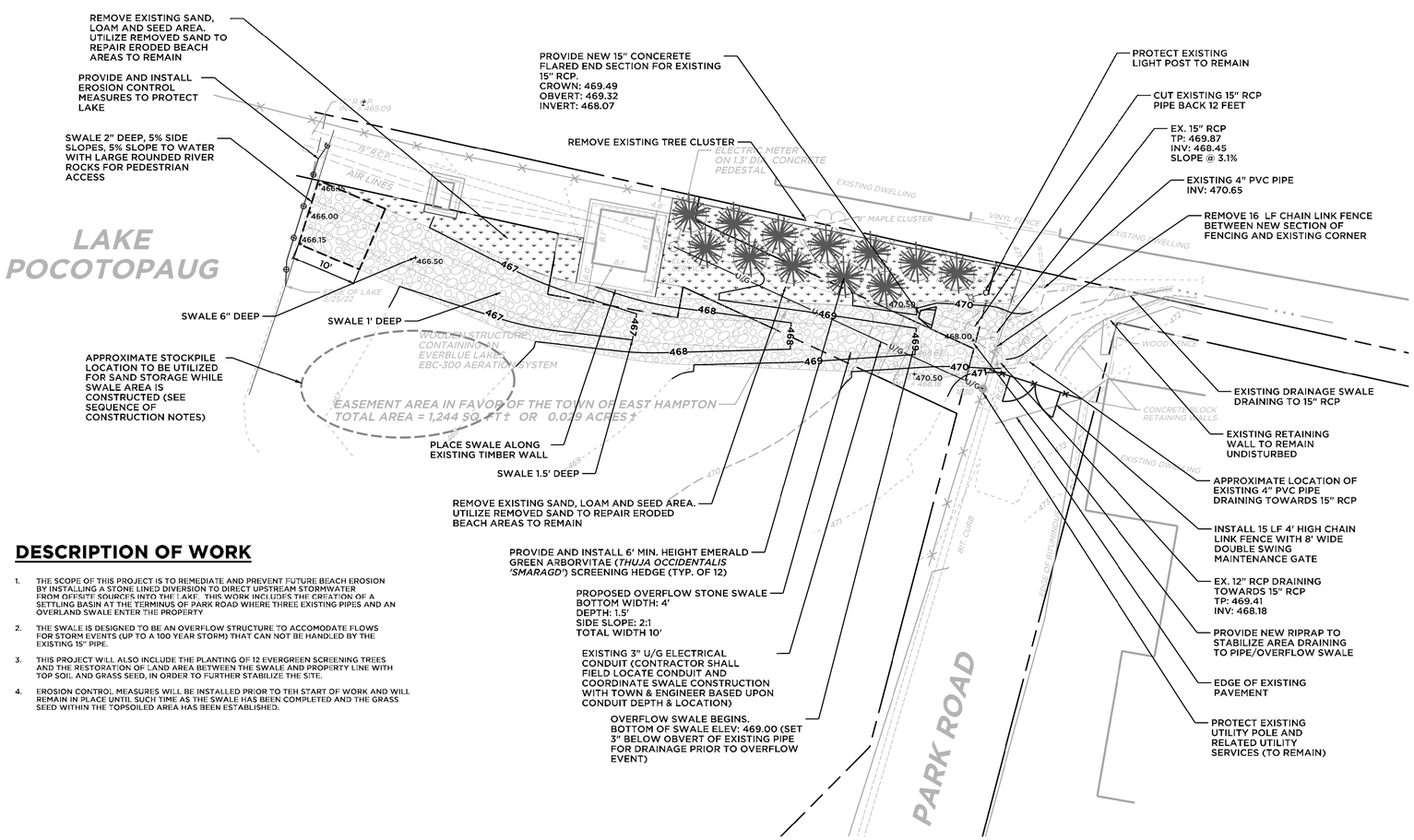
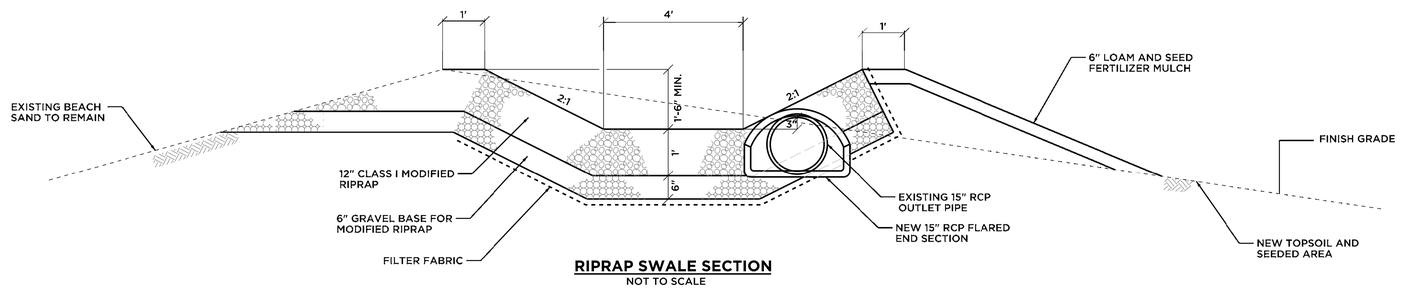


