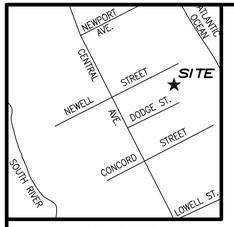


VICINITY MAP
NO SCALE

SOIL TEST DATA

SOIL TESTING AND EVALUATION BY: ROBERT CRAWFORD, P.E.
SOIL TESTING WITNESSED BY: RALPH H. COLE, P.L.S.
DATE: NOVEMBER 24, 2015 @ 11.1' AM HIGH TIDE

TP-1	APPROX. GRADE EL. 10.2	
	A HORIZON SAND & ROOTS 10YR 3/2	5"
EL. 9.8	C HORIZON FINE SAND 2.5Y 5/3	110"
EL. 1.1		

WEEPING OBSERVED: 99"
MOTTLING OBSERVED: NONE
PERC. RATE: <2 MPI @ 32-48"
ESHGW: 99" (EL. 1.95)

TP-2	APPROX. GRADE EL. 8.9	
	A HORIZON SAND & ROOTS 10YR 3/2	4"
EL. 8.6	C HORIZON FINE SAND 2.5Y 5/3	108"
EL. -0.1		

WEEPING OBSERVED: 88"
MOTTLING OBSERVED: NONE
PERC. RATE: NONE
ESHGW: 88" (EL. 1.57)

SOIL TEST DATA

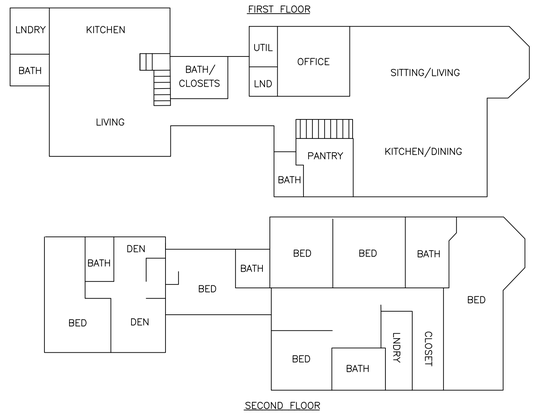
SOIL TESTING AND EVALUATION BY: GREGORY J. MORSE, S.E. #2906
SOIL TESTING WITNESSED BY: RALPH H. COLE, P.L.S.
DATE: MARCH 10, 2021

TP-1A	APPROX. GRADE EL. 11.4	
	FILL/OVERWASH	12"
EL. 10.4	C HORIZON MEDIUM SAND 2.5Y 5/4	98"
EL. 3.2		

WEEPING OBSERVED: NONE
MOTTLING OBSERVED: NONE
PERC. RATE: <2 MPI @ 24-42"
ESHGW: NONE

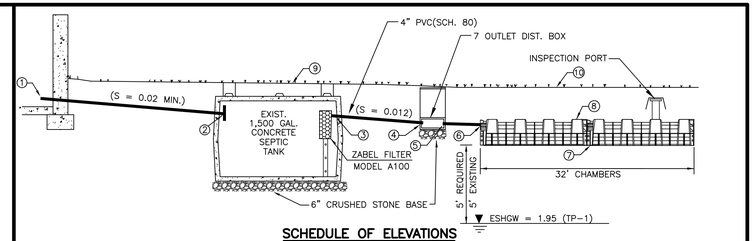
TP-2A	APPROX. GRADE EL. 9.0	
	FILL/OVERWASH	28"
EL. 6.7	C HORIZON MEDIUM SAND 2.5Y 5/4	120"
EL. -1.0		

