CAPE MAY COUNTY

17TH STREET BRIDGE REPLACEMENT
17TH STREET OVER
THE VENETIAN-CARNIVAL BAYOU

CITY OF OCEAN CITY
CAPE MAY COUNTY, NEW JERSEY

JULY 2014

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DESIGN TRAFFIC DATA

A.D.T. (201X) 2-WAY	
A.D.T. (203X) 2-WAY	
V (DESIGN SPEED)	30 MPH

UTILITIES

NEW JERSEY ONE-CALL (CALL BEFORE YOU DIG) 1-800-272-1000

ELECTRIC (AERIAL)

ATLANTIC CITY ELECTRIC
420 NORTH ROUTE 9
CAPE MAY COURT HOUSE, NJ 08210
CONTACT: LEON HORIN (609) 463-3821

WATER & SEWER

NEW JERSEY AMERICAN WATER COMPANY
1025 LAUREL OAK ROAD
VORHEES, NJ 08403
CONTACT: ADAM KANE, PE (856) 309-4754

GAS

SOUTH JERSEY GAS - CAPE MAY DIVISION
1708 ROUTE 9 NORTH
CAPE MAY COURT HOUSE, NJ 08210
CONTACT: WILLIAM MONTAG, IV (609) 465-2900 EXT. 4013

TELEPHONE (AERIAL)

VERIZON - NJ, INC.
423 WASHINGTON AVENUE
PLEASANTVILLE, NJ 08232
CONTACT: DELORIS A. CARR (609) 407-5114

CABLE TV (AERIAL)

COMCAST COMMUNICATIONS, INC.
901 WEST LEEDS AVENUE
ABSECON, NJ 08201
CONTACT: BOB MAYEUX (609) 680-1869

SECTION
SCALE: 1" = 200'

200 0 200 400
SCALE IN FEET

CAPE MAY COUNTY
DEPARTMENT OF PUBLIC WORKS
OFFICE OF THE COUNTY ENGINEER
4 MOORE ROAD
CAPE MAY COURT HOUSE, NEW JERSEY 08210

LENGTH OF PROJECT: 325 LF OR 0.062 MILES

THE 2007 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE NEW JERSEY DEPARTMENT OF TRANSPORTATION, AS AMENDED BY THE SUPPLEMENTARY SPECIFICATIONS, TO GOVERN.

CAPE MAY COUNTY BOARD OF CHOSEN FREEHOLDERS
GERALD M. THORNTON, DIRECTOR
LEONARD C. DESIDERIO, VICE DIRECTOR
KRISTINE GABOR, FREEHOLDER
WILL MOREY, FREEHOLDER
E. MARIE HAYES, FREEHOLDER

PREPARED AND RECOMMENDED BY:

FRENCH & PARRELLO
ASSOCIATES, P.A., CONSULTING ENGINEERS

WILLIAM C. PYONTEK, P.E., P.P., PROFESSIONAL ENGINEER N.J. LIC. NO. GE29568 DATE

APPROVED BY:

GERALD M. THORNTON, DIRECTOR, CAPE MAY COUNTY BOARD OF CHOSEN FREEHOLDERS DATE

DALE FOSTER, P.E., CAPE MAY COUNTY ENGINEER DATE

THIS PLAN SHALL BE CONSIDERED AS ONLY APPROXIMATE AND SUBJECT TO SUCH MODIFICATIONS OF WHATEVER NATURE THE SITE CONDITIONS MAY REQUIRE. THE CONTRACTORS ARE TO SATISFY THEMSELVES BY PERSONAL EXAMINATION OF THE SITE AND LOCATION OF PROPOSED WORK, AND BY SUCH OTHER MEANS AS THEY MAY PREFER, AS TO THE ACCURACY OF THESE PLANS.

