

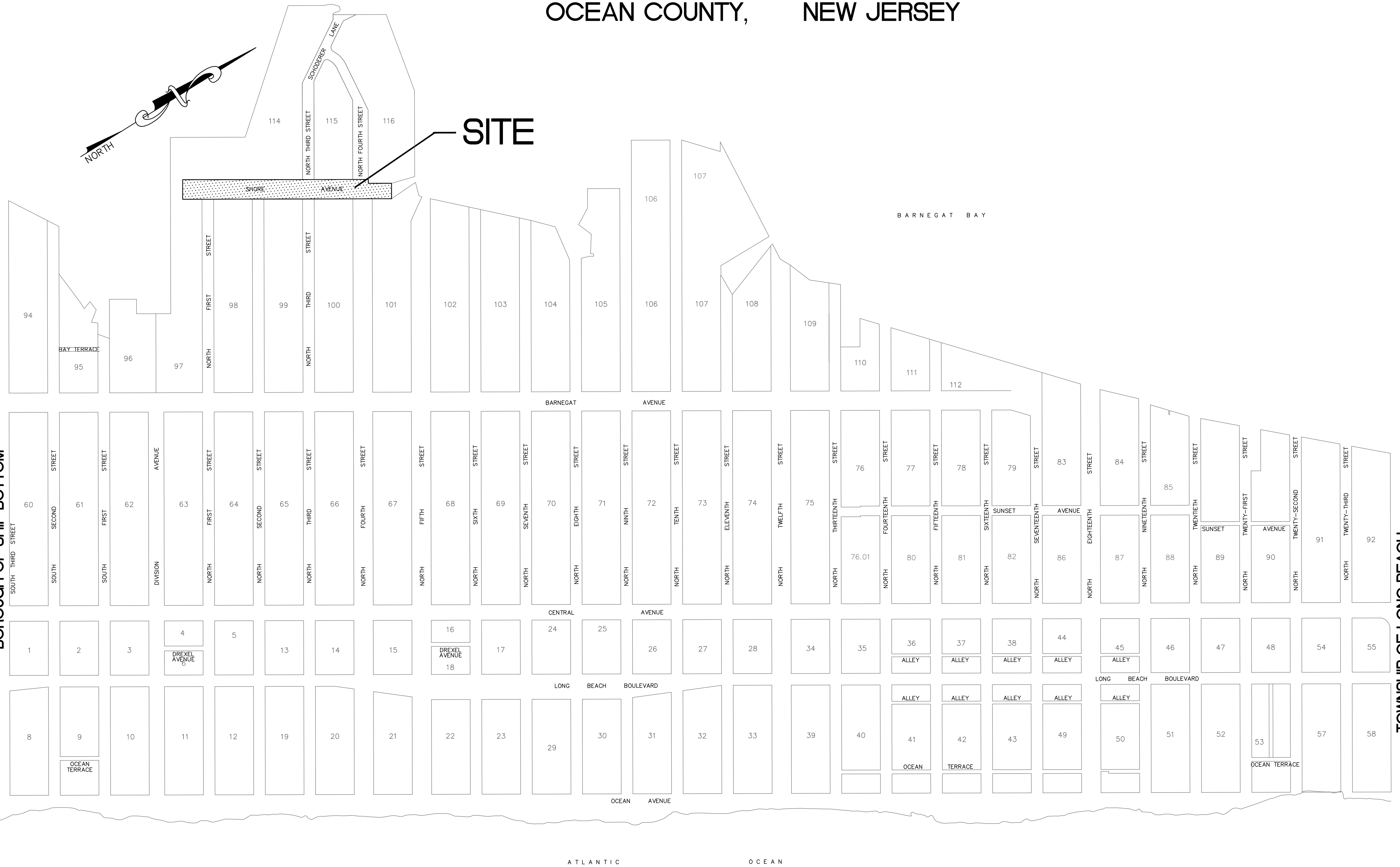
2022 MUNICIPAL ROAD RECONSTRUCTION PROJECT

SHORE AVENUE BOROUGH OF SURF CITY OCEAN COUNTY, NEW JERSEY

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THIS DRAWING HAS BEEN PREPARED FOR THE PURPOSE OF MUNICIPAL AND REGULATORY AGENCY REVIEW AND APPROVAL AND SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED AND THE DRAWINGS HAVE BEEN INITIALED TO INDICATE "APPROVED FOR CONSTRUCTION."



NOTE:
THE 2019 U.S. CUSTOMARY ENGLISH STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE NEW JERSEY DEPARTMENT OF TRANSPORTATION, LATEST EDITION, INCLUDING ALL BASELINE DOCUMENT CHANGE (BOC) ANNOUNCEMENTS SHALL COVER THE CONSTRUCTION OF THIS PROJECT.
REFER TO NJDOT SPECIAL PROVISIONS FOR STATE AID PROJECTS FY2019 EDITION WITH THE LATEST REVISIONS.
THE NJDOT STANDARD CONSTRUCTION DETAILS FOR ROADWAY, TRAFFIC CONTROL, AND BRIDGE BOOKLET (2016); AND THE NJDOT STANDARD ELECTRICAL DETAIL BOOKLET (2007), INCLUDING ALL BASELINE DOCUMENT CHANGE (BOC) ANNOUNCEMENTS ARE APPLICABLE TO THIS PROJECT EXCEPT FOR THOSE DETAILS CONTAINED HEREIN.

ESTIMATE OF QUANTITIES

Item No.	Item No.	Description	Plan Quantity
1	151006M	PERFORMANCE BOND	1 DOLL
2	151006M	PAYMENT BOND	1 DOLL
3	154003P	MOBILIZATION	1 LS
4	157004M	CONSTRUCTION LAYOUT	1 DOLL
5	158027M	INLET FILTER TYPE 1	119 SF
6	159003M	BREAKAWAY BARRICADE	3 U
7	159006M	DRUM	10 U
8	159009M	TRAFFIC CONE	20 U
9	159012M	CONSTRUCTION SIGNS	167 SF
10	159141M	POLICE TRAFFIC DIRECTORS	100 HR
11	160004M	FUEL PRICE ADJUSTMENTS	1 DOLL
12	160007M	ASPHALT PRICE ADJUSTMENTS	1 DOLL
13	201003P	CLEARING SITE	1 LS
14	202006M	EXCAVATION, TEST PITS	50 CY
15	202009P	EXCAVATION, UNCLASSIFIED	135 CY
16	202021P	REMOVAL OF PAVEMENT	175 SY
17	302036P	DENSE GRADED AGGREGATE, BASE COURSE, 6-INCH THICK	135 SY
18	302036P	HMA MILLING, 3" OR LESS	7910 SY
19	401030M	TACK COAT	795 GAL
20	401042M	HOT MIX ASPHALT 9.5 M 64 SURFACE COURSE, 2-1/2 INCH THICK	1400 T
21	401042M	HOT MIX ASPHALT 9.5 M 64 INTERMEDIATE (LEVELING) COURSE	172 T
22	401096M	HOT MIX ASPHALT 19 M 64 BASE COURSE, 6-INCH THICK	55 T
23	401108M	CORE SAMPLES, HOT MIX ASPHALT	5 U
24	601409P	8-INCH PERFORATED HIGH DENSITY POLYETHYLENE PIPE	212 LF
25	602009M	INLET, TYPE A	10 U
26	606057P	CONCRETE DRIVEWAY, 6" THICK	6 SY
27	607021P	9"x18" CONCRETE VERTICAL CURB	460 LF
28	652432M	RESET MANHOLE, SANITARY SEWER, USING EXISTING CASTING	5 U
29	8050302	EDGE RESTORATION	625 LF
30	602018M	INLET, TYPE E	2 U
31		TIDE VALVE, 12"	2 U
32		TIDE VALVE, 18"	2 U
33		STONE, #57 TRAP ROCK, 6-INCH THICK	105 SY

MANDATORY ROADWAY ACCESS

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO KEEP ALL ROADWAYS ACCESSIBLE AT ALL TIMES DURING CONSTRUCTION FOR POLICE, TRASH PICKUP, EMERGENCY VEHICLES, HOMEOWNERS, MAIL DELIVERY AND ALL OTHER USES. THE CONTRACTOR SHALL SUBMIT TO THE BOROUGH ENGINEER FOR HIS REVIEW, A DETAILED PLAN DEPICTING THE TEMPORARY SIGNAGE, ACCESS AND RAMPING NECESSARY FOR ACCESS ONTO THE ROADWAYS AND INTO EACH DRIVEWAY.

THIS PLAN SHALL BE SUBMITTED IN ADVANCE OF ANY ROADWAY EXCAVATION AND PROVIDE DATES WHEN THE EXISTING ROADWAY MATERIALS WILL BE REMOVED AND WHEN NEW GRAVEL AND BITUMINOUS ASPHALT WILL BE PLACED, IT IS NECESSARY THAT THE TIME FOR COMPLETION OF THESE ITEMS BE KEPT TO A MINIMUM. THE BOROUGH DESIRES THAT THE WORK BE SCHEDULED AND THAT IT IS COMPLETED PRIOR TO ANY WEEKEND OR HOLIDAY.

THEREFORE, THE CONTRACTOR SHALL PROVIDE SUFFICIENT EQUIPMENT AND MANPOWER NECESSARY TO ACCOMPLISH THIS WORK IN THE SHORTEST PERIOD OF TIME. THE BOROUGH WILL PERMIT THE CONTRACTOR TO EXTEND WORK HOURS DURING THIS PHASE, WITH THE BOROUGH ENGINEER'S APPROVAL AND DETERMINATION THAT SUFFICIENT MANPOWER IS AVAILABLE BY THE BOROUGH TO PERFORM INSPECTION AND/OR PROVIDE ASSISTANCE SHOULD A PROBLEM OCCUR DURING THESE EXTENDED HOURS.

IT IS SPECIFICALLY UNDERSTOOD THAT THE CONTRACTOR WILL PERFORM ANY AND ALL WORK REQUESTED BY ANY AGENCY TO FACILITATE THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL COST AND LIABILITY FOR THIS WORK AND FURTHER ACKNOWLEDGES THAT THE BOROUGH AND ITS REPRESENTATIVES ARE HELD HARMLESS FOR ANY DAMAGES OR COST ASSOCIATED WITH THIS WORK.

NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICES BID FOR THE VARIOUS PAY ITEMS IN THE BID SCHEDULE.

UTILITIES

GAS
NEW JERSEY NATURAL GAS COMPANY
1420 WYCKOFF ROAD
WALL, NEW JERSEY 07719
PHONE: (732) 938-1203

TELEPHONE
VERIZON-ENGINEERING
148 OLD SOUTH BROADWAY ROAD
MANAHAWKIN, NJ 08050
PHONE: (609) 597-9970

ELECTRIC
ATLANTIC CITY ELECTRIC
2542 FIRE ROAD
EGG HARBOR TOWNSHIP, NJ 08234
PHONE: (609) 294-6727

STORM SEWER
BOROUGH OF SURF CITY
PUBLIC WORKS DEPARTMENT
813 LONG BEACH BLVD.
SURF CITY, NJ 08008
PHONE: (609) 494-3064

SANITARY SEWER / WATER
BOROUGH OF SURF CITY SEWER
WATER DEPARTMENT
813 LONG BEACH BLVD.
SURF CITY, NJ 08008
PHONE: (609) 494-3064

CABLE T.V.
COMCAST CABLE
LONG BEACH BLVD.
SURF CITY, NJ 08008
PHONE: (732) 286-2971

SHEET INDEX

SHEET NUMBER	DESCRIPTION
1 OF 9	TITLE SHEET
2 OF 9	SHORE AVENUE EXISTING CONDITIONS PLAN
3 OF 9	SHORE AVENUE PLAN AND PROFILE
4 OF 9	SHORE AVENUE PLAN AND PROFILE
5 OF 9	SHORE AVENUE PLAN AND PROFILE
6 OF 9	SOIL EROSION PLAN
7 OF 9	SOIL EROSION NOTES AND DETAILS
8 OF 9	TRAFFIC CONTROL PLAN
9 OF 9	CONSTRUCTION DETAILS

NOTE:
THE 2019 U.S. CUSTOMARY ENGLISH STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE NEW JERSEY DEPARTMENT OF TRANSPORTATION, LATEST EDITION, OR AS AMENDED SHALL COVER THE CONSTRUCTION OF THIS PROJECT.

REFER TO NJDOT SPECIAL PROVISIONS FOR STATE AID PROJECTS FY 2019 EDITION WITH LATEST REVISION.

THE NJDOT STANDARD CONSTRUCTION DETAILS FOR ROADWAY, TRAFFIC CONTROL, AND BRIDGE BOOKLET (2016); AND THE NJDOT STANDARD ELECTRICAL DETAIL BOOKLET (2007), ARE APPLICABLE TO THIS PROJECT EXCEPT FOR THOSE DETAILS CONTAINED HEREIN.

ALL STRIPING AND SIGNS SHALL CONFORM TO "MUTCD, EDITION 2009"

NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK'D

OWEN, LITTLE & ASSOCIATES, INC.
443 Atlantic City Blvd.
Brickwood, NJ 08112
Tel: 732/244-1100
Fax: 732/244-1412

FRANK J. LITTLE, JR., P.E., P.P.

PROFESSIONAL ENGINEER
N.J. LIC. NO. 246E02708500
PROFESSIONAL PLANNER
N.J. LIC. NO. 03096

2022 MUNICIPAL ROAD RECONSTRUCTION PROJECT

SHORE AVENUE

TITLE SHEET

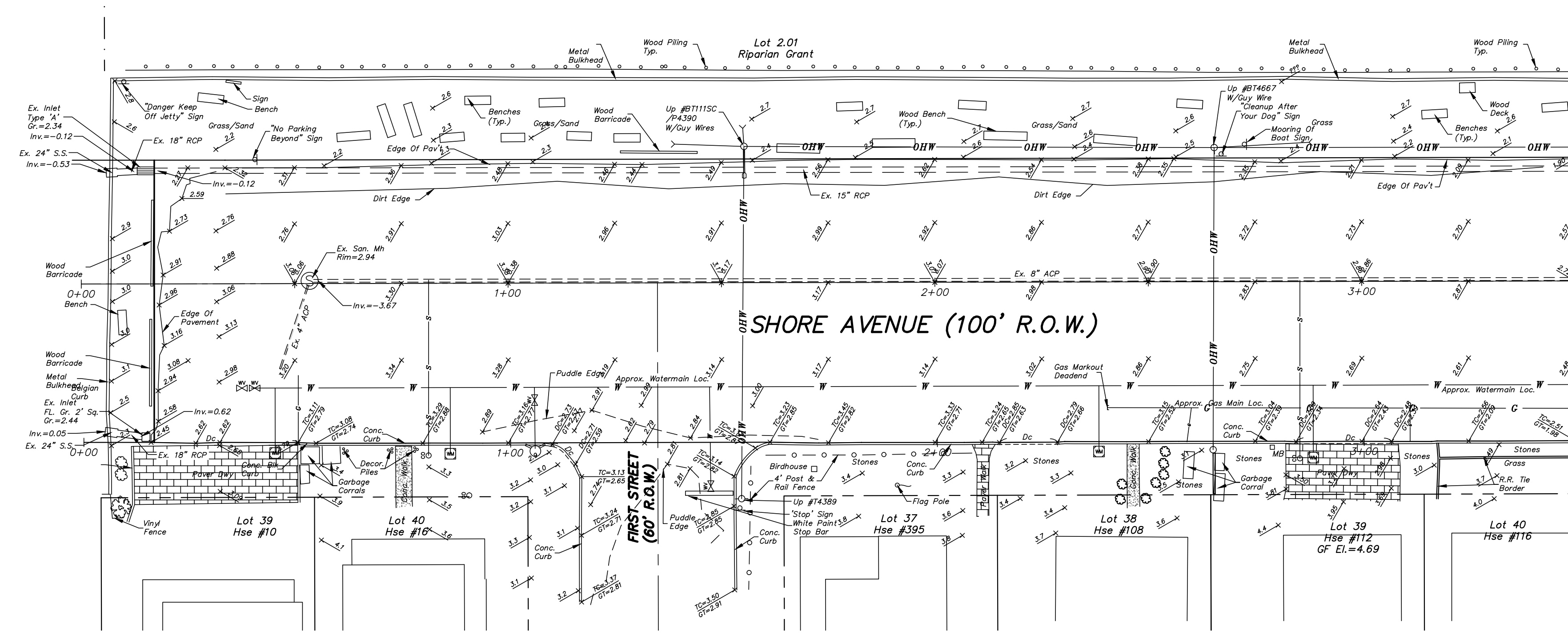
BOROUGH OF SURF CITY

OCEAN COUNTY NEW JERSEY

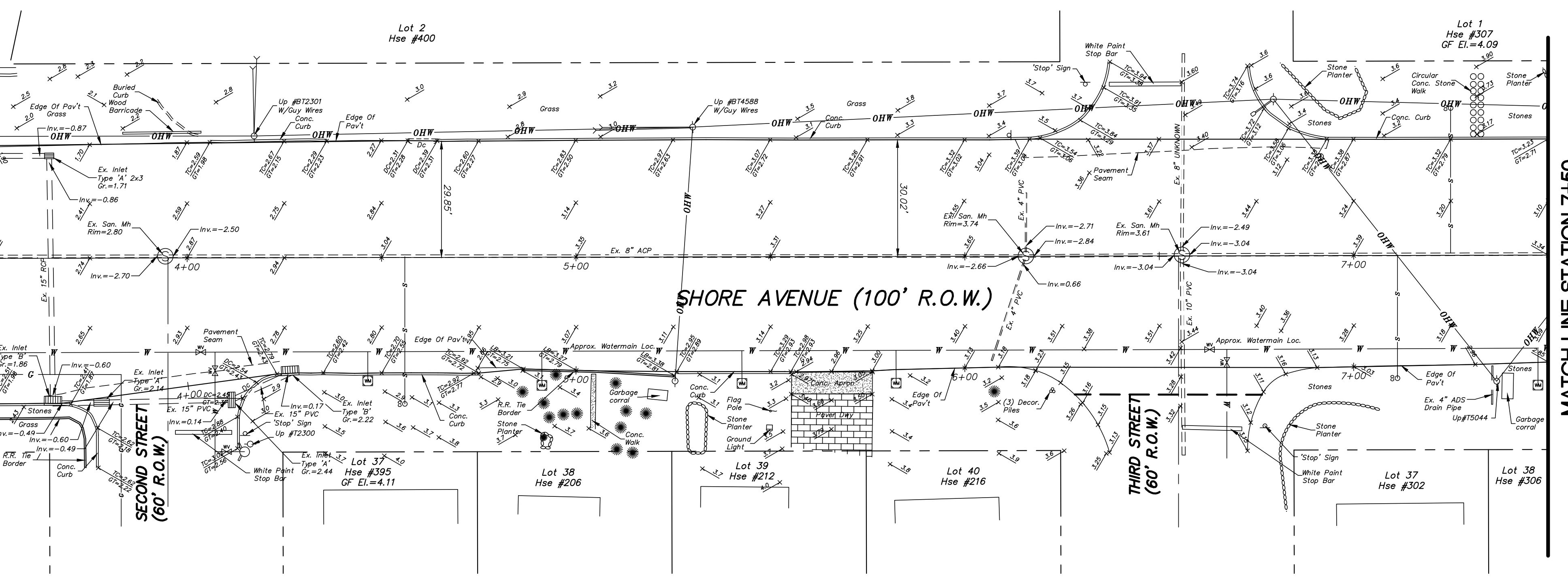
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1"=20'	10/05/22	JSM	AM JR		SURVEY# SC 22SHORE	1

