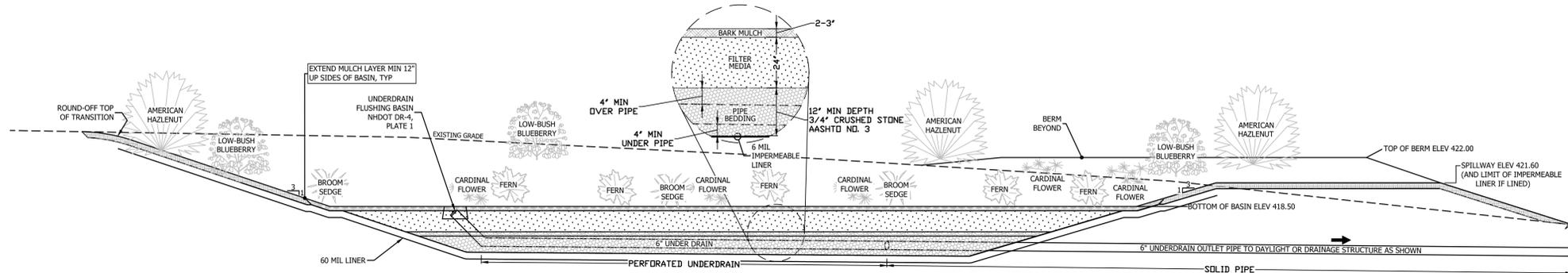
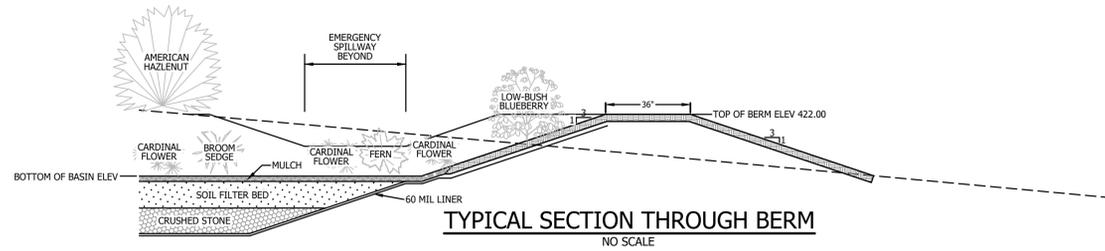
DATE: MAY 2022 PROJECT #: 220473
 ENG'D BY: JFH DRAWN BY: JFH/WWS
 CHECK'D BY: DEB/ML ARCHIVE #: H-____
SMP 1.02

BARK MULCH

- MULCH SHALL CONSIST OF AGED, BUT NOT ROTTED, SOFTWOOD BARK.
- BARK GRADATION SHALL BE AS FOLLOWS:

SIZE	PASSING
1 1/2"	100
1"	95-100
1/2"	95-100
1/4"	65-85
#10	25-55
#40	10-30
#100	0-10
- WHEN TESTED FOR AVAILABLE WATER SOLUBLE BY THE EXTRACT METHOD, VALUES SHALL BE AS FOLLOWS:

SOIL PH	5.0 - 6.0
NITROGEN	0.2 - 0.3 %
PHOSPHORUS	0.05 - 0.15 %
POTASSIUM	0.05 - 0.2 %
SULFUR	0.05 - 0.1 %
MAGNESIUM	0.05 - 0.1 %
CALCIUM	0.3 - 0.5 %
SODIUM	0.01 - 0.02 %
IRON	0.05 - 0.2 %
MANGANESE	0.005 - 0.015 %
COPPER	0.0005 - 0.002 %
ZINC	0.001 - 0.005 %