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NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD LEGEND

Linear Features

Existing	PROPOSED	
W	W	Water Main (Size)
G	G	Gas Main (Size)
T	T	Telephone Conduit
E	E	Electric Conduit (Highway or Utility)
CTV	CTV	Cable TV
FO	FO	Fiber Optic
ITS	ITS	Intelligent Transportation System (Wires & Cables)
S (Size & Type)	S (Size & Type)	Sanitary Sewers
D (Size & Type)	D (Size & Type)	Storm Drains
		Pavements (Concrete or Bituminous)
		Shoulders
		Curbs
(C) (F)	(C) (F)	Slopes (Cut & Fill)
5+00	10+00	Base Line
		Twp., City, County Lines
Existing R.O.W. Line	PROPOSED R.O.W. LINE	Right of Way Lines (Access Permitted)
Existing R.O.W. & No Access Line	PROPOSED R.O.W. & NO ACCESS LINE	Right of Way Lines (No Access)
		Easements
℄		Property Line
x x x x x		Fence (Size & Type)
		Reset Fence
		Beam Guide Rail
		Reset Beam Guide Rail
		Noise Walls
		Wetland Limit Line
		Silt Fence
Ditch	DITCH	Ditches
		Railroad Tracks
		Tree Line

Topographical Features

Existing	PROPOSED	
		Inlets (Label Type)
		Inlets (Type ES)
		Manholes (Label Type or Utility)
		Reset (Inlets or Manholes)
		Reconstructed (Inlets or Manholes)
		Cast Iron Extension (Frame or Ring) (Inlet or Manhole)
		New Manhole Casting, Square Frame, Circular Cover
		R.C. End Section or C.M. Headwall
		Headwalls
		Headwalls & Aprons
W		Water Gate Valves
		Reset Water Gate Valves
G		Gas Gate Valves
		Reset Gas Gate Valves
Hyd.		Hydrants
		Reset Hydrants
		Utility Pole (Type & Number)
	TEMP	Temporary Utility Pole
		Traffic Signal
J.B.	J.B.	Junction Box
F	F	Fiber Optic Junction Box
J.B. & Light	J.B.	Junction Box Foundation
		Signs
		Vertical Panels

Topographical Features

Existing	PROPOSED	
		Guide Rail End Terminals
		Beam Guide Rail Anchorages
Mon.		Monuments
		ROW Monument (ROW Control Points)
	TEST PIT NUMBER	Test Pit
Boring Number	BORING NUMBER	Borings (Boring Number)
		Deciduous Tree (Size, Kind)
		Evergreens
		Bush
		Hedges
		Swamp

Double Reference Codes

EQ	ESTIMATE OF QUANTITIES
GN	GENERAL NOTES
TS	TYPICAL SECTIONS
T	BASELINE TIES SHEET
C	CONSTRUCTION PLANS
P	PROFILES
G	GRADING PLANS
SE	SOIL EROSION & SEDIMENT CONTROL PLANS
TSS	TRAFFIC SIGNING AND STRIPING PLANS
TC	TRAFFIC CONTROL AND STAGING PLANS
UR	UTILITY RELOCATION PLANS
XS	CROSS SECTIONS
D	DEMOLITION PLANS
B	BRIDGE PLANS
CD	CONSTRUCTION DETAILS

Miscellaneous Symbols

- Milling
- Building to be Demolished
- Removal of Concrete Base Course & Concrete Surface Course
- Building to be Removed & Paid for Under Clearing Site
- PROFILE — LEVEL LINE — % Up / % Dip
- High Point
- Low Point
- B.M. — Bench Mark

