## THIS IS NOT A PAID ADVERTISEMENT

## Public Notice

US Army Corps of Engineers -Philadelphia District Wanamaker Building 100 Penn Square East

Wanamaker Building 100 Penn Square East Philadelphia, PA 19107-3390 ATTN: CENAP-OP-R

Public Notice No.	Date
CENAP-OPR-2020-00820	

Application No. File No.

In Reply Refer to:

**REGULATORY BRANCH** 

This District has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344).

The purpose of this notice is to solicit comments and recommendations from the public concerning issuance of a Department of the Army permit for the work described below.

APPLICANT: Borough of Ocean Gate

AGENT: Remington and Vernick Engineers

WATERWAYS Tom's River

LOCATION: Various waterfront locations along E. Riviera Ave. from a point just west of Ocean Gate Avenue to a point just west of Narragansette Avenue, Borough of Ocean Gate, Ocean County, New Jersey

ACTIVITY: To perform beach and dune restoration and to construct wave attenuation and dissipation structures along approximately 1 mile of waterfront. The project would include the discharge of approximately 10,000 cubic yards of fill materials into approximately 3 acres of waters below the high tide line. The fill will be placed at 6 locations along the 1-mile stretch of beach for dune construction. These locations are, going west to east, as described below.

- 1. This site starts at a point just west of the intersection of West Riviera and Ocean Gate Ave. The proposed work at this location entails the removal of 33 linear feet of existing concrete breakwater and the discharge of 1,178 cubic yards of fill into 0.278 acre of waters below the high tide line for placement of concrete mats and sand cover,
- 2. This site starts at location just east of the intersection of East Riviera between Ocean Gate Ave. and Asbury Ave. The proposed work at this location entails the removal of 50 linear feet of existing concrete breakwater, extension of an existing pile-supported stormwater outfall pipe by 30 linear feet (extending 56 feet waterward of the mean high water line), and the discharge of 761 cubic yards of sand into 0.238 acre of waterway below the high tide line along 290 linear feet of waterway,

- 3. This site starts at a location along East Riviera between Asbury and Wildwood Avenues. The proposed work at this location entails the discharge of 1,040 cubic yards of sand cover into 0.347 acre of waterway below the high tide line along 400 linear feet of waterway,
- 4. This site starts at a location along East Riviera Ave. between a point east of Wildwood Ave. and just west of Stone Harbor Ave. The proposed work at this location entails the discharge of 79 cubic yards of sand cover into 0.065 acre of waterway below the high tide line along 230 linear feet of waterway along,
- 5. This site starts at a location along East Riviera Ave. between points just east of Monmouth Ave. and a point just east of Anglesea Ave. The proposed work at this location entails the removal of an existing 95 foot long wooden breakwater, relocation of an existing 373 linear foot shore-parallel concrete breakwater partially landward, at, and partially just waterward of the high tide line, removal of an existing 57 foot long breakwater, and the discharge 3,403 cubic yards of sand cover into 0.927 square feet below the high tide line, and
- 6. This site starts at a location along East Riviera between points just east and west of Newport Ave. to a point just west of Narragansett Ave. The proposed work in this location entails the removal of an existing 97 foot long wooden breakwater, extend an existing pile-supported stormwater outfall by 30 linear feet (extending 77 feet waterward of the mean high water line), and discharge 2,198 cubic yards of sand cover for beach and dune construction into 0.676 acre below the high tide line.

Additionally, dunes would be constructed along the entire length of waterway above the high tide line. A floating turbidity curtain would be deployed along each stretch of project as it occurs to minimize turbidity. The project would also involve the removal or re-location of existing Jersey barrier "beach prisms" that were approved for placement by this office in 2012 under CENAP-OP-R-20212-00309.

The applicant has also noted the following items.

- 1. The outfall extension between Ocean Gate Avenue and Asbury Avenue would involve the placement of ten (10) composite fiberglass/lumber piles. The installation of these piles will utilize a "soft start" and warning shot for hammer/vibratory driving methods,
- 2. The outfall extension at Newport Avenue would involve the placement of ten (10) composite fiberglass/lumber piles. The instillation of these piles will utilize a "soft start" and warning shot for hammer/vibratory driving methods.
- 3. Each breakwater removal would be completed by pulling the breakwater with a loader at low tide.

PURPOSE: The applicant's stated project purpose is to protect the Borough's structures, essential services, infrastructure and utilities from damage due to minor and major flooding events, including wave action which results in damage to structures as well as erosion to the shore.

A preliminary review of this application indicates that species listed under the Endangered Species Act (ESA) or their critical habitat pursuant to Section 7 of the ESA as amended, may be present in the action area. The ACOE will forward this PN to the US Fish and Wildlife Service and/or National Marine Fisheries Service with a request for technical assistance on whether any ESA listed species, or their critical habitat maybe present in the area which would be affected by the proposed activity. The Philadelphia District will evaluate the potential effects of the proposed actions on ESA listed species or their critical habitat and will consult with NOAA Fisheries as

appropriate. Endangered Species Act Section 7 consultation will be concluded prior to the final decision on this permit application.

The decision whether to issue a permit will be based on an evaluation of the activity's probable impact including its cumulative impacts on the public interest. The decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the work must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the work will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs and welfare of the people. A Department of the Army permit will be granted unless the District Engineer determines that it would be contrary to the public interest.

The Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Due to COVID-19, comments on the proposed work should be submitted via email, within thirty (30) days, to the District Engineer, U.S. Army Corps of Engineers, Philadelphia District at PhiladelphiaDistrictRegulatory@usace.army.mil. If it is necessary to provide a paper copy, comments should be submitted, within thirty (30 days), via traditional hard copy mail to the U.S. Army Corps of Engineers, Philadelphia District, Wanamaker Building, 100 Penn Square East, Philadelphia, Pennsylvania 19107-3390, Attn: CENAP-OPR.

The USACE Cultural Resource Specialist has reviewed the proposed permit action for potential impacts to Historic Properties eligible for or listed on the National Register of Historic Places. A historic properties investigation has been conducted within the permit area. Historic properties eligible for or listed on the NRHP are within the permit area, but will not be affected by the proposed action. A determination of "No Effect" will be coordinated with the SHPO and Tribes.

The Magnuson-Stevens Fishery Conservation and Management Act requires all federal agencies to consult with the NOAA Fisheries on all actions or proposed actions, that are permitted, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH). A preliminary review of this application indicates that EFH is present within the project area. The Philadelphia District will evaluate the potential effects of the proposed actions on EFH and will consult with NOAA Fisheries as appropriate. Consultation concerning EFH with NOAA Fisheries will be concluded prior to the final decision on this permit application.

Compensatory Mitigation: Compensatory mitigation is not required because any losses of aquatic resources from discharges of dredged or fill materials would be naturally re-established at the new re-graded areas below the high tide line, therefore, such losses will be temporary and minimal.

In accordance with Section 307(c) of the Coastal Zone Management Act of 1972, applicants for Federal Licenses or Permits to conduct an activity affecting land or water uses in a State's coastal zone must provide certification that the activity complies with the State's Coastal Zone Management Program. The applicant has stated that the proposed activity complies with and will be conducted in a manner that is consistent with the approved State Coastal Zone Management (CZM) Program. No permit will be issued until the State has concurred with the applicant's certification or has waived its right to do so. Comments concerning the impact of the proposed and/or existing activity on the State's coastal zone should be sent to this office, with a copy to the State's Office of Coastal Zone Management.

In accordance with Section 401 of the Clean Water Act, a Water Quality Certificate is necessary from the State government in which the work is located. Any comments concerning the work described above which relate to Water Quality considerations should be sent to this office with a copy to the State.

It should be noted that the project is located within the Ocean Gate Shoreline Protection Federal Project which is a Federal beach nourishment project. The project was advertised in a public notice dated September 3, 2021 under Title 33 of the United States Code, Chapter 9, Section 408 (33 USC §408). For any questions pertaining to the Federal project, please contact Dr. Juan Corona of the Philadelphia District, U.S. Army Corps of Engineers at JuanCarlos.Corona@usace.ary.mil.

The evaluation of the impact of the work described above on the public interest will include application of the guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act.

Any person may request, in writing, to the District Engineer, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for a public hearing shall state in writing, with particularity, the reasons for holding a public hearing. Such requests must be sent electronically to David.J.Caplan@usace.army.mil.

Additional information concerning this permit application may be obtained by calling Mr. David J. Caplan at 215-656-6731 or 215-605-7029, or by via email at David.J.Caplan@usace.army.mil, or writing this office at the above address.

FOR: Todd A. Schaible

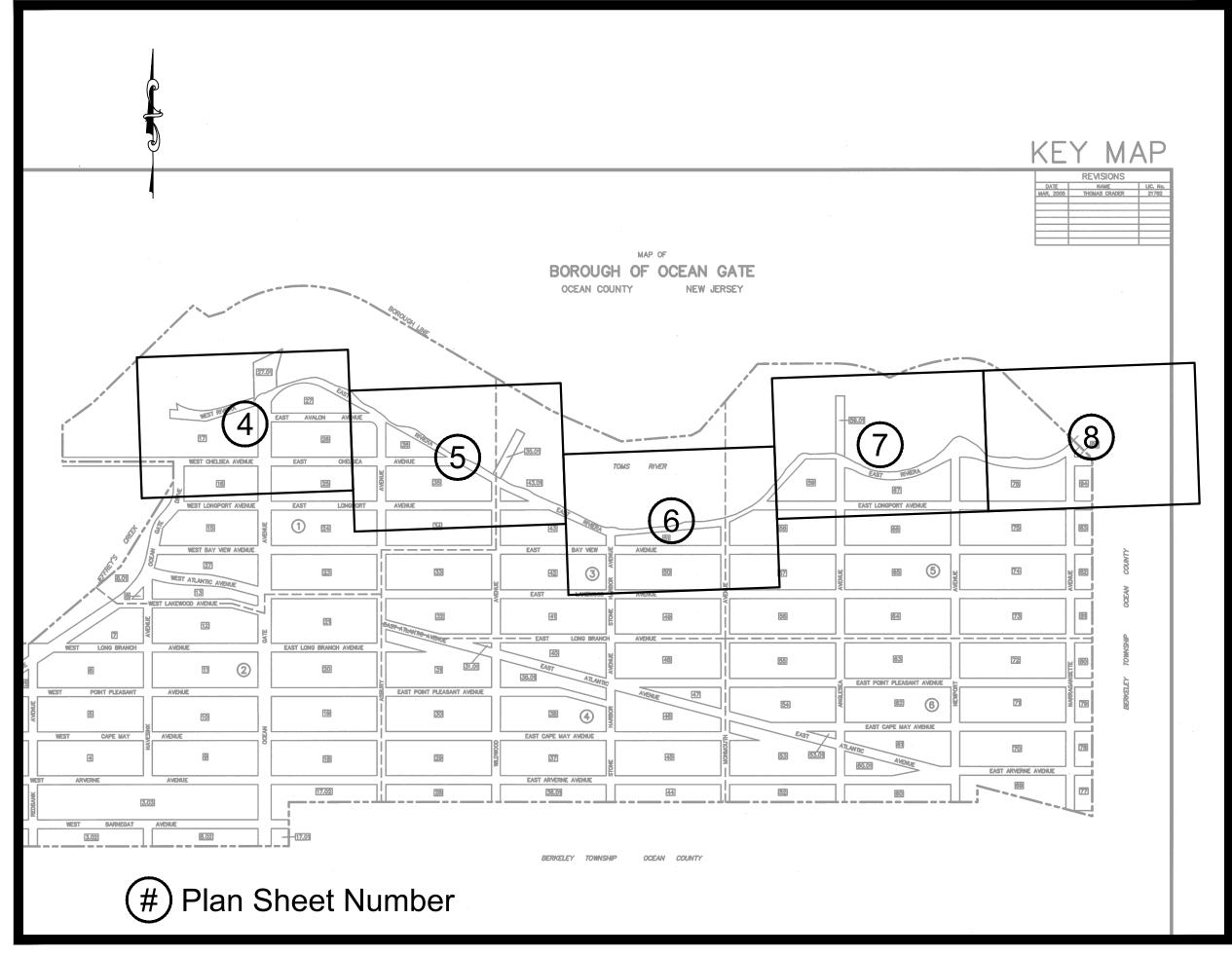
Chief, Regulatory Branch

CONTRACT DRAWINGS FOR THE

# BOROUGH OF OCEAN GATE H.M.G.P. WAVE ENERGY DISSIPATION AND FLOOD MITIGATION

# OCEAN COUNTY - NEW JERSEY

BOROUGH OF OCEAN GATE
MAYOR
PAUL J. KENNEDY
COUNCIL PRESIDENT
DAVE KENDRICK
COUNCIL MEMBERS
JOELLA NICASTRO
JOHN SERPICA
MARK HAUG
ALEX MARTINEZ
LAURA PADHAM-IARIA
CLERK
ILEANA VAZQUEZ-GALLIPOLI



## PROJECT LOCATION MAP

( PORTION OF KEYMAP SHEET OF THE BOROUGH OF OCEAN GATE TAX MAPS )

	SHEET INDEX
SHEET #	DESCRIPTION
1	TITLE SHEET
2	NOTES AND QUANTITIES
3	STANDARD LEGEND
4 - 8	PROPOSED IMPROVEMENT PLANS
9 - 12	PROPOSED CROSS SECTIONS
13 - 14	CONSTRUCTION DETAILS
15 - 16	SOIL EROSION PLANS
17	SOIL EROSION NOTES
18	SOIL EROSION DETAILS

#### GENERAL NOTES

- 1. THE BOROUGH H.M.G.P. COMMITTEE DIRECTED THE REMOVAL OF THE GROINS AS THE SCOURING AND SAND DEPOSITING HAS NEGATIVELY IMPACTED THE RESIDENTS. THE REMOVAL WILL REDUCE EXCESSIVE SCOUR AT SELECT AREAS OF THE SHORELINE. THE BOROUGH UNDERSTANDS THE REMOVAL WILL REQUIRE MAINTENANCE TO ENSURE THE BEACH WILL REMAIN STABLE.
- 2. ARTICULATED CONCRETE MATTING IS TO BE ARMORFLEX 70-T BY CONTECH OR AN APPROVED EQUAL. THE MATTING CONSISTS OF A FLEXIBLE, INTERLOCKING SERIES OF BLOCKS THAT ARE USED AS HARD ARMOR EROSION CONTROL WHILE STILL ALLOWING FULL VEGETATION TO GROW. THE ARTICULATED CONCRETE MATTING SHALL BE LACED LONGITUDINALLY WITH REVETMENT
- 3. THE DUNE SYSTEM WILL BE COMPOSED OF APPROXIMATELY 3300 LINEAR FEET OF SHORELINE WITH A TYPICAL WIDTH OF 20 FEET. THE DUNE SYSTEM WILL HAVE A TYPICAL ELEVATION OF 5.0, ALL VOLUMES AND CROSS SECTIONS CAN BE FOUND ON SHEETS 9-12 IN THE PLANS TITLED "BOROUGH OF OCEAN GATE H.M.G.P. WAVE ENERGY DISSIPATION AND FLOOD MITIGATION. PUBLIC ACCESS WILL EXIST IN 12 LOCATIONS WHERE THERE WILL BE A BREAK IN THE DUNE FENCING TO ALLOW FOR PEDESTRIAN TRAFFIC. ALL PUBLIC ACCESS POINTS WILL BE FREE OF VEGETATION AND OUTFITTED WITH NON-SLIP BEACH ACCESS MATS.



**ENGINEERS** TOMS RIVER, NJ 08753



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#### CONSTRUCTION NOTES:

- 1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. ANY ERRORS OR DISCREPANCIES FOUND SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
- 2. LOCATION OF EXISTING UTILITIES ARE APPROXIMATE AND MUST BE VERIFIED IN THE FIELD PRIOR TO THE START OF CONSTRUCTION.
- 3. ALL PAVED AND CONCRETE AREAS, STRUCTURES AND FEATURES (FENCING, LANDSCAPING, DRIVEWAYS, ETC.) DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO A CONDITION AT LEAST EQUAL TO THAT WHICH EXISTED PRIOR TO THE START OF CONSTRUCTION.
- 4. ALL GRASSED AREAS DISTURBED DURING CONSTRUCTION SHALL BE TOPSOILED AND SEEDED. SEEDING SHALL BE NJDOT TYPE A-3.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PRESERVATION OF UNDERGROUND AND SURFACE UTILITIES AND STRUCTURES AT OR ADJACENT TO THE SITE OF CONSTRUCTION AND IT SHALL BE AT HIS OWN EXPENSE TO REPAIR OR REPLACE ANYTHING
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION LAYOUT OF THE PROJECT. PAYMENT SHALL BE INCLUDED UNDER THE VARIOUS ITEMS IN THE BID SCHEDULE.
- 7. RESTORATION OF DISTURBED AREAS, EXCEPT AS INDICATED ON THE BID FORM, SHALL BE PERFORMED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. EMBANKMENT, TOPSOIL AND SEEDING CONSTRUCTION ADJACENT TO THE SIDEWALKS AND CURBS SHALL BE IN ACCORDANCE WITH N.J.D.O.T. STANDARDS AND SHALL BE INCLUDED UNDER THE UNIT PRICE BID
- 8. THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO THE FACT THAT THE APPROXIMATE LOCATIONS OF ROADWAY FACILITIES AND UTILITY STRUCTURES THAT MAY BE ENCOUNTERED WITHIN AND ADJACENT TO THE LIMITS OF THE WORK ARE SHOWN ON THE PLANS. THE ACCURACY AND COMPLETENESS OF THIS INFORMATION IS NOT GUARANTEED BY THE ENGINEER AND THE CONTRACTOR IS ADVISED TO VERIFY IN THE FIELD ALL THE FACTS CONCERNING THE LOCATIONS OF THESE FACILITIES PRIOR TO CONSTRUCTION.
- 9. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL MATERIALS AS INDICATED HEREIN IN ACCORDANCE WITH ALL FEDERAL, STATE, COUNTY AND LOCAL REGULATIONS. NO ADDITIONAL PAYMENT SHALL BE MADE, BUT THE COST THEREOF SHALL BE INCLUDED IN THE VARIOUS ITEMS IN THE BID SCHEDULE.
- 10. DUE TO THE ONGOING NATURE OF UTILITY INSTALLATIONS AND REPAIRS, THE CONTRACTOR SHALL COORDINATE DIRECTLY WITH ALL UTILITIES TO ACCOMMODATE THEIR WORK AND SCHEDULES. ANY ROADWAY BASE REPAIRS OR RESURFACING SHOWN THAT MAY BE IN CONFLICT WITH UTILITY WORK BY OTHERS SHALL BE POSTPONED UNTIL THE UTILITIES HAVE COMPLETED THEIR UNDERGROUND UTILITY WORK. THE CONTRACTOR SHALL REQUEST AN EXTENSION OF TIME TO COMPLETE THE WORK IN ACCORDANCE WITH THE SPECIFICATIONS, HOWEVER ADDITIONAL PAYMENT FOR EXTENSION OF TIME SHALL NOT BE MADE.
- 11. UNDERCUT ANY ZONES OF INSTABILITY DISCLOSED BY THE PROOFROLLING, AS DETERMINED BY THE ON-SITE REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER, AND REPLACE THE UNDERCUT MATERIAL WITH CONTROLLED STRUCTURAL FILL AS DEFINED HEREIN. AS REQUIRED, RAISE THE GROUND SURFACE TO THE PROPOSED SUBGRADE ELEVATION WITH CONTROLLED STRUCTURAL FILL. THE GRANULAR PORTION OF THE ON-SITE SOILS PREVIOUSLY EXCAVATED CAN BE USED AS A COMPONENT OF THE STRUCTURAL FILL ONLY IF THE SOIL IS WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE MODIFIED PROCTOR TEST (ASTM D 1557).
- 12. CONTROLLED STRUCTURAL FILL SHOULD CONSIST OF INORGANIC, READILY COMPACTABLE, PREDOMINANTLY WELL-GRADED GRANULAR SOILS WITH NO MORE THAN 12% FINES (MATERIAL PASSING THE NO. 200 SIEVE), AND A MAXIMUM PARTICLE SIZE OF 3 INCHES. THE MOISTURE CONTENT OF THE FILL MATERIALS SHOULD BE CONTROLLED TO WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT, AS DETERMINED BY ASTM D 1557, BY WETTING, AERATION OR BLENDING, AS NECESSARY. CONTROLLED FILL SHOULD BE PLACED IN LOOSE HORIZONTAL LIFTS WITH A MAXIMUM THICKNESS OF 9 INCHES. IT IS RECOMMENDED THAT CONTROLLED FILL WITHIN THE CONSTRUCTION AREA BE COMPACTED TO AT LEAST 90% OF THE MAXIMUM DRY DENSITY, AS DETERMINED BY THE MODIFIED PROCTOR TEST (ASTM D 1557). IN ADDITION, IT IS RECOMMENDED THAT ALL FILLS BE STABLE WITHOUT SIGNIFICANT MOVEMENT UNDER CONSTRUCTION TRAFFIC, AS JUDGED BY THE GEOTECHNICAL ENGINEER'S REPRESENTATIVE ON-SITE. QUALITY CONTROL TESTING OF IN-PLACE FILL DENSITIES SHOULD BE CONDUCTED THROUGHOUT THE ENTIRE
- 13. ALTHOUGH THERE ARE TWO ITEMS FOR "CLEARING SITE" AND "SOIL EROSION AND SEDIMENT CONTROL" ON THE PLANS, THERE IS ONE BID ITEM FOR ALL LOCATIONS. THE BID ITEM SHALL INCLUDE ALL LOCATIONS IN PREPARATION OF EACH BID ITEM.
- 14. ALL FILL MATERIAL TO BE SUITABLE TO NJDEP AND OCEAN COUNTY SOIL EROSION AND SEDIMENT CONTROL STANDARDS FOR DUNE AND BEACH REPLENISHMENT. ANY SUBSTITUTION MUST BE APPROVED BY THE ENGINEER.
- 15. PRIOR TO THE BEGINNING OF CONSTRUCTION ALL SOIL EROSION AND SEDIMENT CONTROL MUST
- 16. CONTRACTOR TO COORDINATE ALL STOCKPILE AREAS FOR FILL MATERIAL WITH THE TOWNSHIP PRIOR TO ANY CONSTRUCTION OR MATERIALS BROUGHT TO THE SITE.