DESCRIPTION OF WORK

1. THE SCOPE OF THIS PROJECT IS TO REMEDIATE AND PREVENT FUTURE BEACH EROSION BY INSTALLING A STONE LINED DIVERSION TO DIRECT UPSTREAM STORMWATER FROM OFFSITE SOURCES INTO THE LAKE. THIS WORK INCLUDES THE CREATION OF A SETTLING BASIN AT THE TERMINUS OF PARK ROAD WHERE THREE EXISTING PIPES AND AN OVERLAND SWALE ENTER THE PROPERTY
2. THE SWALE IS DESIGNED TO BE AN OVERFLOW STRUCTURE TO ACCOMODATE FLOWS FOR STORM EVENTS (UP TO A 100 YEAR STORM) THAT CAN NOT BE HANDLED BY THE EXISTING 15" PIPE.
3. THIS PROJECT WILL ALSO INCLUDE THE PLANTING OF 12 EVERGREEN SCREENING TREES AND THE RESTORATION OF LAND AREA BETWEEN THE SWALE AND PROPERTY LINE WITH TOP SOIL AND GRASS SEED, IN ORDER TO FURTHER STABILIZE THE SITE.
4. EROSION CONTROL MEASURES WILL BE INSTALLED PRIOR TO TEH START OF WORK AND WILL REMAIN IN PLACE UNTIL SUCH TIME AS THE SWALE HAS BEEN COMPLETED AND THE GRASS SEED WITHIN THE TOPSOILED AREA HAS BEEN ESTABLISHED.



RIPRAP SWALE SECTION
NOT TO SCALE

NOTES:

1. ALL CONSTRUCTION ACTIVITIES ARE WITHIN THE 200 FOOT LAKE POCOTOPAUG UPLAND REVIEW AREA.
2. UNDERGROUND UTILITIES, STRUCTURES AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON MUST BE CONSIDERED APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN. THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES.
3. THE CONTRACTOR SHALL CALL "CALL BEFORE YOU DIG" 1-800-922-4455 (OR) #811 AND HAVE ALL UTILITIES MARKED ON THE GROUND PRIOR TO CONSTRUCTION.
4. FIELD SURVEY PERFORMED BY ANCHOR ENGINEERING SERVICES INC. / BARTON AND LOGUIDICE, LLC.

Full Flow Velocity:

StreamStats Report

Region ID:	CT
Workspace ID:	CT20220406185715318000
Clicked Point (Latitude, Longitude):	41.59561, -72.49305
Time:	2022-04-06 14:57:35 -0400

BASED ON A STREAMSTATS REPORT OF THE DRAINAGE AREA CONDUCTED ON 4/6/2022, A 100 YEAR STORM WILL CAUSE A FLOW VELOCITY OF 49 CFS (ROUND UP TO 50 CFS). THIS SWALE WAS DESIGNED FOR SUCH FLOW AS A WORST CASE SENERIO IF THE 15" PIPE IS CLOGGED.

Stable Rock Size

For swale slopes between 2% and 10%: $d_{50} = [q\,(S)^{1.5}/4.75(10)^{-3}]^{1/1.89}$

d_{50} = Particle size for which 50 % of the sample is finer, inch
S = Bed slope, ft/ft
q = Unit discharge, $ft^3/s/ft$
(Total discharge ÷ Bottom width)

Bottom Width = 4ft	Tested with various other bottom widths, this one allowed for the smallest swale area
q = 12.5 cfs/ft	50/4
S = 0.0333 ft/ft	Based on existing slopes of area of proposed swale
d50 = 4.33 in.	