WEEPING OBSERVED: NONE
MOTTLING OBSERVED: NONE
PERC. RATE: <2 MPI @ 24-42"
ESHGW: NONE



PROPOSED FLOOR PLAN

NOT TO SCALE



SCHEDULE OF ELEVATIONS

1. PIPE INV. AT SLAB = 8.75 MINIMUM (TO CONNECT TO PILE)	6. INV. OF PIPE AT INFILTRATION CHAMBER = 7.55 (MATCH EXISTING)
2. INV. OF PIPE AT SEPTIC TANK INLET = 8.50	7. BOTTOM OF INFILTRATION CHAMBER = 6.95 (MATCH EXISTING)
3. INV. OF PIPE AT SEPTIC TANK OUTLET = 8.25	8. TOP OF CHAMBER (BREAKOUT) = 8.03 (MATCH EXISTING)
4. INV. OF PIPE AT DIST. BOX INLET = 7.88 (MATCH EXISTING)	9. FINISHED GRADE OVER SEPTIC TANK = 10.3 (MIN.) - 12.5 (MAX.)
5. INV. OF PIPE AT DIST. BOX OUTLET = 7.70 (MATCH EXISTING)	10. FINISHED GRADE OVER LEACHING FACILITY = MATCH EXISTING

DIG SAFE
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CALL TOLL FREE
1-888-344-7233
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

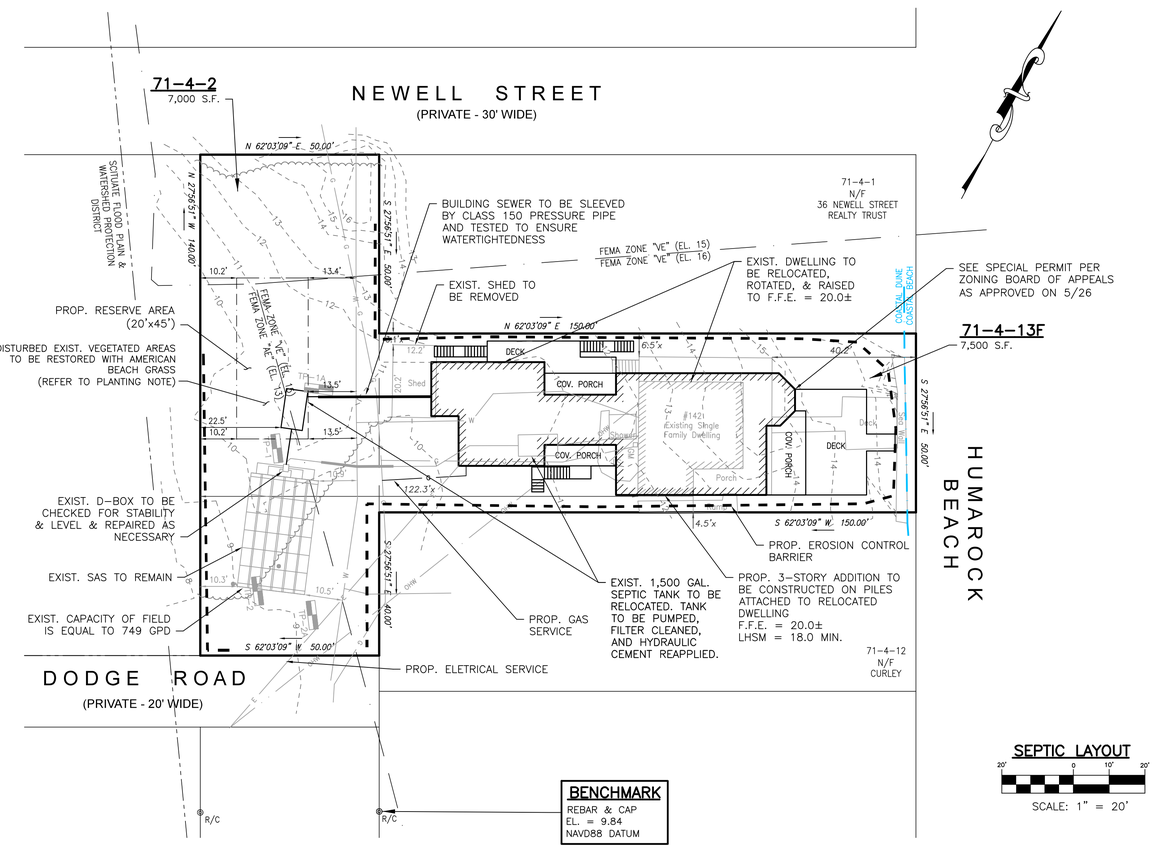
STAKED STRAW WATTLE DETAIL

SCALE: NOT TO SCALE
3' WOODEN STAKE
STAKED 8'-0" O.C.
12" DIA. (MIN.) STRAW WATTLE
3" MIN. 4" MAX.
2" MIN. 5" MAX.
1" MIN.