Item No.	Description	Contract Quantity	Unit
1	Mobilization/Demobilization	1	LS
2	Beach Replenishment/Dune Creation	15,623	CY
3	Vegetation Restoration	6,400	SY
4	Concrete Articulated Matting	12,330	SF
5	Soil Erosion Controls	7	AC
6	Extend 18" R.C.P. Outfall Pipe	30	LF
7	Dune Fencing	4,770	LF
8	Groin Demolition	1	LS
9	Beach Access Mats	396	LF

#### TOTAL EARTHWORK CALCULATIONS:

Volume Sun	nmary						
Name	Туре	Cut Factor	Fill Factor	2d Area (Sq. Ft.)	Cut (Cu. Yd.)	Fill (Cu. Yd.)	Net (Cu. Yd.)
TIN VOLUMES (Overall)	full	1.000	1.000	326285.69	303.86	15623.44	15319.59 <fill></fill>

Totals				
	2d Area (Sq. Ft.)	Cut (Cu. Yd.)	Fill (Cu. Yd.)	Net (Cu. Yd.)
Total	326285.69	303.86	15623.44	15319.59 <fill></fill>

\* Value adjusted by cut or fill factor other than 1.0

1. THE ABOVE CALCULATIONS ARE A TOTAL CUT AND FILL ANALYSIS FOR ALL THE PROPOSED EARTHWORK. THIS INCLUDES THE BEACH REPLENISHMENT FOR ABOVE AND BELOW THE MEAN HIGH WATER LINE.

- 2. THE CALCULATIONS ARE SAMPLED IN A 3D TIN FORMAT FROM THE EXISTING TOPOGRAPHY TO THE PROPOSED CONTOURS AND IS SAMPLED EVERY FOOT FOR AN ACCURATE RESULT.
- 3. THE SAMPLING METHODS USED ARE FROM AUTOCAD CIVIL 3D SOFTWARE USING THE EARTHWORK VOLUMES.

#### WATER DISTURBANCE AREA CALCULATIONS ONLY:

Volume	Summary						
Name	Туре	Cut Factor	Fill Factor	2d Area (Sq. Ft.)	Cut (Cu. Yd.)	Fill (Cu. Yd.)	Net (Cu. Yd.)
Area-1	bounded	1.000	1.000	12035.46	0.08	1177.53	1177.46 <fill></fill>
Area-2	bounded	1.000	1.000	10378.91	0.30	761.19	760.89 <fill></fill>
Area-3	bounded	1.000	1.000	15091.99	1.47	1041.13	1039.65 <fill></fill>
Area-4	bounded	1.000	1.000	20944.99	0.01	1335.88	1335.87 <fill></fill>
Area-5	bounded	1.000	1.000	2652.86	0.00	78.95	78.95 <fill></fill>
Area-6	bounded	1.000	1.000	39976.82	0.34	3403.19	3402.85 <fill></fill>
Area-7	bounded	1.000	1.000	28696.55	0.03	2197.77	2197.74 <fill></fill>

Totals				
	2d Area (Sq. Ft.)	Cut (Cu. Yd.)	Fill (Cu. Yd.)	Net (Cu. Yd.)
Total	129777.58	2.22	9995.63	9993.41 <fill></fill>

\* Value adjusted by cut or fill factor other than 1.0

- 1. THE ABOVE CALCULATIONS ARE A CUT AND FILL ANALYSIS FOR THE PROPOSED EARTHWORK FROM THE MEAN HIGH WATERLINE TO BELOW THE WATER LINE. THIS IS ONLY FOR THE BEACH REPLENISHMENT BELOW THE MEAN HIGH WATER LINE FOR EACH SECTION.
- 2. THE CALCULATIONS ARE SAMPLED IN A 3D TIN FORMAT FROM THE EXISTING TOPOGRAPHY TO THE PROPOSED CONTOURS AND IS SAMPLED EVERY FOOT FOR AN ACCURATE RESULT.
- 3. THE SAMPLING METHODS USED ARE FROM AUTOCAD CIVIL 3D SOFTWARE USING THE EARTHWORK VOLUMES.
- 4. ALL WATER DISTURBANCE AREAS ARE BELOW THE HIGH TIDE LINE. SEE PLAN SHEETS FOR EACH AREA DELINEATED AND NOTED.

# REMINGTON & VERNICK **ENGINEERS**

TOMS RIVER, NJ 08753 (732) 286-9220, FAX (732) 505-8416 WEB SITE ADDRESS: WWW.RVE.COM Certification of Authorization: 24 GA 28003300 ~ENGINEERING EXCELLENCE~

9 ALLEN STREET



PLANS WHICH DO NOT BEAR AN EMBOSSED SEAL ARE NOT VALID

ALL DOCUMENTS PREPARED BY REMINGTON & VERNICH ENGINEERS AND AFFILIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES FOR THE SPECIFI PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO REMINGTON & VERNICK ENGINEERS AND AFFILIATES: AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS REMINGTON & VERNICK ENGINEERS AND AFFILIATES FROM ALL CLAIMS. DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

2	REV. PER ARMY CORP. REVIEW LETTER 9/16/21	9-20-21	PS	ᅴ
4	REV. PER NJDEP DCE REVIEW EMAIL 5/24/21	6-28-21	PS	٦
3	REV. PER ARMY CORP. REVIEW LETTER 3/26/21	6-16-21	PS	ᅴ
7	REV. PER ARMY CORP. REVIEW LETTER 11/6/20	2-23-21	PS	MG
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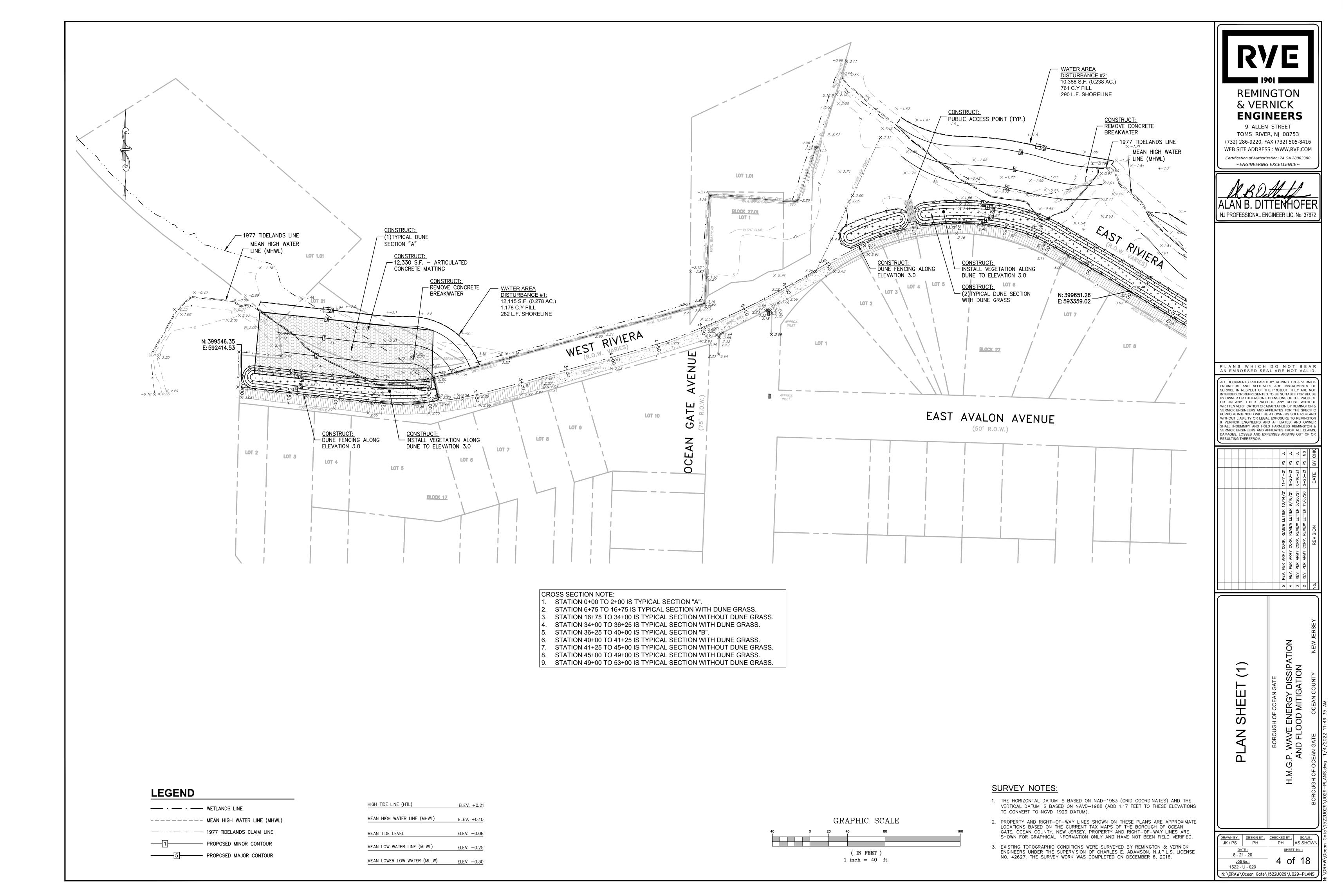
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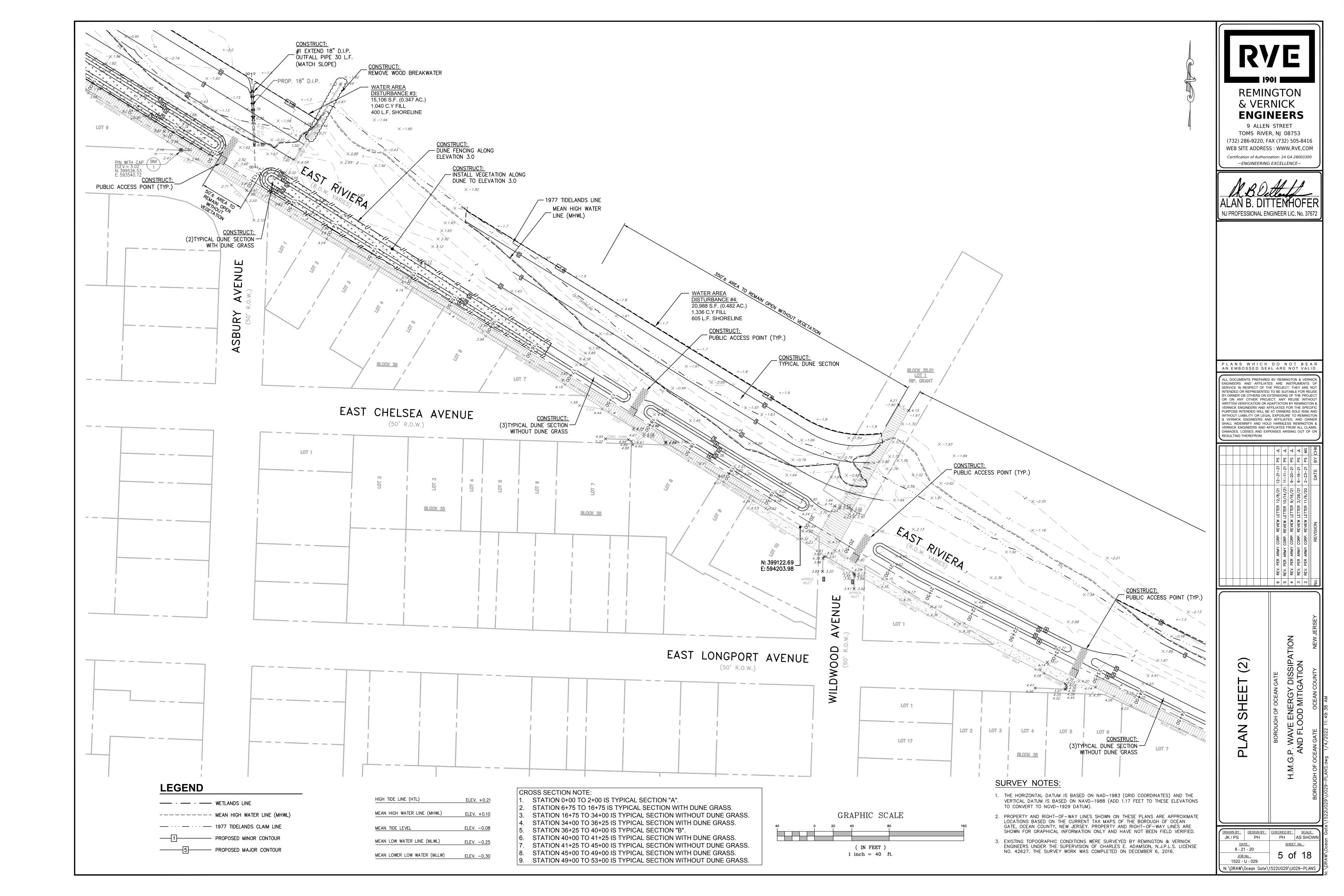
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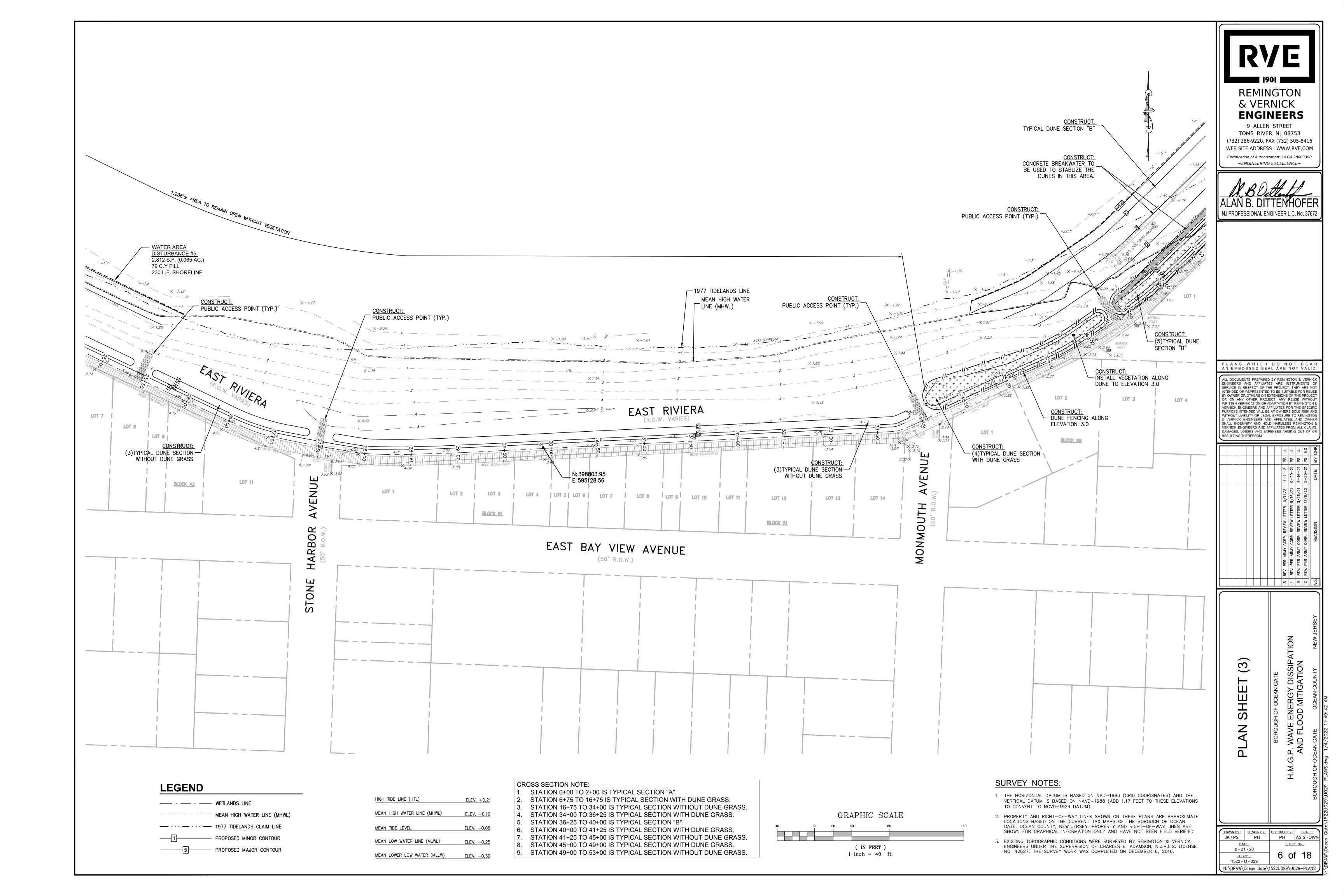
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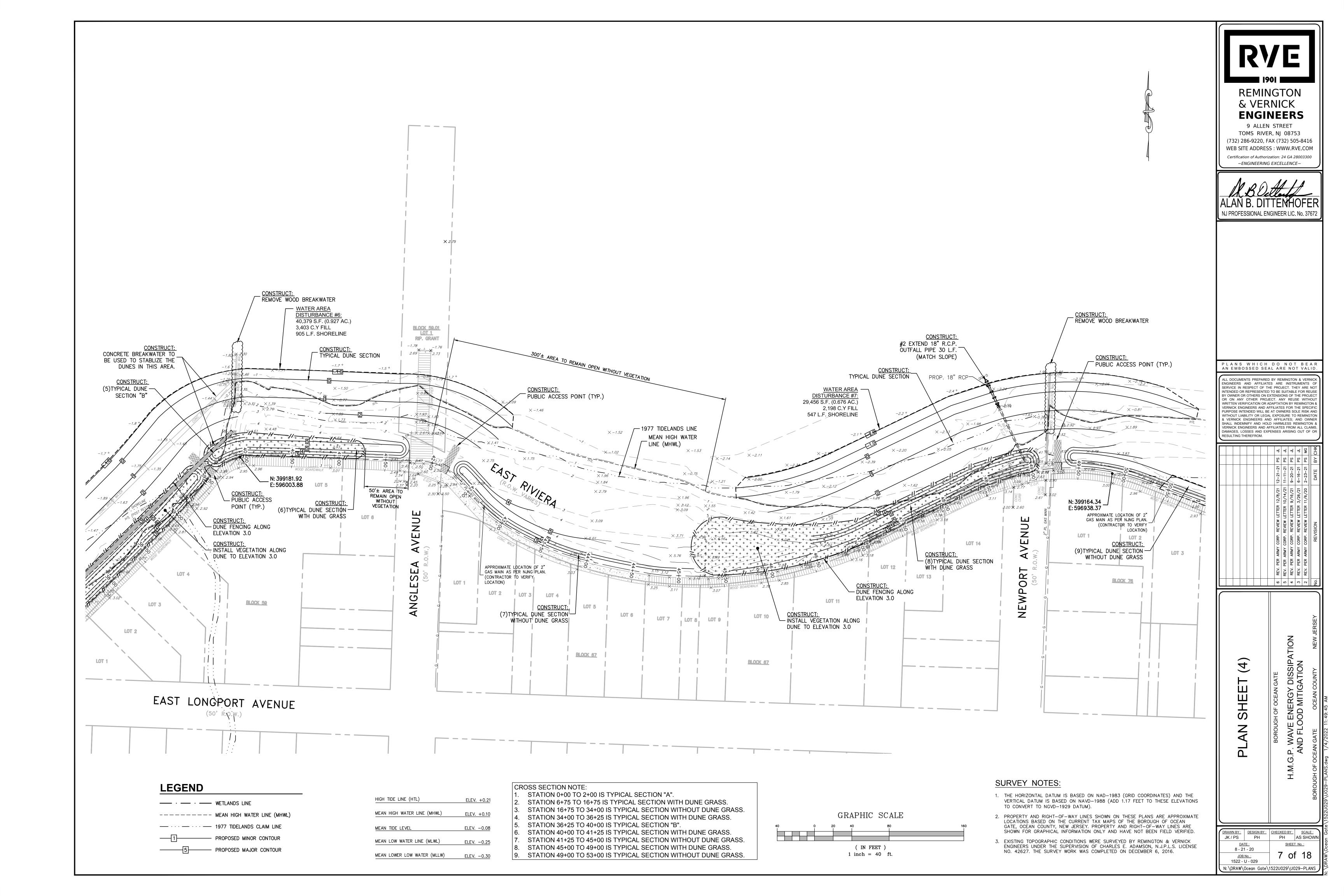
# STANDARD LEGEND