LEGEND	
	GAS VALVE
	GAS SHUTOFF
	WATER VALVE
	WATER SHUTOFF
	WATER METER
	FIRE HYDRANT
	SANITARY CLEANOUT
	UTILITY POLE
	UTILITY POLE W/LIGHT
	UTILITY POLE W/GUY WIRE
	SIGN
	STREET ID SIGN
	MAILBOX
	SHRUB
	EVERGREEN TYPE TREE
	BROAD LEAF TREE
	MILL AND OVERLAY

MATCH LINE STATION 3+50

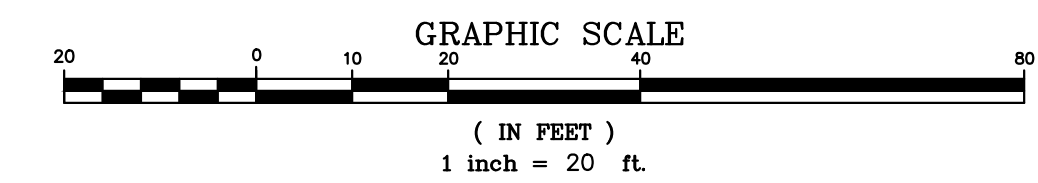
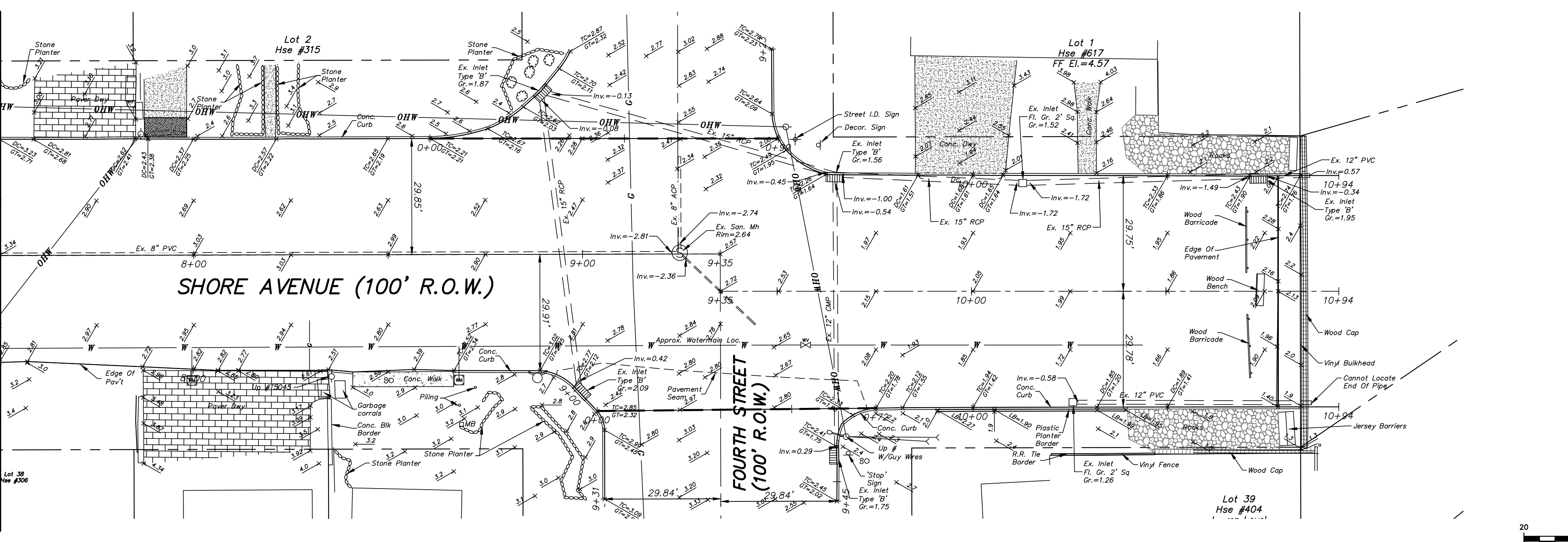


MATCH LINE STATION 3+50



MATCH LINE STATION 7+50

MATCH LINE STATION 7+50

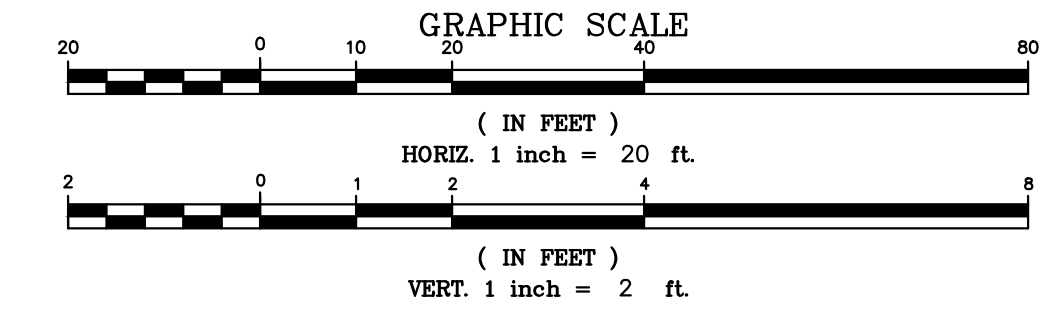


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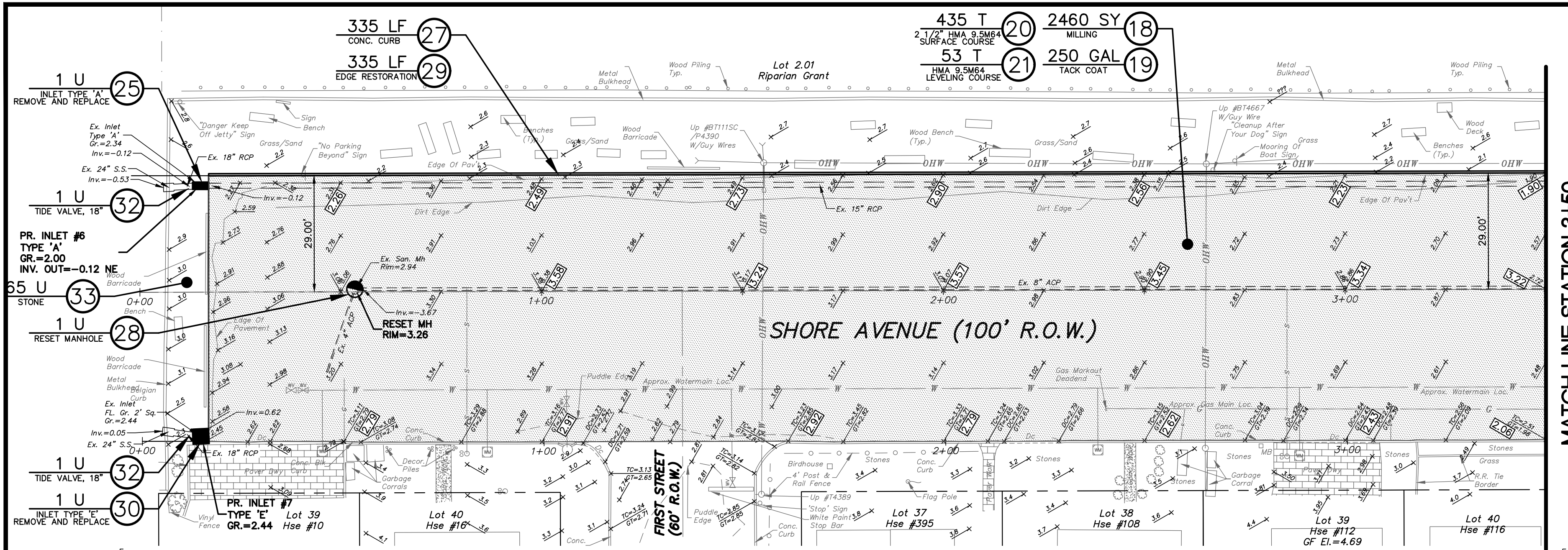
 OWEN, LITTLE & ASSOCIATES, INC. Engineers, Planners, Surveyors 25 Spawville 443 Atlantic City Blvd. Beachwood, NJ 07812 Tel: 732-244-1392 Fax: 732-244-3412	FRANK J. LITTLE, JR. P.E., P.P. PROFESSIONAL ENGINEER N.J. LIC. NO. 248E02708500 PROFESSIONAL PLANNER N.J. LIC. NO. 03096	BOROUGH OF SURF CITY OCEAN COUNTY NEW JERSEY	
		SCALE: 1"=20' DATE: 10/05/22 DRAWN: JSM CHK'D: AM JR APPROVED FOR CONSTRUCTION: APPR.	SURVEY & BILLING NO.: SC 22SHORE DRAWING NO.: 2 SHEET: 9

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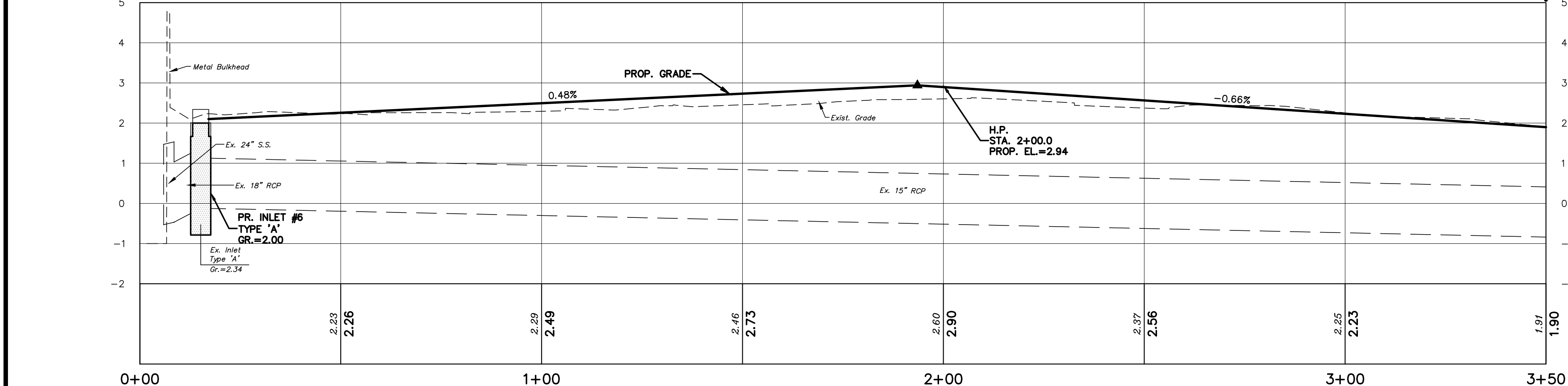
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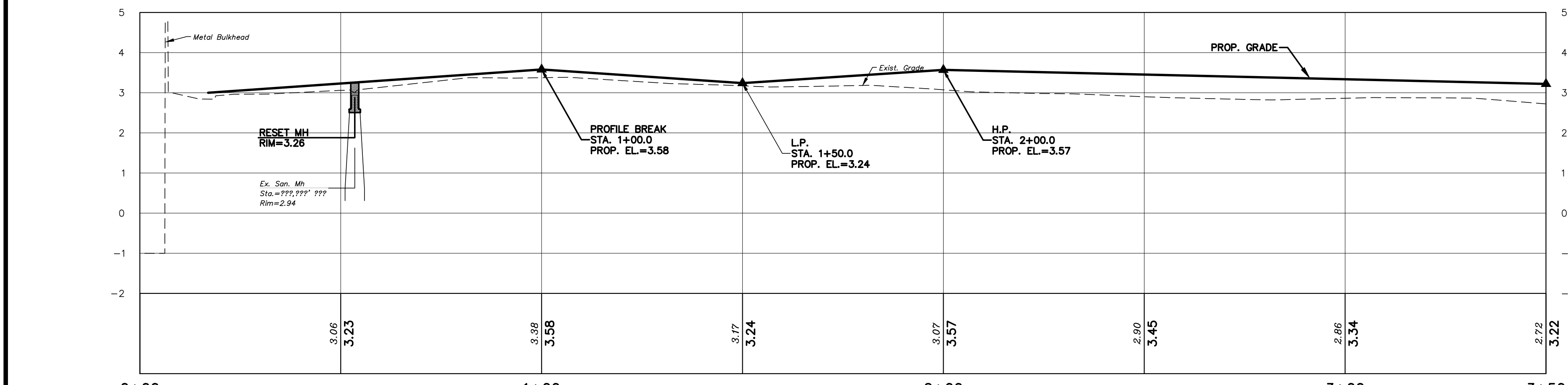
LEGEND	
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	GAS SHUTOFF
	WATER VALVE
	WATER SHUTOFF
	WATER METER
	FIRE HYDRANT
	SANITARY CLEANOUT
	UTILITY POLE
	UTILITY POLE W/LIGHT
	UTILITY POLE W/GUY WIRE
	SIGN
	STREET ID SIGN
	MAILBOX
	SHRUB
	EVERGREEN TYPE TREE
	BROAD LEAF TREE
	MILL AND OVERLAY



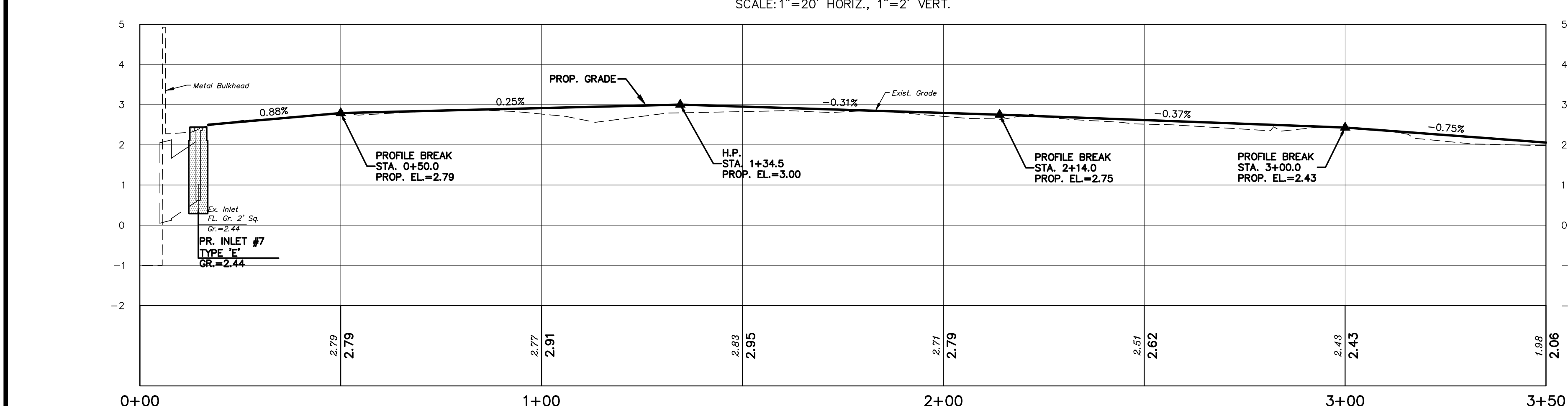
MATCH LINE STATION 3+50



SHORE AVENUE WEST GUTTER PROFILE
SCALE: 1"=20' HORIZ., 1"=2' VERT.



SHORE AVENUE BASELINE PROFILE
SCALE: 1"=20' HORIZ., 1"=2' VERT.



SHORE AVENUE EAST GUTTER PROFILE
SCALE: 1"=20' HORIZ., 1"=2' VERT.