ABBREVIATIONS USED IN THIS CONTRACT

AH., BK	AHEAD, BACK
℄, B.L.	BASELINE
B.M.	BENCH MARK
B.T.	BELL TELEPHONE
BIT., BITUM.	BITUMINOUS
BLDG.	BUILDING
℄, C.L.	CENTERLINE
CIP, C.I.P.	CAST IRON PIPE, CAST IRON PLATE
CMP, C.M.P.	CORRUGATED METAL PIPE
CONC.	CONCRETE
CULV.	CULVERT
D, DIA.	DIAMETER
D.C.	DROP CURB
DE	DITCH EXCAVATION
DEP., DP	DEPRESSED CURB
DH	DRILL HOLE
DWY	DRIVEWAY
E.B., W.B., N.B., S.B.	EASTBOUND, WESTBOUND, NORTHBOUND, SOUTHBOUND
EL., ELEV.	ELEVATION
EXIST.	EXISTING
GR.	GRATE
HP, LP	HIGH POINT, LOW POINT
HT.	HEIGHT
H.W.	HEADWALL
HYD.	HYDRANT
INV.	INVERT
IP	IRON PIN
J.B.	JUNCTION BOX
LT., RT.	LEFT, RIGHT
L.O.P.	LIMIT OF PAVEMENT (PAVING)
L.O.M.	LIMIT OF MILLING
M.B.	MAILBOX
M.P.	MILE POST
MAX.	MAXIMUM
ME, M.E.	MATERIALS ENGINEER
MIN.	MINIMUM
NO.	NUMBER
N.T.S.	NOT TO SCALE
PAV'T	PAVEMENT
PERF.	PERFORATED
P.G.L.	PROFILE GRADE LINE
℘, P.L.	PROPERTY LINE, PROFILE LINE
PK	PARKER KAYLON MASONRY NAIL
POC, P.O.C.	POINT ON CURVE
POL, P.O.L.	POINT ON LINE
POT, P.O.T.	POINT ON TANGENT
PRC, P.R.C.	POINT OF REVERSE CURVE
PROP.	PROPOSED
PT, P.T.	POINT OF TANGENCY
PVC, P.V.C.	POLYVINYL CHLORIDE PIPE, POINT OF VERTICAL CURVATURE
PVI, P.V.I.	POINT OF VERTICAL INTERSECTION
PVT, P.V.T.	POINT OF VERTICAL TANGENCY, PAVEMENT
R	RADIUS
RCCP, R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
RCP, R.C.P.	REINFORCED CONCRETE PIPE
RE, R.E.	RESIDENT ENGINEER
RMC, R.M.C.	RIGID METALLIC CONDUIT
RNMC, R.N.M.C.	RIGID NON-METALLIC CONDUIT
ROW, R.O.W.	RIGHT OF WAY
R.R.	RAILROAD
RTE., RT.	ROUTE
SAN.	SANITARY
SDWK.	SIDEWALK
S.H.D.	STATE HIGHWAY DEPARTMENT
SHLD.	SHOULDER
⅊, S.L.	SURVEY LINE
S.O.D.	SUBBASE OUTLET DRAIN
STY.	STORY
T	TANGENT
TBA	TO BE ABANDONED
TBR	TO BE REMOVED
TEL.	TELEPHONE
TEMP.	TEMPORARY
THK., TH.	THICK
TYP.	TYPICAL
U.D.	UNDERDRAIN
UP, U.P.	UTILITY POLE
VAR.	VARIABLE, VARIES
W.C.V.C.	WHITE CONCRETE VERTICAL CURB
WM	WATER METER
X-SECT	CROSS SECTION

ELECTRICAL PLAN ABBREVATIONS

CF	CUTOFF LUMINAIRE, TYPE ____
E	EXPRESSWAY LUMINAIRE
ID	IMAGE DETECTOR
IDC	IMAGE DETECTOR CABLE
JBF	JUNCTION BOX FOUNDATION
L	LUMINAIRE
LMA-A	LIGHTING MAST ARM, ALUMINUM
LMA-S	LIGHTING MAST ARM, STEEL
LSA	LIGHTING STANDARD, ALUMINUM
LSF	LIGHTING STANDARD, FIBERGLASS
LSS	LIGHTING STANDARD, STEEL
MAS	MAST ARM SIGN
MSC II	MEDIUM SEMI-CUTOFF LUMINAIRE, TYPE 2
MSC III	MEDIUM SEMI-CUTOFF LUMINAIRE, TYPE 3
PB	PUSH BUTTON
PSH	PEDESTRIAN SIGNAL HEAD
PSS	PEDESTRIAN SIGNAL STANDARD
TSH	TRAFFIC SIGNAL HEAD
TSMA-A	TRAFFIC SIGNAL MAST ARM, ALUMINUM
TSMA-S	TRAFFIC SIGNAL MAST ARM, STEEL
TSS-C	TRAFFIC SIGNAL STANDARD, ALUMINUM "C"
TSS-K	TRAFFIC SIGNAL STANDARD, ALUMINUM "K"
TSS-S	TRAFFIC SIGNAL STANDARD, STEEL
TSS-SC	TRAFFIC SIGNAL STANDARD, STEEL COMBINATION
TSS-T	TRAFFIC SIGNAL STANDARD, ALUMINUM "T"
UL-P	UNDERDECK LIGHTING, TYPE "P"
UL-W	UNDERDECK LIGHTING, TYPE "W"
V	VERTICAL LUMINAIRE

N. J. Plane Coordinate System

North Arrow To Be Used on Standard Construction Sheets Where Bearings Refer To N.J. Plane Coordinate System

N.T.S.