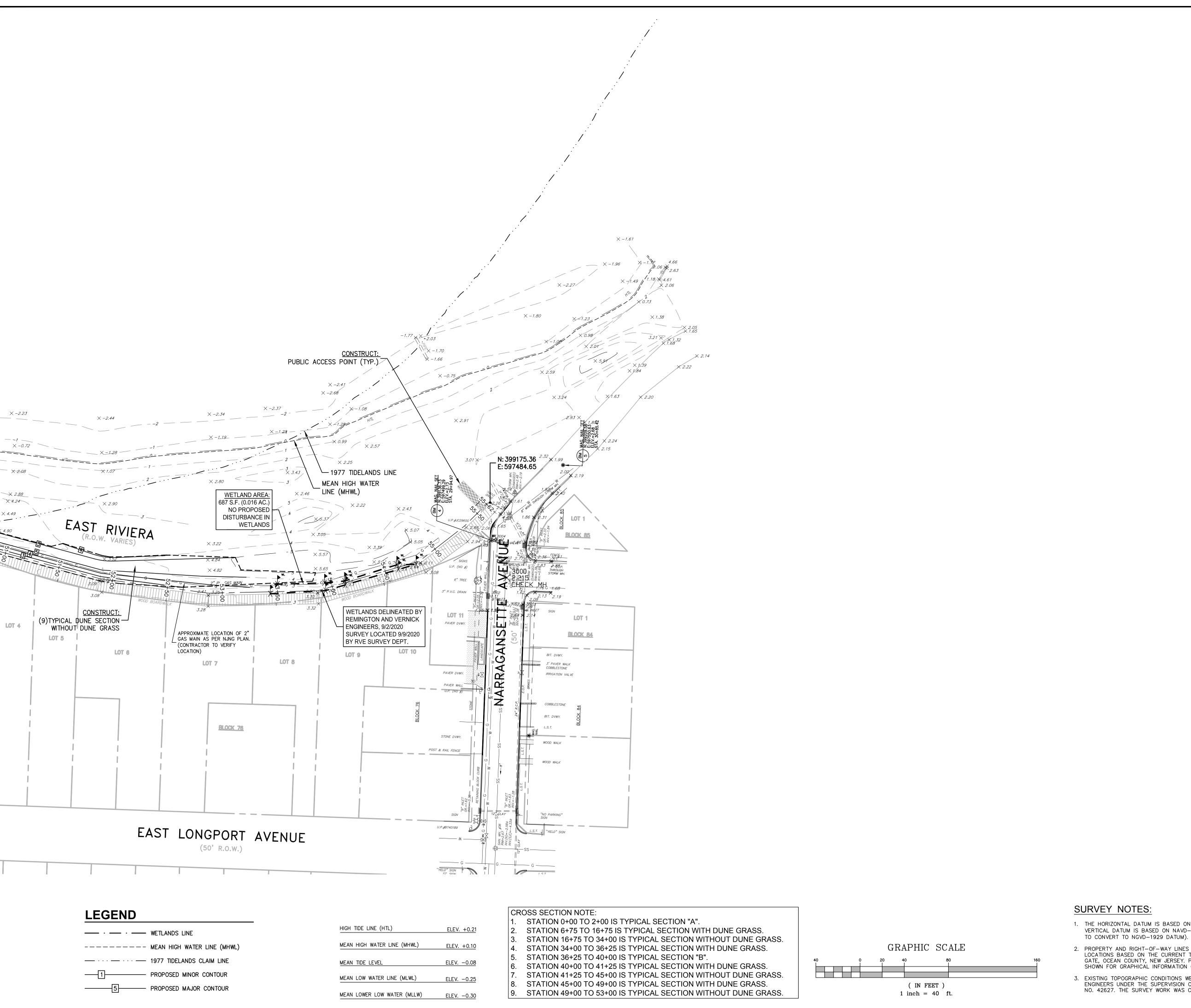
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TELEPHONE SE	SERVICE	τ	——— т		HUB	Δ	Δ (SET)				DRIVEWAY RESTORATION, BRICK	ALAN B. DITTENT NJ PROFESSIONAL ENGINEER LIC
COMMUNICATIO	TIONS SERVICE	c	c		PIN W/ CAP	<b>©</b>	• (SET)				DRIVEWAY RESTORATION, CONCRETE	NJ PROFESSIONAL ENGINEER LIC
IRRIGATION PIF	IPE		IRR	<b> </b>	IRON PIPE IRON PIN		• (SET)				DRIVEWAY RESTORATION, STONE	
WATER SERVIC	ICE	w	w		CROSS CUT	×	<b>★</b> (SET)		LIMIT OF EXCAVATION			
WATER SHUT-0	-OFF	w.So			DISK			K	GUIDE RAIL			
WATER METER	R	W.M	₩₩	ls	STONE	0			BOLLARD		0	
WATER VALVE	Ξ	₩	M NEW ⋈ RESET		REBAR	⊗			MAILBOX	M	M	
WATER HYDRA	ANT	HY D	❤ NEW ❤ RESET		BASELINE		· + <del>0</del>		SIGNS	<del></del> +	<del> +</del>	
WELL		<b>@</b>	₩		CENTERLINE				FLAG POLE	$\sim$	<b>⊷</b>	
YARD HYDRAN	NT	σ			EASEMENT				BENCH		=	
METER PIT		0			RIGHT-OF-WAY			<b>8</b>	PILE	<b>©</b>	<b>©</b>	
GAS SHUT-OFF	·F	<i>&amp;</i> €			PROPERTY BOUNDARY				DETECTABLE WARNING SURFACE			PLANS WHICH DO NO AN EMBOSSED SEAL ARE N
GAS METER		6 <b>M</b>			ADJACENT PROPERTY BOUNDARY			<b>│≝</b> │	TYPICAL STRIPING			ALL DOCUMENTS PREPARED BY REMING' ENGINEERS AND AFFILIATES ARE INS SERVICE IN RESPECT OF THE PROJECT.
GAS VALVE		ex	M NEW ⋈ RESET		RAILROAD TRACKS	++++++	<del>                                     </del>	S	ADA STRIPING	گ	<u> </u>	INTENDED OR REPRESENTED TO BE SUITAL BY OWNER OR OTHERS ON EXTENSIONS O OR ON ANY OTHER PROJECT. ANY RE WRITTEN VERIFICATION OR ADAPTATION B'
GAS LINE MAR	RKER	<u>-ç-</u>			STATE BOUNDARY		- — — —		TRAFFIC CONTROL BOX	TCB		VERNICK ENGINEERS AND AFFILIATES FO PURPOSE INTENDED WILL BE AT OWNERS WITHOUT LIABILITY OR LEGAL EXPOSURE
CLEANOUT		8	•		MUNICIPAL / COUNTY BOUNDARY				TRAFFIC LIGHT		(ARM TO SCALE)	SHALL INDEMNIFY AND HOLD HARMLESS VERNICK ENGINEERS AND AFFILIATES FR DAMAGES, LOSSES AND EXPENSES ARIS
SEWER VENT		<b>&amp;</b>						_	DEPT. OF TRANSPORTATION MANHOLE	<b>@</b>	•	RESULTING THEREFROM.
INLET TYPE A			■ NEW    RESET/     RECONSTRUCT		BORING LOCATION	<b>♦</b> <i>B−#</i>	<b>♦</b> B−#		STATE HIGHWAY DEPARTMENT	<sup>®</sup> MANHOLE <sup>SHD</sup> BOX		
INLET TYPE B			RESET/ RECONSTRUCT		MONITORING WELL LOCATION	<b>⊕</b> <i>MW-#</i>	<b>⊕</b> MW−#		RAILROAD CROSSING BEACON	⊠		
INLET TYPE E			RESET/ RECONSTRUCT		TEST PIT LOCATION	<b>!!!</b> 1P-#	■ TP-#		CALL BOX	<b>®</b>		
INLET TYPE E			SET		FRESHWATER WETLAND FLAG	▼ FW-#			OIL FILL	•		
INLET GRATE C	CUSTOM	巖			FRESHWATER WETLAND LINE				UNDERGROUND STORAGE TANK LID RISER PIPE	<u>8</u>		
AREA DRAIN					FRESHWATER WETLAND BUFFER				RAISED PAVEMENT MARKER	N	<b>B</b>	
MANHOLES		S SANITARY O DRAINAGE D TELEPHONE		<b>       </b>	EDGE OF WATER							4
		W WATER © CATV @ UNDERDRAIN  E ELECTRIC © GAS W UNKNOWN	NEW		STREAM CENTERLINE				BBQ GRILL WATER FOUNTAIN	<b>⇔</b> ₩7		
IRRIGATION CC	CONTROL VALVE	×	M NEW ⋈ RESET		GRASS/SOD		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	⊣ ပွဲ	KIOSK	(I) (I)		
IRRIGATION BC	OX				DECIDUOUS TREE	(1,1,1,1)	SHADE ORNAMEN	TAL S	AIR CONDITIONER PARKING METER	<i>A</i> © ₽M		
IRRIGATION CC	CONTROL BOX	JR C			SHRUBS / BUSH		ONIVAIVILIV		FIRE CONTROL VALVE BARRICADE	<b>☆</b>		
SPRINKLER HE	EAD	<b>©</b>	•		EVERGREENS		gulle g			<del>-u u-</del>	<del>-u-u-</del>	]
UNKNOWN VAL	ALVE	M		A	STUMP		3mm		PHOTO LOCATION			
COMMUNICATIO	TIONS PEDESTAL	Ø		SC/	WOODS / TREE LINE				BENCHMARK LOCATION	BM	П	
COMMUNICATIO	TIONS LINE MARKER	<del>-ç</del> -			WIRE FENCE	—//—//—	—//—//—	Z	TYPICAL SECTION ARROW	(x)	A	GEP
TELEPHONE PE	PEDESTAL				SPLIT RAIL FENCE			GENER	MATCH LINE		A	Ш Щ 🖟
TELEPHONE LII	LINE MARKER	<del>-I-</del>			WOOD / VINYL FENCE				TYPICAL NORTH ARROW			<b>D</b> L
ELEC. BOX		Œ						5	TH TOAL NORTH ARROW	NORTH POINT TO BE U	JSED ON STANDARD CONSTRUCTION SHEETS	
ELEC. METER		EM		<del>                                     </del>	CHAIN-LINK FENCE	XX	XXX				ER TO STATE PLANE COORDINATE SYSTEM.	
ELEC. TRANSFO	FORMER PAD	Œ			TOP OF BANK / DITCH	ТВ			APR. APRON EX. EXISTING			
ELEC. VAULT		ŒŸ			BOTTOM OF BANK / DITCH			NS	BL BASELINE E.B., W.B., N.B., S.B. SOUTHBOOM BM BENCH MARK GL GUTTER I	JOND	NT OF CURVATURE S.H.D. STATE HIGHWAY DEPARTMENT  NT OF INFLECTION SHLD. SHOULDER	
ELEC. LINE MA	ARKER	<del>-</del>		O	CONTOUR (MAJOR)		5	<u>0</u>	BIT. BITUMINOUS GR GRATE BLDG. BUILDING HW HEADWAI	PT POI	NT OF TANGENCY STY. STORY RKER KAYLON MASONRY NAIL S.W.L. SINGLE WHITE LINE	S S S S S S S S S S S S S S S S S S S
UTILITY POLE		& STANDARD W/ LIGHT W/ SOLAR		DING	CONTOUR (MINOR)		3			ISITY POLYETHYLENE PIPE PROP. PRO		
GUY ANCHOR		-≺		<b>A</b>	FLOW LINE / SWALE	>>	>>		CONC. CONCRETE IP IRON PIN C.M.P. CORRUGATED METAL PIPE J.B. JUNCTION	PVC POI	NT OF VERTICAL CURVATURE TC TOP OF CURB  NT OF VERTICAL INTERSECTION TEL TELEPHONE	
ELEC. OUTLET	Т	<b>G</b> =	<b>(</b>		TIME OF CONCENTRATION	<b></b>	<b>&gt;</b>		CULV. CULVERT L.S.T. LANDSCA D.C. DEPRESSED CURB L.O.M. LIMIT OF	PE TIE PVT POI	NT OF VERTICAL TANGENCY TEMP. TEMPORARY	
LIGHTS		<i>⇔ POLE</i> ♥ AREA	<b>*</b> ▼	8	SPOT GRADE	<i>3.75</i> X	3.75 X		DH DRILL HOLE L.O.P. LIMIT OF DIA. DIAMETER MB MAILBOX	PAVING R.C.P. REI	NFORCED CONCRETE PIPE U.D. UNDERDRAIN  ID METALLIC OCNDUIT U.P. UTILITY POLE	DRAWN BY :         DESIGN BY :         CHECKED B           JK / PS         PH         PH
VENT		<b>W</b> 7			ROADWAY GRADE	TC: 71.25 GL: 70.75	TC: 71.25 GL: 70.75	BBR	D.I.P. DUCTILE IRON PIPE MAX. MAXIMUN DWY DRIVEWAY MIN. MINIMUM		HT OF WAY VAR. VARIES	<u>DATE :</u> <u>SHE</u> 8 - 21 - 20
VENT PIPE		6			DRAINAGE FLOW	<u>→ ×</u> →	<del>──×</del> ⇒	4	D.Y.L. DOUBLE YELLOW LINE NO. NUMBER  EL. ELEVATION N.T.S. NOT TO S	RTE. ROI	JTE	JOB No.: 1522 - U - 029 N: \DRAW\Ocean Gate\1522U029\











# REMINGTON & VERNICK ENGINEERS

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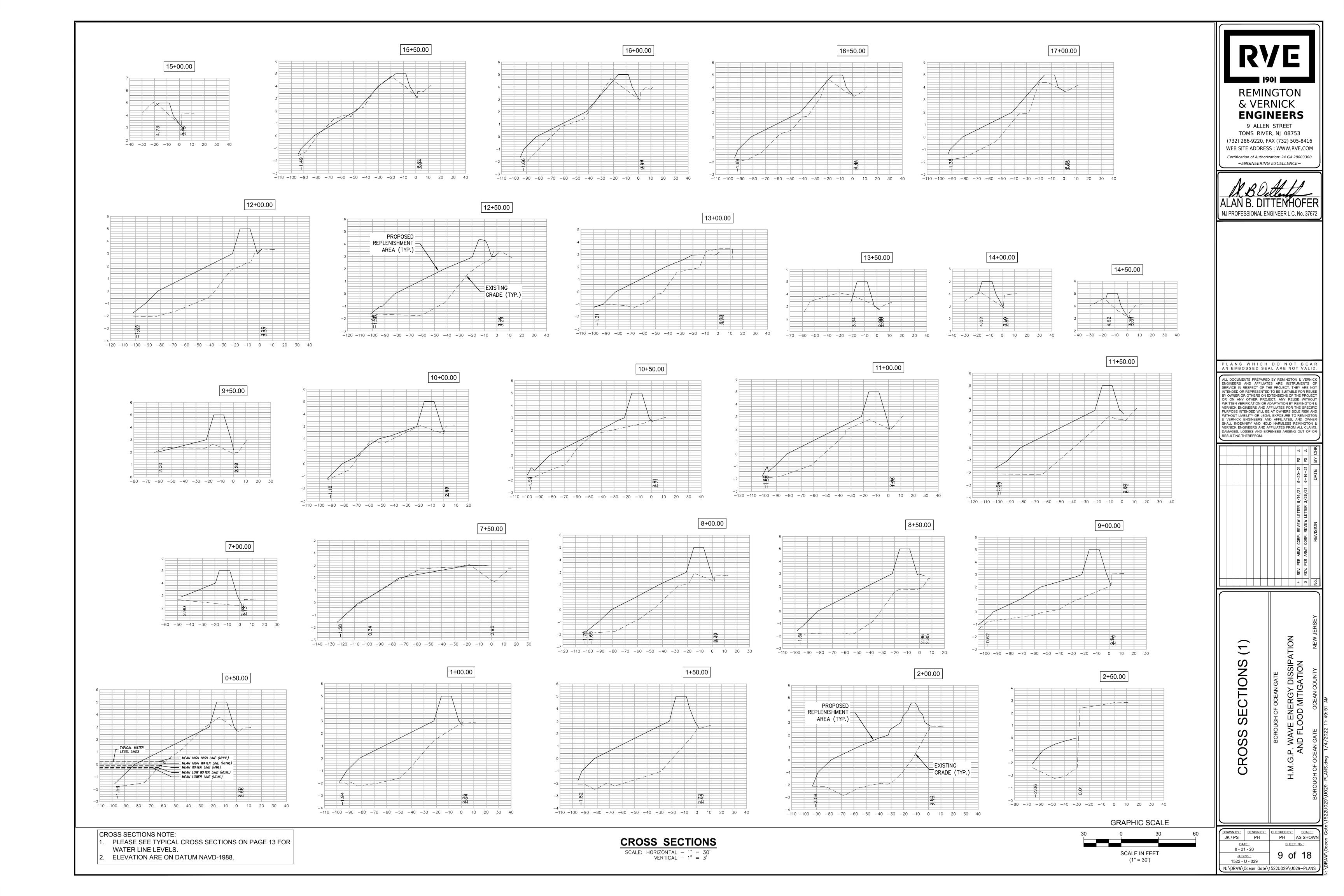
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			REV. PER ARMY CORP. REVIEW LETTER 10/14/21   11-11-21	REV. PER ARMY CORP. REVIEW LETTER 9/16/21	REV. PER ARMY CORP. REVIEW LETTER 3/26/21	REV. PER ARMY CORP. REVIEW LETTER 11/6/20	UPDATE FLAGGED/SURVEYED WETLANDS LOCATION 10/20/20	REVISION	
			11-11-21	9-20-21	6-16-21	2-23-21	10/20/20	DATE	
			PS	PS	PS	PS	PS	ВҰ	

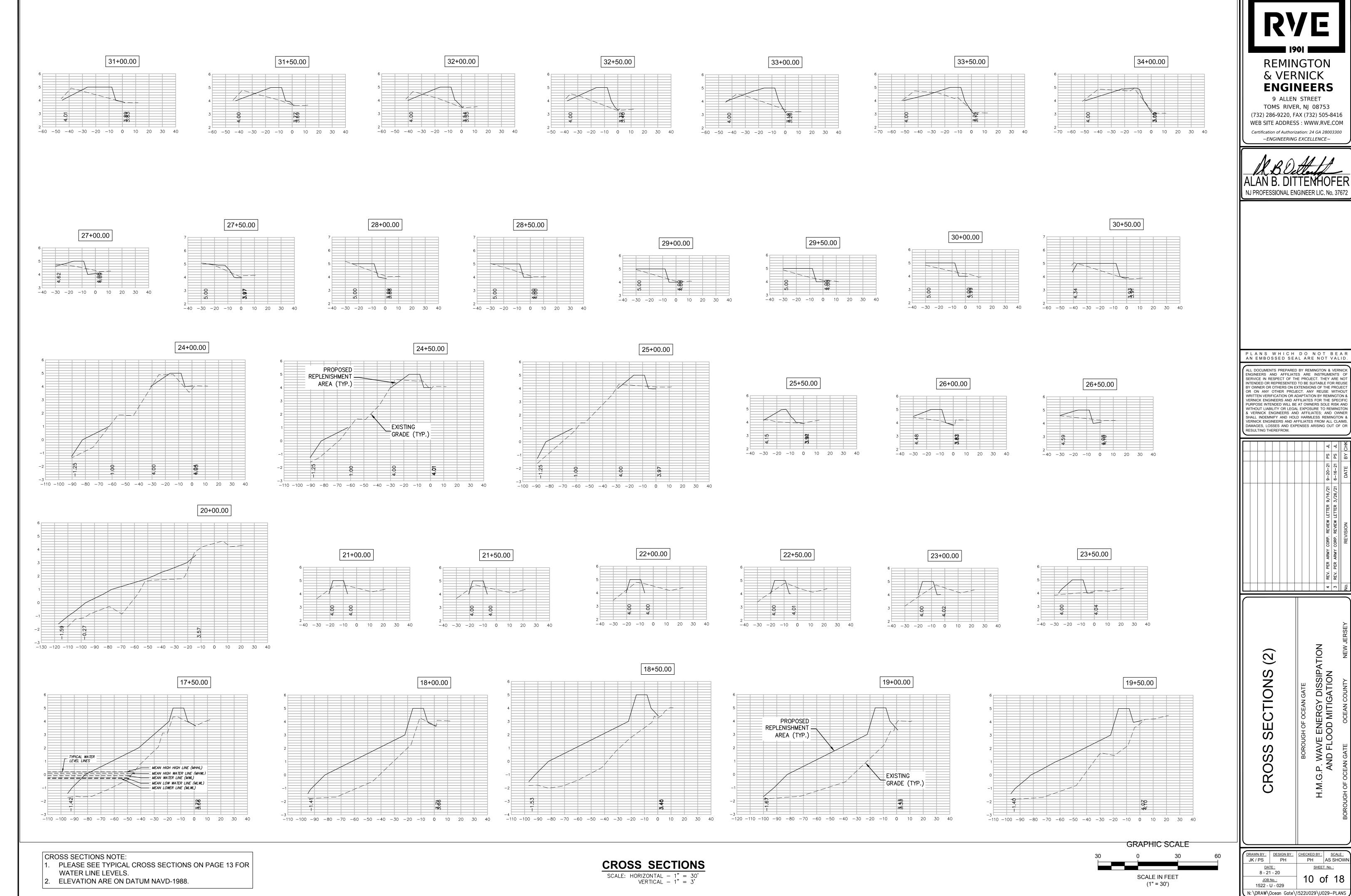
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PLAN SHEET (5)