ESTIMATE OF QUANTITIES			
Item No.	Item No.	Description	Plan Quantity
1	151006M	PERFORMANCE BOND	DOLL
2	151006M	PAYMENT BOND	DOLL
3	154003P	MOBILIZATION	LS
4	157004M	CONSTRUCTION LAYOUT	DOLL
5	158027M	INLET FILTER TYPE 1	SF
6	159003M	BREAKAWAY BARRICADE	U
7	159006M	DRUM	U
8	159009M	TRAFFIC CONE	U
9	159012M	CONSTRUCTION SIGNS	SF
10	159141M	POLICE TRAFFIC DIRECTORS	HR
11	160004M	FUEL PRICE ADJUSTMENTS	DOLL
12	160007M	ASPHALT PRICE ADJUSTMENTS	DOLL
13	201003P	CLEARING SITE	LS
14	202006M	EXCAVATION, TEST PITS	CY
15	202009P	EXCAVATION, UNCLASSIFIED	CY
16	202021P	REMOVAL OF PAVEMENT	SY
17	302036P	DENSE GRADED AGGREGATE, BASE COURSE, 6-INCH THICK	SY
18	302036P	HMA MILLING, 3" OR LESS	2460 SY
19	401030M	TACK COAT	250 GAL
20	401042M	HOT MIX ASPHALT 9.5 M 64 SURFACE COURSE, 2-1/2 INCH THICK	435 T
21	401042M	HOT MIX ASPHALT 9.5 M 64 INTERMEDIATE (LEVELING) COURSE	53 T
22	401096M	HOT MIX ASPHALT 19 M 64 BASE COURSE, 6-INCH THICK	T
23	401108M	CORE SAMPLES, HOT MIX ASPHALT	U
24	601409P	8-INCH PERFORATED HIGH DENSITY POLYETHYLENE PIPE	LF
25	602009M	INLET, TYPE A	1 U
26	606057P	CONCRETE DRIVEWAY, 6" THICK	SY
27	607021P	9"x18" CONCRETE VERTICAL CURB	335 LF
28	652432M	RESET MANHOLE, SANITARY SEWER, USING EXISTING CASTING	1 U
29	8050302	EDGE RESTORATION	335 LF
30	602018M	INLET, TYPE E	1 U
31		TIDE VALVE, 12"	U
32		TIDE VALVE, 18"	2 U
33		STONE, #57 TRAP ROCK, 6-INCH THICK	65 SY

NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK'D

OWEN, LITTLE & ASSOCIATES, INC.
Professional Engineer
No. 24602708500
443 Atlantic City Blvd.
Bridgeton, NJ 08302
Tel: 732-244-1990
Fax: 732-341-3412

FRANK J. LITTLE, JR.
P.E., P.P.

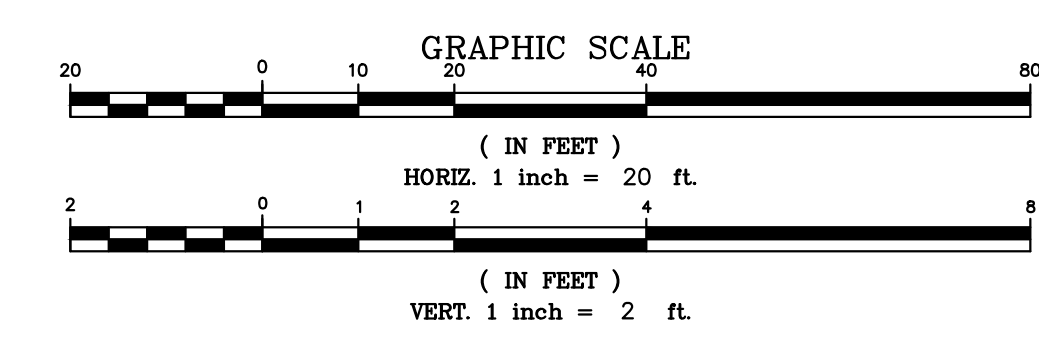
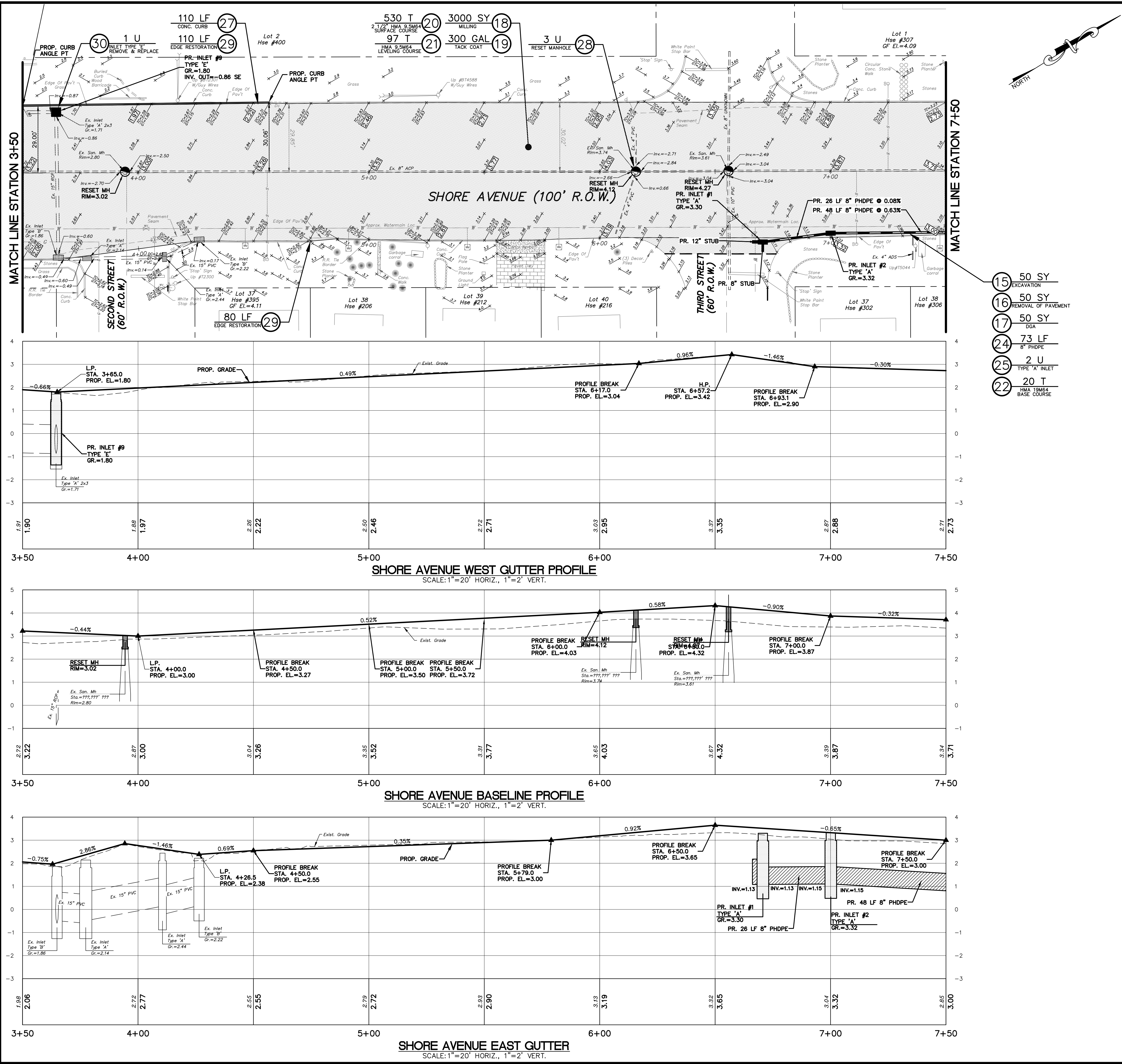
PROFESSIONAL ENGINEER
N.J. LIC. NO. 24602708500
PROFESSIONAL PLANNER
N.J. LIC. NO. 03096

2022 MUNICIPAL ROAD RECONSTRUCTION PROJECT
SHORE AVENUE
PLAN AND PROFILE

BOROUGH OF SURF CITY
NEW JERSEY

OCEAN COUNTY		NEW JERSEY	
SCALE	DATE	DRAWN	CHK'D
1"=20'	10/05/22	JSM	AM JR
APPROVED FOR CONSTRUCTION		SURVEY & BILLING NO.	
		SURVEY#	DRAWING NO.
		SC 22SHORE	3

Z:\320\Bridgeton\2021 SHORE AVE\CAD\DWG\SHORE AVE_2022.dwg - 3/13



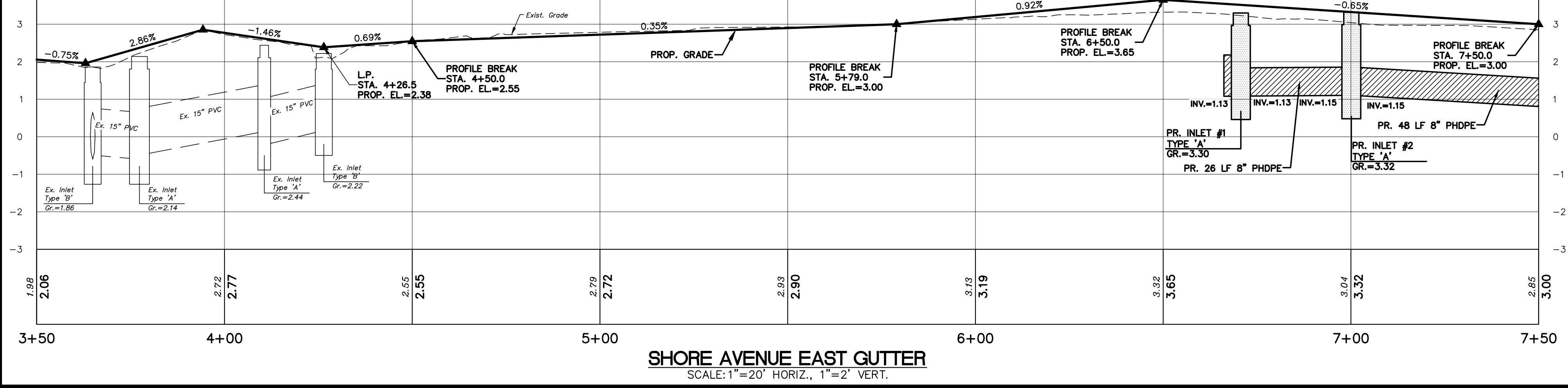
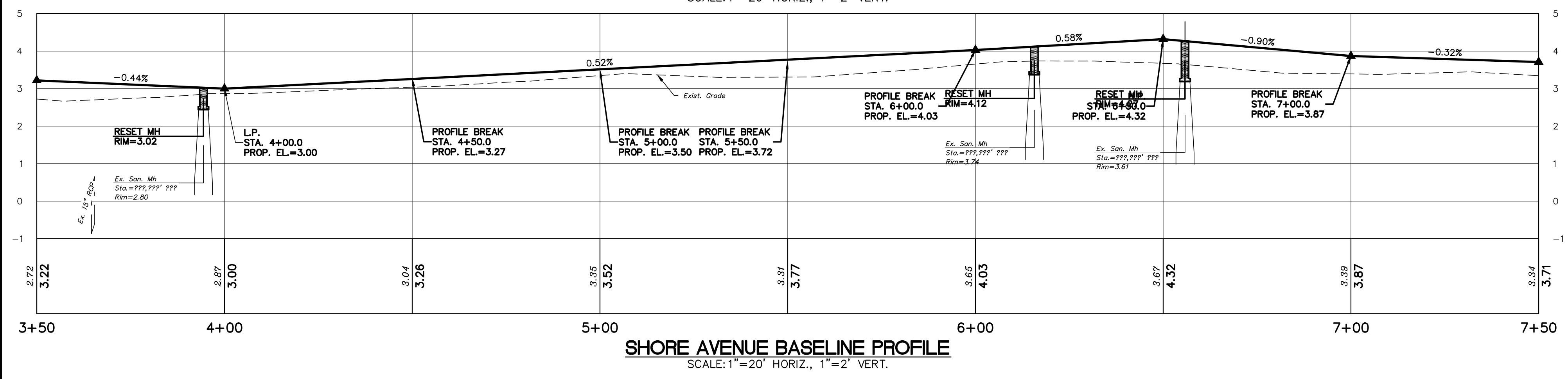
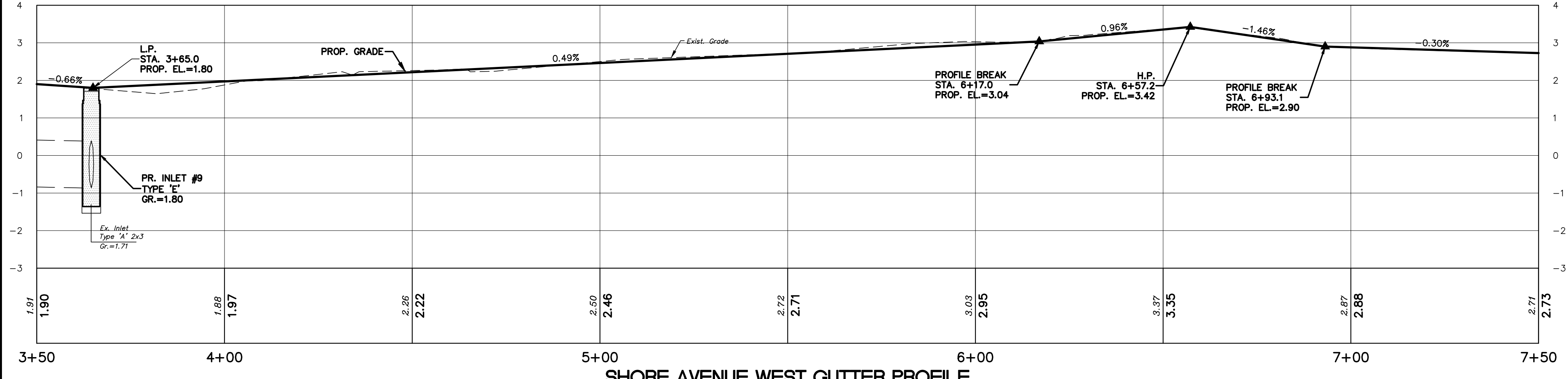
LEGEND

- GAS VALVE
- GAS SHUTOFF
- WATER VALVE
- WATER SHUTOFF
- FIRE HYDRANT
- SANITARY CLEANOUT
- UTILITY POLE
- UTILITY POLE W/LIGHT
- UTILITY POLE W/GUY WIRE
- SIGN
- STREET ID SIGN
- MAILBOX
- SHRUB
- EVERGREEN TYPE TREE
- BROAD LEAF TREE
- MILL AND OVERLAY

- 15 50 SY EXCAVATION
- 16 50 SY REMOVAL OF PAVEMENT
- 17 50 SY DGA
- 24 73 LF 8" PHDPE
- 25 2 U TYPE 'A' INLET
- 22 20 T HMA 19M4 BASE COURSE

ESTIMATE OF QUANTITIES

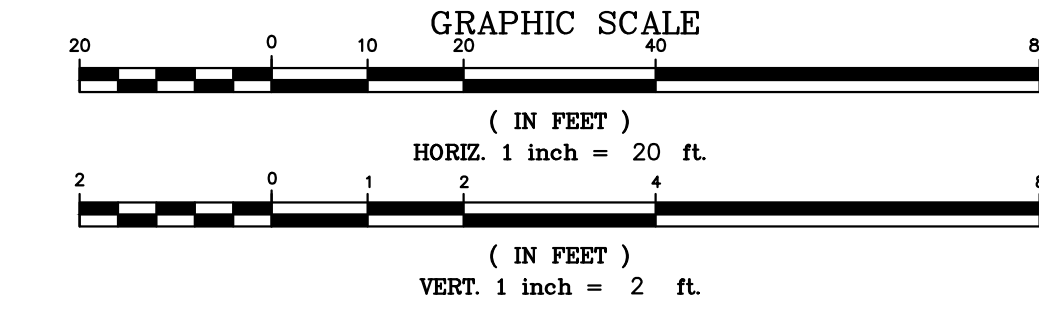
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6	159003M	BREAKAWAY BARRICADE	U
7	159006M	DRUM	U
8	159009M	TRAFFIC CONE	U
9	159012M	CONSTRUCTION SIGNS	SF
10	159141M	POLICE TRAFFIC DIRECTORS	HR
11	160004M	FUEL PRICE ADJUSTMENTS	DOLL
12	160007M	ASPHALT PRICE ADJUSTMENTS	DOLL
13	201003P	CLEARING SITE	LS
14	202006M	EXCAVATION, TEST PITS	CY
15	202009P	EXCAVATION, UNCLASSIFIED	50 CY
16	202021P	REMOVAL OF PAVEMENT	50 SY
17	302036P	DENSE GRADED AGGREGATE, BASE COURSE, 6-INCH THICK	50 SY
18	302036P	HMA MILLING, 3" OR LESS	3000 SY
19	401030M	TACK COAT	300 GAL
20	401042M	HOT MIX ASPHALT 9.5 M 64 SURFACE COURSE, 2-1/2 INCH THICK	530 T
21	401042M	HOT MIX ASPHALT 9.5 M 64 INTERMEDIATE (LEVELING) COURSE	97 T
22	401096M	HOT MIX ASPHALT 19 M 64 BASE COURSE, 6-INCH THICK	20 T
23	401108M	CORE SAMPLES, HOT MIX ASPHALT	U
24	601409P	8-INCH PERFORATED HIGH DENSITY POLYETHYLENE PIPE	73 LF
25	602009M	INLET, TYPE A	2 U
26	606057P	CONCRETE DRIVEWAY, 6" THICK	SY
27	607021P	9"x18" CONCRETE VERTICAL CURB	110 LF
28	652432M	RESET MANHOLE, SANITARY SEWER, USING EXISTING CASTING	3 U
29	8050302	EDGE RESTORATION	190 LF
30	602018M	INLET, TYPE E	1 U
31		TIDE VALVE, 12"	U
32		TIDE VALVE, 18"	U
33		STONE, #57 TRAP ROCK, 6-INCH THICK	SY