Swale Velocities

$n = 0.047(d_{50} \cdot S)^{0.147}$

d50 = 4.33 in.
S = 0.033 ft/ft
n = 0.035

Depth:

$z = [n(q)/1.486(S)^{0.50}]^{3/5}$
S = Bed slope, (ft/ft)
z = Flow depth, (ft)
q = Unit discharge, $(ft^3/s/ft)$ (Total discharge ÷ Bottom width)
n = Manning's coefficient of roughness (see formula under velocities)

S = 0.033 ft/ft
q = 12.5 cfs/ft
n = 0.035
z = 1.34 ft

SCALE: 1"=10'

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PROJ. ENGINEER	NAN
PROJ. MANAGER	KRG
OFFICE REVIEW	KRG
REVISIONS	
05/25/22	
SCALE:	1"=10'

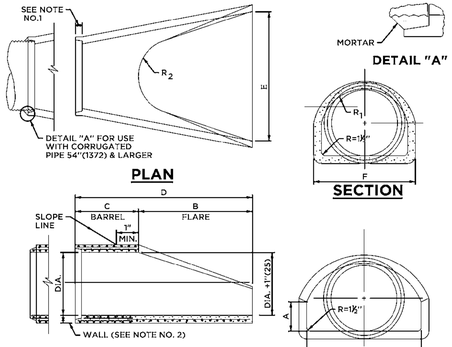
DRAINAGE IMPROVEMENT PROJECT

BROOKHAVEN PARK
TOWN OF EAST HAMPTON

SITE LAYOUT AND GRADING PLAN

PARK ROAD — EAST HAMPTON, CT

PROJECT	DATE	SHEET NO.
3129.017	5/18/22	1 OF 2



NOTES:

1.- JOINTS SHALL BE TONGUE AND GROVE OR BELL AND SPIGOT AS REQUIRED TO CONFORM TO PIPE INSTALLED.
2.- WALL THICKNESS SHALL CONFIRM TO PIPE THICKNESS.

DIMENSIONS FOR REINFORCED CONCRETE CULVERT END									FLARE REINFORCEMENT ONE LAYER ONLY IN CENTER OF WALL	
DIA.	A	B	C	D	E	F	R_1	R_2	MIN. AREA OF LONGITUDINAL STEEL SQ. IN. PER FT.	MIN. AREA OF TRANSVERSE STEEL SQ. IN. PER FT.
12"(305)	4"(102)	2'-0"(610)	4'-0⅞"(1241)	6'-0⅜"(1851)	2'-0"(610)	1'-7⅝"(506)	10¼"(260)	9"(229)	0.048	0.048
15"(381)	6"(152)	2'-3"(686)	3'-10"(1168)	6'-1"(1854)	2'-6"(762)	2'-0¾"(618)	1'-0½"(318)	11"(279)	0.054	0.054
18"(457)	9"(229)	2'-3"(686)	3'-10"(1168)	6'-1"(1854)	3'-0"(914)	2'-5"(737)	1'-3½"(394)	1'-0"(305)	0.060	0.060
21"(533)	9"(229)	2'-11"(889)	3'-2"(965)	6'-1"(1854)	3'-6"(1067)	2'-7½"(800)	1'-4"(406)	1'-1"(330)	0.066	0.066
24"(610)	9½"(241)	3'-7½"(1105)	2'-6"(762)	6'-1½"(1867)	4'-0"(1219)	2'-9⅝"(843)	1'-4⅝"(427)	1'-2"(356)	0.072	0.072
30"(762)	1'-0"(305)	4'-6"(1371)	1'-7½"(502)	6'-1¾"(1873)	5'-0"(1524)	3'-1"(940)	1'-6½"(470)	1'-3"(381)	0.084	0.084
36"(914)	1'-3"(381)	5'-3"(1600)	2'-10½"(883)	8'-1¾"(2483)	6'-0"(1829)	3'-11⅜"(1214)	2'-0⅜"(618)	1'-8"(508)	0.096	0.096
42"(1067)	1'-9"(534)	5'-3"(1600)	2'-11"(889)	8'-2"(2489)	6'-6"(1981)	4'-5½"(1368)	2'-3½"(699)	1'-10"(559)	0.108	0.108
48"(1219)	2'-0"(610)	6'-0"(1829)	2'-2"(660)	8'-2"(2489)	7'-0"(2134)	4'-8½"(1435)	2'-4½"(724)	1'-10"(559)	0.120	0.120
54"(1372)	2'-3"(686)	5'-5"(1651)	2'-11"(889)	8'-4"(2540)	7'-6"(2286)	5'-5½"(1664)	2'-9⅞"(841)	2'-0"(610)	0.132	0.132
60"(1524)	2'-9"(838)	5'-0"(1524)	3'-3"(991)	8'-3"(2515)	8'-0"(2438)	6'-0½"(1842)	3'-0⅞"(932)	2'-0"(610)	0.144	0.144