TYPICAL SECTION THROUGH PONDING AREA

NO SCALE
PLANTINGS SHOWN ARE REPRESENTATIVE ONLY
SEE INDIVIDUAL BIORETENTION BASIN PLAN(S) FOR PLANTINGS

FILTER MEDIA OPTION A

COMPONENT MATERIAL	PERCENT (%) OF MIXTURE BY VOLUME	SIEVE NO.	PERCENT PASSING (%) STANDARD SIEVE
ASTM C-33 CONCRETE SAND	50 TO 55		
LOAMY SAND TOPSOIL, WITH FINES AS INDICATED	20 TO 30	200	15 TO 25
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED	20 TO 30	200	<5

FILTER MEDIA OPTION B

COMPONENT MATERIAL	PERCENT (%) OF MIXTURE BY VOLUME	SIEVE NO.	PERCENT PASSING (%) STANDARD SIEVE
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED	20 TO 30	200	<5
LOAMY COARSE SAND	70 TO 80	10	85 TO 100
		20	70 TO 100
		60	15 TO 40
		200	8 TO 15

FILTER MEDIA DETAIL

NOT TO SCALE

INVASIVE SPECIES CONTROL (BY OWNER)

- MONITOR ALL DISTURBED AND REVEGETATED AREAS REGULARLY FOR ESTABLISHMENT OF INVASIVE SPECIES SUCH AS PURPLE LOOSESTRIFE (LYTHRUM SALICARIA) OR COMMON REED (PHRAGMITES AUSTRALIS).
- REMOVE PURPLE LOOSESTRIFE BY HAND DIGGING AS SOON AS IT IS IDENTIFIABLE. MAKE SURE THAT ALL PIECES OF ROOT TISSUE ARE REMOVED AND DRY OUT THE PLANT MATERIAL THOROUGHLY BEFORE DISPOSAL. WHERE PERMITTED, PLANT MATERIAL SHALL BE BURNED. OTHERWISE, PLACE ALL PLANT MATERIAL IN A CLOSED BLACK PLASTIC BAG IN THE SUN FOR SEVERAL DAYS TO KILL THE PLANT AND SEEDS.
- COMMON REED CAN BE CONTROLLED BY FREQUENT CUTTING AND PULLING OF RHIZOMES DURING THE LATE GROWING SEASON.
- JAPANESE BARBERRY SHALL BE PULLED OUT AT THE EARLIEST OPPORTUNITY. IF MOST OF THE CROWN IS REMOVED, IT DOES NOT RE-GROW.
- IN ALL CASES, THE BEST METHOD OF CONTROL IS TO MAINTAIN HEALTHY GROUND COVER IN ALL AREAS TO MINIMIZE OPPORTUNITY FOR UNWANTED INVASIVE SPECIES TO GAIN A FOOTHOLD.
- WILDFLOWER/MEADOW SEED MIX SHALL NOT CONTAIN ANY INVASIVE SPECIES.

EFFICACY DOCUMENTATION (BY INSTALLER)

- FOLLOWING COMPLETION OF PLANTING AND REVEGETATION ACTIVITIES, MONITOR THE PROJECT AREA ON A WEEKLY BASIS FOR THE FOLLOWING FOUR WEEKS. DOCUMENT THE SUCCESS OF EFFORTS WITH PHOTOGRAPHS AND A WRITTEN DESCRIPTION OF PROGRESS AND ANY MEASURES TAKEN TO ENSURE SUCCESS.
- FOR THE REMAINDER OF THE FIRST GROWING SEASON, MONITOR AND DOCUMENT ON A MONTHLY BASIS.
- OWNER SHALL INSPECT THE AREA AT THE BEGINNING OF THE FOLLOWING GROWING SEASON. CONTRACTOR SHALL REPAIR OR REPLACE ANY VEGETATION DAMAGED OR KILLED DURING THE WINTER SEASON.