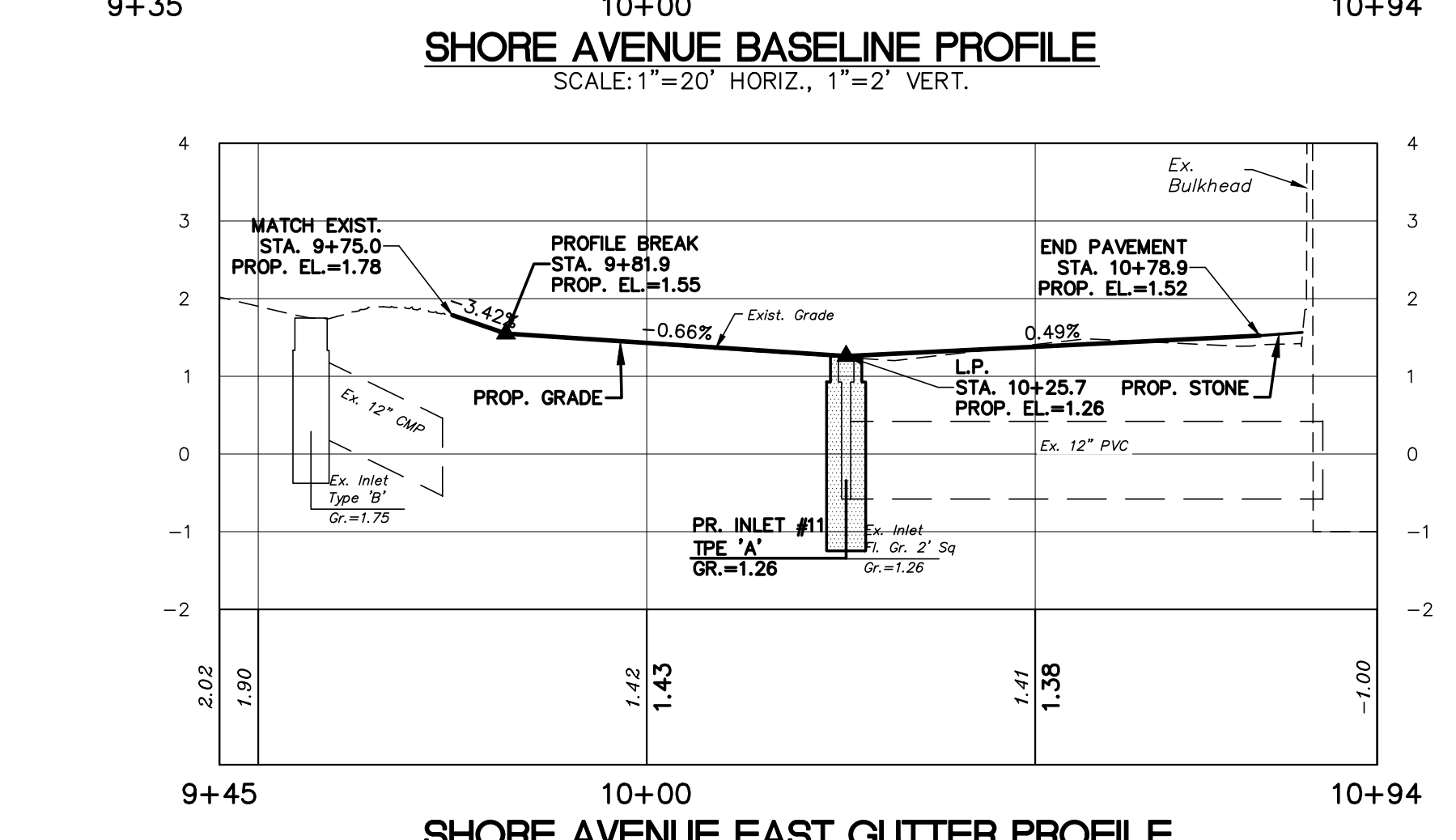
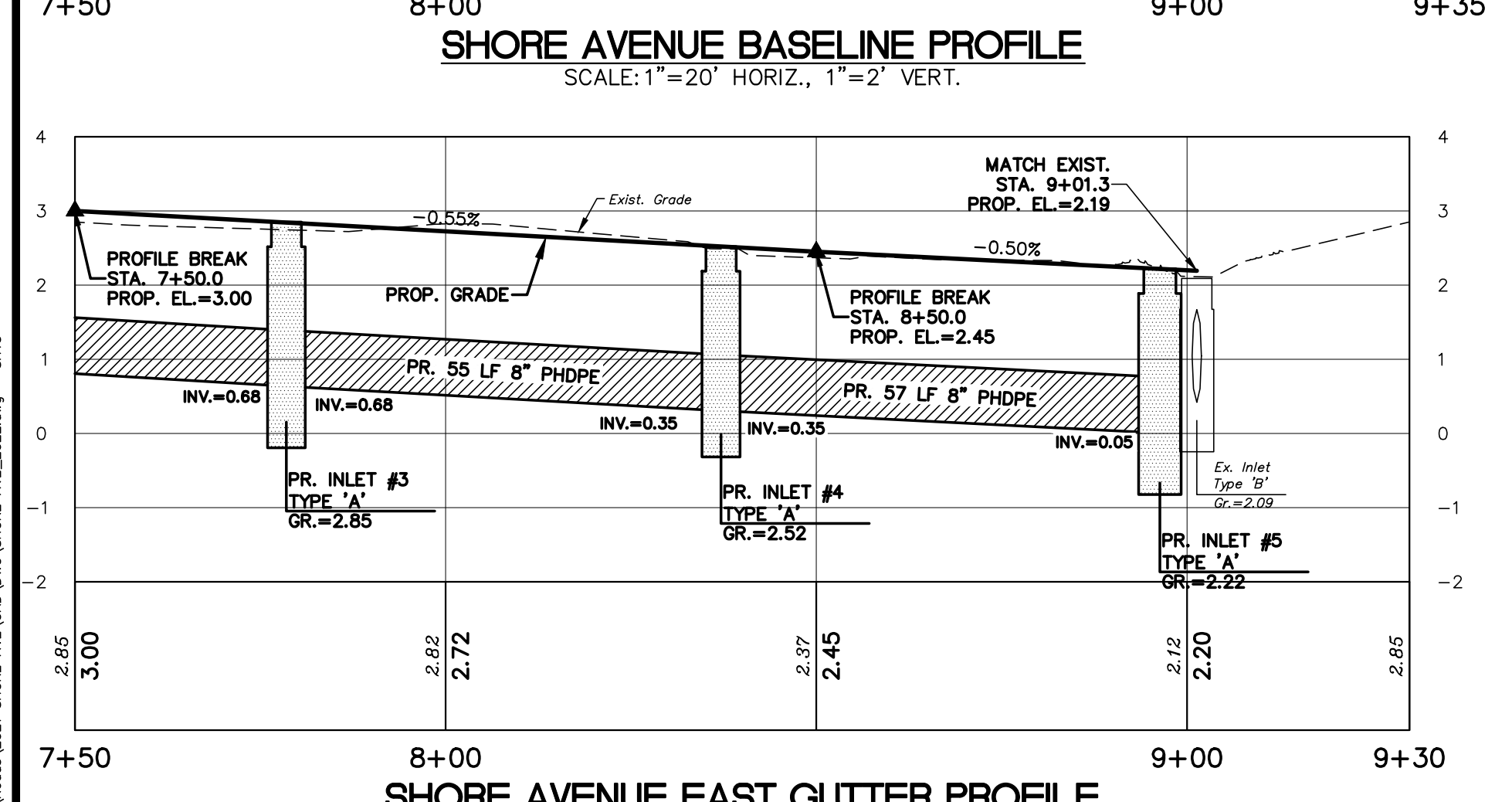
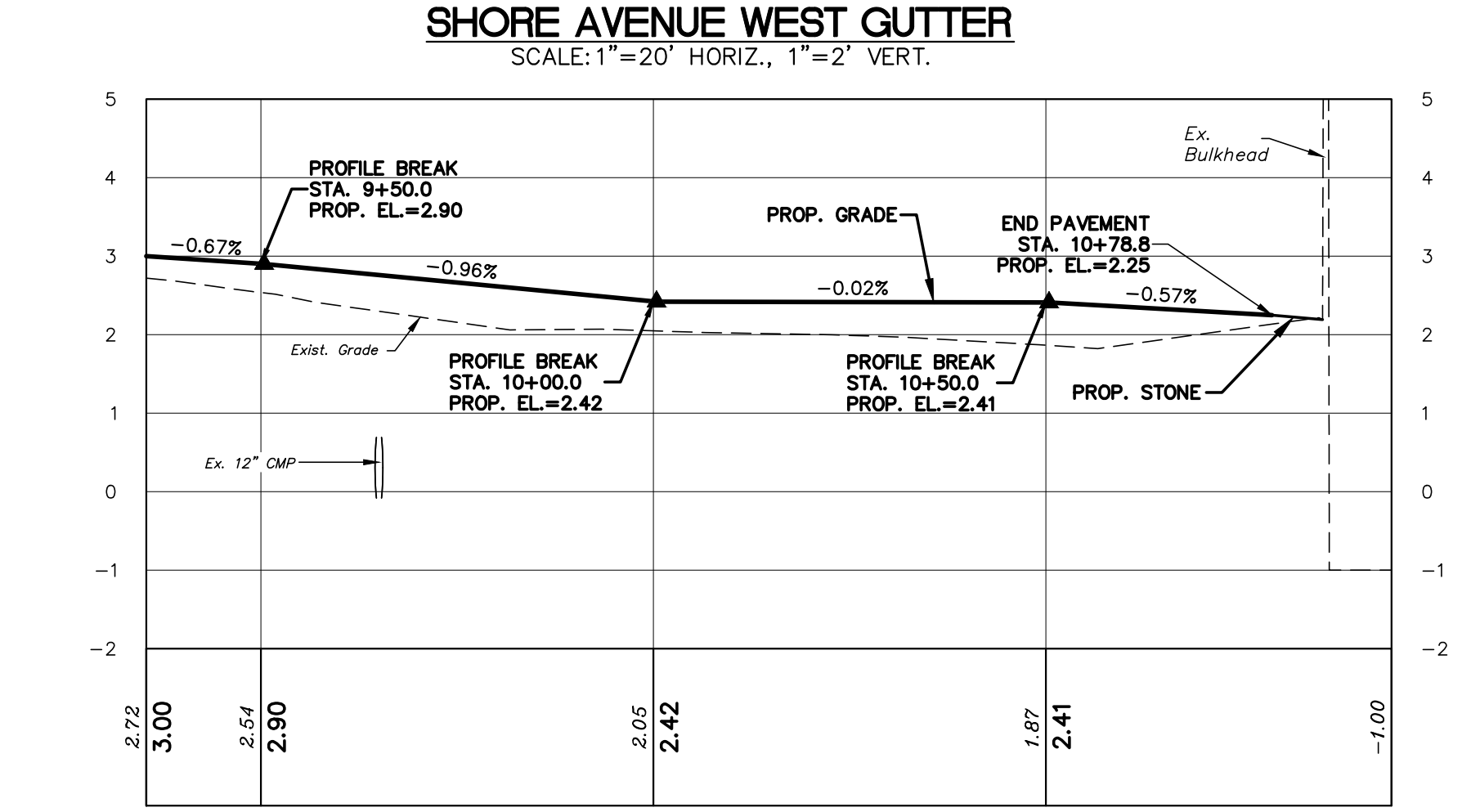
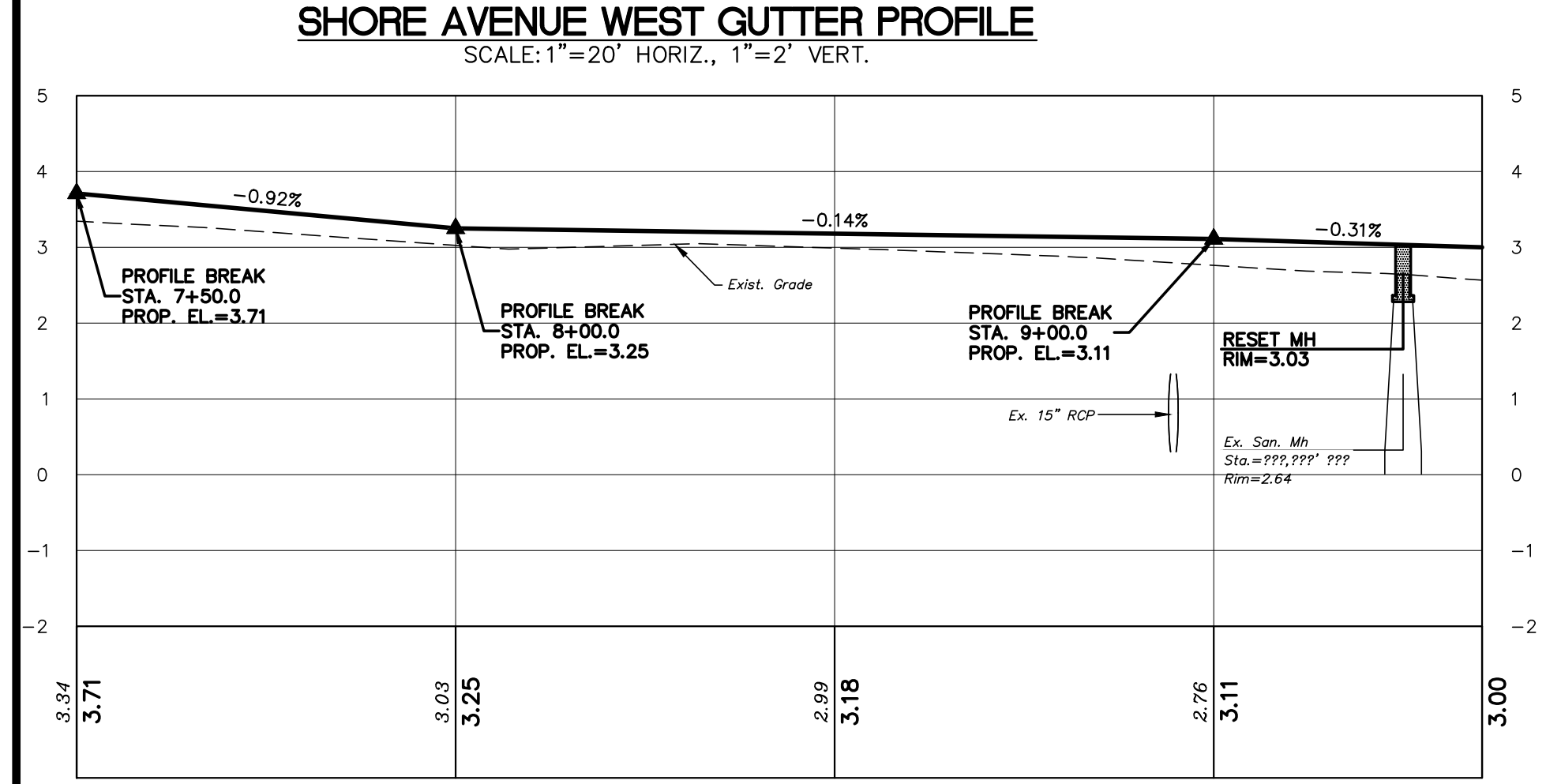
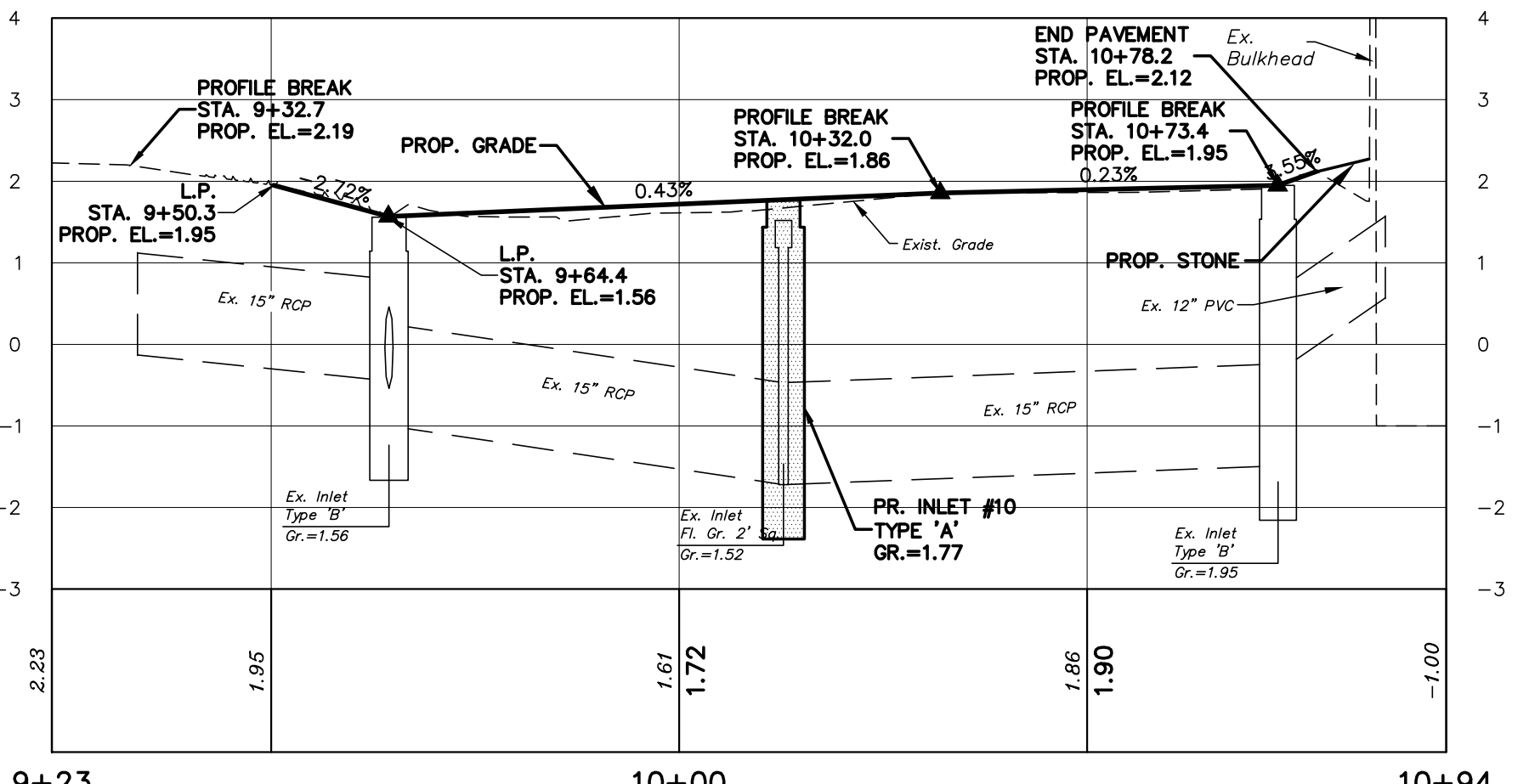
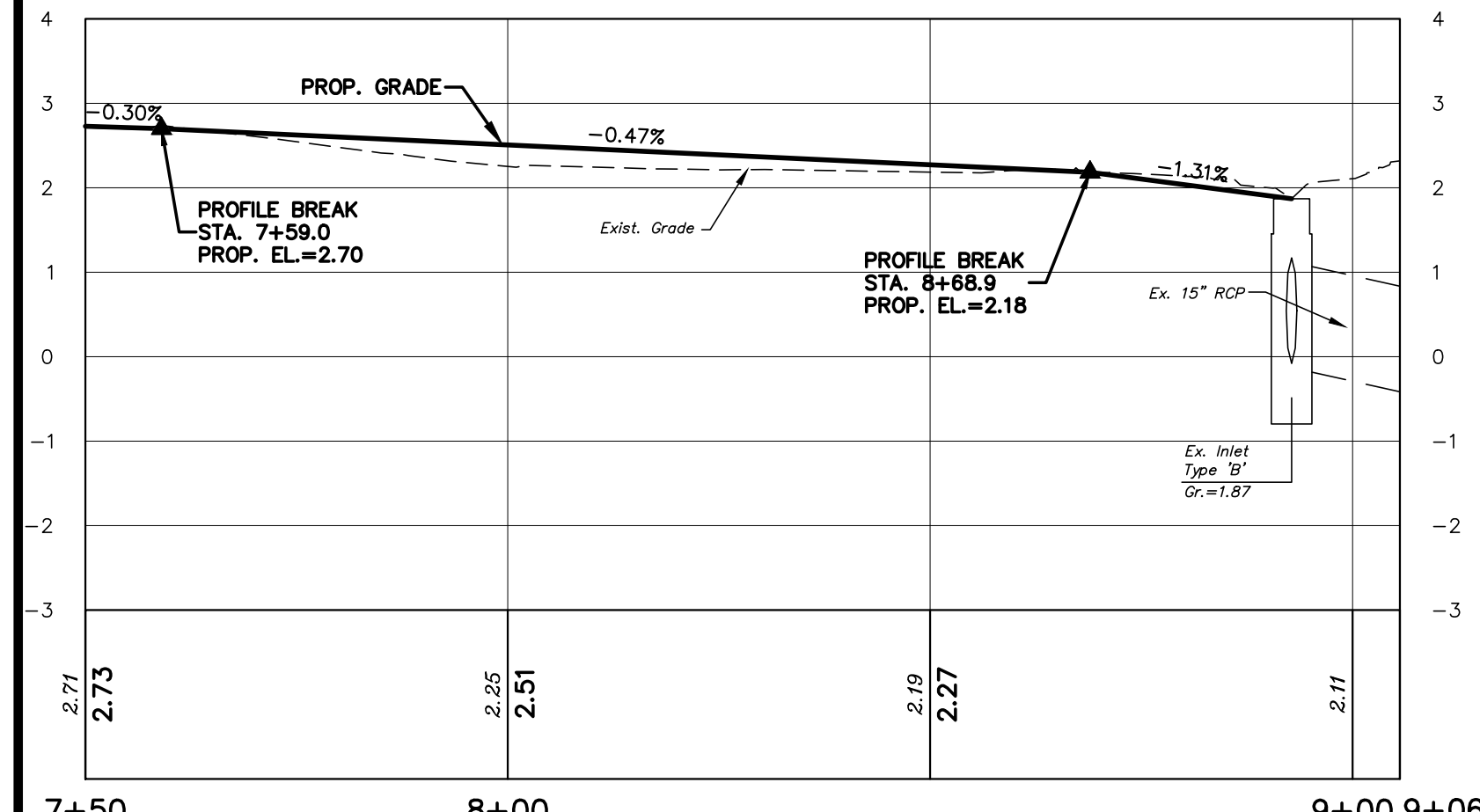
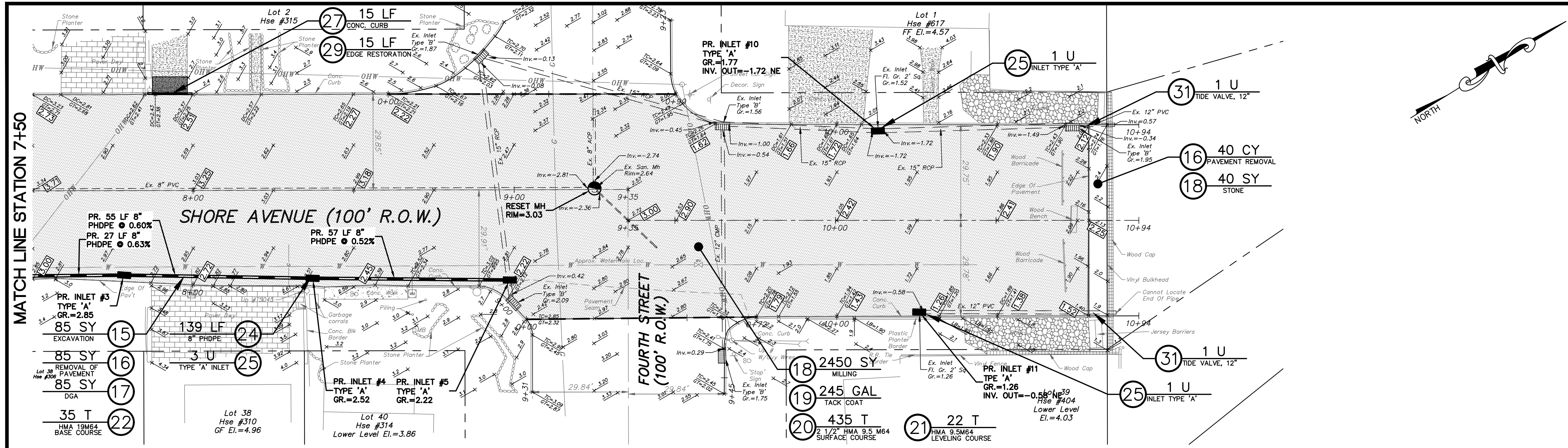
NO.	DATE	REVISION	DESCRIPTION	DRAWN	CHK'D
2022 MUNICIPAL ROAD RECONSTRUCTION PROJECT SHORE AVENUE PLAN AND PROFILE					
BOROUGH OF SURF CITY					
OCEAN COUNTY			NEW JERSEY		
SCALE	DATE	DRAWN	CHK'D	APPROVED FOR CONSTRUCTION	SURVEY & BILLING NO.
1"=20'	10/05/22	JSM	AM JR	APPR.	SC 22SHORE
FRANK J. LITTLE, JR. P.E., P.P. OVEN, LITTLE & ASSOCIATES, INC. 443 Atlantic City Blvd. Brickwood, NJ 08122 Tel: 732-244-1192 Fax: 732-244-3412					
DRAWING NO. 4					