SL01 / SL01

FRENCH & PARRELLO
ASSOCIATES, P.A., CONSULTING ENGINEERS
1800 Route 34, Suite 101 • Wall, NJ • 07719 • 732 312-9800

William C. Pyontek, PE
WILLIAM C. PYONTEK, PE, PP
PROFESSIONAL ENGINEER, NJ LIC. No. GE29568

STANDARD LEGEND

FOR

17TH STREET BRIDGE REPLACEMENT

OCEAN CITY
CAPE MAY COUNTY NEW JERSEY

DATE:	DESIGNED BY:	SCALE:	PROJECT NUMBER:
JULY 2014	MJW	AS SHOWN	5805.001
DRAWN BY:	CHECKED BY:	FIELD BOOK	SHEET:
MJW	WCP	-	5 of --

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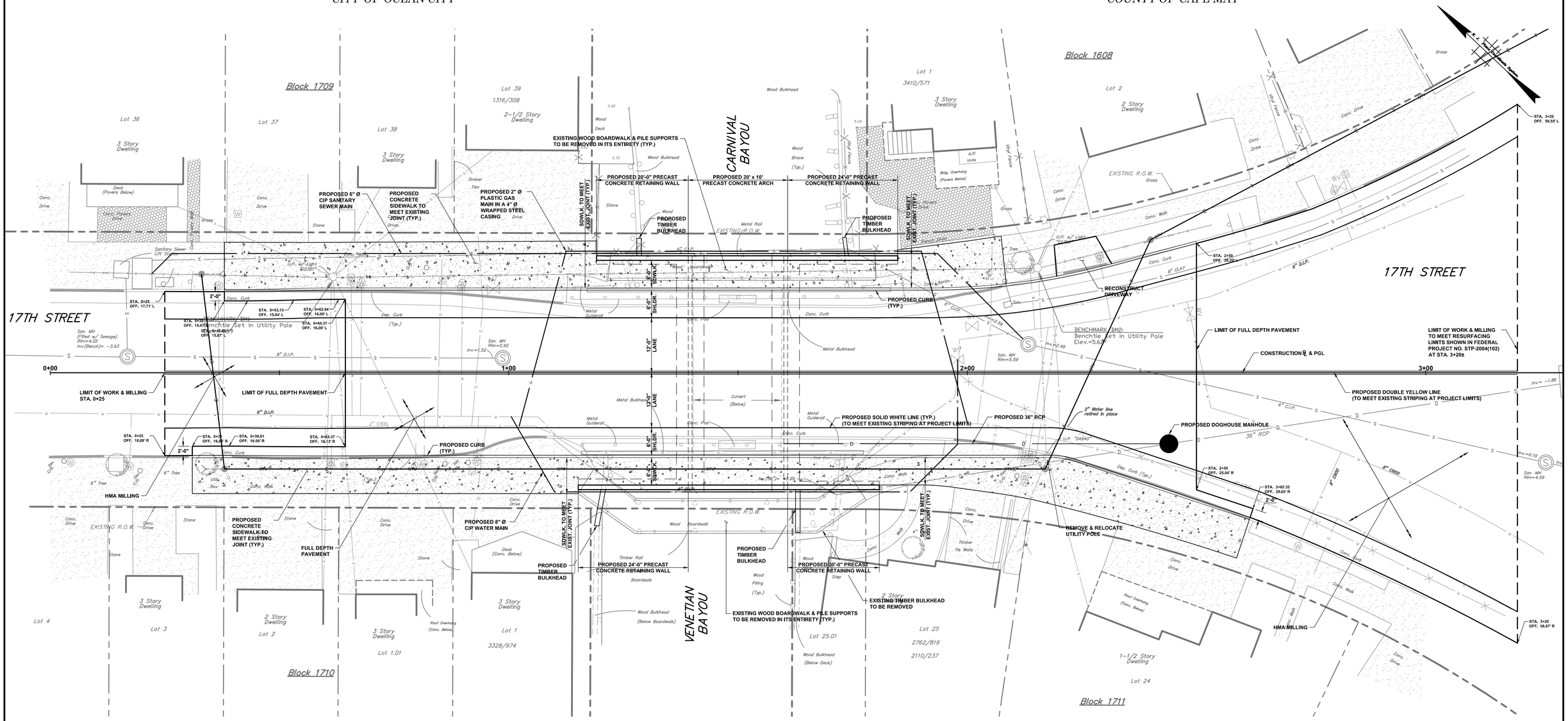
CITY OF OCEAN CITY