REINFORCED CONCRETE FLARED END DETAIL

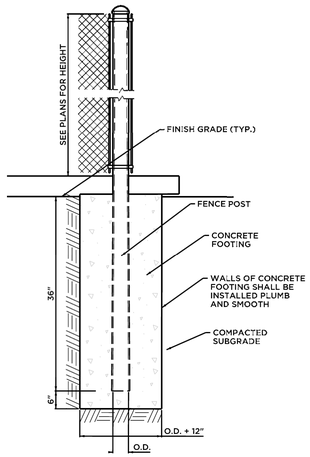
NOT TO SCALE

NOTES:

1. 1 5/8" O.D. TOP RAIL ATTACH TO THE C.L. FABRIC WITH 9 GAUGE WIRE CLIP EVERY 24"
2. 1 5/8" O.D. BRACE RAIL FENCES OVER 6 FEET FEET HIGH AND ALL FENCES WITHOUT TOP RAIL
3. 5/16" TRUSS ROD AND TURNBUCKLE
4. INTERMEDIATE POST
   FENCE HEIGHT SQUARE POST ROUND POST
   6 FEET AND LESS 1 7/8" 2"
   OVER 6 FEET 2 1/4" 2 1/2"
   ATTACH TO C.L. FABRIC WITH CLIPS EVERY 15"
5. END OR CORNER POST
   FENCE HEIGHT SQUARE POST ROUND POST
   6 FEET AND LESS 2" 2 1/2"
   OVER 6 FEET 2 1/2" 3"
6. 6 GAUGE BOTTOM TENSION WIRE ATTACH TO C.L. FABRIC WITH HOG RING AT 24" C.C.
7. TENSION ROD ATTACHED TO END OR CORNER POST
8. CONCRETE FOOTING 36" DEEP WITH 12" DIA. AT END POST AND 10" DIA. AT INTERMEDIATE POST. HOLE CORE IN UNDISTURBED OR COMPACTED SOIL. (SEE FOOTING DESIGN NOTE)
9. 6 GAUGE TENSION WIRE WHEN TOP RAIL IS NOT USED.
10. FABRIC SELVAGE
    UNDER 6 FEET SHALL BE KNUCKLED TOP AND BOTTOM
    6 FEET AND OVER SHALL BE KNUCKLED BOTTOM AND TWISTED ON THE TOP
    RECREATIONAL FENCING, REGARDLESS OF HEIGHT, SHALL BE KNUCKLED TOP AND BOTTOM
11. 11 GAUGE 2" WIRE MESH FABRIC (RESIDENTIAL)
    9 GAUGE 1 3/4" WIRE MESH FABRIC (RESIDENTIAL)
    9 GAUGE 2" WIRE MESH FABRIC (COMMERCIAL)
    OTHER GAUGE AND MESH SIZES AVAILABLE
    VINYL COATED MESH TO BE USED WHERE SHOWN ON PLANS