PLANTING NOTE:

DISTURBED EXISTING VEGETATED AREAS TO BE RESTORED WITH AMERICAN BEACHGRASS AS SPECIFIED BELOW:

- PLANT BY HAND 2 CULMS OF AMERICAN BEACHGRASS PER HOLE. EACH HOLE SHOULD BE DUG TO AT LEAST 8 INCHES DEEP.
- SPACING OF THE HOLES SHOULD BE 18 INCHES ON CENTER.
- COMPACT THE SAND AROUND THE PLANTED CULMS.
- LIGHTLY FERTILIZE THE AREA WITH A SLOW RELEASE NITROGEN FERTILIZER SUCH AS OSMOCOTE.
- PLANTING CAN BE CONDUCTED BETWEEN OCTOBER 15TH AND APRIL 15TH.



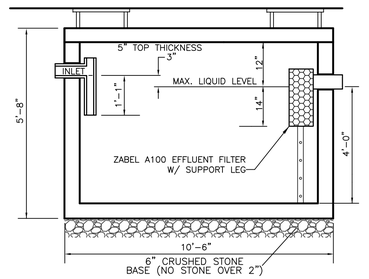
BENCHMARK

REBAR & CAP
EL. = 9.84
NAVD88 DATUM

SEPTIC LAYOUT

20' 0 10' 20'
SCALE: 1" = 20'

EXISTING 1,500 GAL. SEPTIC TANK DETAIL



1. THE SEPTIC TANK INLET & OUTLET COVERS SHALL BE EXTENDED TO FINISHED GRADE & EQUIPPED WITH 20" DIA. CAST IRON FRAME & COVERS.
2. ALL PIPE CONNECTION AND CONSTRUCTION JOINTS SHALL BE SEALED WITH HYDRAULIC CEMENT.
3. SEPTIC TANK SHALL BE INSTALLED ON A LEVEL 6" CRUSHED STONE BASE.
4. EXISTING ZABEL A100 FILTER SHOULD BE CLEANED & INSPECTED. INSTALLER TO PROVIDE NEW NEW ZABEL A100 FILTER IF NECESSARY.

DESIGN DATA

1. BUILDING TYPE: SINGLE FAMILY DWELLING
2. NO. OF BEDROOMS: 4 (EXISTING) 6 (PROPOSED)
3. DESIGN FLOW: 6 x 110 GPD/BEDROOM = 660 GPD (GALLONS PER DAY)
4. DESIGN PERCOLATION RATE: <2 MPI (TP-1 & TP-2A)
5. GARBAGE DISPOSAL: NO
6. SEPTIC TANK DESIGN REQUIREMENT: 200% DESIGN FLOW
   660 X 2 = 1,320 GAL. (RE-USE EXISTING 1,500 GALLON SEPTIC TANK)
7. LEACH AREA REQUIREMENTS GALLONS/SQ. FT.
   BOTTOM: 0.74 GAL./S.F. SIDE: 0.74 GAL./S.F.
8. TOTAL LEACH AREA REQUIRED:
   TITLE 5: 660 GPD / (0.74 GPD/S.F.) = 892 S.F.
   PROVIDED: 6 ROWS OF 6
   EFFECTIVE AREA: (45 CHAMBRES x 5.00'L x 4.80 S.F./L.F.*) = 1,080 S.F.
   CAPACITY = 1,080 S.F. x 0.74 GPD/S.F. = 799.2 GPD
   *EFFECTIVE AREA PER GENERAL USE CERTIFICATION ISSUED BY DEP.