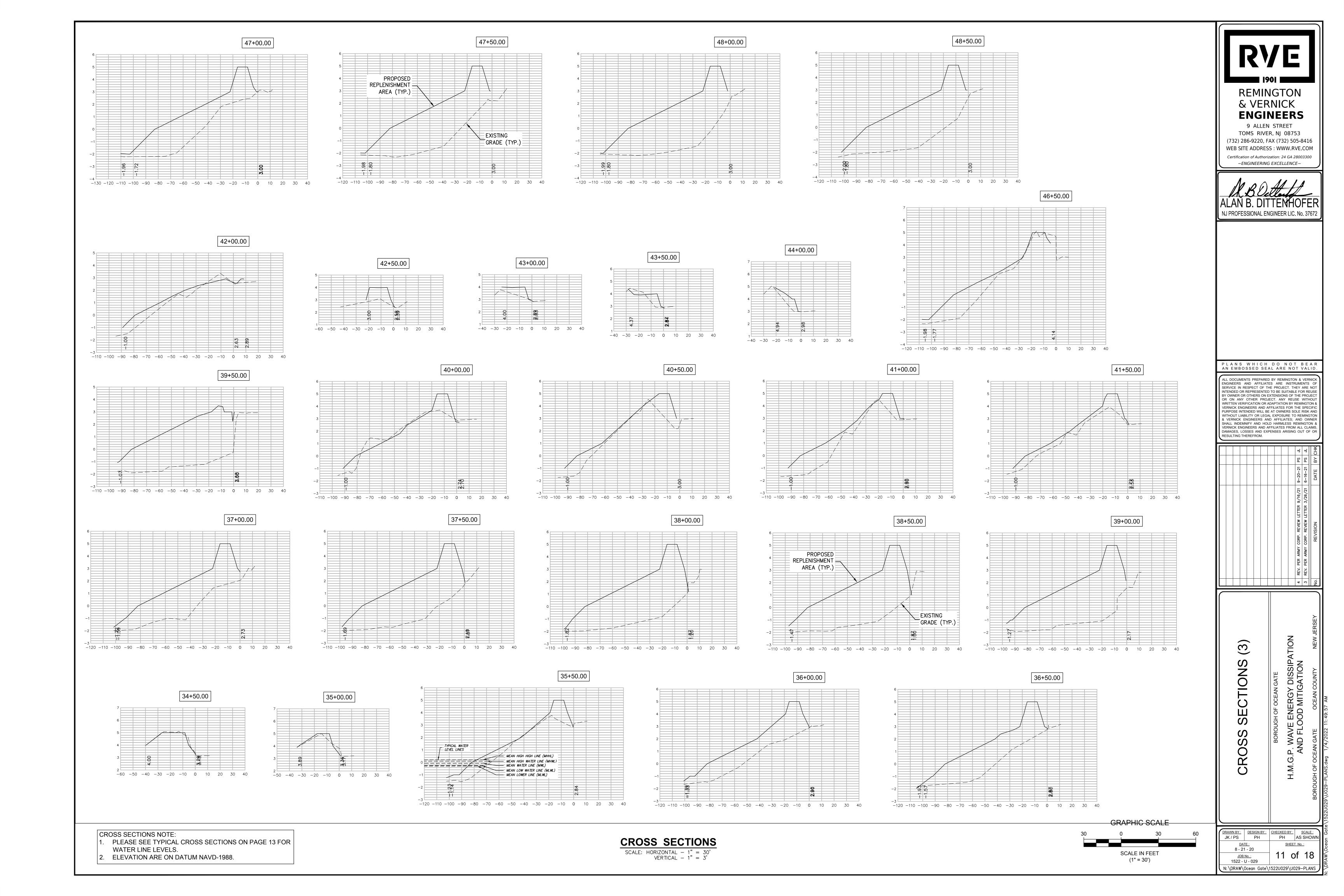
: DESIGN BY: CHECKED BY:

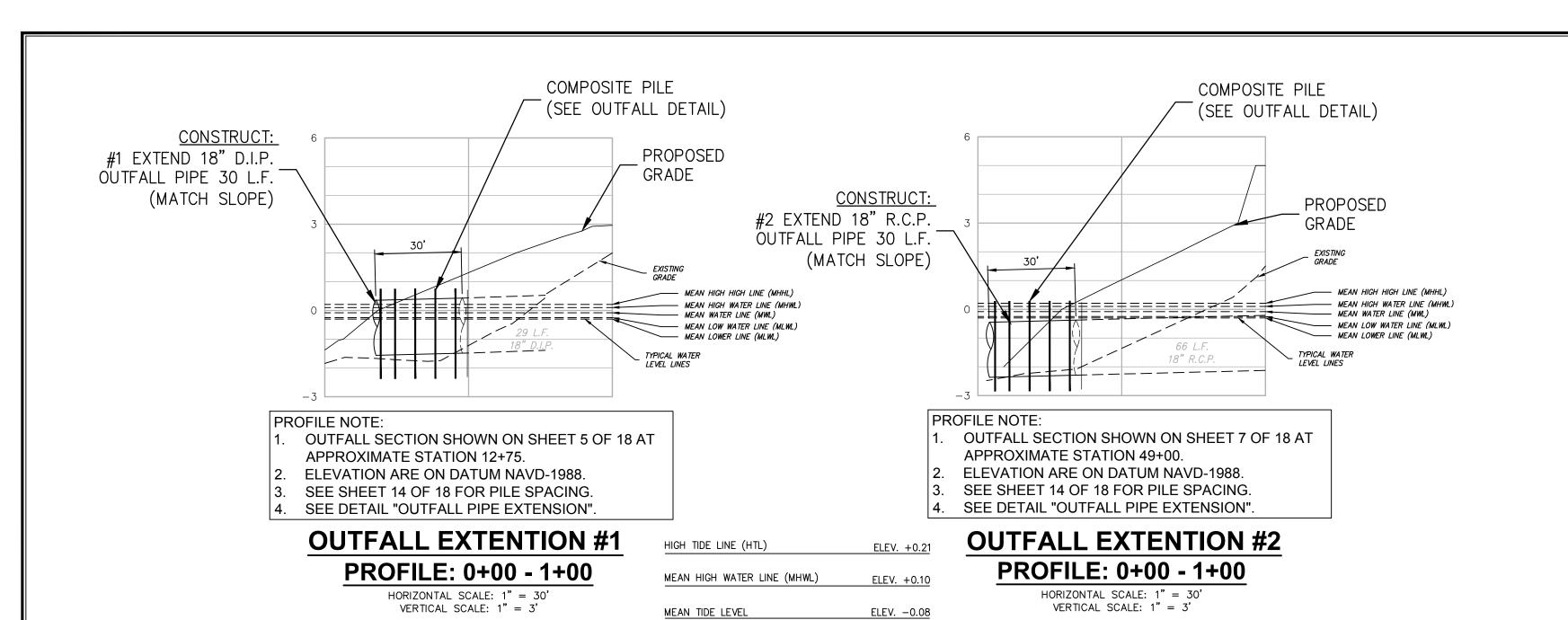
- 1. THE HORIZONTAL DATUM IS BASED ON NAD-1983 (GRID COORDINATES) AND THE VERTICAL DATUM IS BASED ON NAVD-1988 (ADD 1.17 FEET TO THESE ELEVATIONS
- 2. PROPERTY AND RIGHT-OF-WAY LINES SHOWN ON THESE PLANS ARE APPROXIMATE LOCATIONS BASED ON THE CURRENT TAX MAPS OF THE BOROUGH OF OCEAN GATE, OCEAN COUNTY, NEW JERSEY. PROPERTY AND RIGHT-OF-WAY LINES ARE SHOWN FOR GRAPHICAL INFORMATION ONLY AND HAVE NOT BEEN FIELD VERIFIED.
- 3. EXISTING TOPOGRAPHIC CONDITIONS WERE SURVEYED BY REMINGTON & VERNICK ENGINEERS UNDER THE SUPERVISION OF CHARLES E. ADAMSON, N.J.P.L.S. LICENSE NO. 42627. THE SURVEY WORK WAS COMPLETED ON DECEMBER 6, 2016.





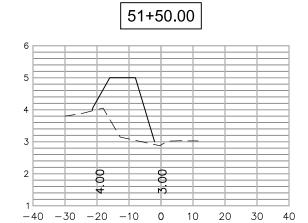


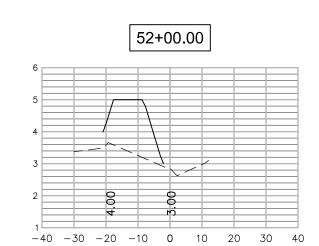


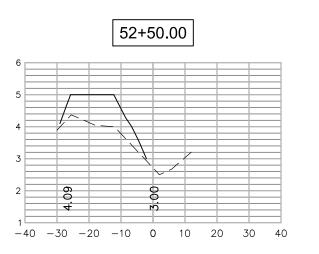


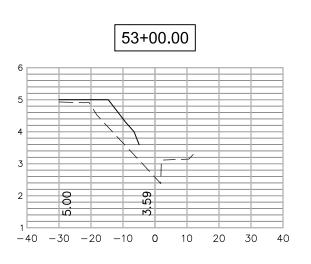
MEAN LOW WATER LINE (MLWL)

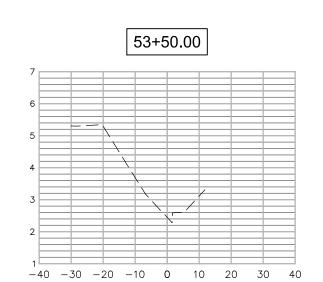
MEAN LOWER LOW WATER (MLLW) ELEV. -0.30

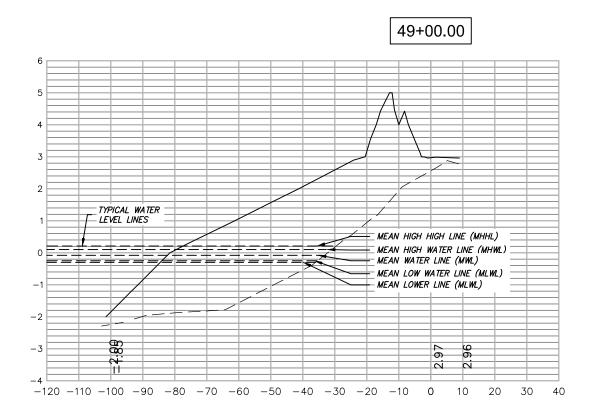


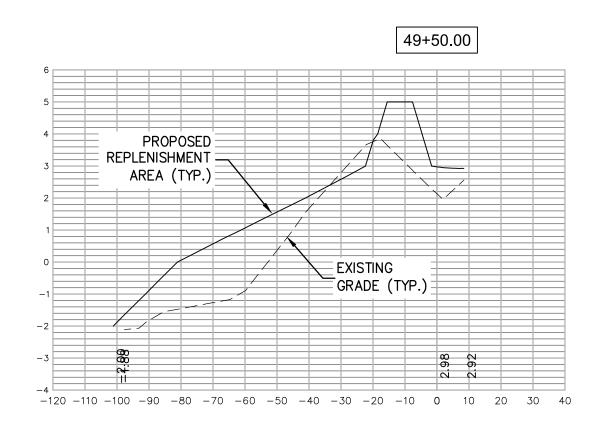


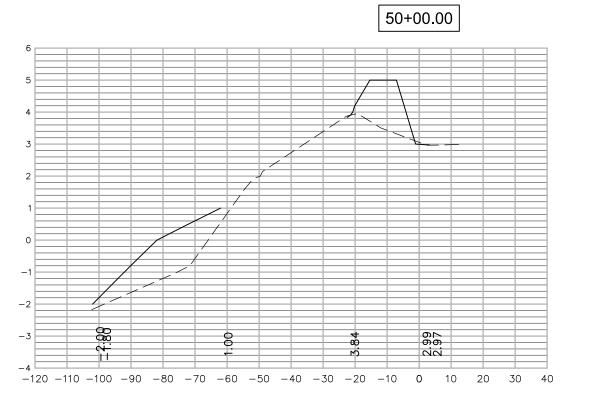


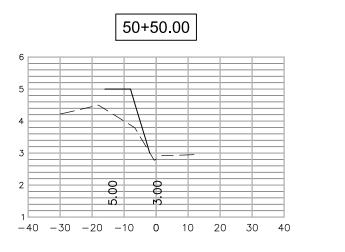


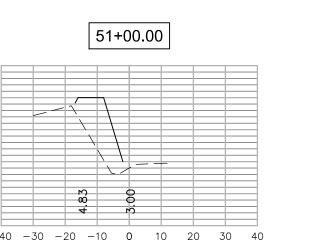










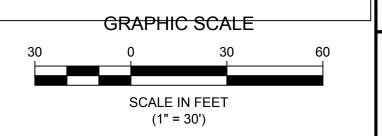


CROSS SECTIONS NOTE:

 PLEASE SEE TYPICAL CROSS SECTIONS ON PAGE 13 FOR WATER LINE LEVELS.

2. ELEVATION ARE ON DATUM NAVD-1988.





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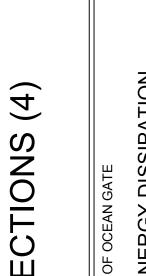
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٦	PS	9-20-21	REV. PER ARMY CORP. REVIEW LETTER 9/16/21	4
JL	PS	11-11-21	REV. PER ARMY CORP. REVIEW LETTER 10/14/21	2
٦	PS	11-29-21	REV. PER ARMY CORP. REVIEW LETTER 11/19/21   11-29-21	9
JL	PS	12-21-21	REV. PER ARMY CORP. REVIEW LETTER 12/8/21	7

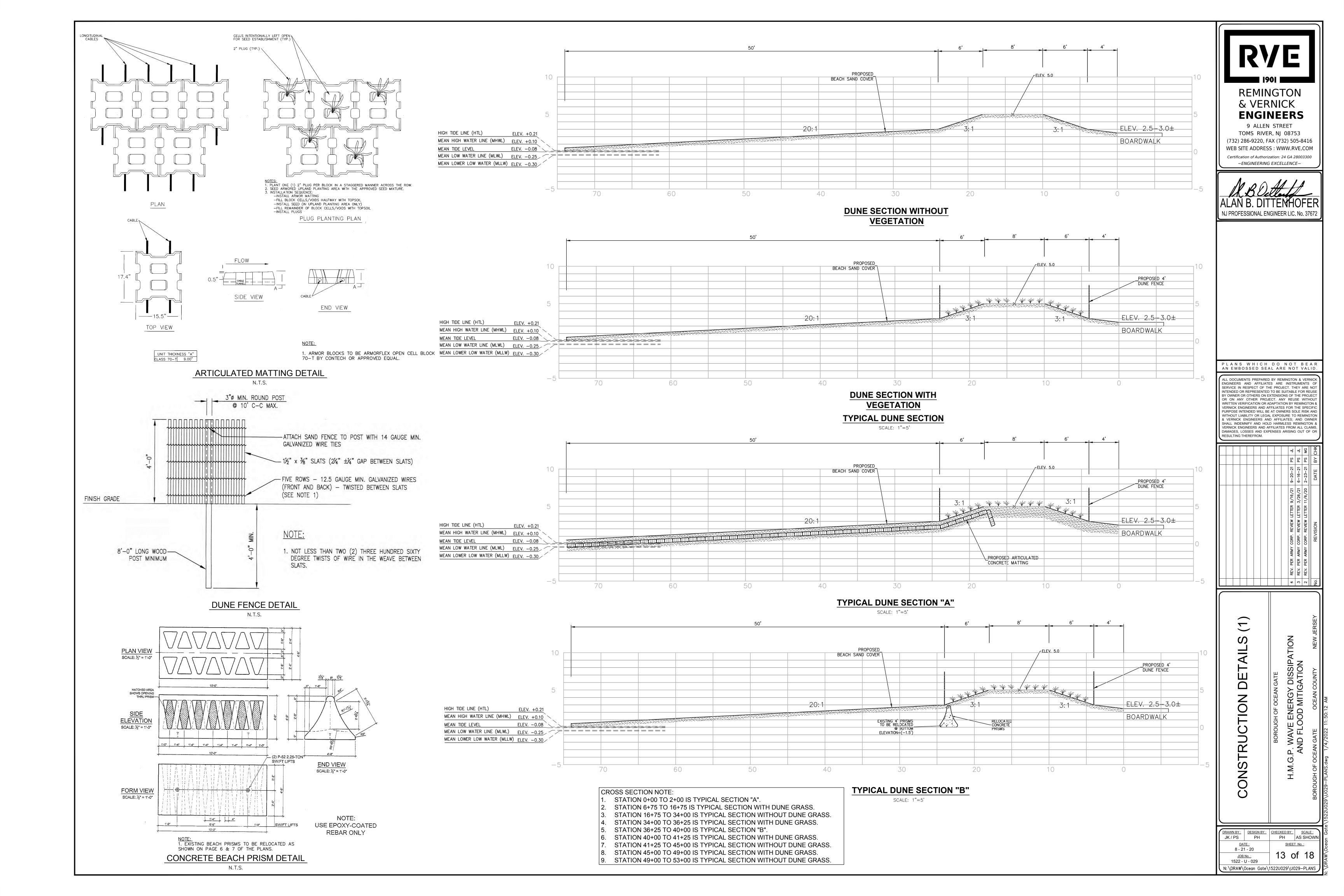


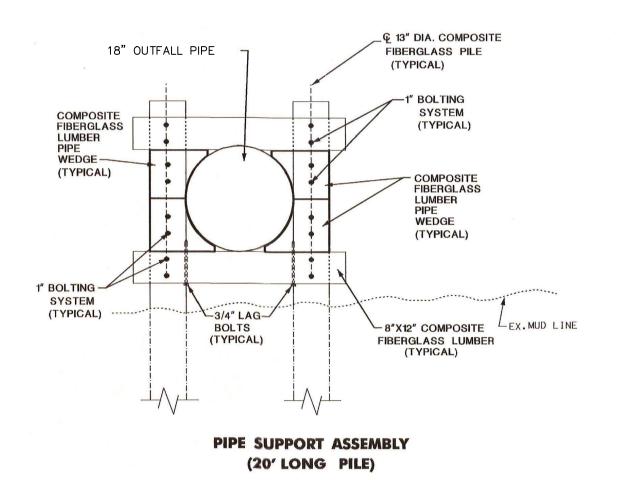
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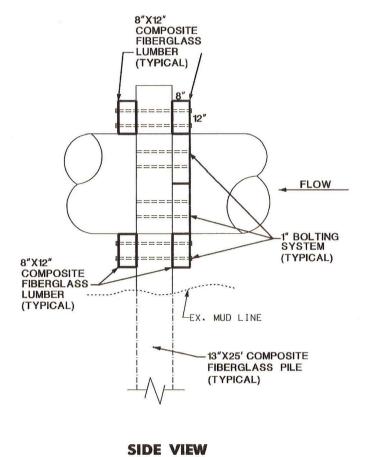
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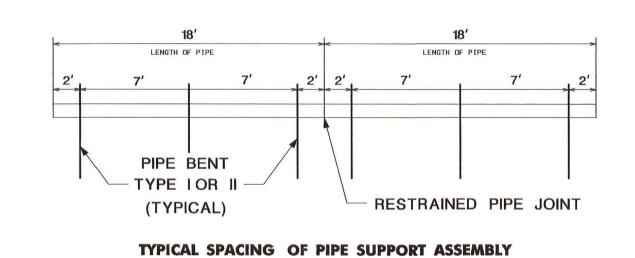
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w\	RAW\Ocean Gate\1	  522U029\U	029-	-PLANS	Ш









NOT TO SCALE

NOTE: BOLT SYSTEM SHALL BE 1" GALVANIZED STEEL THREADED ROD, WITH GALVANIZED STEEL OGEE WASHER, LOCK WASHER AND NUT AT EACH END.

<u>NOTE:</u> 1. AS SHOWN OR APPROVED EQUAL.

OUTFALL PIPE EXTENSION DETAIL

N.T.S.





Product Trade-				Part	Roll D	imensions*		Anchorage
mark	Material	Grade	Color	Number	Width	Lenght	Roll weight	included in the kit:
				206 483		16.5′ <i>- 5m</i>	22lbs - <i>10kg</i>	in the kit:
				206 484		33' - 10m	45lbs <i>- 20.5kg</i>	• X connection
	RECYC			206 485	5′ 1.53m	50' - 15.2m	68lbs - <i>31kg</i>	
	E TE	AFX		206 486	1.55111	82' - <i>25m</i>	111lbs - <i>50kg</i>	
Mobi-mat® DESCHAMPS MATS BYSTEMS INC.		("w"w")		206 488		100' - <i>30.4m</i>	135lbs - <i>61kg</i>	
	ATHWATS			206 494		16.5′ - <i>5m</i>	29lbs -13kg	
	1000/			206 495		33′-10m	58lbs - <i>26kg</i>	• Staples
Mobi-Mat® Wings	100% Recycled	0.27	Blue Jay	206 496	6.5′ 1.98m	50' - 15.2m	88lbs - <i>40kg</i>	T
93	Polyester			206 497	1.50111	82' - 25m	144lbs - <i>65kg</i>	
				206 498		100' - <i>30.4m</i>	176lbs - <i>80kg</i>	

\* For any customized length, please contact us.

The installation sheet can be downloaded on www.mobi-mat-chair-beach-access-dms.com

Each kit is equipped with end connectors and eyelets to insert the staples provided in the kit.

• The installation sheet can be downloaded on www.mobi-mat-chair-beach-access-dms.com







Mobi-Roll'N Stow™





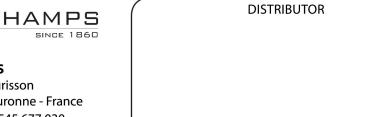




6.5′ & 10′ wide VMM™







www.mobi-mat.com
f mobimat.access
MobiMatUS
recpath Mobi-Mat
company/deschamps

DESCHAMPS
Usine de Bourisson
16400 La Couronne - France

: + 33 (0) 545 677 030

: info@mobi-mat.com

NOTE:
1. AS SHOWN OR APPROVED EQUAL.

BEACH ACCESS RAMP DETAIL

N.T.S.