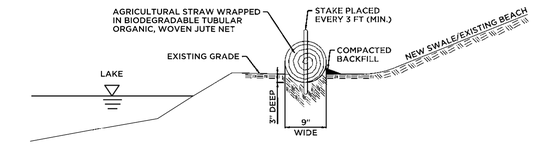
CHAIN LINK FENCE

NOT TO SCALE



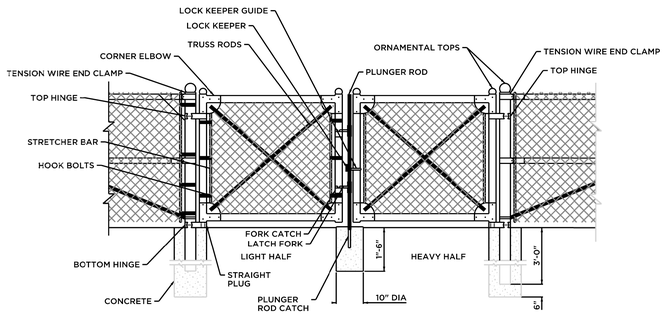
CHAINLINK FENCE & POST DETAIL

NOT TO SCALE



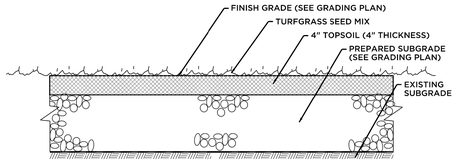
LAKE PROTECTION - FILTRATION ROLL

NOT TO SCALE



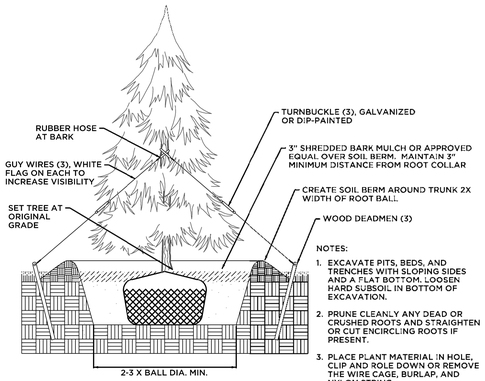
CHAINLINK SWINGING GATE

NOT TO SCALE



TURF ESTABLISHMENT

NOT TO SCALE



NOTES:

1. EXCAVATE PITS, BEDS, AND TRENCHES WITH SLOPING SIDES AND A FLAT BOTTOM. LOOSEN HARD SUBSOIL IN BOTTOM OF EXCAVATION.
2. PRUNE CLEANLY ANY DEAD OR CRUSHED ROOTS AND STRAIGHTEN OR CUT ENCIRCLING ROOTS IF PRESENT.
3. PLACE PLANT MATERIAL IN HOLE, CLIP AND ROLE DOWN OR REMOVE THE WIRE CAGE, BURLAP, AND NYLON STRING.

CONIFEROUS TREE PLANTING

NOT TO SCALE

EROSION & SEDIMENT CONTROL NOTES:

1. CONSTRUCTION WILL COMMENCE IN THE SUMMER OF 2022 AND WILL BE COMPLETED IN THE SUMMER OF 2022, WEATHER PERMITTING.
2. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE TOWN PRIOR TO CONSTRUCTION.
3. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL", DATED 2002, AS AMENDED AND THE TOWN OF EAST HAMPTON REGULATIONS.
4. ALL EROSION CONTROL DEVICES SHALL BE MAINTAINED OR REPLACED BY THE CONTRACTOR DURING THE CONSTRUCTION PERIOD AS NECESSARY OR AS REQUIRED BY THE ENGINEER OR THE TOWN OF EAST HAMPTON.
5. SEDIMENT REMOVED FROM ANY CONTROL STRUCTURES SHALL BE DISPOSED OF IN A MANNER WHICH IS CONSISTENT WITH THE INTENT OF THE PLAN.
6. ADDITIONAL EROSION CONTROL MEASURES WILL BE INSTALLED DURING THE CONSTRUCTION PERIOD IF DEEMED NECESSARY OR REQUIRED BY THE ENGINEER OR THE TOWN OF EAST HAMPTON.
7. THE CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING ALL EROSION AND SEDIMENTATION CONTROL DEVICES AS SHOWN ON THESE PLANS OR AS ORDERED BY THE ENGINEER.
8. ALL DISTURBED AREAS ARE TO BE RAKED, SEEDED AND FERTILIZED PER "TURF ESTABLISHMENT" SPECIFICATION IN CTDOT 818, AT THE COMPLETION OF PROJECT.
9. AREAS TO BE LOAMED AND SEEDED ARE TO RECEIVE A MINIMUM 4" OF TOPSOIL.
10. THE FOLLOWING DATES FOR SEEDING SHALL BE USED:

    SPRING: APRIL 15 TO JUNE 15
    FALL: AUGUST 15 TO SEPTEMBER 15

11. THE FOLLOWING GRASS SEED MIXTURES SHALL BE APPLIED AT A RATE NO LESS THAN 100LBS PER ACRE:

SPECIES	PROPORTION BY WEIGHT (POUNDS)
CREEPING RED FESCUE (FESTUCA REBRA)	50
K-31 TALL FESCUE (FESTUCA ARUNDINACEA VAR. KENTUCKY 31)	20
PERENNEAL RYEGRASS (LOLIUM PERENNE)	25
ALSIKE CLOVER (TRIFOLIUM HYBRIDUM)	5

12. TEMPORARY GRASS SEEDING, IF NECESSARY, SHALL BE PERENNIAL RYE GRASS (LOLIUM PERENNE) APPLIED AT A RATE OF 100 LBS. PER ACRE.