COUNTY OF CAPE MAY



PLAN

SCALE: 1" = 10'

ITEM NUMBER	TO BE CONSTRUCTED	UNIT	CONTRACT QUANTITY

C01

C01

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1800 Route 34, Suite 101 • Wall, NJ • 07719 • 732 312-9800

WILLIAM C. PYONTEK, PE, PP
PROFESSIONAL ENGINEER, NJ LIC. No. GE29568

CONSTRUCTION PLAN

FOR

17TH STREET BRIDGE REPLACEMENT

OCEAN CITY
CAPE MAY COUNTY NEW JERSEY

DATE:	DESIGNED BY:	SCALE:	PROJECT NUMBER:
JULY 2014	MJW	AS SHOWN	5805.001
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10 0 10 20
SCALE IN FEET

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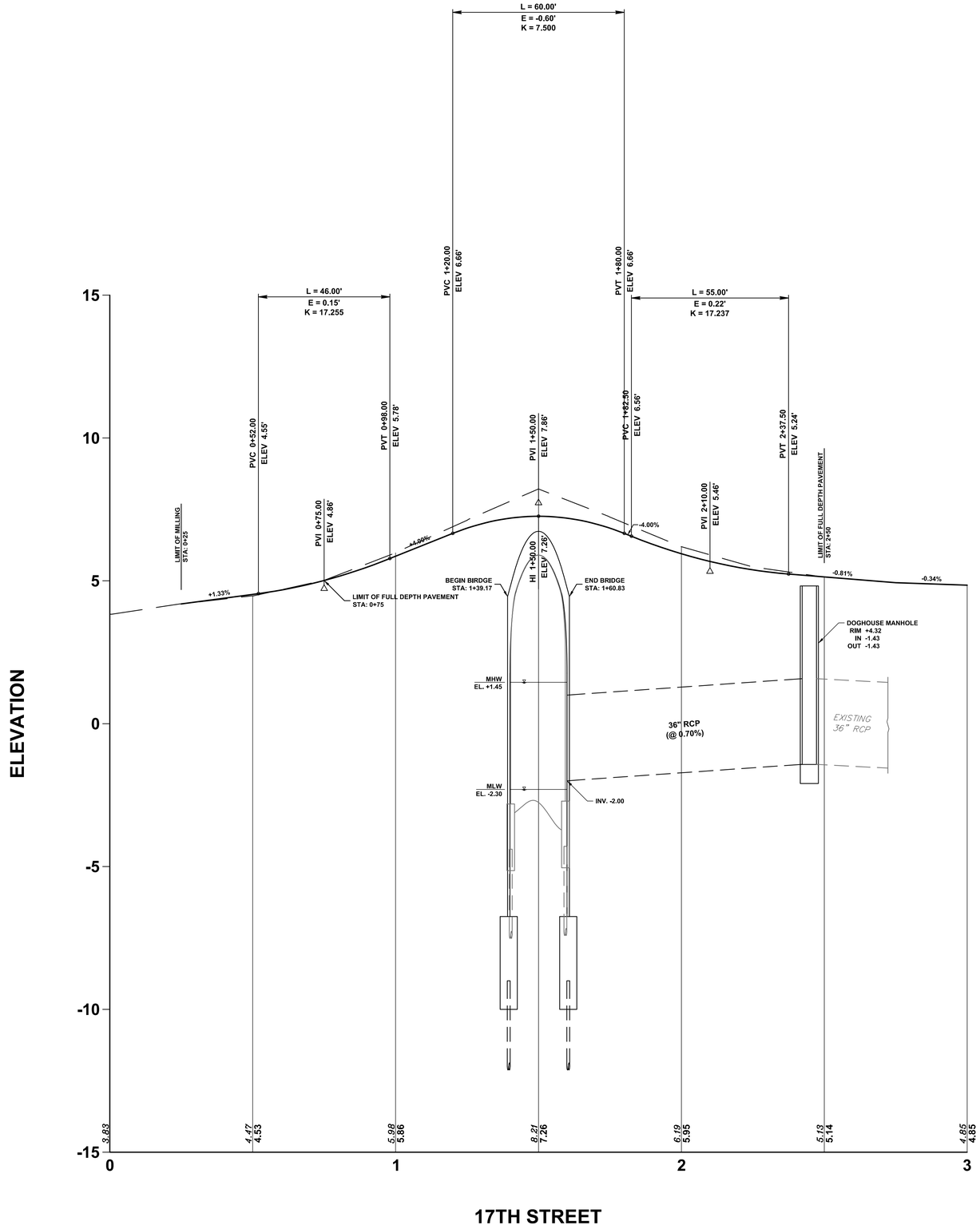