2:3024 (Rev. 03/2021) SHORE AVENUE (60' R.O.W.) SHORE AVE. 2022.dwg - 5/114

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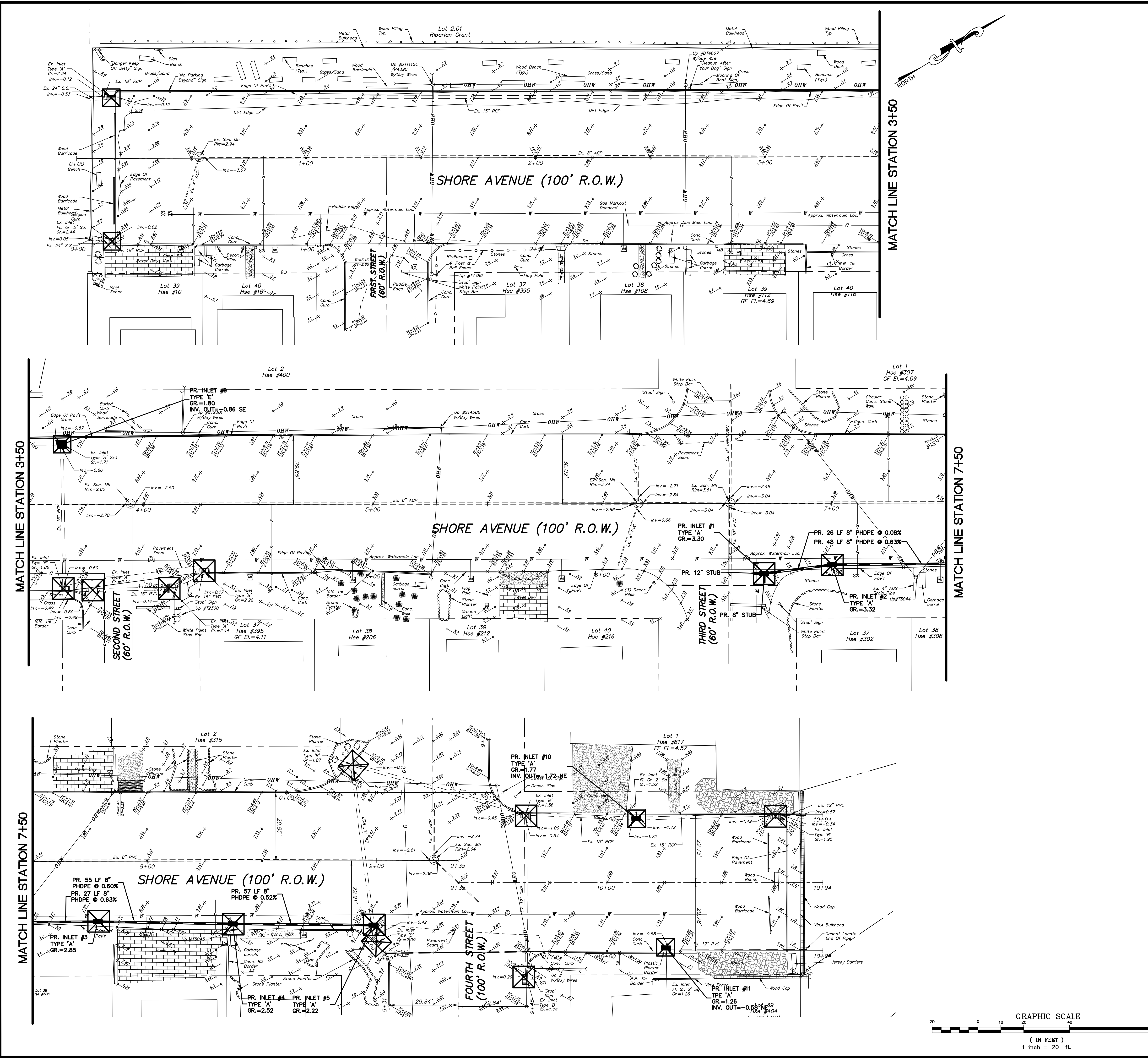


LEGEND	
	GAS VALVE
	GAS SHUTOFF
	WATER VALVE
	WATER SHUTOFF
	WATER METER
	FIRE HYDRANT
	SANITARY CLEANOUT
	UTILITY POLE
	UTILITY POLE W/LIGHT
	UTILITY POLE W/GUY WIRE
	SIGN
	STREET ID SIGN
	MAILBOX
	SHRUB
	EVERGREEN TYPE TREE
	BROAD LEAF TREE
	MILL AND OVERLAY



ESTIMATE OF QUANTITIES				
Item No.	Item No.	Description	Plan Quantity	
1	151006M	PERFORMANCE BOND		DOLL
2	151006M	PAYMENT BOND		DOLL
3	154003P	MOBILIZATION		LS
4	157004M	CONSTRUCTION LAYOUT		DOLL
5	158027M	INLET FILTER TYPE 1		SF
6	159003M	BREAKAWAY BARRICADE		U
7	159006M	DRUM		U
8	159009M	TRAFFIC CONE		U
9	159012M	CONSTRUCTION SIGNS		SF
10	159141M	POLICE TRAFFIC DIRECTORS		HR
11	160004M	FUEL PRICE ADJUSTMENTS		DOLL
12	160007M	ASPHALT PRICE ADJUSTMENTS		DOLL
13	201003P	CLEARING SITE		LS
14	202006M	EXCAVATION, TEST PITS		CY
15	202009P	EXCAVATION, UNCLASSIFIED	85	CY
16	202021P	REMOVAL OF PAVEMENT	125	SY
17	302036P	DENSE GRADED AGGREGATE, BASE COURSE, 6-INCH THICK	85	SY
18	302036P	HMA MILLING, 3" OR LESS	2450	SY
19	401030M	TACK COAT	245	GAL
20	401042M	HOT MIX ASPHALT 9.5 M 64 SURFACE COURSE, 2-1/2 INCH THICK	435	T
21	401042M	HOT MIX ASPHALT 9.5 M 64 INTERMEDIATE (LEVELING) COURSE	22	T
22	401096M	HOT MIX ASPHALT 19 M 64 BASE COURSE, 6-INCH THICK	35	T
23	401108M	CORE SAMPLES, HOT MIX ASPHALT		U
24	601409P	8-INCH PERFORATED HIGH DENSITY POLYETHYLENE PIPE	139	LF
25	602009M	INLET, TYPE A	5	U
26	606057P	CONCRETE DRIVEWAY, 6" THICK	6	SY
27	607021P	9"x18" CONCRETE VERTICAL CURB	15	LF
28	652432M	RESET MANHOLE, SANITARY SEWER, USING EXISTING CASTING	1	U
29	8050302	EDGE RESTORATION	100	LF
30	602018M	INLET, TYPE E		U
31		TIDE VALVE, 12"	2	U
32		TIDE VALVE, 18"		U
33		STONE, #57 TRAP ROCK, 6-INCH THICK	40	SY

NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK'D
2022 MUNICIPAL ROAD RECONSTRUCTION PROJECT SHORE AVENUE PLAN AND PROFILE				
FRANK J. LITTLE, JR. P.E., P.P.			BOROUGH OF SURF CITY OCEAN COUNTY NEW JERSEY	
AUTHORIZATION No. 2468708500 Engineers, Planners, Surveyors & Associates, Inc. 443 Atlantic City Blvd. Brickwood, NJ 08122 Tel: 732/244-1190 Fax: 732/244-1412		PROFESSIONAL ENGINEER N.J. LIC. NO. 2468708500 PROFESSIONAL PLANNER N.J. LIC. NO. 03096		
SCALE	DATE	DRAWN	CHK'D	APPROVED FOR CONSTRUCTION
1"=20'	10/05/22	JSM	AM JR	APPR.
SURVEY & BILLING NO.				DRAWING NO.
SC 22SHORE				5
				9



MATCH LINE STATION 3+50

MATCH LINE STATION 3+50

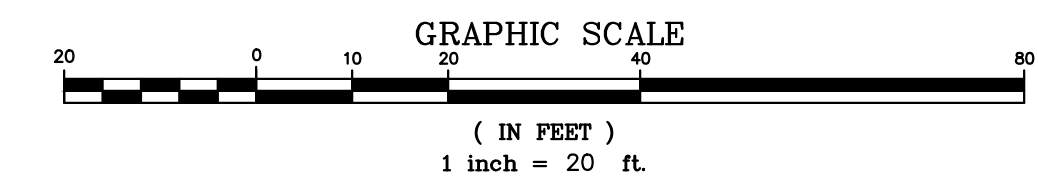
MATCH LINE STATION 7+50

MATCH LINE STATION 7+50

LEGEND	
	GAS VALVE
	GAS SHUTOFF
	WATER VALVE
	WATER SHUTOFF
	WATER METER
	FIRE HYDRANT
	SANITARY CLEANOUT
	UTILITY POLE
	UTILITY POLE W/GUY WIRE
	SIGN
	STREET ID SIGN
	MAILBOX
	SHRUB
	EVERGREEN TYPE TREE
	BROAD LEAF TREE
	MILL AND OVERLAY

ESTIMATE OF QUANTITIES

Item No.	Item No.	Description	Plan Quantity
1	151006M	PERFORMANCE BOND	DOLL
2	151006M	PAYMENT BOND	DOLL
3	154003P	MOBILIZATION	LS
4	157004M	CONSTRUCTION LAYOUT	DOLL
5	158027M	INLET FILTER TYPE 1	119 SF
6	159003M	BREAKAWAY BARRICADE	U
7	159006M	DRUM	U
8	159009M	TRAFFIC CONE	SF
9	159012M	CONSTRUCTION SIGNS	SF
10	159141M	POLICE TRAFFIC DIRECTORS	HR
11	160004M	FUEL PRICE ADJUSTMENTS	DOLL
12	160007M	ASPHALT PRICE ADJUSTMENTS	DOLL
13	201003P	CLEARING SITE	LS
14	202006M	EXCAVATION, TEST PITS	CY
15	202009P	EXCAVATION, UNCLASSIFIED	CY
16	202021P	REMOVAL OF PAVEMENT	SY
17	302036P	DENSE GRADED AGGREGATE, BASE COURSE, 6-INCH THICK	SY
18	302036P	HMA MILLING, 3" OR LESS	SY
19	401030M	TACK COAT	GAL
20	401042M	HOT MIX ASPHALT 9.5 M 64 SURFACE COURSE, 2-1/2 INCH THICK	T
21	401042M	HOT MIX ASPHALT 9.5 M 64 INTERMEDIATE (LEVELING) COURSE	T
22	401096M	HOT MIX ASPHALT 19 M 64 BASE COURSE, 6-INCH THICK	T
23	401108M	CORE SAMPLES, HOT MIX ASPHALT	U
24	601409P	8-INCH PERFORATED HIGH DENSITY POLYETHYLENE PIPE	LF
25	602009M	INLET, TYPE A	U
26	606057P	CONCRETE DRIVEWAY, 6" THICK	SY
27	607021P	9"x18" CONCRETE VERTICAL CURB	LF
28	652432M	RESET MANHOLE, SANITARY SEWER, USING EXISTING CASTING	U
29	8050302	EDGE RESTORATION	LF
30	602018M	INLET, TYPE E	U
31		TIDE VALVE, 12"	U
32		TIDE VALVE, 18"	U
33		STONE, #57 TRAP ROCK, 6-INCH THICK	SY



NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK'D
2022 MUNICIPAL ROAD RECONSTRUCTION PROJECT SHORE AVENUE SOIL EROSION AND SEDIMENT CONTROL PLAN				
BOROUGH OF SURF CITY			NEW JERSEY	
 OWEN, LITTLE & ASSOCIATES, INC. Authorization No. 2464785700 Engineers, Planners, Surveyors 25 Spawville 443 Atlantic City Blvd. Beachwood, NJ 08022 Tel: 732-244-1392 Fax: 732-244-3412		FRANK J. LITTLE, JR. P.E., P.P. PROFESSIONAL ENGINEER N.J. LIC. NO. 246E02708500 PROFESSIONAL PLANNER N.J. LIC. NO. 03096		
SCALE	DATE	DRAWN	CHK'D	APPROVED FOR CONSTRUCTION
1"=20'	10/05/22	JSM	AM JR	APPR.
SURVEY & BILLING NO.			DRAWING NO.	
SC 22SHORE			6	
			9	

TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

DEFINITION: ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER ON SOILS EXPOSED FOR PERIODS OF TWO TO SIX MONTHS WHICH ARE NOT BEING GRADED, NOT UNDER ACTIVE CONSTRUCTION OR NOT SCHEDULED FOR PERMANENT SEEDING WITHIN 60 DAYS.