   RESERVE AREA CALCULATIONS
   PERCOLATION RATE: <2 MPI (TP-1 & TP-1A)
   LOADING RATE: 0.74 GAL./S.F.
   REQUIRED AREA: 660 GPD / 0.74 GPD/S.F. = 892
   PROVIDED AREA: 20' x 45' = 900 S.F.

GENERAL NOTES

1. SEPTIC SYSTEM INSTALLATION CONTRACTORS SHALL BE LICENSED BY THE BOARD OF HEALTH AND MUST COMPLY WITH ALL REQUIREMENTS OF THE BOARD OF HEALTH DISPOSAL WORKS CONSTRUCTION PERMIT AND ANY CONDITIONS, IF ISSUED BY THE CONSERVATION COMMISSION.
2. ALL CONSTRUCTION MUST COMPLY WITH TITLE 5 OF THE STATE ENVIRONMENTAL CODE 310 CMR 15 & THE ANY LOCAL BOARD OF HEALTH SUPPLEMENTAL REGULATIONS.
3. THERE SHALL BE NO CHANGES MADE IN THIS PLAN WITHOUT THE WRITTEN PERMISSION OF THE BOARD OF HEALTH AND DESIGN ENGINEER.
4. ANY CHANGE IN SITE CONDITIONS, DISCREPANCIES, ERRORS OR OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF MORSE ENGINEERING PRIOR TO THE COMMENCEMENT OF WORK.
5. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH TITLE 5 (310 CMR 15) AND THE LOCAL BOARD OF HEALTH REQUIREMENTS TO THE FULLEST EXTENT PRACTICABLE. NO GUARANTEE TO THE SYSTEMS PERFORMANCE IS EXPRESSED OR IMPLIED.
6. SOIL TEST DATA SHOWN IS LIMITED TO THE CONDITIONS EXISTING AT THE SUBJECT TEST PIT LOCATION ONLY. IF DIFFERENT SOIL CONDITIONS ARE FOUND IN THE AREA OF THE PROPOSED SOIL ABSORPTION SYSTEM THEY SHALL BE BROUGHT TO THE ATTENTION OF MORSE ENGINEERING IMMEDIATELY.
7. THE CONTRACTOR SHALL NOTIFY DIGSAFE PRIOR TO ANY EXCAVATION AT THE SUBJECT PROPERTY. IT IS SPECIFICALLY CAUTIONED THAT THE SUBSURFACE UTILITIES SHOWN ARE APPROXIMATE ONLY AND HAVE BEEN COMPILED FROM AVAILABLE RECORDS AND OBSERVABLE SITE FEATURES. UTILITIES OTHER THAN THOSE SHOWN MAY BE PRESENT AT THIS LOCATION.
8. THIS PLAN HAS BEEN PREPARED SPECIFICALLY AS A SEPTIC SYSTEM DESIGN AND IS NOT TO BE USED TO ESTABLISH PROPERTY LINES OR BUILDING SETBACKS. PROPERTY LINES AND BUILDING LOCATIONS ARE GRAPHIC ONLY, PROPERTY LINES NOT HAVING BEEN VERIFIED. NO REPRESENTATION OR CERTIFICATION AS TO THE ACCURACY OF THOSE SHOWN IS IMPLIED.