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ALAN B. DITTENHOFER

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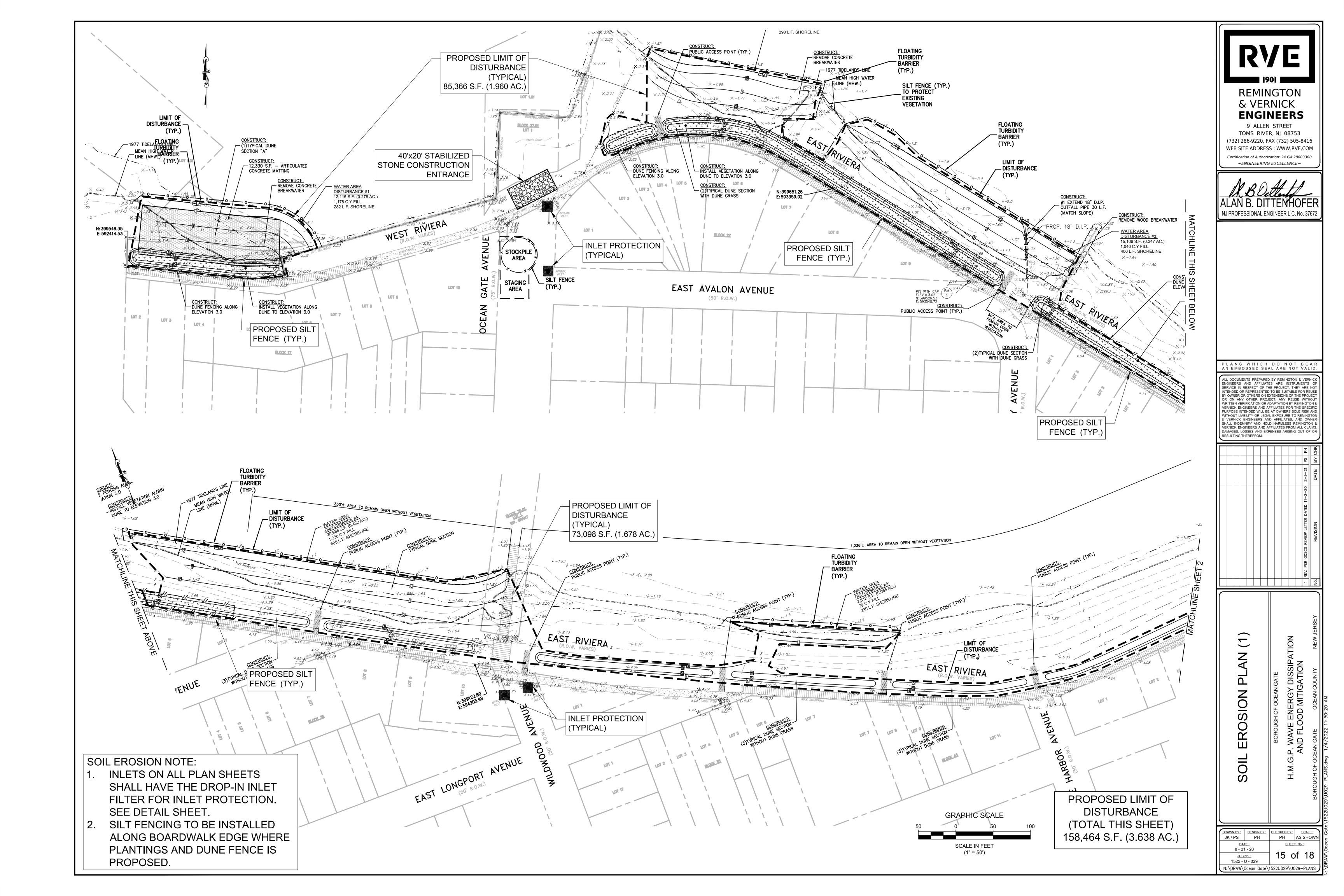
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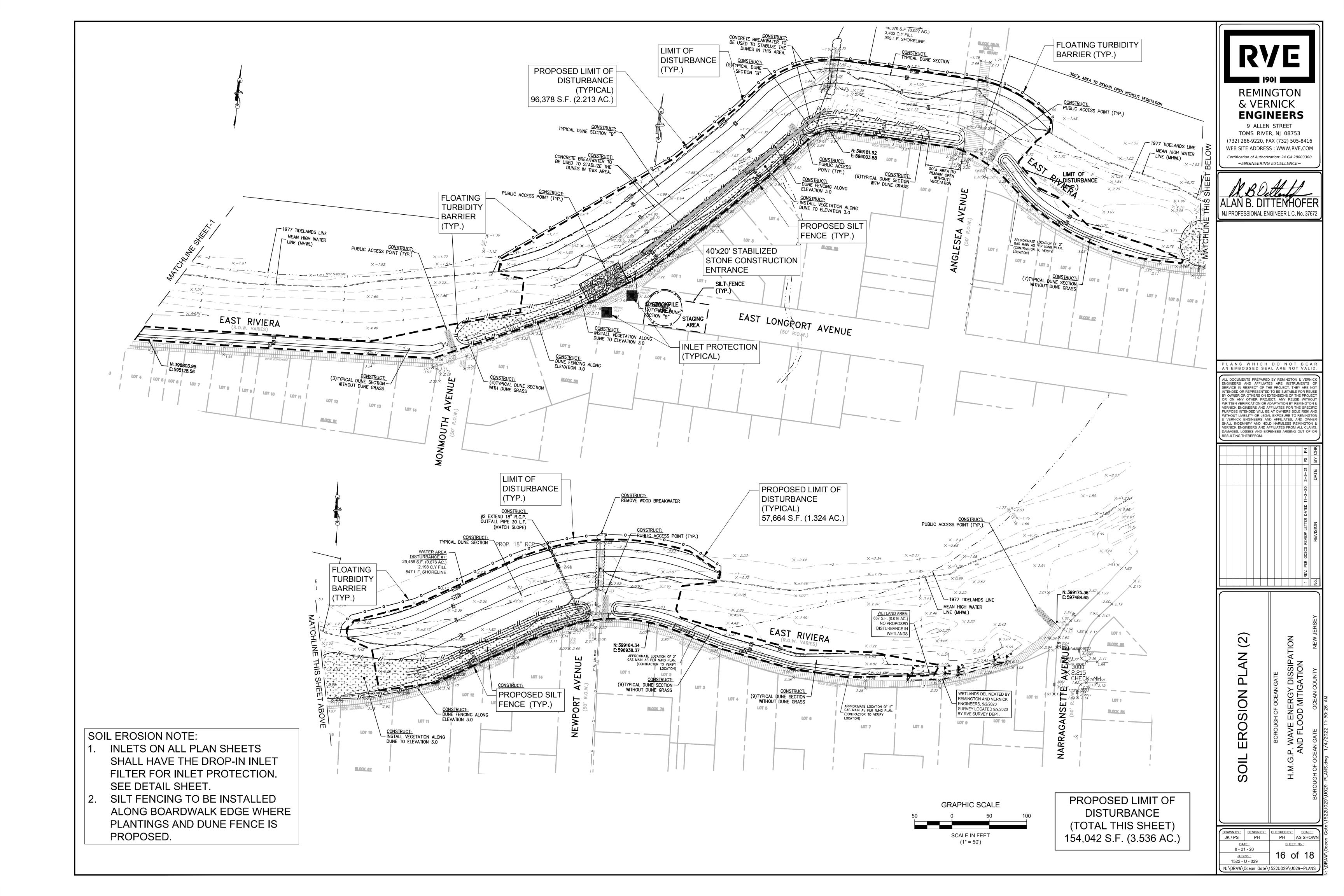
CONSTRUCTION DETAILS (2)

BOROUGH OF OCEAN GATE

1.G.P. WAVE ENERGY DISSIPA

AND FLOOD MITIGATION





# SOIL EROSION AND SEDIMENT CONTROL NOTES RIVE

#### STANDARD FOR STABILIZATION WITH MULCH ONLY

<u>Definition</u> Stabilizing exposed soils with non-vegetative materials exposed for periods longer than 14 days

To protect exposed soil surfaces from erosion damage and to reduce offsite environmental damage

Provides temporary mechanical protection against wind or rainfall induced soil erosion until permanent vegetative <u>Where Applicable</u>

#### Methods and Materials

A. Unrotted small—grain straw, at 2.0 to 2.5 tons per acre, is spread uniformly at 90 to 115 pounds per 1,000 square feet and anchored with a mulch anchoring tool, liquid mulch binders, or netting tie down. Other suitable materials may be used if approved by the Soil Conservation District. The approved rates above have been met when the mulch covers the ground completely upon visual inspection, i.e. the soil cannot be seen below the mulch be seen below the mulch.

C. Synthetic or organic soil stabilizers may be used under suitable conditions and in quantities as recommended by the manufacturer.

D. Wood-fiber or paper-fiber mulch at the rate of 1,500 pounds per acre (or according to the manufacturers)

requirements) may be applied by a hydroseeder.

E. Mulch netting, such as paper jute, excelsior, cotton, or plastic, may be used.

F. Woodchips applied uniformly to a minimum depth of 2 inches may be used. Woodchips will not be used on areas where flowing water could wash them into an inlet and plug it.

Standards for Soil Erosion and Sediment Control in New Jersey January 2014 Gravel, crushed stone, or slag at the rate of 9 cubic yards per 1,000 sq. ft. applied uniformly to a minimum depth of 3 inches may be used. Size 2 or 3 (ASTM C-33) is recommended.

3. <u>Mulch Anchoring</u> — should be accomplished immediately after placement of hay or straw mulch to minimize oss by wind or water. This may be done by one of the following methods, depending upon the size of the area steepness of slopes. Peg and Twine — Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in A. Feg and while — brive a to in high wooden pegs to within 2 to 3 micros of the soil surface every 4 leat in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss—cross and a square pattern. Secure twine around each peg with two or more round turns.

B. Mulch Nettings — Staple paper, cotton, or plastic nettings over mulch. Use degradable netting in areas to be mowed. Netting is sually available in rolls 4 feet wide and up to 300 feet long.

Crimper Mulch Anchoring Coulter Tool — A tractor—drawn implement especially designed to punch and and anchor mulch link soil surface. This practice affords maximum erosion control, but its use is limited o those slopes upon which the tractor can operate safely. Soil penetration should be about 3 to 4 inches.

<u>Liquid Mulch-Binders</u>
Applications should be heavier at edges where wind catches the mulch, in valleys, and at crests

1. Applications should be heavier at edges where wind catches the mulch, in valleys, and at cre of banks. Remainder of area should be uniform in appearance.
2. Use one of the following:
a. Organic and Vegetable Based Binders — Naturally occurring, powder based, hydrophilic materials that mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membrane networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phyto—toxic effect or impede growth of turfgrass. Vegetable based gels shall be applied at rates and weather conditions recommended by the manufacturer.
b. Synthetic Binders — High polymer synthetic emulsion, miscible with water when diluted and following application to mulch, drying and curing shall no longer be soluble or dispersible in water. It shall be applied at rates and weather conditions recommended by the manufacturer and remain tacky until germination of grass.

#### STANDARD FOR TREE PROTECTION DURING CONSTRUCTION

#### Definition The protection of trees from environmental and mechanical injury during construction activities.

<u>Purpose</u> To protect trees for erosion and sediment control, shade, aesthetics, wildlife, dust control, noise abatement, and

Water Quality Enhancement

Limiting areas of site disturbance and re-vegetating with permanent cover, minimizes off site and negative downstream water quality impacts caused by stormwater runoff. Mature trees provide structural stability for soils, promote proper water movement through the soil profile and moderate changes in temperature along streams and other water bodies. Where Applicable

#### On new development sites with existing trees.

<u>Methods and Materials</u>

Reconnaissance should be performed before land clearing begins to identify dead and weak trees to be removed and healthy trees to remain, to create aesthetically pleasing development site with vegetation rather than the presence of dead or dying trees. Inventory the site and clearly mark the trees and stands of trees to be saved Consider relocating streets, houses, or other structures if necessary and feasible. Once clearing begins and damage to the trees occurs, valuable specimens may be lost.

Characteristics of trees to be protected and saved. The following lists characteristics that should be evaluated

Tree Vigor

Tree health is the overall condition of the tree. A tree of low vigor is more susceptible to damage by environmental changes than healthy trees and is more susceptible to insect and disease attacks. Indications of poor vigor include the dying of the tips of branches and entire limbs, small annual twig growth, stunted leaf size, sparse foliage, and poor foliage color. Avoid saving hollow or rotten trees, tree cracked, split, leaning or crooked, oozing sap, or with broken tops. Use woodchips generated from remoin of trees of poor health and spread them around the root zones to help protect the trees that remain.

Many species of trees found in New Jersey woodlands are not suitable for shade tree uses around buildings. Avoid protecting trees that are short—lived, brittle, have soft wood, messy leaves, fruit, or are frequently attacked by insects and disease. Tree root systems which do not adapt well to cuts and fills may not be a suitable alternative. The following are severely affected by compacted construction fills: Aspen, Beech, Paper birch, Eastern red cedar, Black cherry, Dogwood, Katsura tree, Linden, Paperbark maple, Sugar maple, Black oak, Pin oak, Red oak, White oak, Pines, and Tuliptree. See Table 9—1 for a more complete list of construction impacts to individual tree species. Resistant to Insects and Diseases

Resistant to Insects and Diseases

Avoid leaving trees in highly visible areas or specimens that are frequent targets of insects and diseases. American Elm, for example, could be lost due to Dutch Elm Disease. Wild Cherry, another example, is a favorite host of the tent caterpillar, which causes defoliation of the trees in early summer. The following are susceptible to insects (I) and disease (D): White Ash(D), Birch (I), Butternut (D), Crabapples (D), some

Elms (D), Hawthorn (D), Hemlock (I), Linden (I), Sugar Maple (D), Mountain Ash (D), Sassafras (I), holartree (D), Redbud (D) Tree Aesthetics
Choose trees that are desthetically pleasing, exhibiting good shape and form. Avoid leaning, crooked, and

misshapen trees. Occasionally, an odd-shaped tree or one of unusual form may add interest to the landscape if strategically located. Be sure the tree is structurally sound and vigorous. Spring and Autumn Coloration
Species differ in fall color. Some are bright red, others orange and yellow. Other species exhibit no autumn

<u>Wildlife Benefits</u>

Favor trees that are preferred by wildlife for food, cover, and nesting. A mixture of evergreens and the winter months. The ha Air Pollution Susceptibility

Tree species vary greatly to susceptibility to air pollution. Symptoms vary from browning on the edges of the leaves and needles, to stunting of growth, to death of the tree. The following show tolerance to urba stress and are less likely to present problems with sidewalks: Baldcypress, Corktree, Amur maple, Kentuck coffee tree, Crabapple, Dawn redwood, Ginkgo (male), Coldenraintree, Hackberry, Hawthorn, Honeylocust,

uropean hornbeam, Horsechestnut, Lindens, Oaks (excluding pin), Pear, Scholartree, Sourgum (tupelo), weetgum, Yews, Zelkova. Species Longevity

Favor trees whose life span is long, such as oak, beech, and tulip poplar. Short-lived trees; (Black locust, Gray birch, Aspen) should be avoided for use as shade, lawn or specimen tree Although some short—lived trees have an attractive form or pleasing coloration in the spring or fall, such trees may not live for a long time and thus may not be worth preserving.

Criteria for protecting remaining trees: General mechanical damage — see Figure 9.3 for correct root zone calculation and placement of tree protection. Box trees within 25 feet of a building site to prevent mechanical injury. Fencing or other barrier should be installed beyond the Critical Root Radius See Figure 9.3. Tree root systems commonly extend well beyond the drip

Boards will not be nailed to trees during building operations. Feeder roots should not be cut in an area inside the Protected Root Zone (PRZ).
Damaged trunks or exposed roots should have damaged bark removed immediately and no paint shall be applied.
Exposed roots should be covered with topsoil immediately after excavation is complete. Roots shall be pruned to

permanent tree injury. Care for serious injury should be prescribed by a professional forester or licensed tree Tree limb removal, where necessary, will be done as natural target pruning to remove the desired branch as close as possible to the branch collar. There should be NO flush cuts. Flush cuts destroy a major defense system of the tree. See Figure 9—1. No tree paint shall be applied. All cuts shall be made at the outside edge of the branch collar (fig. 9-1 and 9-2). Cuts made too far beyond the branch collar may lead to excess sprouting, cracks and rot. Removal of a "V" crotch should be considered for free standing specimen trees (see Figure 9-2)

#### STANDARD FOR TOPSOILING

<u>Definition</u> Topsoiling entails the distribution of suitable quality soil on areas to be vegetated

<u>Purpose</u> To improve the soil medium for plant establishment and maintenance.

Water Quality Enhancement Growth and establishment of a vigorous vegetative cover is facilitated by topsoil, preventing soil loss by wind and rain offsite and into streams and other stormwater conveyances.

Topsoil shall be used where soils are to be disturbed and will be revegetated.

A. Topsoil should be friable (1), loamy (2), free of debris, objectionable weeds and stones, and contain no toxic substance or adverse chemical or physical condition that may be harmful to plant growth. Soluble salts should not be excessive (conductivity less than 0.5 millimhos per centimeter. More than 0.5 millimhos may desiccate seedlings and dversely impact growth). Imported topsoil shall have a minimum organic matter content of 2.75 percent. Organic

(2) Loamy means texture groups consisting of coarse loamy sands, sandy loam, fine and very fine sandy loam, silt loam, clay loam sandy clay loam and silty clay loam textures and having less than 35% coarse fragments (particles less than 2mm in size ) as defined in the Glossary of Soil Science Terms, 1996, Soil Science Society of America.

A. Field exploration should be made to determine whether quantity and or quality of surface soil justifies stripping. . Where feasible, lime may be applied before stripping at a rate determined by soil tests to bring the soil pH to

Permanent (pg. 4—1) or Temporary (pg.7—1) Vegetative Cover for Soil Stabilization. Weeds should not be allowed to grow on stockpiles.

disturbed soil to erosion. Immediately proceed to establish vegetative cover in accordance with the specified seed mixture. Time is of the essence

applied to bring soil to a pH of approximately 6.5 and incorporated into the soil as nearly as practical to a depth of 4 inches.

D. Prior to topsoiling, the subsoil shall be in compliance with the Standard for Land Grading, pg. 19-1. 4. Applying Topsoil

. A uniform application to an average depth of 5.0 inches, minimum of 4 inches, firmed in place is required. Alternative depths may be considered where special regulatory and/or industry design standards are appropriate such as on golf courses, sports fields, landfill capping, etc.. Soils with a pH of 4.0 or less or containing iron sulfide shall be covered with a minimum depth of 12 inches of soil having a pH of 5.0 or more, in accordance with the Standard or Management of High Acid Producing Soil (pg. 1—1).

2. A uniform application to an average depth of 5" (minimum 4") firmed in place is required. 3. Pursuant to the requirements in section 7 of the Standard for Permanent Vegetative Stabilization, the contractor is responsible to ensure that permanent vegetative cover becomes established on at least 80% of the soils to be stabilized with vegetation. Failure to achieve the minimum coverage may require additional work to be performed.

#### STANDARD FOR SEDIMENT BARRIER

A temporary barrier installed across or at the toe of a slope.

The purpose of a sediment barrier is to intercept and detain small amounts of sediment from unprotected areas of limited extent.

<u>Design Criteria</u>

The sediment barrier is used where:

1. No other practice is feasible,

2. There is no concentration of water in a channel or other drainage way above the barrier, and

3. Erosion would occur in the form of sheet and rill erosion.

. The slope of the contributing drainage area for at least 30 feet adjacent to the barrier shall not exceed

Requirements for bale barrier (e.g., straw, hay, or other acceptable vegetative material):

All bales shall be securely tied and staked on the contour (Fig. 23-1).
 Bales shall be placed in a row with ends tightly abutting the adjacent bales.
 Each bale shall be embedded in the soil a minimum of 4 inches.
 Bales shall be securely anchored in place by two stakes or re-bars driven through each bale. The first stake in each bale shall be driven toward previously laid bale to force bales together.

ground and extend at least 2 feet above ground (Fig. 23—2). Posts shall be constructed of hardwood 2. Super since the A frictal release with a final or similar or similar friests perinings that reads 2 feeting in the utilized, fastened to the fence posts, to provide reinforcement and support to the geotextile fabric. Posts may be spaced less than 8 feet on center and may be constructed of heavier wood or metal as needed to withstand heavier sediment loading. This practice is appropriate where space for other practices is limited and heavy sediment loading is expected. Super silt fence is not to be used in place of properly designed diversions (pg. 15–1) which may be needed to control surface runoff rates deep in the ground. The fabric shall extend at least 2 feet above the ground. The fabric must be

securely fastened to the posts using a system consisting of metal fasteners (nails or staples) and a high strength reinforcement material (nylon webbing, grommets, washers etc.) placed between the fastener and the geotextile fabric. The fastening system shall resist tearing away from the post. The fabric shall incorporate a drawstring in the top portion of the fence for added strength.

The stone shall meet ASTM C-33 size No. 2 (2.5 to 1.5) or 3 (2 to 1 inch)

Sediment shall be removed from the upstream face of the barrier when it has reached a depth of ½ the Repair or replace barrier (fabric, posts, bales etc.) when damaged. Barriers shall be inspected daily for signs of deterioration and sediment removal.

In order to control dust, as often as required during each working day, and particularly prior to the conclusion of each working day, areas under immediate construction (including access roads and other areas affected thereby) shall be swept and wet down with water sufficiently to lay dust. In addition, these areas shall be wet down during nonworking hours (including weekends) as often as required to keep the dust under control. The use of calcium chloride or petroleum products or other chemicals for dust control is prohibited.

#### **CULTURAL RESOURCES PROTECTION**

A.) If a cultural resource is encountered during the course of construction, the contractor is directed to halt all construction activities in that area. The contractor shall immediately contact the project sponsor who shall contact the Department. The Department will determine and require initiation of the appropriate actions in conformance with N.J.A.C. 7:22-10.8.

B.) The contractor shalt not dispose of excess excavated material at, stockpile construction materials at, or obtain or borrow material from properties which are listed or eligible for listing the New Jersey or National Registers of C.) Acid Soils that are encountered during the course of construction must be controlled following special requirements and conditions pursuant to N.J.A.C. 7: 22—10.II(j) as noted in the specifications.

#### PROHIBITED CONSTRUCTION PROCEDURES

Prohibited construction procedures include, but are not limited to, the following:

2. Indiscriminate, arbitrary or capricious operation of equipment in any stream corridors, wetlands, vernal habitats 5. Pumping of silt—laden water from trenches or other excavations into any surface waters, stream corridors,

4. Damaging vegetation adjacent to or outside of the access road or the right-of-way. 5. Disposal of trees, brush and other debris in any stream corridors, wetlands, vernal habitats, surface waters, or

6. Permanent or unspecified alteration of the flow line of any stream.

9. Use of asphaltic mulch binders. 10. Any unpermitted discharge of sewage.

Where Applicable

Methods and Materials

1) Friable means easily crumbles in the fingers, as defined in most soils texts.

B. Topsoil substitute is a soil material which may have been amended with sand, silt, clay, organic matter, fertilizer or lime and has the appearance of topsoil. Topsoil substitutes may be utilized on sites with insufficient topsoil for establishing permanent vegetation. All topsoil substitute materials shall meet he requirements of topsoil noted above. Soil tests shall be performed to determine the components of sand, silt, clay, organic matter, soluble salts and pH

Grade at the onset of the optimal seeding period so as to minimize the duration and area of exposure of

B. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application and anchoring, and maintenance. See the Standard for Land Grading, pg. 19—1.