PURPOSE: TO TEMPORARILY STABILIZE THE SOIL AND REDUCE DAMAGE FROM WIND AND WATER EROSION UNTIL PERMANENT STABILIZATION IS ACCOMPLISHED.

WATER QUALITY ENHANCEMENT: SLOWS THE OVER LAND MOVEMENT OF STORMWATER RUNOFF, INCREASES INFILTRATION AND RETAINS SOLS AND NUTRIENTS ON SITE, PROTECTING STREAMS OR OTHER STORMWATER CONVEYANCES.

WHERE APPLICABLE: ON EXPOSED SOILS THAT HAVE THE POTENTIAL FOR CAUSING OFF SITE ENVIRONMENTAL DAMAGE.

METHODS AND MATERIALS:

1. SITE PREPARATION
 - A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDING PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING, PG. 19-1.
 - B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11-42.
 - C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 0" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).
2. SEEDING PREPARATION
 - A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUFGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MALERS ARE AVAILABLE FROM THE LOCAL RUFGERS CO-OPERATIVE EXTENSION OFFICES. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 LBS PER ACRE OR 11 LBS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. APPLY LIMESTONE AT THE RATE OF 2 TONS/ACRE UNLESS SOIL TESTING INDICATED OTHERWISE. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM 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 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 TO ACCORDANCE WITH THE ABOVE.
 - D. SOILS HIGH IN SULFIDES OR HAVING A PH OF 4 OR LESS REFER TO STANDARD FOR MANAGEMENT OF HIGH ACD PRODUCING SOILS, PG. 1-1.
3. SEEDING
 - A. SELECT SEED FROM RECOMMENDATIONS IN TABLE 7-2.

TABLE 7-2 TEMPORARY VEGETATIVE STABILIZATION GRASSES, SEEDING RATES, DATES + DEPTHS

SEED SELECTIONS	SEEDING RATE 1 (POUNDS PER ACRE)	OPTIMUM SEEDING DATE 2			OPTIMUM SEED DEPTH 4 (INCHES)
		ZONE 5b, 6a	ZONE 6b	ZONE 7a, 6b	
COOL SEASON GRASSES					
1. PERENNIAL RYEGRASS	100	2.0	3/15-5/1 8/1-9/15	3/1-5/15 8/15-10/1	2/15-5/1 8/15-10/15
2. SPRING OATS	86	2.0	3/15-6/1 8/1-9/15	3/1-5/15 8/15-10/1	2/15-5/1 8/15-10/15
3. WINTER BARLEY	96	2.2	8/1-9/15	8/15-10/1	8/15-10/15
4. ANNUAL RYEGRASS	100	1.0	3/15-6/1 8/1-9/15	3/1-5/1 8/15-10/1	2/15-5/1 8/15-10/15
5. WINTER CEREAL RYE	112	2.8	8/1-11/1	8/1-11/15	8/1-12/15
WARM SEASON GRASSES					
6. PEARL MILLET	20	0.5	6/1-8/1	5/15-8/15	5/1-9/1
7. MILLET (GERMAN OR HUNGARIAN)	30	0.7	6/1-8/1	5/15-8/15	5/1-9/1

- TABLE 7-2 FOOTNOTES:**
1. SEEDING RATE FOR WARM SEASON GRASSES SELECTIONS 5-7 SHALL BE ADJUSTED TO REFLECT THE AMOUNT OF PURE LIVE SEED (PLS) AS DETERMINED BY A GERMINATION TEST RESULT. NO ADJUSTMENT IS REQUIRED FOR COOL SEASON GRASSES.
 2. MAY BE PLANTED THROUGHOUT SUMMER IF SOIL MOISTURE IS ADEQUATE OR SEEDS AREA CAN BE IRRIGATED.
 3. PLANT HARDNESS ZONE (SEE FIGURE 7-1, PG. 7-4)
 4. TWICE THE DEPTH FOR SANDY SOILS.

- A. CONVENTIONAL SEEDING: APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDER OR CULTPACKER SEEDING, SEED SHALL BE INCORPORATED INTO THE SOIL TO A DEPTH OF 1/2 TO 1 INCH BY RAKING OR DRAGGING. DEPTH OF SEED SHALL BE 1/2 INCH DEEPER ON COARSE TEXTURED SOIL.
- B. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER MOUNTED TANK WITH AN IRRIGATION SYSTEM AND HYDRANT EQUIPMENT FOR MIXING SEED, WATER AND FERTILIZER. MULCH SHALL BE APPLIED TO THE SOIL TO A DEPTH OF 1/2 TO 1 INCH BY RAKING OR DRAGGING. DEPTH OF SEED SHALL BE 1/2 INCH DEEPER ON COARSE TEXTURED SOIL.
- C. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER MOUNTED TANK WITH AN IRRIGATION SYSTEM AND HYDRANT EQUIPMENT FOR MIXING SEED, WATER AND FERTILIZER. MULCH SHALL BE APPLIED TO THE SOIL TO A DEPTH OF 1/2 TO 1 INCH BY RAKING OR DRAGGING. DEPTH OF SEED SHALL BE 1/2 INCH DEEPER ON COARSE TEXTURED SOIL.
- D. AFTER SEEDING, FIRING THE SOIL WITH CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDING EFFICIENCY. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE COUNTER, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.

4. MULCHING

MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.

 - A. STRAW OR HAY: UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, 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 DRUMMER IS USED INSTEAD OF A LIQUID MULCH BINDER (TAPOCKING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH SHOULD NOT BE APPLIED TO A DEPTH OF 1/2 TO 1 INCH BY RAKING OR DRAGGING. DEPTH OF SEED SHALL BE 1/2 INCH DEEPER ON COARSE TEXTURED SOIL.
 - B. LIQUID MULCH BINDERS: MAY BE USED TO ANCHOR HAY OR STRAW MULCH.

- A. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND MAY CATCH THE MULCH, IN VALLEYS, AND AT THE CREST OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM IN APPEARANCE.
- B. USE ONE OF THE FOLLOWING:
 - 1-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 MEMBRANE NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHOTO TOXIC EFFECT OR IMPIDE GROWTH OF TURFGRASSES. 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 EVALUATION FOR USE IN THIS STATE.
 - 2-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 RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.
- C. 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. THIS 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.

5. IRRIGATION (WHERE FEASIBLE)

IF SOIL MOISTURE IS DEFICIENT, AND MULCH IS NOT USED, SUPPLY NEW SEEDING WITH ADEQUATE WATER (A MINIMUM OF 1/2 INCH APPLIED UP TO TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.

6. TOPDRESSING

ONCE SOIL ORGANIC MATTER CONTENT AND SOIL RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) ARE PRESCRIBED IN SECTION 2-4 SEEDING PREPARATION IN THIS STANDARD, NO FOLLOW-UP OF TOPDRESSING IS REQUIRED. TOPDRESSING MAY BE MADE WHERE EXISTING TURF IS TO BE MAINTAINED FOR USE ON SMALL LAWNS OR RECREATION AREAS. SEEDS ARE WHERE SEED FREE MULCH IS DESIRED OR ON SITES WHERE STRAW MULCH AND TACKLING AGENT ARE NOT PRACTICAL OR DESIRABLE.

7. ESTABLISHING PERMANENT VEGETATIVE STABILIZATION

THE QUALITY OF PERMANENT VEGETATION RESTS WITH THE CONTRACTOR. THE THINKING OF SEEDING, PREPARING THE SEEDBED, APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTIAL. THE SEED APPLICATION RATES IN TABLE 4-3 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 ESTABLISHED PRIOR TO REQUESTING A REPORT OF COMPLIANCE FROM THE DISTRICT. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION SHALL BE COMPLETED WITHIN 60 DAYS OF SEEDING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A REPORT OF COMPLIANCE FROM THE DISTRICT. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION SHALL BE COMPLETED WITHIN 60 DAYS OF SEEDING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A REPORT OF COMPLIANCE FROM THE DISTRICT.

8. MAINTENANCE

INTENSIVE MOWING (2-4 DAYS), FERTILIZATION, LIME, PEST CONTROL AND IRRIGATION (EXAMPLES - HIGH MAINTENANCE LAWNS, COMMERCIAL AND RECREATIONAL AREAS, PUBLIC FACILITIES).

FREQUENT MOWING (4-7 DAYS), OCCASIONAL FERTILIZATION, LIME AND WEED CONTROL (EXAMPLES - HOME LAWNS, COMMERCIAL SITES).

MEDIUM MOWING (7-14 DAYS), OCCASIONAL FERTILIZATION AND LIME (EXAMPLES - HOME LAWNS, PARKS).

INFREQUENT OR NO MOWING, FERTILIZATION AND LIME THE FIRST YEAR OF ESTABLISHMENT (EXAMPLES - ROADSIDES, RECREATION AREAS, PUBLIC OPEN SPACES).

SUMMER SEEDINGS SHOULD ONLY BE CONDUCTED WHEN THE SITE IS IRRIGATED. MIXES INCLUDING WHITE CLOVER REQUIRE THAT AT LEAST SIX WEEKS OF GROWING SEASON REMAIN AFTER SEEDING TO ENSURE ESTABLISHMENT BEFORE FREEZING CONDITIONS.

SEEDING IN THE SPRING IS BEST. DO NOT SEED OVER MID-SUMMER. SITES SPRAY FOR SEEDING IN THE LATE SUMMER OR FALL CAN BE SEEDED TO GRASS AND MULCHED AND THE CROWNVECH OVER-SEEDED THE FOLLOWING SPRING.

9. CONDUIT OUTLET PROTECTION

CONDUIT OUTLET PROTECTION SHALL BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
10. UNDESIRABLE WEEDING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DRAINING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY WEEDING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR WEEDING.
11. THE CONTROL OF DUST AT THE SITE IS 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.
12. STOCKPILES 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 CERTIFICATIONS OF A NEW AND SEPARATE SOIL EROSION AND SEDIMENT CONTROL PLAN WILL BE REQUIRED FOR THESE ACTIVITIES.
13. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #6.
14. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR SPILLS AS A RESULT OF CONSTRUCTION OF THE PROJECT.

PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

DEFINITION: ESTABLISHMENT OF PERMANENT VEGETATIVE COVER ON EXPOSED SOILS WHERE PERENNIAL VEGETATION IS NEEDED FOR LONG TERM PROTECTION.

PURPOSE: TO PERMANENTLY STABILIZE THE SOIL, ENSURING CONSERVATION OF SOIL AND WATER, AND TO ENHANCE THE ENVIRONMENT.

WATER QUALITY ENHANCEMENT: SLOWS THE OVER LAND MOVEMENT OF STORMWATER RUNOFF, INCREASES INFILTRATION AND RETAINS SOLS AND NUTRIENTS ON SITE, PROTECTING STREAMS OR OTHER STORMWATER CONVEYANCES.

WHERE APPLICABLE: ON EXPOSED SOILS THAT HAVE THE POTENTIAL FOR CAUSING OFF SITE ENVIRONMENTAL DAMAGE.

METHODS AND MATERIALS:

1. SITE PREPARATION
 - A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDING PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING.
 - B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SURFACE 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. CHECK THE DEPTH OF TOPSOIL APPLICATIONS AND WATERWAYS. SEE STANDARDS 11-42. 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.
2. SEEDING PREPARATION
 - A. UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER WHICH HAS BEEN SPREAD AND FIRMED, ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUFGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MALERS ARE AVAILABLE FROM THE LOCAL RUFGERS CO-OPERATIVE EXTENSION OFFICES. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 LBS PER ACRE OR 11 LBS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. APPLY LIMESTONE AT THE RATE OF 2 TONS/ACRE UNLESS SOIL TESTING INDICATED OTHERWISE. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM TO GRASSES AND LEGUMES.
 - B. WORK LIME AND FERTILIZER INTO THE TOPSOIL 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 THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
 - C. HIGH ACD PRODUCING SOIL

SOILS HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF MULCH HAVING A PH OF 5 OR MORE BEFORE INITIATING SEEDING. PREPARE MULCH IN ACCORDANCE WITH STANDARD FOR MANAGEMENT OF HIGH ACD PRODUCING SOILS FOR SPECIFIC REQUIREMENTS.
3. SEEDING
 - A. SELECT A MIXTURE FROM TABLE 4-3 OR USE MIXTURE RECOMMENDED BY RUFGERS CO-OPERATIVE EXTENSION OF LOCAL RESOURCES CONSERVATION SERVICE. SEEDING SHALL BE COMPLETED WITHIN 60 DAYS OF SEEDING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A REPORT OF COMPLIANCE FROM THE 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 REQUESTED.
 - B. 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 REQUESTING A REPORT OF COMPLIANCE FROM THE DISTRICT. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION SHALL BE COMPLETED WITHIN 60 DAYS OF SEEDING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A REPORT OF COMPLIANCE FROM THE DISTRICT.
 - C. WARM SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT HIGH TEMPERATURES, GENERALLY 80° F AND ABOVE. SEE TABLE 4-3 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.
 - D. COOL SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT TEMPERATURES BELOW 80° F. MANY GRASSES BECOME ACTIVE AT 60° F. SEE TABLE 4-3.
4. CONVENTIONAL SEEDING: APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDER OR CULTPACKER SEEDING, SEED SHALL BE INCORPORATED INTO THE SOIL TO A DEPTH OF 1/2 TO 1 INCH BY RAKING OR DRAGGING. DEPTH OF SEED SHALL BE 1/2 INCH DEEPER ON COARSE TEXTURED SOIL.
5. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER MOUNTED TANK WITH AN IRRIGATION SYSTEM AND HYDRANT EQUIPMENT FOR MIXING SEED, WATER AND FERTILIZER. MULCH SHALL BE APPLIED TO THE SOIL TO A DEPTH OF 1/2 TO 1 INCH BY RAKING OR DRAGGING. DEPTH OF SEED SHALL BE 1/2 INCH DEEPER ON COARSE TEXTURED SOIL.
6. AFTER SEEDING, FIRING THE SOIL WITH CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDING EFFICIENCY. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE COUNTER, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.

4. MULCHING

MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.

 - A. STRAW OR HAY: UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, 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 DRUMMER IS USED INSTEAD OF A LIQUID MULCH BINDER (TAPOCKING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH SHOULD NOT BE APPLIED TO A DEPTH OF 1/2 TO 1 INCH BY RAKING OR DRAGGING. DEPTH OF SEED SHALL BE 1/2 INCH DEEPER ON COARSE TEXTURED SOIL.
 - B. LIQUID MULCH BINDERS: MAY BE USED TO ANCHOR HAY OR STRAW MULCH.

- A. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND MAY CATCH THE MULCH, IN VALLEYS, AND AT THE CREST OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM IN APPEARANCE.
- B. USE ONE OF THE FOLLOWING:
 - 1-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 MEMBRANE NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHOTO TOXIC EFFECT OR IMPIDE GROWTH OF TURFGRASSES. 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 EVALUATION FOR USE IN THIS STATE.
 - 2-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 RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.
- C. 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. THIS 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.

5. IRRIGATION (WHERE FEASIBLE)

IF SOIL MOISTURE IS DEFICIENT, AND MULCH IS NOT USED, SUPPLY NEW SEEDING WITH ADEQUATE WATER (A MINIMUM OF 1/2 INCH APPLIED UP TO TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.

6. TOPDRESSING

ONCE SOIL ORGANIC MATTER CONTENT AND SOIL RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) ARE PRESCRIBED IN SECTION 2-4 SEEDING PREPARATION IN THIS STANDARD, NO FOLLOW-UP OF TOPDRESSING IS REQUIRED. TOPDRESSING MAY BE MADE WHERE EXISTING TURF IS TO BE MAINTAINED FOR USE ON SMALL LAWNS OR RECREATION AREAS. SEEDS ARE WHERE SEED FREE MULCH IS DESIRED OR ON SITES WHERE STRAW MULCH AND TACKLING AGENT ARE NOT PRACTICAL OR DESIRABLE.