BIORETENTION BASIN PLANTINGS

- TREES, SHRUBS AND GROUNDCOVERS USED IN RESTORATION EFFORTS CAN BE SUPPLIED FROM AREAS ON-SITE THAT ARE OUTSIDE OF ANY EXISTING JURISDICTIONAL WETLANDS. ADDITIONALLY, PLANTS AND SEEDS MAY ALSO BE SUPPLIED FROM APPROVED NURSERY STOCK IF ON-SITE VEGETATION IS NOT SUITABLE FOR TRANSPLANTATION.
- TREES TO BE USED SHALL BE 2" TO 3" MINIMUM CALIPER AT 6" ABOVE THE ROOT BALL AND BE TRANSPORTED BALLED AND BURLAPPED. SUITABLE TREE SPECIES SHALL BE OF THE FOLLOWING ALTERNATIVES:
 - EASTERN RED CEDAR (JUNIPERUS VIRGINIANA)
 - SUGAR MAPLE (ACER ACCHARUM)
- SHRUBS TO BE USED SHALL BE 24 INCH TO 36 INCH IN HEIGHT AND BE TRANSPORTED IN 2 GALLON TO 3 GALLON POTS OR BALLED AND BURLAPPED. SUITABLE SHRUB SPECIES SHALL BE OF THE FOLLOWING ALTERNATIVES:
 - AMERICAN HAZLENUT (CORYLIS AMERICANA)
 - LOWBUSH BLUEBERRY (VACCINIUM ANGSTU-FOLIUM)
- GROUNDCOVER TO BE USED SHALL BE IN #1 CONTAINERS OR FLATS. GROUNDCOVER TO BE PLANTED AT RANDOM, WITH A MAXIMUM CENTER-TO-CENTER SPACING OF 60". SUITABLE GROUNDCOVER SPECIES SHALL BE OF THE FOLLOWING ALTERNATIVES:
 - MAIDENHAIR FERN (ADIANTUM PEDATUM)
 - CINNAMON FERN (OSMUNDA CINNAMOMEA)
 - BROOM SEDGE (CAREX SCORPARI)
 - CARDINAL FLOWER (LOBELIA CADINALIS)
- BIORETENTION BASIN SHALL NOT BE PLACED INTO SERVICE UNTIL COMPLETELY PLANTED AND ALL CONTRIBUTING AREAS HAVE BEEN STABILIZED.
- SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (E.G., STORMWATER RUNOFF, WATER FROM EXCAVATION DE-WATERING) SHALL NOT BE ALLOWED TO DISCHARGE INTO THE BIORETENTION BASIN DURING ANY STAGE OF CONSTRUCTION.
- CONSTRUCTION EQUIPMENT SHALL NOT TRAFFIC EXPOSED SOIL SURFACES. WHEREVER PRACTICABLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE OF THE LIMITS OF THE INFILTRATION COMPONENTS OF THE BIORETENTION BASINS.

EROSION CONTROL AND STABILIZATION

- AS NEEDED, INSTALL HAY BALES BARRIERS OR SILT FENCE BETWEEN PLANTING AREAS. BEGIN BY PLANTING VEGETATION AT THE CENTER OF THE BASIN, THEN WORKING OUTWARD FROM THE CENTER OF THE BASIN. REDUCE IMPACT TO GROUNDCOVER BY MANEUVERING CONSTRUCTION EQUIPMENT ONLY THROUGH AREAS YET TO BE PLANTED.
- PLANT ANY DISTURBED SURROUNDING AREAS USING A WILDFLOWER/MEADOW SEED MIXTURE CONTAINING NO INVASIVE SPECIES MIXTURE, MULCHED WITH STRAW.
- INSPECT THE AREA ON A REGULAR BASIS TO ENSURE ADEQUATE WATER SUPPLY UNTIL VEGETATION IS WELL-ESTABLISHED. REPAIR ANY DISTURBED AREAS IMMEDIATELY UPON DISCOVERY.
- ONCE THE AREA IS STABILIZED AND VEGETATION IS DEMONSTRATING VIGOROUS GROWTH, CAREFULLY REMOVE HAY BALES AND/OR SILT FENCE.

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BIORETENTION BASIN DETAILS

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