E. Employ needed erosion control practices such as diversions, grade stabilization structures, channel stabilization measures, sedimentation basins, and waterways. See Standards 11 through 42.

Topsoil should be handled only when it is dry enough to work without damaging soil structure; i.e., less than

C. Pursuant to the requirements in Section 7 of the Standard for Permanent Vegetative Stabilization, the contractor is responsible to ensure that permanent vegetative cover becomes established on at least 80% of the soils to be stabilized with vegetation. Failure to achieve the minimum coverage may require additional work to be performed by the contractor to include some or all of the following: supplemental seeding, re-application of lime and fertilizers, and/or the addition of organic matter (i.e. compost) as a top dressing. Such additional measures shall be based on soil tests such as those offered by Rutgers Cooperative Extension Service or other approved laboratory facilities qualified to test soil samples for agronomic properties.

#### TOPSOILING NOTES

. Topsoil should be handled only when it is dry enough to work without damaging soil structure.

Conditions Where Practice Applies

All types of sediment barriers:

Contributing drainage area is less than 1 acre and the length of slope above the barrier is less than 150 The barrier shall be constructed so water cannot bypass the barrier around the ends.

Inspection shall be frequent and repair or replacement shall be made promptly as needed.

The barrier shall be removed when the contributing drainage area has been stabilized so as not to block made a transfer flower decisions.

ith a minimum diameter thickness of 1 ½ inches. . "Super"silt fence — A metal fence with 6 inch or smaller mesh openings and at least 2 feet high may A geotextile fabric, recommended for such use by the manufacturer, shall be buried at least 6 inches

Fence posts shall be spaced 8 feet center-to-center or closer. They shall extend at least 2 feet into

#### DUST CONTROL

. Dumping of spoil material into any stream corridor, any wetlands, any vernal habitats, any surface waters, any sites listed or eligible for listing on the New Jersey or National Registers of Historic Places, or at unspecified

Open burning of project debris. 8. Use of calcium chloride, petroleum products or other chemicals for dust control.

## STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

<u>Definition</u>
Establishment of permanent vegetative cover on exposed soils where perennial vegetation is needed for

 $\frac{\text{Purpose}}{\text{To permanently stabilize the soil, ensuring conservation of soil and water, and to enhance the environment.}$ <u>Water Quality Enhancement</u>
Slows the over—land movement of stormwater runoff, increases infiltration and retains soil and nutrients on site, protecting streams or other stormwater conveyances.

 $\frac{\mbox{Where }\mbox{$Applicable}$}{\mbox{On exposed soils that have a potential for causing off-site environmental damage.}}$ 

Methods and Materials A. Grade as needed and feasible to permit the use of conventional equipment for seedbed A. Grade as needed and leasine to permit the use of conventional equipment of seeded preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with Standard for Land Grading.

B. Immediately prior to seeding and topsoil application, the subsoil shall be evaluated for compaction in accordance with the Standard for Land Grading.

C. Topsoil should be handled only when it is dry enough to work without damaging the soil structure. A uniform application to a depth of 5 inches (unsettled) is required on all sites. Topsoil shall be amended with organic matter, as needed, in accordance with the Standard for Topsoiling. D. Install needed erosion control practices or facilities such as diversions, grade—stabilization structures, channel stabilization measures, sediment basins, and waterways.

<u>Seedbed Preparation</u>
Uniformly apply ground limestone and fertilizer to topsoil which has been spread and 2. Section Preparation
A. Uniformly apply ground limestone and fertilizer to topsoil which has been spread and firmed, according to soil test recommendations such as offered by Rutgers Co-operative Extension Soil sample mailers are available from the local Rutgers Cooperative Extension offices (http://njaes.rutgers.edu/county/). Fertilizer shall be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet of 10-10-10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise and incorporated into the surface 4 inches. If fertilizer is not incorporated, apply one-half the rate described above during seedbed preparation and repeat another one-half rate application of the same fertilizer within 3 to 5 weeks after seeding.

B. Work lime and fertilizer into the topsoil as nearly as practical to a depth of 4 inches with a disc, spring-tooth harrow, or other suitable equipment. The final harrowing or disking operation should be on the general contour. Continue tillage until a reasonable uniform seedbed is prepared.

C. High acid producing soil. Soils having a pH of 4 or less or containing iron sulfide shall be covered with a minimum of 12 inches of soil having a pH of 5 or more before initiating seedbed reparation. See Standard for Management of High Acid-Producing Soils for specific requirements.

SEEDING TYPE AS SHOWN OR CONTRACTOR TO PICK APPROVED EQUAL FROM TABLE 4-2 SEEDING TYPE AS SHOWN OR CONTRACTOR TO PICK APPROVED EQUAL FROM TABLE 4—2

A. Select a mixture from Table 4—2 or use a mixture recommended by Rutgers Cooperative Extension Natural Resources Conservation Service which is approved by the Soil Conservation District. Seed germination shall have been tested within 12 months of the planting date. No seed shall be accepted with a germination test date more than 12 months old unless retested.

1. Seeding rates specified are required when a report of compliance is requested prior to actual establishment of permanent vegetation. Up to 50% reduction in rates may be used when permanent vegetation is established prior to a report of compliance inspection. These rates apply to all methods of seeding. Establishing permanent vegetation means 80% vegetative coverage with the specified seed mixture for the seeded area and mowed once.

2. Warm-season mixtures are grasses and legumes which maximize growth at high temperatures, generally 850 F and above. See Table 4—2 mixtures 1 to 7. Planting rates for warm-season grasses shall be the amount of Pure Live Seed (PLS) as determined by germination testing results.

determined by germination testing results.

3. Cool—season mixtures are grasses and legumes which maximize growth at temperatures below 85T Many grasses become active at 65T.See Table 4—2, mixtures 8—20. Adjustment of planting rates to compensate for the amount of PLS is not required for cool season grasses. B. Conventional Seeding is performed by applying seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or cultipacker seeder. Except for drilled, hydroseeded or cultipacked seedings, seed shall be incorporated into the soil within 24 hours of seedbed preparation to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore capillarity, and improve seedling emergence. This is the preferred method. When berformed on the contour, sheet erosion will be minimized and water conservation on site will be Hydroseeding is a broadcast seeding method usually involving a truck, or trailer—mounted tank with an agitation system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Shortfibered mulch may be

applied with a hydroseeder following seeding. (also see Section 4—Mulching below). Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. When poor seed to soil contact occurs, there is a reduced seed germination and growth. Mulching
hing is required on all seeding. Mulch will protect against erosion before grass is established and will promote faster and earlier establishment. The existence of vegetation sufficient to control soil erosion shall be deemed compliance with this mulching requirement. A. Straw or Hay. Unrotted small grain straw, hay free of seeds, to be applied at the rate of 1—1/2 to 2 tons per acre (70 to 90 pounds per 1,000 square feet), except that where a crimper is used instead tons per acre (70 to 90 pounds per 1,000 square feet), except that where a crimper is used instead of a liquid mulch-binder (tackifying or adhesive agent), the rate of application is 3 tons per acre. Mulch chapper-blowers must not grind the mulch. Hay mulch is not recommended for establishing fine turf or lawns due to the presence of weed seed.

Application — Spread mulch uniformly by hand or mechanically so that at least 85% of the soil surface is covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000 square feet sections and distribute 70 to 90 pounds within each section.

Anchoring shall be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area, steepness of slopes, and costs.

1. Peg and Twine. Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss—cross and a square pattern. Secure twine around each peg with two or more round turns.

2. Mulch Nettings — Staple paper, jute, cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.

3. Crimper (mulch anchoring coulter tool) — A tractor—drawn implement, somewhat like a disc harrow, especially designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soil so as to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.

4. Liquid Mulch—Binders — May be used to anchor salt hay, hay or straw mulch.

a. Applications should be heavier at edges where wind may catch the mulch, in valleys, and at crests of banks. The remainder of the area should be uniform in appearance.

b. Use one of the following: Pea and Twine. Drive 8 to 10 inch wooden peas to within 2 to 3 inches of the soil surface

Organic and Vegetable Based Binders — Naturally occurring, powder—based hydrophilic materials when mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membraned networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turf grass. Use at rates and weather conditions as recommended by the manufacturer to anchor mulch materials. Many new products are available, some of which may need further

Synthetic Binders — High polymer synthetic emulsion, miscible with water when ated and, following application of mulch, drying and curing, shall no longer be soluble or dispersible in water. Binder shall be applied at rates recommended by the manufacturer and remain tacky until germination of grass.

Note: All names given above are registered trade names. This does not constitute a recommendation of these products to the exclusion of other products. B. Wood-fiber or paper-fiber mulch - shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at the rate of 1,500 pounds per acre (or as recommended by the product manufacturer) and may be applied by a hydroseeder. Mulch shall not be mixed in the tank with seed. Use is limited to flatter slopes and during optimum seeding periods in spring and fall.

Or Pelletrand mulch — compressed and published to 1.00 periods. C. Pelletized mulch — compressed and extruded paper and/or wood fiber product, which may contain co-polymers, tackifiers, fertilizers, and coloring agents. The dry pellets, when applied to a seeded area and watered, form a mulch mat. Pelletized mulch shall be applied in accordance with the manufacturer's recommendations. Mulch may be applied by hand or mechanical spreader at the rate of 60-75 lbs/1,000 square feet and activated with 0.2 to 0.4 inches of water. This material has been found to be beneficial for use on small lawn or renovation areas, seeded areas where weedseed free mulch is desired, or on sites where straw mulch and tacklifer agent are not practical or desirable. Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seed

ped is extremely important for sufficient activation and expansion of the mulch to provide soil Irrigation (where feasible) of twice a day until vegetation is well established). This is especially true when seedings are made in abnormally dry or hot weather or on droughty sites. lopdressing
 Since soil organic matter content and slow release nitrogen fertilizer (water insoluble) are prescribed in Section 2A — Seedbed Preparation in this Standard, no follow-up of topdressing is mandatory. An exception may be made where gross nitrogen deficiency exists in the soil to the extent that turf failure may develop. In that instance, topdress with 10-10-10 or equivalent at 300 pounds per acre or 7 pounds per 1,000 square feet every 3 to 5 weeks until the gross nitrogen deficiency in the turf is ameliorated.

7. Establishing Permanent Vegetative Stabilization
The quality of permanent vegetation rests with the contractor. The timing of seeding, preparing the seedbed, applying nutrients, mulch and other management are essential. The seed application rates in Table 4-2 are required when a Report of Compliance is requested prior to actual establishment of permanent vegetation. Up to 50% reduction in application rates may be used when permanent vegetation is setablished from the reporting a Penetral Compliance from the district. These rates apply to all mathed a established prior to requesting a Report of Compliance from the district. These rates apply to all methods of seeding. Establishing permanent vegetation means 80% vegetative cover (of the seeded species wed once. Note this designation of mowed once does not guarantee the permanency of the turf should other maintenance factors be neglected or otherwise mismanaged.

## STANDARD FOR MAINTAINING VEGETATION

<u>Definition</u> The perpetuation of vegetative cover.

To assure the continuing function of the vegetative cover in the conservation of soil and water and the enhancement of the environment It is usually less costly to carry on a maintenance program than it is to make repairs after an extended period of neglect

#### Where Applicable

On areas where existing vegetation protects or enhances the environment

Methods and Materials A preventive maintenance program anticipates requirements and accomplishes work when it can be done with least effort and expense to insure adequate vegetative cover. Maintenance should occur on a regular basis, consistent with favorable plant growth, soil and climatic conditions. This involves regular seasonal work for mowing, fertilizing, liming, watering, pruning, fire control, weed and pest control, reseeding, and timely repairs.

The degree of preventive maintenance depends upon the category of the vegetation and land; i.e., improved A. Mowing is a recurring practice and it's intensity depends upon the function of the ground cover. On improved areas, such as lawns, certain recreation fields, and picnic areas, mowing will be frequent. On semi-improved areas, mowing will be infrequent. Unimproved areas may be left unmowed to permit active acceptance.

B. Fertilizer should be applied as needed to maintain a dense stand of desirable species. Frequently mowed areas and those on sandy soils will require more fertilization.

F. Fire hazard is greater where dry vegetation has accumulated. The taller the vegetation, the greater the

E. Pest and disease controls are more necessary on improved areas than on unimproved areas.

C. Lime requirement should be determined by soil testing every 2 to 3 years. Fertilization increases the need D. Weed invasion may result from abusive moving and inadequate fertilization and liming. Brush invasion is a common consequence of lack of mowing. The amount of weeds or brush that can be tolerated in any protective planting depends upon the land category and it's intended use. Drainageways are subject to rapid infestation by weeds and woody plants. These should be controlled, since they often reduce drainageway

## STANDARD FOR TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

To temporarily stabilize the soil and reduce damage from wind and water erosion until permanent stabilization is accomplished.

On exposed soils that have the potential for causing off—site environmental damage.

Provides temporary protection against the impacts of wind and rain, slows the over land movement of stormwater rund

#### <u>Methods and Materials</u>

- A. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding mulch application, and mulch anchoring. All grading should be done in accordance with Standards fort Land Continue to 10.1.
- B. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways See Standards 11 through 42. C. Immediately prior to seeding, the surface should be scarified to 12"where there has been soil compaction. This
- A. Apply ground limestone and fertilizer according to soil test and recommendations such as offered by Rutgers Co-operative Extension. Soil sample mailers are available from the local Rutgers Cooperative Extension offices. Fertilizer shall be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet of 10-20-10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise. Liming rates shall be established via soil testing. Calcium carbonate is the equivalent and standard for measuring the ability of liming materials to neutralize soil acidity and supply calcium and magnesium to grasses and legumes.

B. Work lime and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, springtooth harrow, or other suitable equipment. The final harrowing or disking operation should be on the general contour Continue tillage until a reasonable uniform seedbed is prepared. C. Inspect seedbed just before seeding. If traffic has left the soil compacted, the area must be retiled in D. Soils high in sulfides or having a pH of 4 or less refer to Standard for Management of High Acid Producing Soils, pg. 1-1.

A. Select seed from recommendations in Table 7-2. Table 7-2 : TEMPORARY VEGETATIVE STABILIZATION GRASSES, SEEDING RATES, DATES, AND DEPTHS

SEEDING RATE (1) OPTIMUM SEEDING DATE (2) OPTIMUM COOL SEASON GRASSES

100 1.0 3/15-5/1 3/1-5/15 2/15-5/1 
8/15-10/1 8/15-10/1 8/15-10/15 2. Spring Oats 8/1-9/15 8/15-10/1 8/15-10/15 1.0 3. Winter Barley 96 2.2 8/1-9/15 8/15-10/1 8/15-10/15 1.0 100 1.0 3/15-6/1 3/1-5/15 2/15-5/1 or 4. Annual Ryegrass 100 10 8/1-9/15 8/15-10/1 8/15-10/15 0.5 8/1-9/15 8/15-10/15 8/15-10/15 10 12 2.8 8/1-11/1 8/1-11/15 8/1-10/15 10 WARM SEASON GRASSES 6. Pearl Millet 20 0.5 6/1-8/1 5/15-8/15 5/1-9/1 10
7. Millet (German or Hungarian) 30 0.7 6/1-8/1 5/15-8/15 5/1-9/1 10

B. Conventional Seeding. Apply seed uniformly by hand, cyclone (centrifugal seeder, drop seeder, drill or cultipacks seeder. Except for drilled, hydroseeded or cultipacked seedings, seed shall be incorporated into the soil, to a depth of ¼ to ½ inch, by raking or dragging. Depth of seed placement may be ¼ inch deeper on coarse

system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. (also see Section IV Mulching) Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.

D. After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore capillarit

will be minimized and water conservation on site will be maximized.

and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion

#### Mulching is required on all seeding. Mulch will insure against erosion before grass is established and will promote faste nd earlier establishment. The existence of vegetation sufficient to control soil erosion shall be deemed compliance wi

A. Straw or Hay. Unrotted small grain straw, hay free of seeds, applied at the rate of 1-1/2 to tons per acre (7 to 90 pounds per 1,000 square feet), except that where a crimper is used instead of a liquid mulch-binder (tockifying or adhesive agent), the rate of application is 3 tons per acre. Mulch chopper-blowers must not grin the mulch. Hay mulch is not recommended for establishing fine turf or lawns due to the presence of weed see Application. Spread mulch uniformly by hand or mechanically so that approximately 95% of the soil surface will be covered. For uniform distribution of hand—spread mulch, divide area into approximately 1,000 square feet sections and distribute 70 to 90 pounds within each section. Anchoring shall be accomplished immediately after placement to minimize loss by wind or water. This may be

done by one of the following methods depending upon the size of the area, steepness of slopes, and costs

Peg and Twine. Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every feet in all directions. Stakes may be drive before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a cris—cross and a square pattern. Secure twine around each peg with two or more round turns. Mulch Nettings. Staple paper, jute, cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.

designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soil so a to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre No tackifying or adhesive agent is required. iv. Liquid Mulch-Binders. -May be used to anchor hay or straw mulch. 1. Applications should be heavier at edges where wind may catch the mulch, in valleys, and at

Crimper (mulch anchoring tool). A tractor-drawn implement, somewhat like a disc harrow, espec

crests of banks. The remainder of the area should be uniform in appearance. a. Organic and Vegetable Based Binders -Naturally occurring, powder based, hydrophilic materials when mixed with water formulas a gel and when applied to mulch under satisfactory curing conditions will form membraned networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phystoxic effect or mpede growth of turfgrass. Use at rates and weather conditions as recommended by the facturer to anchor mulch materials. Many new products are available, some of whice may need further evaluation for use in this state. b. Synthetic Binders -High polymer synthetic emulsion, miscible with water when diluted following application to mulch, drying and curing shall no longer be soluble or dispersible water. It shall be applied at rates recommended by the manufacturer and remain tacky until germination of grass.

Note: All names given above are registered trade names. This does not constitute a B. Wood-fiber or paper-fiber mulch. Shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at a rate of 1,500 pounds per acre (or as recommended by the project manufacturer) and may be applied by a hydroseeder. This mulch shall not be mixed in the tank with seed. Us is limited to flatter slopes and during optimum seeding periods in spring and fall.

may be applied by hand or mechanical spreader at a rate of 60-75 lbs./1,000 square feet and activate with 0.2 to 0.4 inches of water. This material has been found to be beneficial for use on small lawn or renovation reas, seeded areas where weed—seed free mulch is desired or on sites where straw mulch and tackifier agen Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seed bed is extremely important for sufficient activation and expansion of the mulch to provide soil coverage.

## STANDARD FOR STABILIZED CONSTRUCTION ACCESS

<u>Definition</u>
A stabilized pad of clean crushed stone located at points where traffic will be accessing a construction site. <u>Purpose</u>
The purpose of a stabilized construction access is to reduce the tracking or flowing of sediment onto paved oadways (or other impervious surfaces).

<u>Conditions Where Practice Applies</u> A stabilized construction exit applies to points of construction ingress and egress where sediment may be tracked, or low off, the construction site. <u>Water Quality Enhancement</u>
In addition to minimizing sediments which can be tracked directly onto pavement during construction, oils, greases and diesel fuels which become mixed with sediment during construction may also migrate into the offsite drainage system where they may enter directly into a waterway. By preventing or minimizing the tracking of sediments onto paved areas, a significant reduction in construction related hydrocarbon pollution will also be controlled.

<u>Design Criteria</u> resign Criteria. Stone Size — Use ASTM C—33, size No. 2 ( 2 ½ to 1 ½ in) or 3 ( 2 to 1 in). Use clean crushed angular stone. Crushed concrete of similar size may be substituted but will require more frequent upgrading and maintenance. Thickness - not less than six (6) inches. Width - not less than full width of points of ingress or egress.

Length - 50 feet minimum where the soils are course grained (sands or gravels) or 100 feet minimum where soils are fine grained (clays or silts), except where the traveled length is less than 50 or 100 feet respectively. These lengths may be increased where field conditions dictate. Stormwater from up—slope areas shall be diverted away from e stabilized pad (see Standard for Diversions, pg. 15–1). Where diversion is not possible, the length of the stabiliz sphalt Base Course, Mix I—2 shall be installed. The type and thickness of the base course and use of a dense graded aggregate sub-base shall be as prescribed by local municipal ordinance or other governing authority. At poorly drained locations, subsurface drainage gravel filter or geotextile shall be installed before installing the

LENGTH OF STONE REQUIRED

OARSE GRAINED SOILS FINE GRAINED SOILS

50 FT. 100 FT. 100 FT. 200 FT.

>5% Entire surface stabilized with Hot >5% Mix Asphalt Base Course, Mix I—21 (1) (1.) As prescribed by local ordinance or other governing authority. Where a stabilized construction exit traverses between two buildings, it shall be stoned the entire length of the rightof—way. Mountable stone berms placed across the width of the exit may also be required at the transition poir between paved and non—paved areas to trap sediments which are carried by stormwater flowing along the curbline. <u>ndividual lot entrance and egress</u>— After interior roadways are paved, individual lot inaress/earess points may require a stabilized construction entrance consisting of no. 3 stone (1" to 2") to prevent or minimize tracking of sediments. Width of the stone ingress/egress shall be equal to lot entrance width and shall be a minimum of ten fern length.

major roadway and the stoned entrance to prevent loose stones from being transported out onto the roadway by heavy equipment entering or leaving the site. antoclaries. The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto roadways nis may require periodic top dressing with additional stone or additional length as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed, or tracked onto oadways (public or private) or other impervious surfaces must be removed immediately. Where accumulation of

Table 27-1: Lengths of Construction Exits on Sloping Roadbeds

PERCENT SLOPE OF ROADWAY

#### S.P.P.P. REQUIRED INSPECTIONS AND REPORTS

d. THE PERMITTEE SHALL CONDUCT AND DOCUMENT ROUTINE INSPECTIONS OF THE FACILITY TO IDENTIFY AREAS CONTRIBUTING TO THE STORMWATER DISCHARGE AUTHORIZED BY THIS PERMIT AND EVALUATE WHETHER THE STORMWATER POLLUTION PREVENTION PLAN (SPPP) IDENTIFIED UNDER E.1 OF THE 5G3—CONSTRUCTION ACTIVITY STORMWATER (GP) PART I NARRATIVE REQUIREMENTS, INCLUDING THIS SOIL EROSION AND SEDIMENT CONTROL PLAN IS BEING PROPERLY IMPLEMENTED AND MAINTAINED, OR WHETHER ADDITIONAL MEASURES ARE NEEDED TO MAINTAIN THE PERMIT THE PROPE CONTRACTORS MAINTAINED, OR WHETHER ADDITIONAL MEASURES ARE NEEDED TO IMPLEMENT THE SPPP. (ROUTINE INSPECTIONS MINIMUM WEEKLY).