7. ESTABLISHING PERMANENT VEGETATIVE STABILIZATION

THE QUALITY OF PERMANENT VEGETATION RESTS WITH THE CONTRACTOR. THE THINKING OF SEEDING, PREPARING THE SEEDBED, APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTIAL. THE SEED APPLICATION RATES IN TABLE 4-3 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 ESTABLISHED PRIOR TO REQUESTING A REPORT OF COMPLIANCE FROM THE DISTRICT. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION SHALL BE COMPLETED WITHIN 60 DAYS OF SEEDING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A REPORT OF COMPLIANCE FROM THE DISTRICT.

8. MAINTENANCE

INTENSIVE MOWING (2-4 DAYS), FERTILIZATION, LIME, PEST CONTROL AND IRRIGATION (EXAMPLES - HIGH MAINTENANCE LAWNS, COMMERCIAL AND RECREATIONAL AREAS, PUBLIC FACILITIES).

FREQUENT MOWING (4-7 DAYS), OCCASIONAL FERTILIZATION, LIME AND WEED CONTROL (EXAMPLES - HOME LAWNS, COMMERCIAL SITES).

MEDIUM MOWING (7-14 DAYS), OCCASIONAL FERTILIZATION AND LIME (EXAMPLES - HOME LAWNS, PARKS).

INFREQUENT OR NO MOWING, FERTILIZATION AND LIME THE FIRST YEAR OF ESTABLISHMENT (EXAMPLES - ROADSIDES, RECREATION AREAS, PUBLIC OPEN SPACES).

SUMMER SEEDINGS SHOULD ONLY BE CONDUCTED WHEN THE SITE IS IRRIGATED. MIXES INCLUDING WHITE CLOVER REQUIRE THAT AT LEAST SIX WEEKS OF GROWING SEASON REMAIN AFTER SEEDING TO ENSURE ESTABLISHMENT BEFORE FREEZING CONDITIONS.

SEEDING IN THE SPRING IS BEST. DO NOT SEED OVER MID-SUMMER. SITES SPRAY FOR SEEDING IN THE LATE SUMMER OR FALL CAN BE SEEDED TO GRASS AND MULCHED AND THE CROWNVECH OVER-SEEDED THE FOLLOWING SPRING.

9. CONDUIT OUTLET PROTECTION

CONDUIT OUTLET PROTECTION SHALL BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
10. UNDESIRABLE WEEDING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DRAINING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY WEEDING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR WEEDING.
11. THE CONTROL OF DUST AT THE SITE IS 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.
12. STOCKPILES 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 CERTIFICATIONS OF A NEW AND SEPARATE SOIL EROSION AND SEDIMENT CONTROL PLAN WILL BE REQUIRED FOR THESE ACTIVITIES.
13. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #6.
14. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR SPILLS AS A RESULT OF CONSTRUCTION OF THE PROJECT.

TABLE 4-2 PERMANENT STABILIZATION MIXTURES FOR VARIOUS USES

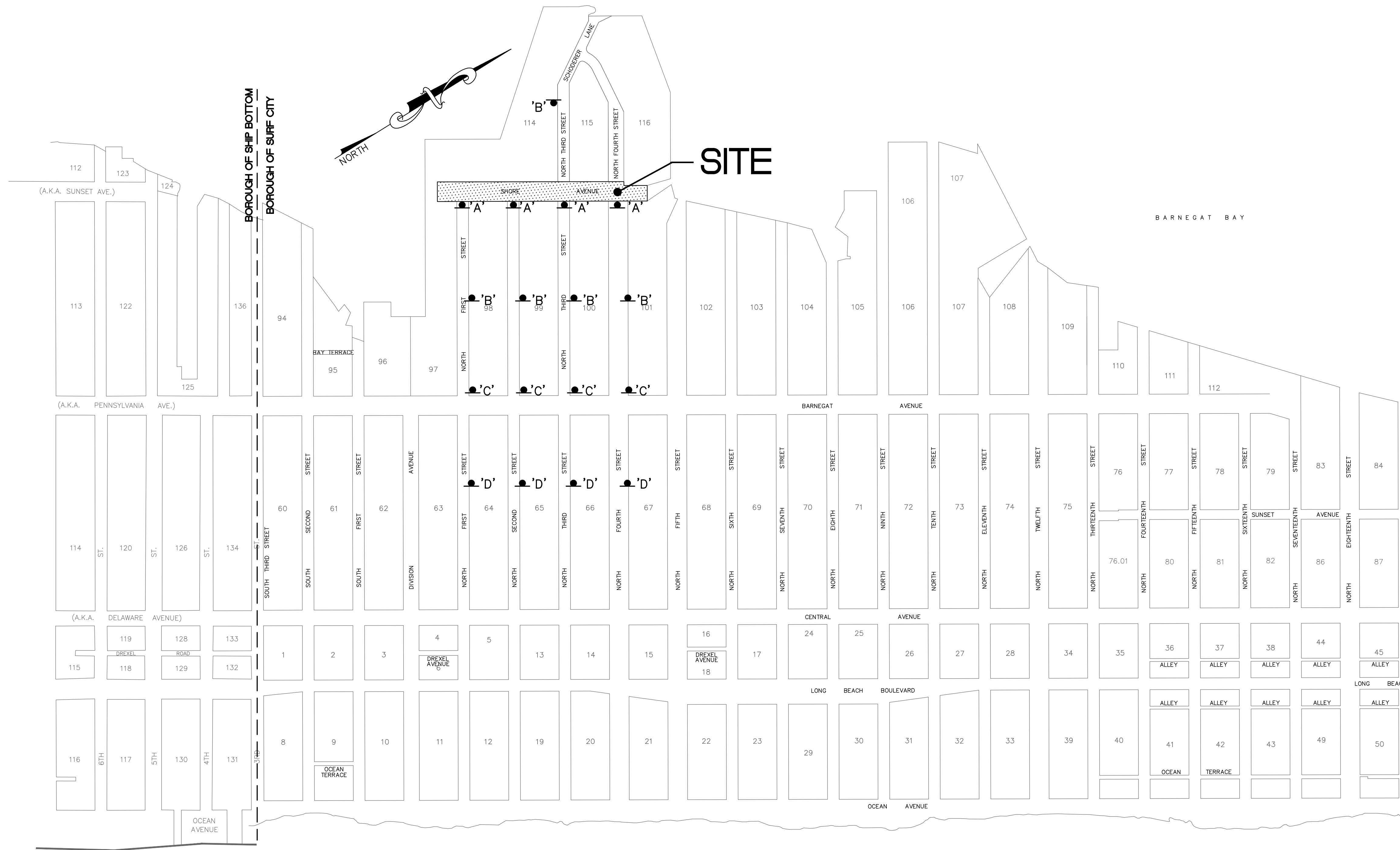
APPLICATION	BLANDING MIXTURES BY SOIL DRAINAGE CLASS 1 (SEE TABLE 4-3)			
	EXCESSIVELY DRAINED	WELL TO MODERATELY WELL DRAINED	SOMEWHAT POORLY TO POORLY DRAINED	
RESIDENTIAL/COMMERCIAL LOTS	12, 14, 17	8, 12, 14, 15, 16, 17	18	
POND AND CHANNEL BANKS, DICES, BERMS AND DAMS	2, 7, 8, 12	7, 8, 9, 10, 11, 17	2, 10, 18, 19	
DRAINAGE DITCHES, SWALES, DETENTION BASINS	2, 11, 13	2, 9, 11, 13, 14, 19	2, 10, 18, 19	
FILTER STRIPS	14	13, 14	13, 14	
GRASSES, WATERWAY, SPILLWAYS	2, 3, 11, 12, 14	8, 9, 11, 12, 13, 14	2, 11, 13, 14	
RECREATION AREAS, ATHLETIC FIELDS	7, 14, 17, 20	14, 15, 16, 17, 20	18	
SPECIAL PROBLEM SITES: STEEP SLOPES AND BANKS, ROADSIDES, BORROW AREAS	2, 3, 6, 9	2, 3, 7, 9, 10, 11, 12, 17, 20	2, 11, 12, 13, 14	
SAND AND GRAVEL PITTS, SANITARY LANDFILLS	1, 2, 3, 4, 5, 6, 21	1, 2, 3, 4, 5, 6, 10, 17, 20	2, 10	
DREDGED MATERIAL, SPOILBANKS, BORROW AREAS	2, 3, 6, 20	2, 3, 6, 11	2, 10	
STREAMBANKS & SHOULDER 2	2, 10, 22, 23b	2, 10, 21b, 22, 23a, 23b	2, 10, 21a, 23a, b, c, d	
UTILITY RIGHTS OF WAY	3, 9, 20	3, 9	10, 11, 19	

TABLE 4-2 FOOTNOTES:

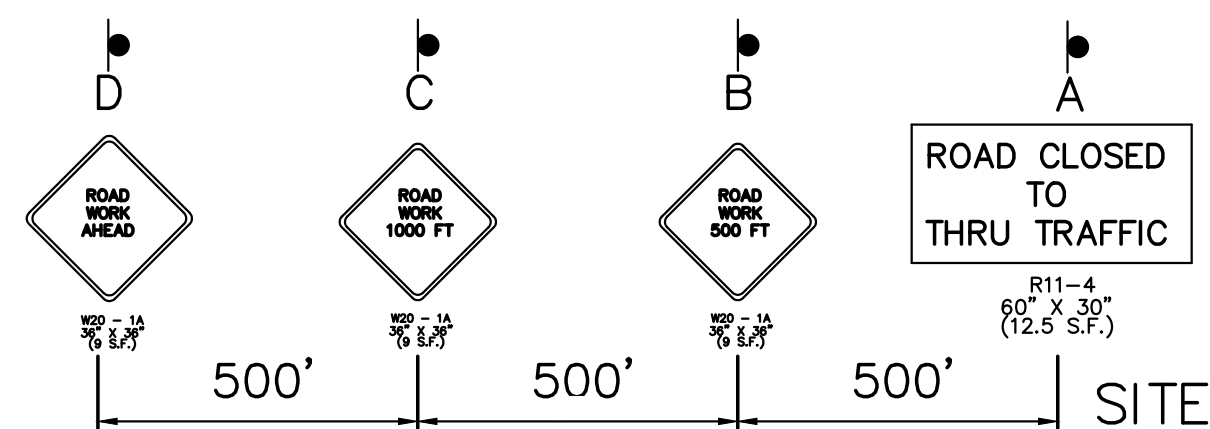
1. REFER TO SOIL SURVEYS FOR DRAINAGE CLASS DETERMINATION.
2. REFER TO SOIL ENGINEERING STANDARD FOR ADDITIONAL SEED MIXTURES.
3. SPILLS ONLY.
4. SEE APPENDIX C FOR DETERMINATION OF TURN GRASSES AND CULTIVARS.

SOIL EROSION AND SEDIMENT CONTROL NOTES

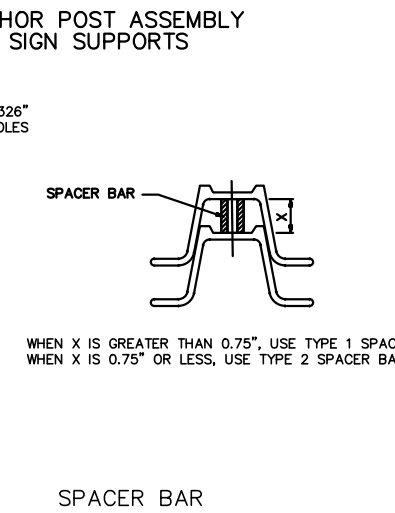
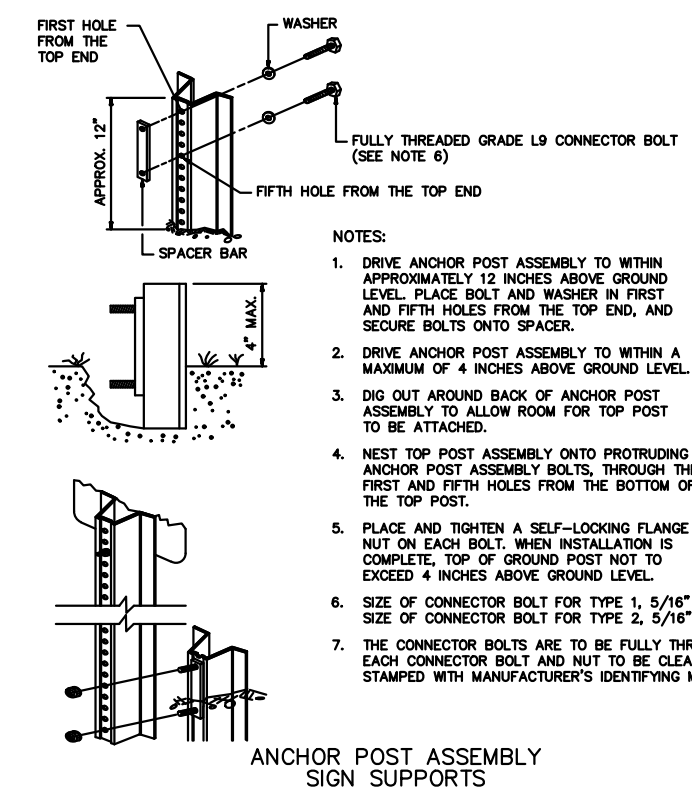
1. THE OCEAN COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY LAND DISTURBANCE.
2. ALL WORK IS TO BE DONE IN ACCORDANCE WITH THE STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
3. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE OR OTHER PERTURBATION, AND MAINTAINED UNTIL PERMANENT PROTECTIONS IS ESTABLISHED.
4. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
5. 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 RECREATION AREAS SHALL BE COMPLETED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY.
6. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN THIRTY (30) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL 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, AT A RATE OF 2 TO 2 1/2 TONS PER ACRE, ACCORDING TO STATE STANDARD FOR STABILIZATION WITH MULCH ONLY.
7. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (IE 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.
8. 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 ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN FIFTEEN (15) DAYS OF THE PRELIMINARY GRADING.
9. ANY STEEP SLOPES (3:1 OR GREATER) OR ANY EXISTING ROADWAYS RECEIVING PIPELINE INSTALLATIONS WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION CONTINUES.
10. THE STANDARD STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A STONE PAD AT ALL CONSTRUCTION DRIVEWAYS WHERE VEHICLES WILL ACCESS PAVED ROADWAYS FROM UNPAVED AREAS OF THE SITE.
11. ALL SEDIMENT WASHED, DROPPED, OR TRACKED ONTO ROADWAYS (PUBLIC OR PRIVATE) OR OTHER IMPROVED SURFACES WILL BE REMOVED IMMEDIATELY.
12. PERMANENT VEGETATION IS TO BE SEEDING OR SOILED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. AT THE TIME OF THE FINAL INFILTRATION, YOU ARE REQUIRED TO PROVIDE CONFIRMATION THAT THE PROPER TYPE AND AMOUNT OF SEED, LIME AND FERTILIZER HAVE BEEN USED FOR PERMANENT VEGETATION 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 THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
14. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACD PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE COVERED WITH A MINIMUM OF TWELVE (12) INCHES OF MULCH HAVING A PH OF 5 OR MORE PRIOR TO SEEDING 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 SHALL BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
16. UNDESIRABLE WEEDING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DRAINING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY WEEDING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR WEEDING.
17. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED



ESTIMATE OF QUANTITIES			
Item No.	Item No.	Description	Plan Quantity
1	151006M	PERFORMANCE BOND	DOLL
2	151006M	PAYMENT BOND	DOLL
3	154003P	MOBILIZATION	LS
4	157004M	CONSTRUCTION LAYOUT	DOLL
5	158027M	INLET FILTER TYPE 1	SF
6	159003M	BREAKAWAY BARRICADE	U
7	159006M	DRUM	U
8	159009M	TRAFFIC CONE	U
9	159012M	CONSTRUCTION SIGNS	167 SF
10	159141M	POLICE TRAFFIC DIRECTORS	HR
11	160004M	FUEL PRICE ADJUSTMENTS	DOLL
12	160007M	ASPHALT PRICE ADJUSTMENTS	DOLL
13	201003P	CLEARING SITE	LS
14	202006M	EXCAVATION, TEST PITS	CY
15	202009P	EXCAVATION, UNCLASSIFIED	CY
16	202021P	REMOVAL OF PAVEMENT	SY
17	302036P	DENSE GRADED AGGREGATE, BASE COURSE, 6-INCH THICK	SY
18	302036P	HMA MILLING, 3" OR LESS	SY
19	401030M	TACK COAT	GAL
20	401042M	HOT MIX ASPHALT 9.5 M 64 SURFACE COURSE, 2-1/2 INCH THICK	T
21	401042M	HOT MIX ASPHALT 9.5 M 64 INTERMEDIATE (LEVELING) COURSE	T
22	401096M	HOT MIX ASPHALT 19 M 64 BASE COURSE, 6-INCH THICK	T
23	401108M	CORE SAMPLES, HOT MIX ASPHALT	U
24	601409P	8-INCH PERFORATED HIGH DENSITY POLYETHYLENE PIPE	LF
25	602009M	INLET, TYPE A	2 U
26	606057P	CONCRETE DRIVEWAY, 6" THICK	SY
27	607021P	9"x18" CONCRETE VERTICAL CURB	LF
28	652432M	RESET MANHOLE, SANITARY SEWER, USING EXISTING CASTING	U
29	8050302	EDGE RESTORATION	LF
30	602018M	INLET, TYPE E	U
31		TIDE VALVE, 12"	U
32		TIDE VALVE, 18"	U
33		STONE, #57 TRAP ROCK, 6-INCH THICK	SY