GENERAL CONSTRUCTION NOTES:

1. THE CONTRACTOR IS REQUIRED TO OBTAIN ALL NECESSARY PERMITS REQUIRED BY THE TOWN OF EAST HAMPTON PRIOR TO THE START OF WORK.
2. THE CONTRACTOR SHALL CONFORM TO ALL REQUIREMENTS OF ALL LOCAL AGENCIES OF THE TOWN OF EAST HAMPTON
3. ALL WORK TO BE COMPLETED WITHIN THE BEACH EXTENTS SHALL BE PERFORMED DURING A PERIOD OF DRY WEATHER AND LOW WATER CONDITIONS WITHIN LAKE POCOTOPAUG.
4. THE CONTRACTOR SHALL MONITOR SHORELINE CONDITIONS ADJACENT TO ACTIVE WORK AREAS FOR SOIL EROSION AND SEDIMENTATION AND CONTACT THE TOWN OF EAST HAMPTON IF AREAS OF CONCERN ARE NOTICED.

SEQUENCE OF CONSTRUCTION:

1. COORDINATE AND COMPLETE A PRE-CONSTRUCTION MEETING WITH TOWN OF EAST HAMPTON. RESPONSIBLE PARTIES SHALL BE IDENTIFIED AND EMERGENCY PHONE NUMBERS PROVIDED.
2. INSTALL EROSION CONTROL MEASURES AT LOCATIONS INDICATED ON PLANS AND REMOVE AND STOCKPILE ALL MATERIALS TO BE REUSED, IF APPLICABLE.
3. THE CONTRACTOR SHALL ACCESS THE SITE FROM PARK ROAD.
4. VERIFY LOCATION OF ALL UNDERGROUND UTILITIES AND REMOVE THE EXISTING SAND FROM THE NEW SWALE AND AREAS TO BE LOAMED/SEEDED, AS DEFINED ON THE PLANS. STOCKPILE THE MATERIAL TO BE REUSED WITHIN THE MATERIAL STOCKPILE LOCATION DEPICTED ON THE PLANS.
5. CUT THE EXISTING DRAINAGE PIPE TO THE EXTENTS SHOWN AND INSTALL FLARED END.
6. PREPARE THE SUBGRADE.
7. UPON COMPLETION OF SUBGRADE PREPARATION THE CONTRACTOR SHALL REQUEST APPROVAL FROM THE TOWN OF EAST HAMPTON TO DISPERSE THE STOCKPILED SAND ONTO ANY AREA OF THE BEACH THAT HAS BEEN ERODED AND MAY NEED RESTORATION. ALL STOCKPILED SAND DISPERSED ONTO THE BEACH SHALL BE KEPT ON THE BEACH. SAND SHALL ONLY BE PLACED UP TO THE HIGH WATER LINE AND NOT IN THE WATER.
8. THE CONTRACTOR SHALL NOTIFY THE TOWN OF EAST HAMPTON PRIOR TO THE START OF RIPRAP INSTALLATION FOR THE NEW SWALE WHICH SHALL BE PERFORMED DURING DRY WEATHER CONDITIONS AND DURING A PERIOD OF LOW WATER CONDITIONS.
9. PLANT ALL NEW TREES AND LOAM & SEED AREAS AS DEPICTED ON THE PLANS. TAKE CARE TO MAINTAIN THE LIMITS OF THE EXISTING CHAIN LINK FENCE DURING THE CONSTRUCTION ACTIVITIES WITHIN THIS AREA.
10. INSTALL NEW CHAIN LINK FENCE AND GATE.
11. RESTORE ALL CONSTRUCTION RELATED DISTURBANCES TO THE SITE INCLUDING ALL OTHER ITEMS STOCKPILED DURING CONSTRUCTION.
12. REMOVE EROSION AND SEDIMENTATION CONTROLS WHEN PERMANENT VEGETATIVE COVER IS ESTABLISHED.

J:\3129.04\TASK 87\PLOT.dgn

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05/25/22	

DRAINAGE IMPROVEMENT PROJECT
BROOKHAVEN PARK
TOWN OF EAST HAMPTON
DETAILS
PARK ROAD EAST HAMPTON, CT

SCALE:	PROJECT	DATE	SHEET NO.
NTS	3129.017	5/18/22	2 OF 2