ONCE INSTALLATION OF ANY REQUIRED OR OPTIONAL EROSION CONTROL DEVICE OR MEASURE HAS BEEN IMPLEMENTED, ROUTINE INSPECTIONS, MINIMUM WEEKLY, OF EACH MEASURE SHALL BE PERFORMED BY THE CONTRACTORS INSPECTION PERSONNEL AND THE RESULTS RECORDED TO INVENTORY AND REPORT THE CONDITION OF EACH MEASURE TO ASSIST IN MAINTAINING THE EROSION AND SEDIMENT CONTROL MEASURES IN GOOD WORKING ORDER.

ACCESSIBLE TO GOVERNMENTAL INSPECTION OFFICIALS, THE OPERATORS ENGINEER, AND THE OPERATOR FOR REVIEW UPON REQUEST DURING VISITS TO THE PROJECT SITE. IN ADDITION, COPIES OF THE REPORTS SHALL BE PROVIDED TO ANY OF THESE PERSONS, UPON REQUEST, VIA MAIL OF FACSIMILE TRANSMISSION. OTHER RECORD-KEEPING REQUIREMENTS

THE CONTRACTOR SHALL KEEP THE FOLLOWING RECORDS RELATED TO CONSTRUCTION ACTIVITIES AT THE SITE:

- DATES WHEN MAJOR GRADING ACTIVITIES OCCUR AND THE AREAS WHICH WERE GRADED

- DATES AND DETAILS CONCERNING THE INSTALLATION OF STRUCTURAL CONTROLS

- DATES WHEN CONSTRUCTION ACTIVITIES CEASE IN AN AREA

- DATES WHEN AN AREAS IS STABILIZED, EITHER TEMPORARILY OR PERMANENTLY

- DATES OF RAINFALL AND THE AMOUNT OF RAINFALL

- DATES AND DESCRIPTIONS OF THE CHARACTER AND AMOUNT OF AN SPILLS OF HAZARDOUS MATERIALS

- RECORDS OF REPORTS FILED WITH REGULATORY AGENCIES IF REPORTABLE QUANTITIES OF HAZARDOUS

MATERIALS SPILLED

2. ANNUAL REPORTS AND CERTIFICATIONS

(SEE N.J.A.C. 7:14A-6.6). 3. REPORTS OF NONCOMPLIANCE

a. THE SOIL CONSERVATION DISTRICT WILL PROVIDE THE DEPARTMENT A COPY OF THE REPORT OF COMPLIANCE ISSUED UNDER N.J.A.C. 2:90—1 FOR COMPLETED CONSTRUCTION ACTIVITIES, EXCEPT SINGLE FAMILY HOME CONSTRUCTION UNDER B. BELOW. THE REPORT OF COMPLETION STALL SERVE AS THE NOTIFICATION OF COMPLETION

b. THE BUILDER OF A SINGLE FAMILY HOME THAT IS AUTHORIZED UNDER THIS PERMIT. BUT NOT WITHIN THE DEFINITION OF "PROJECT AT N.J.S.A. 4:24—41G, SHALL SEND A COPY OF THE FINAL CERTIFICATE OF OCCUPANCY TO THE SOIL CONSERVATION DISTRICT. THE SOIL CONSERVATION DISTRICT WILL PROVIDE A COPY OF THE FINAL CERTIFICATE OF OCCUPANCY TO THE DEPARTMENT, WHICH WILL SERVE AS NOTIFICATION OF c. THE DOT SHALL PROVIDE WRITTEN NOTIFICATION TO THE DEPARTMENT WHEN DOT CERTIFIED PROJECTS ARE

#### CONSTRUCTION SITE WASTE CONTROL COMPONENT OF THE STORMWATER POLLUTION PREVENTION PLAN (S.P.P.P.)

1. THE CONSTRUCTION SITE WASTE CONTROL COMPONENT OF THE SPPP CONSISTS OF THE REQUIREMENTS IN 2., 3., AND 4. BELOW. THESE REQUIREMENTS BECAME OPERATIVE ON MARCH 3, 2004 AND APPLY TO CONSTRUCTION ACTIVITIES THAT COMMENCE ON OR AFTER MARCH 3, 2004. ANY NEW CONSTRUCTION ACTIVITY FOR WHICH AN RFA IS SUBMITTED ON OR AFTER MARCH 3, 2004 OR WHICH RECEIVE AUTOMATIC RENEWAL OF AUTHORIZATION UNDER THIS PERMIT AFTER MARCH 3, 2004 ALSO SHALL COMPLY WITH THESE REQUIREMENTS. 2. MATERIAL MANAGEMENT TO PREVENT OR REDUCE WASTE — ANY PESTICIDES, FERTILIZERS, FUELS, LUBRICANTS, PETROLEUM PRODUCTS, ANTI-FREEZE, PAINTS AND PAINT THINNERS, CLEANING SOLVENTS AND ACIDS, DETERGENTS, CHEMICAL ADDITIVES, AND CONCRETE CURING COMPOUNDS SHALL BE STORED IN CONTAINERS IN A DRY COVERED AREA. MANUFACTURERS' RECOMMENDED APPLICATION RATES, USES, AND METHODS SHALL BE STRICTLY FOLLOWED TO THE EXTENT NECESSARY TO PREVENT OR MINIMIZE THE PRESENCE OF WASTE FROM SUCH MATERIALS IN THE STORMWATER DISCHARGE AUTHORIZED BY THIS PERMIT. (THE PRECEDING SENTENCE DOES NOT APPLY TO ANY MANUFACTURERS' RECOMMENDATIONS ABOUT FERTILIZER OR

3. WASTE HANDLING — THE FOLLOWING REQUIREMENTS APPLY ONLY TO CONSTRUCTION SITE WASTE THAT HAS THE POTENTIAL TO BE TRANSPORTED BY THE STORMWATER DISCHARGE AUTHORIZED BY THIS PERMIT. THE HANDLING AT THE CONSTRUCTION SITE OF WASTE BUILDING MATERIAL AND RUBBLE AND OTHER CONSTRUCTION SITE WASTES, INCLUDING LITTER AND HAZARDOUS AND SANITARY WASTES, SHALL CONFORM WITH THE STATE SOLID WASTE MANAGEMENT ACT, N.J.S.A. 13:1E—1 ET SEQ., AND ITS IMPLEMENTING RULES AT N.J.A.C. 7:26, 7:26A, AND 7:26G; THE NEW JERSEY PESTICIDE CONTROL CODE AT N.J.A.C. 7:30; THE STATE LITTER STATUTE (N.J.S.A. 13:1E—99.3); AND OSHA REQUIREMENTS FOR SANITATION AT 29 C.F.R. 1996 (EXCEPT WHERE SUCH CONLEDEMANCE IS NOT RELEVANT TO THE STORMWATCH DISCHARGE AUTHORIZED BY THIS DEFOULT. CONFORMANCE IS NOT RELEVANT TO THE STORMWATER DISCHARGE AUTHORIZED BY THIS PERMIT).
CONSTRUCTION SITES SHALL HAVE ONE OR MORE DESIGNATED WASTE COLLECTION AREAS ONSITE OR ADJACENT.

a. CONSTRUCTION SITE WASTES INCLUDE BUT ARE NOT LIMITED TO: i. "CONSTRUCTION AND DEMOLITION WASTE," AS DEFINED IN N.J.A.C. 7: 26-1.4 AS FOLLOWS: "WASTE BUILDING MATERIAL AND RUBBLE RESULTING FROM CONSTRUCTION, REMODELING, REPAIR, AND DEMOLITION OPERATIONS ON HOUSES, COMMERCIAL BUILDINGS, PAVEMENTS AND OTHER STRUCTURES. THE FOLLOWING MATERIALS MAY BE FOUND IN CONSTRUCTION AND DEMOLITION WASTE: TREATED AND UNTREATED WOOD SCRAP; TREE PARTS, TREE STUMPS AND BRUSH; CONCRETE, ASPHALT, BRICKS, BLOCKS AND OTHER MASONRY; PLASTER AND WALLBOARD, ROOFING MATERIALS; CORRUGATED CARDBOARD AND MISCELLANEOUS PAPER; FERROUS AND NON-FERROUS METAL; NON-ASBESTOS BUILDING INSULATION; PLASTIC SCRAP; DIRT; CARPETS AND PADDING; GLASS (WINDOW AND ROOFING MATERIALS). AND DOOR); AND OTHER MISCELLANEOUS MATERIALS; BUT SHALL NOT INCLUDE OTHER SOLID WASTE TYPES ii. ANY WASTE BUILDING MATERIAL AND RUBBLE RESULTING FROM SUCH OPERATIONS THAT IS HAZARDOUS FOR PURPOSES OF N.J.A.C. 7:26G (THE HAZARDOUS WASTE RULES).

IV. OTHER "LITTER," AS DEFINED AT IN.J.S.A. 13:1L—215.D AS FOLLOWS: ANY USED OR UNCONSUMED SUBSTANCE OR WASTE MATERIAL WHICH HAS BEEN DISCARDED WHETHER MADE OF ALUMINUM, GLASS, PLASTIC, RUBBER, PAPER, OR OTHER NATURAL OR SYNTHETIC MATERIAL, OR ANY COMBINATION THEREOF, INCLUDING, BUT NOT LIMITED TO, ANY BOTTLE, JAR OR CAN, OR ANY TOP, CAP OR DETACHABLE TAB OF ANY BOTTLE, JAR OR CAN, ANY UNLIGHTED CIGARETTE, CIGAR, MATCH OR ANY FLAMING OR GLOWING MATERIAL OR ANY GARBAGE, TRASH, REFUSE, DEBRIS, RUBBISH, GRASS CLIPPINGS OR OTHER LAWN OR GARDEN WASTE, NEWSPAPERS, MAGAZINES, GLASS, METAL, PLASTIC OR PAPER CONTAINERS OR OTHER PACKAGING OR CONSTRUCTION MATERIAL, BUT DOES NOT INCLUDE THE WASTE OF THE PRIMARY PROCESSES OF MINING OR

AREAS. DESIGNATED WASHOUT AREAS SHALL BE LINED AND BENISHED TO PREVENT DISCHARGES TO SURF, AND GROUND WATER. HARDENED CONCRETE FROM CONCRETE TRUCK WASHOUT SHALL BE REMOVED AND PROPERLY DISPOSED OF. 4. SPILLS; DISCHARGES OF HAZARDOUS SUBSTANCES; FEDERALLY REPORTABLE RELEASES. HARGES OF HAZARDOUS SUBSTANCES (AS DEFINED IN N.J.A.C. 7:1E-1.6) IN CONSTRUCTION SITE WASTES BUECT TO THE PROVISIONS OF THE SPILL COMPENSATION AND CONTROL ACT, N.J.S.A. 58:10-23.11 ET ND OF DEPARTMENT RULES FOR DISCHARGES OF PETROLEUM AND OTHER HAZROUS SUBSTANCES AT 7:1E. NO DISCHARGE OF HAZARDOUS SUBSTANCES RESULTING FROM AN ONSITE SPILL SHALL BE

DEEMED TO BE "PURSUANT TO AND IN COMPLIANCE WITH [THIS] PERMIT" WITHIN THE MEANING OF THE SPILL COMPENSATION AND CONTROL ACT AT N.J.S.A. 58:10-23.11C.

c. RELEASES IN EXCESS OF REPORTABLE QUANTITIES (RQ) ESTABLISHED UNDER 40 C.F.R. 110, 117, AND 302

Erosion and Sediment Control Plans to the District. The revised plans must meet all current "The Standards for Soil Erosion and Sediment Control and Sediment Control in New Jersey, 7th Edition, January 2014, Revised July 2017 <u>Link to 2014 Standards:</u> http://www.state.njus/agriculture/divisions/anr/nrc/njerosion.html
N.J.S.A 4:24-39 et seq. requires that no Certificates of Occupancy be issued before there has been compliance with provisions of a certified plan for permanent measures. All site work, and all work around individual lots in subdivisions, must be completed prior to the District issuing a Report of Compliance for the issuance of a Certificate 6. Any disturbed areas that will be left exposed more than sixty (60) days, and not subject to construction traffic, will

Immediately following initial disturbance or rough grading, all critical areas subject to erosion (i.e. steep slopes and roadway embankments) will receive temporary seeding in combination with straw mulch or a suitable equivalent, at a rate of 1-1/2 to 2 tons per acre, according to State Standards. 3. A sub—base course will be applied immediately following rough grading and installation of improvements to stabilize streets, roads, driveways, and parking areas. In areas where no utilities arc present, the sub-base shall be installed

unpayed areas of the site. All sediment washed, dropped, spilled, or tracked onto roadways (public or private) or other impervious surfaces will

containing iron sulfides, shall be covered with a minimum of twelve (12) inches of soil having a pH of 5 or more prior to seedbed preparation. Areas where trees or shrubs are to be planted shall be covered with a minimum of twenty—four (24) inches of soil having a pH of 5 or more. 15. Conduit Outlet Protection must be installed at all required outfalls prior to the drainage system becoming operational Conduit outlet protection is not required in basins acting as sediment basins during construction.

16. Unfiltered dewatering is not permitted. Necessary precoutions must be taken during all dewatering operations to minimize sediment transfer. Any dewatering methods used must be in accordance with the Standard for Dewatering.

17. Should the control of dust at the site be necessary, the site will be sprinkled until the surface is wet, temporary vegetative cover shall be established or mulch shall be applied as required by the Standard for Dust Control

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1. ROUTINE INSPECTIONS

THESE REPORT FORMS SHALL BECOME AN INTEGRAL PART OF THE SWPPP AND SHALL BE MADE READILY

C. THE PERMITTEE SHALL PREPARE AN ANNUAL REPORT SUMMARIZING EACH INSPECTION PERFORMED UNDER 1.A., ABOVE. THIS REPORT SHALL BE ACCOMPANIED BY AN ANNUAL CERTIFICATION, ON A FORM PROVIDED BY THE NUDEP, THAT THE FACILITY IS IN COMPLIANCE WITH ITS SPPP AND THIS PERMIT, EXCEPT THAT IF THERE ARE ANY INCIDENTS OF NONCOMPLIANCE, THOSE INCIDENTS SHALL BE IDENTIFIED IN THE CERTIFICATION. IF THERE ARE INCIDENTS OF NONCOMPLIANCE, THE REPORT SHALL IDENTIFY THE STEPS BEING TAKEN TO REMEDY THE NONCOMPLIANCE AND TO PREVENT SUCH INCIDENTS FROM RECURRING. THE REPORT AND CERTIFICATION SHALL BE SIGNED AND DATED BY THE PERMITTEE IN ACCORDANCE WITH N.J.A.C. 7:14A-4.9, AND SHALL BE MAINTAINED FOR A PERIOD OF AT LEAST FIVE YEARS ALONG WITH COPIES OF ALL INSPECTION REPORTS AND RECORD KEEPING. THIS PERIOD MAY BE EXTENDED BY WRITTEN REQUEST FROM THE DEPARTMENT AT ANY TIME (SFF N.J.A.C. 7:14A-6.6)

g. ALL INSTANCES OF NONCOMPLIANCE NOT REPORTED UNDER N.J.A.C. 7:14A-6.10 SHALL BE REPORTED TO THE DEPARTMENT ANNUALLY.

OTHER MATERIAL THAT CONFLICT WITH THE EROSION AND SEDIMENT CONTROL COMPONENT OF THE FACILITY'S

iii. DISCARDED (INCLUDING SPILLED) PESTICIDES, FERTILIZERS, FUELS, LUBRICANTS, PETROLEUM PRODUCTS, ANTI-FREEZE, PAINTS AND PAINT THINNERS, PAINT CHIPS AND SANDBLASTING GRITS, CLEANING SOLVENTS, ACIDS FOR CLEANING MASONRY SURFACES, DETERGENTS, CHEMICAL ADDITIVES USED FOR SOIL STABILIZATION (E.G., CALCIUM CHLORIDE), AND CONCRETE CURING COMPOUNDS.

OTHER EXTRACTION PROCESSES, LOGGING, SAWMILLING, FARMING OR MANUFACTURING. v. SANITARY SEWAGE AND SEPTAGE.

vi. CONTAMINATED SOILS ENCOUNTERED OR DISCOVERED DURING EARTHMOVING ACTIVITIES OR DURING THE CLEANUP OF A LEAK OR DISCHARGE OF A HAZARDOUS SUBSTANCE.

. CONCRETE TRUCK WASHOUT — CONCRETE TRUCK WASHOUT ONSITE IS PROHIBITED OUTSIDE DESIGNATED

c. Sanitary Sewage/Septage Disposal — Discharges of Raw Sanitary Sewage or Septage Onsite are Strictly prohibited. Adequate facilities with Proper Disposal Shall be provided and Maintained Onsite or adjacent to the Site for all workers and other Sanitary Needs. G. SPILL KITS SHALL BE AVAILABLE ONSITE OR ADJACENT TO THE SITE FOR ANY MATERIALS THAT ARE LISTED IN 2. ABOVE AND USED OR APPLIED ONSITE. ALL SPILLS OF SUCH MATERIAL SHALL BE CONTAINED AND CLEANED UP IMMEDIATELY. CLEANED UP MATERIALS SHALL BE PROPERLY DISPOSED OF.

#### OCCUR WITHIN A 24-HR PERIOD MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER (800

SOIL EROSION AND SEDIMENT CONTROL NOTES The Ocean County Soil Conservation District shall be notified forty—eight (48) hours in advance of any land 2. All work is to be done in accordance with the State Standards for Soil Erosion and Sediment Control in New Jersey. 3. All Soil Erosion and Sediment Control practices are to be installed prior to any major soil disturbance or in their proper sequence and maintained until permanent protection is established.

Any changes to the Certified Soil Erosion and Sediment Control Plans will require the submission of revised Soil

immediately receive a temporary seeding. If the season prevents the establishment of temporary cover, the disturbed areas will be mulched with straw, or equivalent material within 14 days, at a rate of 2 to 2-1/2 tons per acre, according to State Standard for Stabilization with Mulch Only.

within fifteen (15) days of the preliminary grading. 9. Any steep slopes (3:1 or greater) or any existing roadways receiving pipeline installation will be backfilled and Stabilized daily, as the installation continues.

The Standard for Stabilized Construction Access requires the installation of a stone pad using clean crushed angular stone (ASTM C-33, size No. 2 or 3) at all construction driveways where vehicles will access paved roadways from

2. Permanent vegetation is to be seeded or sodded on all exposed areas within ten (10) days after final grading. At the time of the final inspection, you are required to provide confirmation that the proper type and amount of seed, lime and fertilizer have been used for permanent stabilization work. Straw mulch is required on all seeding.

13. At the time that site preparation for permanent vegetative stabilization is going to be accomplished, any soil that will not provide a suitable environment to support adequate vegetative ground cover shall be removed or treated in such a way that it will permanently adjust the soil conditions and render it suitable for vegetative ground cover. If removal or treatment of the soil will not provide suitable conditions, non-vegetative means of permanent ground

8. Stockpile and staging locations established in the field shall be placed within the limit of disturbance according to the certified plan. Staging and stockpiles not located within the limit of disturbance will require certification of a revised Soil Erosion and Sediment Control Plan. The District reserves the right to determine when certification of a new and separate Soil Erosion and Sediment Control Plan will be required for these activities. 19. All soil stockpiles are to be temporarily stabilized in accordance with Soil Erosion and Sediment Control note #6. Stockpiles should be situated so as to not obstruct natural drainage or cause off-site environmental damage. 20. The property owner shall be responsible for any erosion or sedimentation that may occur below stormwater outfalls \* ALL TIMES ARE BASED ON WEATHER CONDITIONS PERMITTING.

1. PLACEMENT OF S.E.S.C. MEASURES. (3 WEEK)

2. SITE CLEARING. (3 WEEK)

3. INSTALLATION OF PROPOSED DUNE AND SILT FENCING.

4. (6 WEEKS) 5. REMOVE ANY SAND FROM BOARDWALK AREAS. (TO BE MAINTAINED THROUGHOUT PROJECT WEEKLY)

6. FINAL GRADING AND RESTORATION OF DISTURBED AREAS. (2 WEEK)

7. REMOVAL OF ALL S.E.S.C. MEASURES WHEN SITE IS STABILIZED. (1 WEI NOTALIATION OF TEMPORARY SOIL EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSTALLED AT THE INITIATION OF LAND DISTURBANCE ACTIVITIES. ALL TEMPORARY SOIL

EROSION MEASURES MUST BE INCLUDED (SILT FENCE, STONE

SOIL COMPACTION MITIGATION NOTES

Restoration of compacted soils shall be through deep scarification/tillage (6"\_minimum\_depth) where there is no danger to underground utilities (cables, irrigation systems, etc.). In the alternative, another method as specified

STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOILS

by a New Jersey Licensed Professional Engineer may be substituted subject to District approval.