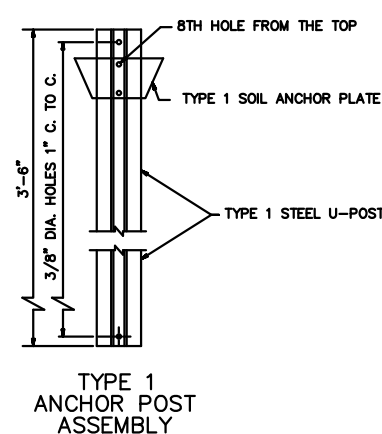
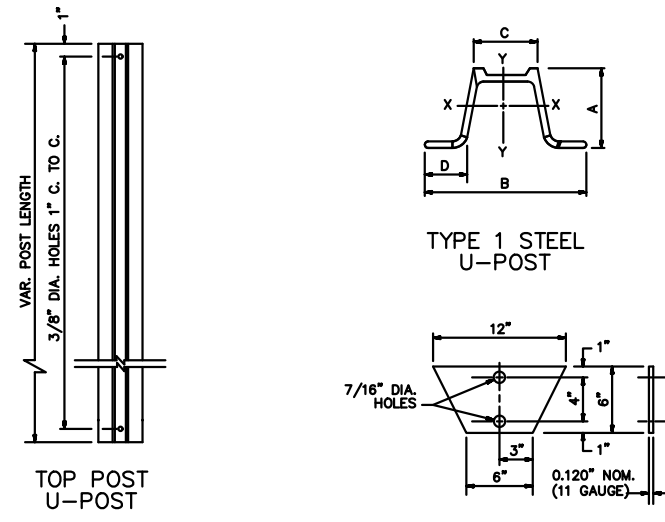


W20 - 1A
36" X 36"
(9 S.F.)
TYPICAL A, B & C
SIGN LEGEND AND DETAILS
9 167 SF
TRAFFIC CONTROL SIGNS



WEIGHT LBS. / FT.	DIMENSIONS (IN)				AREA IN.2	X-X AXIS**		Y-Y AXIS	
	"A"	"B"	"C"	"D"		(IN.4) B(IN.3)	(IN.4) B(IN.3)		
2.50	1.516	3.062	1.278	0.669	0.760	0.228	0.313	0.539	0.352
4.00	1.968	3.500	1.336	0.834	1.187	0.611	0.707	1.161	0.664

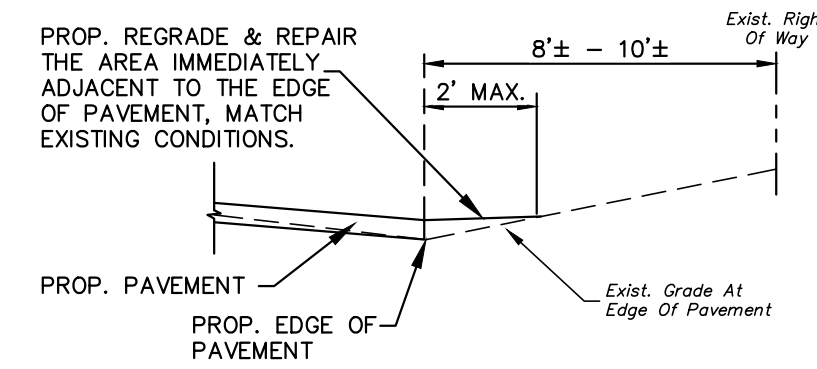
* 1/2" X 1/2"
** GOVERNING SECTION



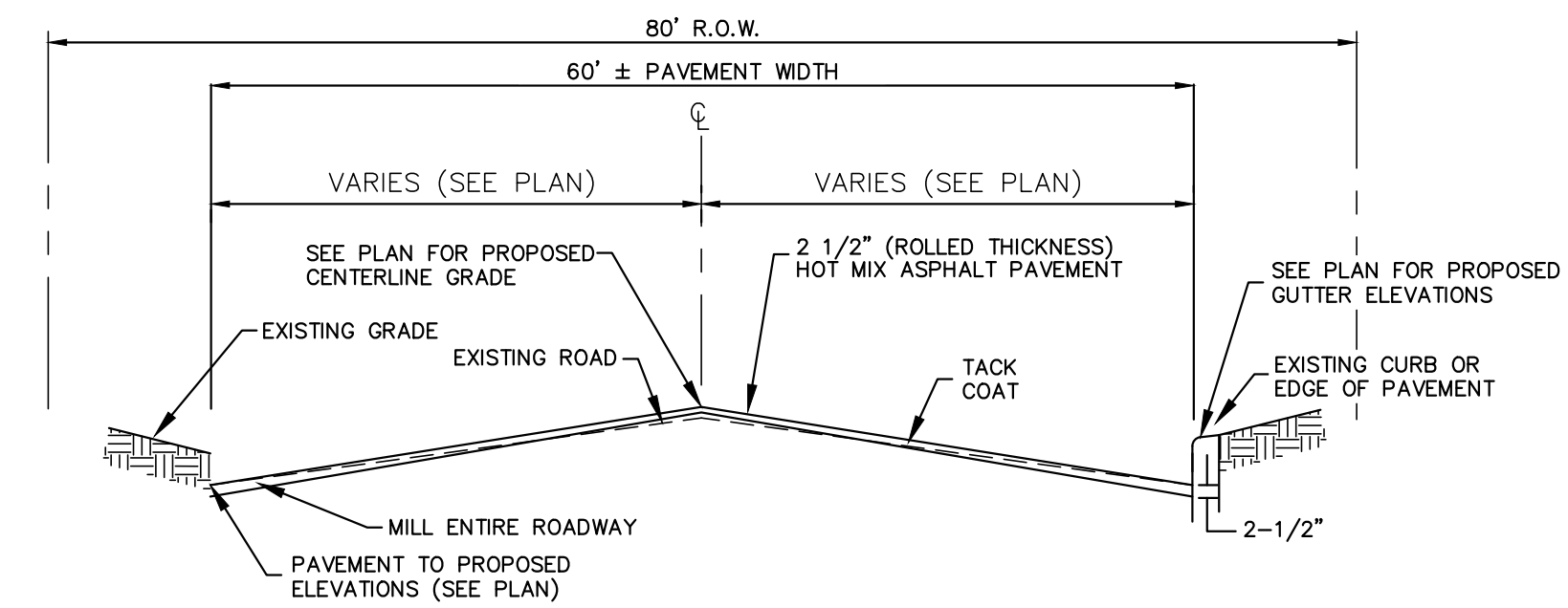
NOTES:
1. ANCHOR POST AND TOP POST TO BE OF EQUAL WEIGHT / FEET.
2. SOIL ANCHOR PLATE TO BE ATTACHED TO ALL ANCHOR POSTS.
3. THE MATERIAL FOR THE SOIL ANCHOR PLATES TO BE CARBON STEEL.
4. THE STEEL "U" POST TO BE GRADE 60.

TYPICAL BREAKAWAY POST DETAIL
NOT TO SCALE

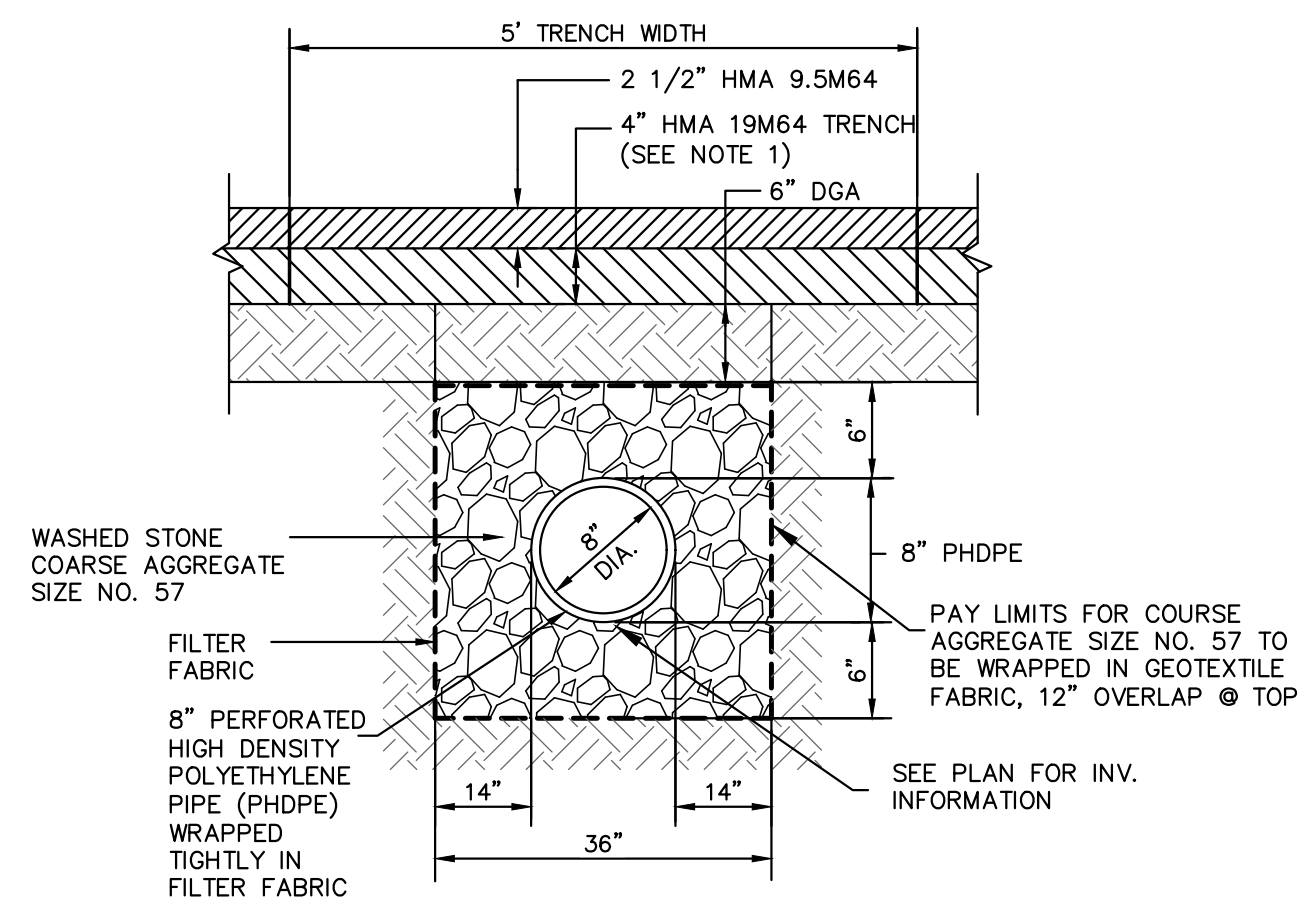
NO.	DATE	REVISION	DESCRIPTION	DRAWN	CHK'D
2021 MUNICIPAL ROAD RECONSTRUCTION PROJECT SHORE AVENUE ROAD IMPROVEMENTS TRAFFIC CONTROL PLANS BOROUGH OF SURF CITY NEW JERSEY					
 OWEN, LITTLE & ASSOCIATES, INC. No. 24647985700 Engineers, Planners, Surveyors 443 Atlantic City Blvd. Beachwood, NJ 08022 Tel: 732-244-1392 Fax: 732-241-3412		FRANK J. LITTLE, JR. P.E., P.P. PROFESSIONAL ENGINEER N.J. LIC. NO. 248E0270850 PROFESSIONAL PLANNER N.J. LIC. NO. 03096		SCALE: 1"=20' DATE: 10/05/22 DRAWN: JSM CHK'D: AM JR APPROVED FOR CONSTRUCTION: APPR. SURVEY & BILLING NO.: 22-024275 DRAWING NO.: SC 21RDS 8 9	



EDGE RESTORATION DETAIL
N.T.S.

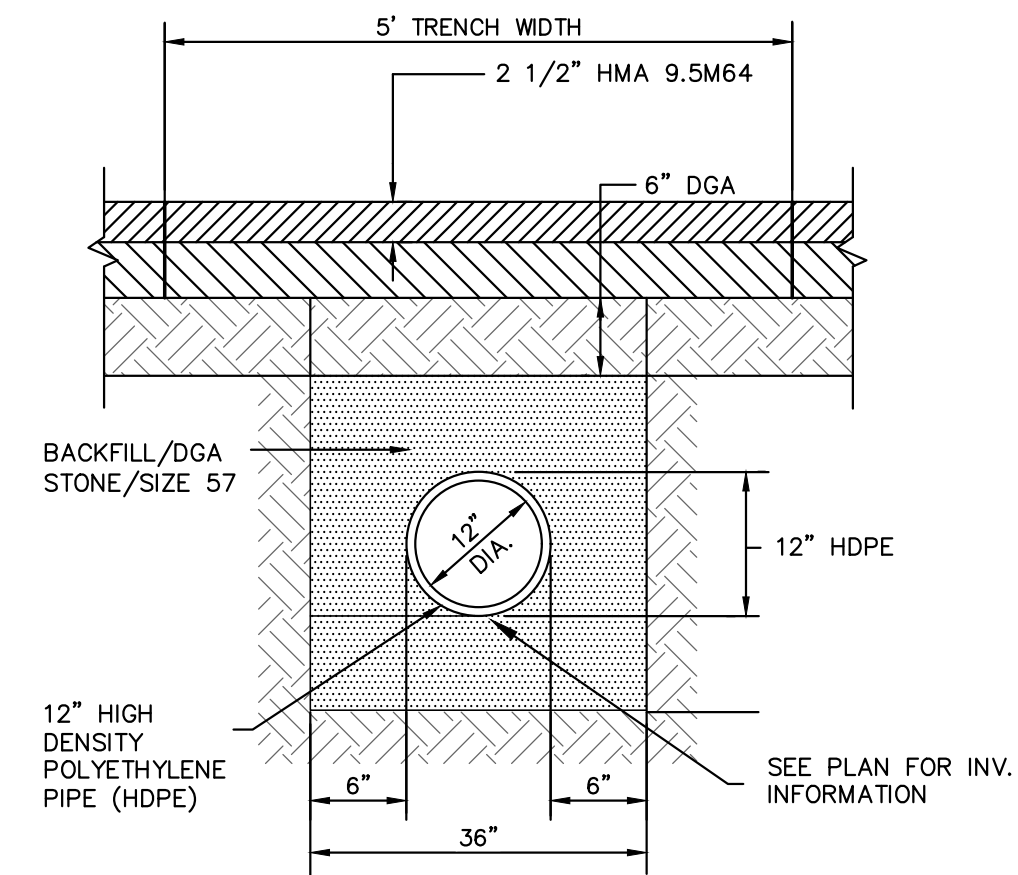


TYPICAL CROSS SECTION
NOT TO SCALE



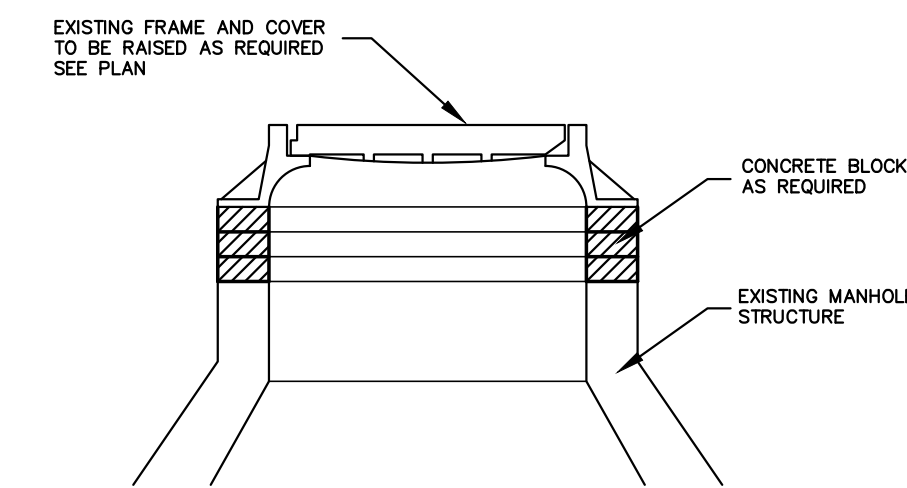
NOTE:
1. HMA 19M64 BASE COURSE SHALL BE INSTALLED 6" DEPTH TO THE SURFACE OF THE TRENCH THE FINAL THICKNESS OF 4" IS SHOWN AFTER THE TRENCH SETTLEMENT AND FINAL MILL AND OVERLAY OF TOP COURSE IS COMPLETED.

8" PERFORATED HDPE PIPE UNDER DRAIN



NOTE:
1. HMA 19M64 BASE COURSE SHALL BE INSTALLED 6" DEPTH TO THE SURFACE OF THE TRENCH THE FINAL THICKNESS OF 4" IS SHOWN AFTER THE TRENCH SETTLEMENT AND FINAL MILL AND OVERLAY OF TOP COURSE IS COMPLETED.

12 HDPE PIPE DETAIL



NOTE:
EXTENSION RINGS ARE NOT PERMITTED

SANITARY SEWER MANHOLE EXTENSION
N.T.S.

NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK'D			
2021 MUNICIPAL ROAD RECONSTRUCTION PROJECT SHORE AVENUE ROAD IMPROVEMENTS TRAFFIC CONTROL PLANS BOROUGH OF SURF CITY NEW JERSEY OCEAN COUNTY							
OWEN, LITTLE & ASSOCIATES, INC. 443 Atlantic City Blvd. Brickwood, NJ 08723 Tel: 732/244-1390 Fax: 732/341-3412		FRANK J. LITTLE, JR. P.E., P.P. PROFESSIONAL ENGINEER N.J. LIC. NO. 248E02708500 PROFESSIONAL PLANNER N.J. LIC. NO. 03096					
		SCALE	DATE	DRAWN	CHK'D	APPROVED FOR CONSTRUCTION	SURVEY & BILLING NO.
1"=20'	10/05/22	JSM	AM JR	APPR.	22-024275	SC 21RDS	9