CONSTRUCTION NOTES

1. CONTRACTOR SHALL COORDINATE INSPECTION TIMES WITH THE LOCAL BOARD OF HEALTH AND DESIGN ENGINEER 24-HOURS IN ADVANCE OF THE FOLLOWING INSPECTIONS:
   1. AFTER EXCAVATION OF ALL UNSUITABLE MATERIAL FROM SOIL ABSORPTION AREA.
   2. PRIOR TO COVERING THE CONSTRUCTED SYSTEM.
   3. AFTER SYSTEM BACKFILL AND FINAL GRADING.
2. ALL CONSTRUCTION MUST COMPLY WITH TITLE 5 OF THE STATE ENVIRONMENTAL CODE 310 CMR 15 & THE ANY LOCAL BOARD OF HEALTH SUPPLEMENTAL REGULATIONS.
3. ALL TIGHT-JOINT PLUMBING SHALL BE CONSTRUCTED OF SCH. 40 PVC PIPE WITH CLEANED AND CEMENTED FITTINGS, UNLESS OTHERWISE NOTED.
4. ALL PRECAST/PIPE CONSTRUCTION JOINTS AND FITTINGS SHALL BE MADE WATERTIGHT BY PARGING WITH HYDRAULIC CEMENT.
5. THE CONTRACTOR SHALL PROVIDE A SIEVE ANALYSIS OF THE TITLE 5 PERC SAND UTILIZED FOR FILL TO VERIFY THAT IT MEETS THE REQUIREMENTS OF 310 CMR 15.255(3). TITLE 5 SAND FILL SHALL COMPLY WITH THE FOLLOWING:

SIEVE SIZE	PARTICLE SIZE
#4	4.75 mm
#50	0.30 mm
#100	0.15 mm
#200	0.075 mm

6. THE CONTRACTOR SHALL PREVENT ANY HEAVY CONSTRUCTION MACHINERY AND/OR TRUCKS FROM DRIVING OVER THE PROPOSED SOIL ABSORPTION SYSTEM LOCATION UNTIL FINISHED GRADE IS ESTABLISHED.
7. THE CONTRACTOR SHALL INSTALL MAGNETIC TAPE OVER SYSTEM PIPING & COMPONENTS
8. THE DESIGN ENGINEER SHALL CERTIFY AND PREPARE AN "AS-BUILT" PLAN FOR SUBMITTAL TO THE BOARD OF HEALTH UPON SEPTIC SYSTEM COMPLETION.
9. ALL DISTURBED AREAS SHALL BE RESTORED WITH 4" LOAM & SEED POST CONSTRUCTION.
10. ALL SEPTIC SYSTEM COMPONENTS TO BE STAKED OUT BY PROFESSIONAL LAND SURVEYOR PRIOR TO SYSTEM INSTALLATION.

SITE NOTES

1. LOCUS DOES NOT LIE WITHIN A DEP DESIGNATED ZONE II OR ZONE A RESOURCE AREA.
2. ALL KNOWN WETLANDS WITHIN 100 FEET OF THE PROPOSED SEWAGE SYSTEM ARE SHOWN.
3. PROPERTY LINE DATA WAS OBTAINED FROM RECORDED DEED (46363-306) AND RECORDED PLANS ON FILE AT THE PLYMOUTH COUNTY REGISTRY OF DEEDS.
4. THERE WERE NO ACTIVE/POTABLE WELLS OBSERVED WITHIN 100' OF THE PROPOSED SYSTEM.
5. LOCUS LIES IN FEMA ZONE "VE (16)", "VE (15)", AND "AE (13)" AS SHOWN ON FEMA COMMUNITY MAY PANEL 25021C 0256E DATED NOVEMBER 4, 2016. ZONE "X" IS NOT A SPECIAL FLOOD HAZARD AREA.

INSTALLER TO BE INFILTRATOR CERTIFIED

COMMONWEALTH OF MASSACHUSETTS
JEFFREY M. HASSETT
CIVIL
No. 49293
REGISTERED PROFESSIONAL ENGINEER

PREPARED BY:
MORSE ENGINEERING CO., INC.
10 NEW DRIFTWAY
SUITE 303
SCITUATE, MA 02066
T: 781-545-0895

PROJECT:
142 HUMAROCK BEACH
(ASSESSOR'S PARCELS 71-4-2 & 71-4-13F)
HUMAROCK, MASSACHUSETTS

APPLICANT:
GREGORY P. & LISA M. DECONSILIIS

PLAN TITLE:
SEPTIC & SITE PLAN

DESIGN: PGG
CHECK: GJM
JOB NO: 20-413
DATE: 6/3/2021
REV:
SHEET: 1