<u>Water Quality Enhancement</u>
Protects onsite soils and offsite streams and lakes from sulfuric acid leachate that creates soil pH conditions

<u>Planning Criteria</u>
Early recognition and burial, removal or disposal of high acid—producing soils is essential for limiting the amount of

Contact the local Soil Conservation District to determine the historical presence of high acid—producing soils in the vicinity of the proposed development site.

tigh acid—producing soils may be present in undisturbed soils at varying depths, including near the soil surface to execuvations or deep disturbances. Its presence on a site may be significant or limited in the soil profile. High is incid—producing soils are commonly black, dark brown, gray or greenish with livery pyrite or marcasite nuggets or lakes. Alternatively, sandy soils or reddish, yellowish or light to medium brown soil materials are usually free of high incidence of the control of the c

imit the excavation area and exposure time when high acid-producing soils are encountered.

opsoil stripped from the site shall be stored separately from temporarily stockpiled high acid-producing soils.

tockpiles of high acid-producing soil should be located on level land to minimize its movement, especially when

this material has a high cala-producing soil material to be stored more than 48 hours should be covered with represently stockpiled high acid-producing soil material to be stored more than 48 hours should be covered with properly anchored, heavy grade sheets of polyethylene where possible. If not possible, stockpiles shall be covered with a minimum of 3 to 6 inches of wood chips to minimize erosion of the stockpile. Silt fence shall be installed at the toe of the slope to contain movement of the stockpiled material. Topsoil shall not be applied to the stockpiles to prevent topsoil contamination with high acid-producing soil.

High acid-producing soils with a pH of 4.0 or less or containing iron sulfide (including borrow from cuts or

redged sediment) shall be ultimately placed or buried with limestone applied at the rate of 10 tons per acre

with a pH of 5.0 or more except as follows:

a. Areas where trees or shrubs are to be planted shall be covered with a minimum of 24 inches of soil with a pH or 5 or more.

b. Disposal areas shall not be located within 24 inches of any surface of a slope or bank, such as berms, stream banks, ditches, and others, to prevent potential lateral leaching damages.

Equipment used for movement of high acid-producing soils should be cleaned at the end of each day to prevent spreading of high acid-producing soil materials to other parts of the site, into streams or stormwater conveyances, and to protect machinery from accelerated rusting.

Non-vegetative erosion control practices (stone tracking pads, strategically placed limestone check dam, sediment barrier, wood chins) should be installed to limit the movement of high acid-producing soils from

Vegetative Cover for Soil Stabilization, Permanent Vegetative Cover for Soil Stabilization, and Topsoiling), monitoring must continue for a minimum of 6 months to ensure there is adequate stabilization and that no high acid-producing soil problems emerge. If problems still exist, the affected area must be treated as indicated above to correct the problem.

sediment barrier, wood chips) should be installed to limit the movement of high acid—producing soils from,

Following burial or removal of high acid-producing soil, topsoiling and seeding of the site (see Temporary

ne material produced.

ew a surface geology map for the proposed site to investigate the presence of geologic formations which imonly contain high acid—producing deposits. The geologic formations are as follows:

applicable to any high acid-producing soil materials. Such materials have been found in the Coastal

gh acid—producing soils are soils with a pH of 4.0 or less or contain iron sulfide.

unsuitable for growth of vegetation.

Methods and Materials

igure 1—1 shows areas where these deposits may be present.

res shall be used to mitigate excessive soil compaction <u>prior to placement of topsoil</u> and establishment

TRACKING PAD AND INLET PROTECTION). ALSO INCLUDE

PERMANENT STABILIZATION NOTATION/MEASURES.

# REMINGTON

& VERNICK **ENGINEERS** 

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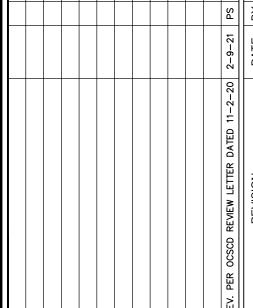
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PLANS WHICH DO NOT BEAR

AN EMBOSSED SEAL ARE NOT VALUE

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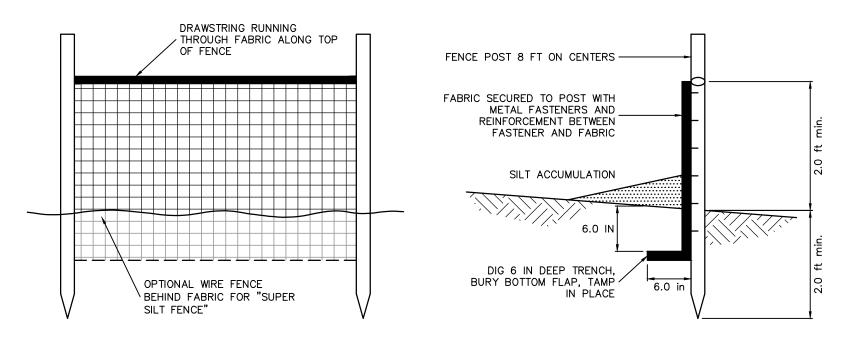
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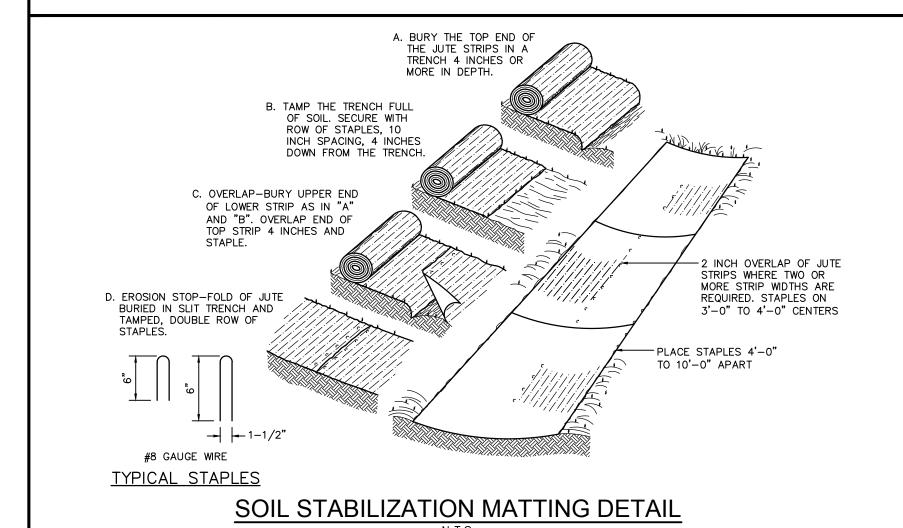
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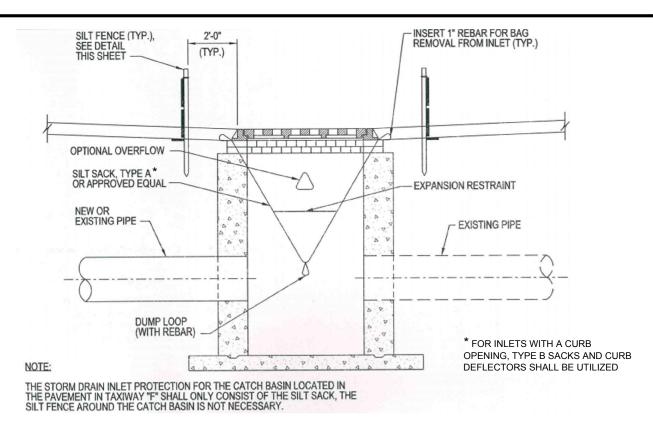
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# SOIL EROSION AND SEDIMENT CONTROL DETAILS RVE

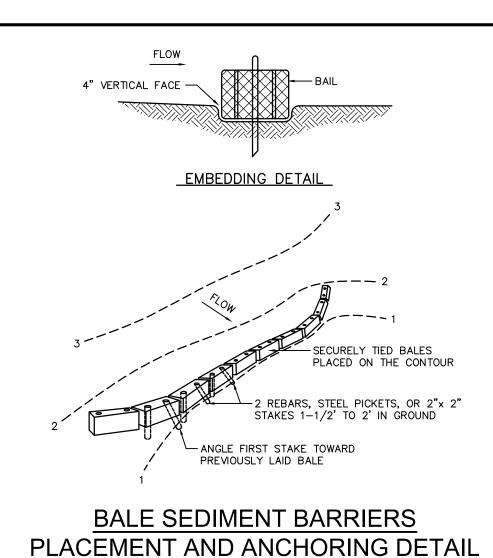


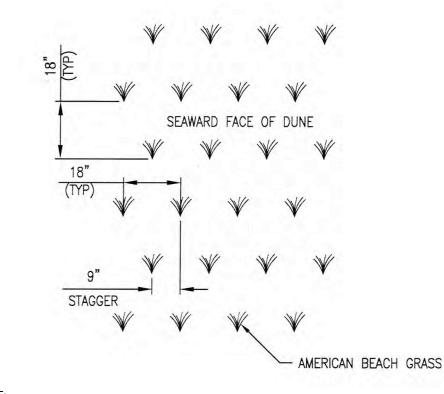
## SILT FENCE DETAIL





INLET SEDIMENT CONTROL DETAIL





1. PROPOSED AMERICAN DUNE GRASS PLANTINGS ON BOTH SIDES OF DUNES. 2. ALL PLANTINGS SHALL BE IN CONFORMANCE WITH SOIL EROSION AND SEDIMENT CONTROL STANDARDS SECTION 2-1:

STABLE SITES = 24" X 24"

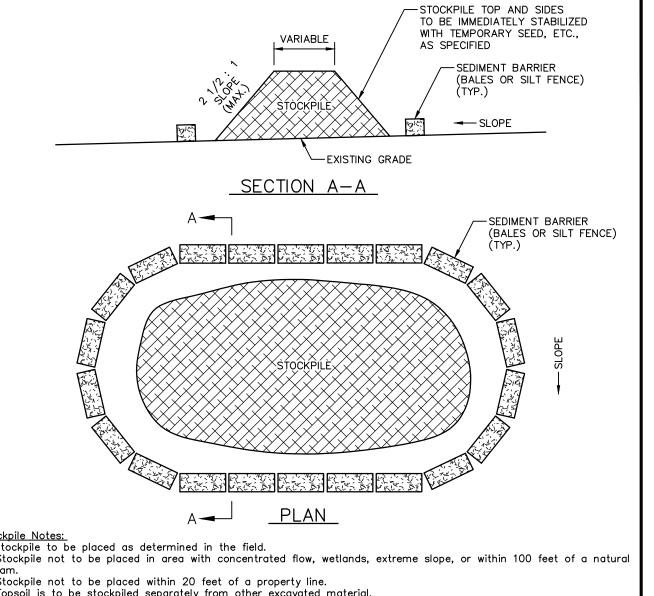
AMERICAN BEACHGRASS — BEACHGRASS IS SUCCESSIONALLY CLASSIFIED AS A PIONEERING TYPE SPECIES: IT IS THE HARDIEST SPECIES CAPABLE OF SURVIVING THE HARSH ENVIRONMENTAL CONDITIONS OF THE FRONTAL DUNES. FOR INITIALLY STABILIZING A DUNE SYSTEM, THIS SPECIES IS THE MOST RELIABLE AND COMMERCIALLY AVAILABLE OPTION. ONCE ESTABLISHED IT RAPIDLY SPREADS BY A RHIZOMATOUS ROOT SYSTEM, DEVELOPING A SOIL BINDING NETWORK OF INTER-WOVEN PLANTING DATES: OCTOBER 15 TO APRIL 1; UNDER NON FROZEN SOIL CONDITIONS PLANTING UNIT: A MINIMUM OF TWO STEMS (CULMS) PER HOLE METHOD: HAND PLACEMENT, OR USE OF A VEGETABLE OR TREE PLANTER SIZE: 16 TO 18 INCH LONG STEMS, > 1/4 INCH IN DIAMETER DEPTH: APPROXIMATELY 8 INCHES DEEP (> 7" BUT < 9" IS ACCEPTABLE) SPACING: SEVERE SITES = 12" X 12" NORMAL SITES  $= 18^{\circ} \times 18^{\circ}$ 

NOTES:

PLANT > 100 FEET OF HORIZONTAL DISTANCE FROM THE MEAN HIGH TIDE WATER LINE TO ENSURE SUCCESS ■ PLANT A MINIMUM OF 10 PARALLEL ROWS; STAGGER (OFF-SET) ROWS TO MAXIMIZE

■ FIRM SOIL AROUND PLANTS TO ELIMINATE AIR POCKETS ■ IF UTILIZING DREDGED FILL ALLOW SALTS TO LEACH OUT BEFORE PLANTING AND ALLOW RAINS TO COMPACT SANDS.

TYPICAL DUNE PLANTINGS



Stockpile not to be placed in area with concentrated flow, wetlands, extreme slope, or within 100 feet of a natural 3. Stockpile not to be placed within 20 feet of a property line. Topsoil is to be stockpiled separately from other excavated material. 5. Stockpiles shall not be located within fifty (50) feet of a flood plain, steep slope, drainage facility, or roadway. All stockpile bases shall be protected by a hay bale barrier or sediment fence. 6. All topsoil stripped and stockpiled for use in final grading shall receive temporary seeding . Weeds should not be allowed to grow on stockpiles.

1. Construct temporary diversion berm and/or sediment filter fence and/or hay bale barrier around stockpiled area as 2. Apply limestone at a rate of 137 lbs/1,000 sf. (limestone rate shall be determined based on soil testing and soil 3. Apply fertilizer (10-20-10) at a rate of 11 lbs/1,000 sf.

1/4" NYLON OR MANILA ROPE

FORMS REINFORCEMENT; AIDS

OF BARRIER BY SERVING AS A

IN REMOVAL OR RELOCATION

PICK-UP LINE FOR WEIGHTS.

BE ATTACHED TO END FLOATS

1/4" NYLON OR MANILA — -

ROPE TO BE SLACK IN

FINAL POSITION

AND EVERY SECOND FLOAT

4. Apply perennial rye grass at a rate of 1 lb/1,000 sf. 5. Mulch with unrotted salt hay or small grain straw immediately after seeding. Apply at a rate of 90 lbs/1,000 sf. STOCKPILE CONSTRUCTION DETAIL

10'-0"± LOAD CHAIN -

- COTTER PIN THROUGH ROD

- PLASTIC SHEET

OR ALTERNATE

— BRASS GROMMET

---- HOOK (CLOSE TO

SLIPKNOT PREVENT LOSS)
TOP AND BOTTOM WEIGHT

NOTE: SUITABLE ALTERNATE MAY BE FASTENED TO STAKES DRIVEN

INTO THE BOTTOM IN LIEU OF FLOATS AND WEIGHTS.

SECTION A-A

100' SECTION

GROMMET

BOTTOM -

FRONT VIEW

- WATER SURFACE

GROMMETS AT 2 FEET C.C.

\_\_\_2" GALVANIZED PIPE

ABOVE RECORDED

STORM TIDE

EXISTING CONDITION AS

APPROVED BY THE RE.

> TO CONNECT SECTIONS.

FOLD

3"ø GALVANIZED COTTER PIN LOCATED

ВОТТОМ

SECTION B-B

VARIES AS

REQUIRED

LOCATION.

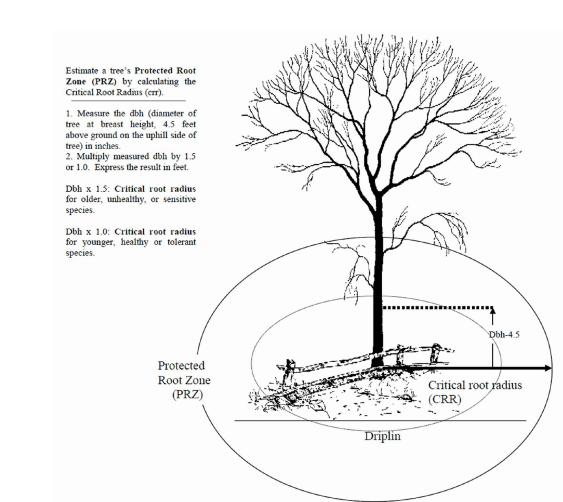


FIGURE 9-3: ROOT PROTECTION **DURING CONSTRUCTION GUIDE** 

NOTE: KEEP AS CLOSE TO

TURBIDITY BARRIER

1. INSTALL TURBIDITY BARRIER TO PREVENT DRIFTING OF SILT CAUSED BY DISCHARGE OF STORM SEWERS,

2. EXACT PLACEMENT OF TURBIDITY BARRIER SHALL BE SO AS TO EFFECTIVELY CONTROL SILT DISPERSION UNDER THE CONDITIONS PRESENT ON A PARTICULAR PROJECT.

USE APPROPRIATE NAVIGATIONAL WARNING LIGHTS WHEN USED NEXT TO NAVIGATIONAL CHANNEL.

7. TYPE 3 IS FOR LAKES, STREAMS, INTERCOASTAL AND TIDAL AREAS WITH CONSIDERABLE CURRENT

DEWATERING BASINS, CONSTRUCTION, DREDGING OR FILLING OPERATIONS, OR OTHER ACTIVITIES THAT

3. THE DETAILS SHOWN ON THIS DETAIL ARE SUGGESTED METHODS ONLY. ALTERNATE SOLUTION AND USAGE

6. TYPE 2 IS FOR LAKES, STREAMS, INTERCOASTAL AND TIDAL AREAS WITH CURRENT VELOCITIES UP TO 5

TYPE 1 IS FOR PONDS, SHALLOW LAKES, SMALL STREAMS AND MARSHES WITH CURRENT VELOCITIES LESS

SHORE, AS POSSIBLE

EACH END ABOVE HIGH

BOTTOM TO

THICKNESSES

GET FOUR

,—3"ø GALVANIZED RING

-2" GALVANIZED PIPE

TIDAL STABILIZATION

OF MATERIALS MAY BE USED AS APPROVED.

THAN 1 FT./SEC AND SHELTERED FROM WINDS.

POLE EMBEDDED SUFFICIENTLY

COULD CAUSE TURBIDITY.

BODY OF WATER

DISCHARGE POINT

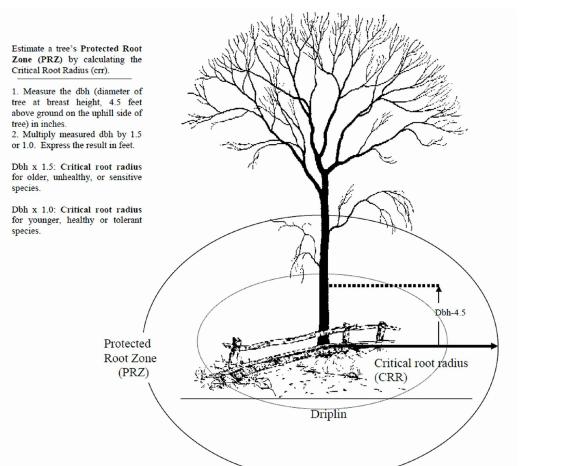
-SHORE LINE OR DIKE

SUBMARINE

CABLE

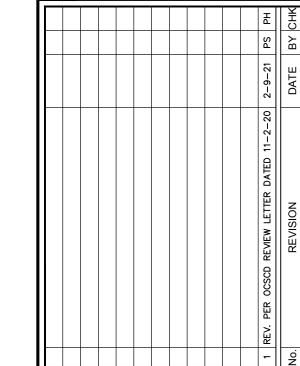
EXCAVATION OF

<u>WET AREAS</u>

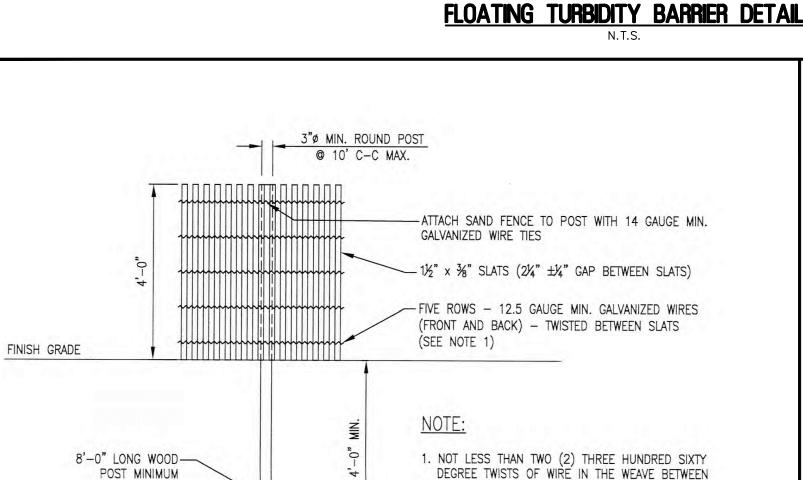


AN EMBOSSED SEAL ARE NOT VALID

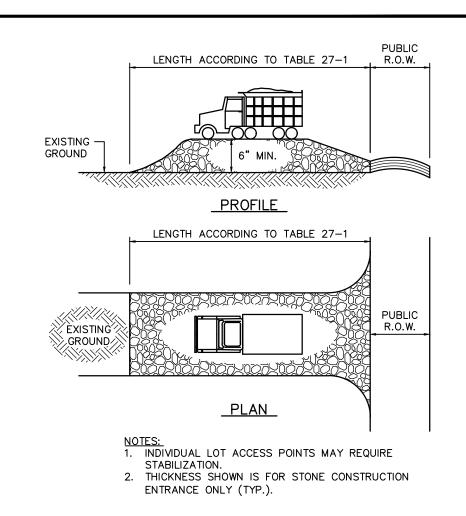
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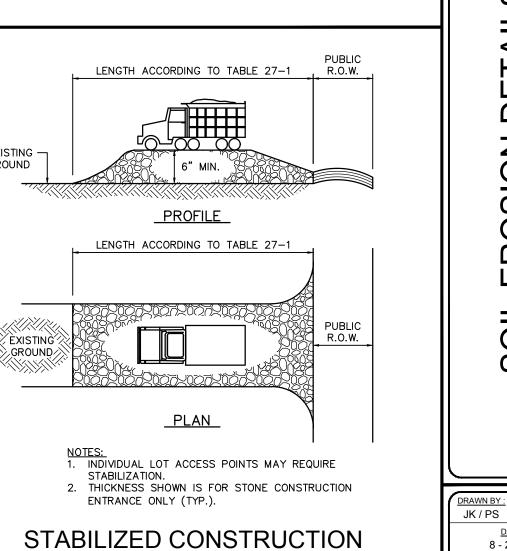
VELOCITIES UP TO 5FT./SEC., TIDAL ACTION AND SUBJECT TO WIND AND WAVES.



**DUNE FENCE DETAIL** 



**ENTRANCE DETAIL** 



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REMINGTON

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