NOTE:

1. THE LIMIT OF MILLING TO MEET THE RESURFACING LIMITS SHOWN IN FEDERAL PROJECT NO. STP-2004(102) AND MATCH THE EXISTING SLOPE BEYOND STA. 3+00.

P01
P01

2 1 0 1 2 3 4
SCALE IN FEET

20 10 0 20 40
SCALE IN FEET

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ASSOCIATES, P.A., CONSULTING ENGINEERS

1800 Route 34, Suite 101 • Wall, NJ • 07719 • 732 312-9800

William C. Pyntek, PE

WILLIAM C. PYONTEK, PE, PP
PROFESSIONAL ENGINEER, NJ LIC. No. GE29568

PROFILE

FOR

17TH STREET BRIDGE REPLACEMENT

OCEAN CITY
CAPE MAY COUNTY NEW JERSEY

DATE:	DESIGNED BY:	SCALE:	PROJECT NUMBER:
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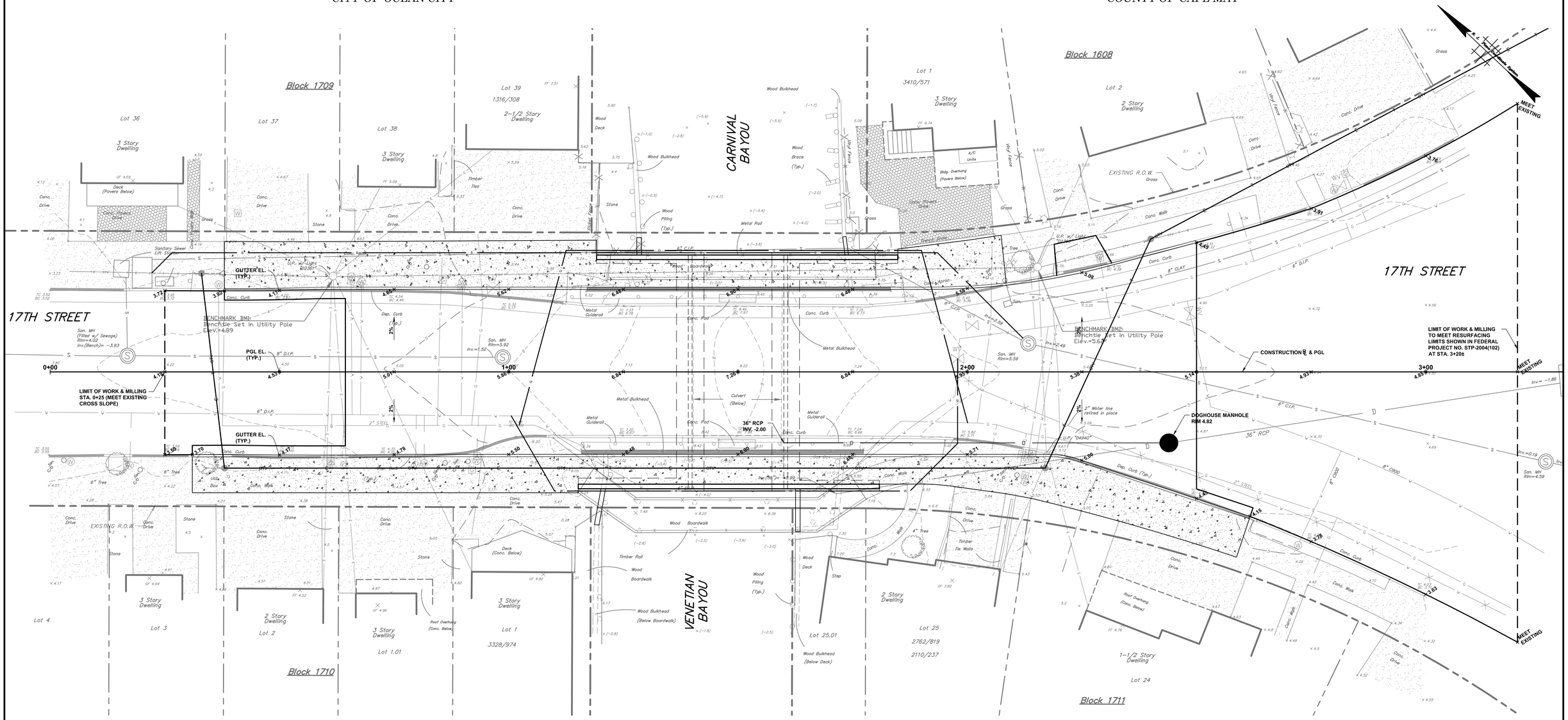

PLAN
SCALE: 1" = 10'

10 0 10 20
SCALE IN FEET

G01 / G01

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ASSOCIATES, P.A., CONSULTING ENGINEERS
1800 Route 34, Suite 101 • Wall, NJ • 07719 • 732 312-9800

William C. Pyontek, PE
WILLIAM C. PYONTEK, PE, PP
PROFESSIONAL ENGINEER, NJ LIC. No. GE29568

GRADING PLAN
FOR
17TH STREET BRIDGE REPLACEMENT
OCEAN CITY
CAPE MAY COUNTY NEW JERSEY

DATE:	DESIGNED BY:	SCALE:	PROJECT NUMBER:
JULY 2014	MJW	AS SHOWN	5805.001
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STAGE 1

SCALE: 1" = 40'

REFERENCE:

SEE SHEET 12 FOR LEGEND, SIGN LEGEND AND GENERAL NOTES

TC02 / TC05

40 0 40 80
SCALE IN FEET

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ASSOCIATES, P.A., CONSULTING ENGINEERS

1800 Route 34, Suite 101 • Wall, NJ • 07719 • 732 312-9800

William C. Pyontek, PE

WILLIAM C. PYONTEK, PE, PP
PROFESSIONAL ENGINEER, NJ LIC. No. GE29568

STAGE 1 CONSTRUCTION

FOR

17TH STREET BRIDGE REPLACEMENT

OCEAN CITY
CAPE MAY COUNTY NEW JERSEY

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STAGE 2

SCALE: 1" = 40'

REFERENCE:

SEE SHEET 12 FOR LEGEND, SIGN LEGEND AND GENERAL NOTES

TC03 / TC05

40 0 40 80
SCALE IN FEET

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1800 Route 34, Suite 101 • Wall, NJ • 07719 • 732 312-9800

William C. Pyontek, PE

WILLIAM C. PYONTEK, PE, PP
PROFESSIONAL ENGINEER, NJ LIC. No. GE29568

STAGE 2 CONSTRUCTION

FOR

17TH STREET BRIDGE REPLACEMENT

OCEAN CITY
CAPE MAY COUNTY NEW JERSEY

DATE:	DESIGNED BY:	SCALE:	PROJECT NUMBER:
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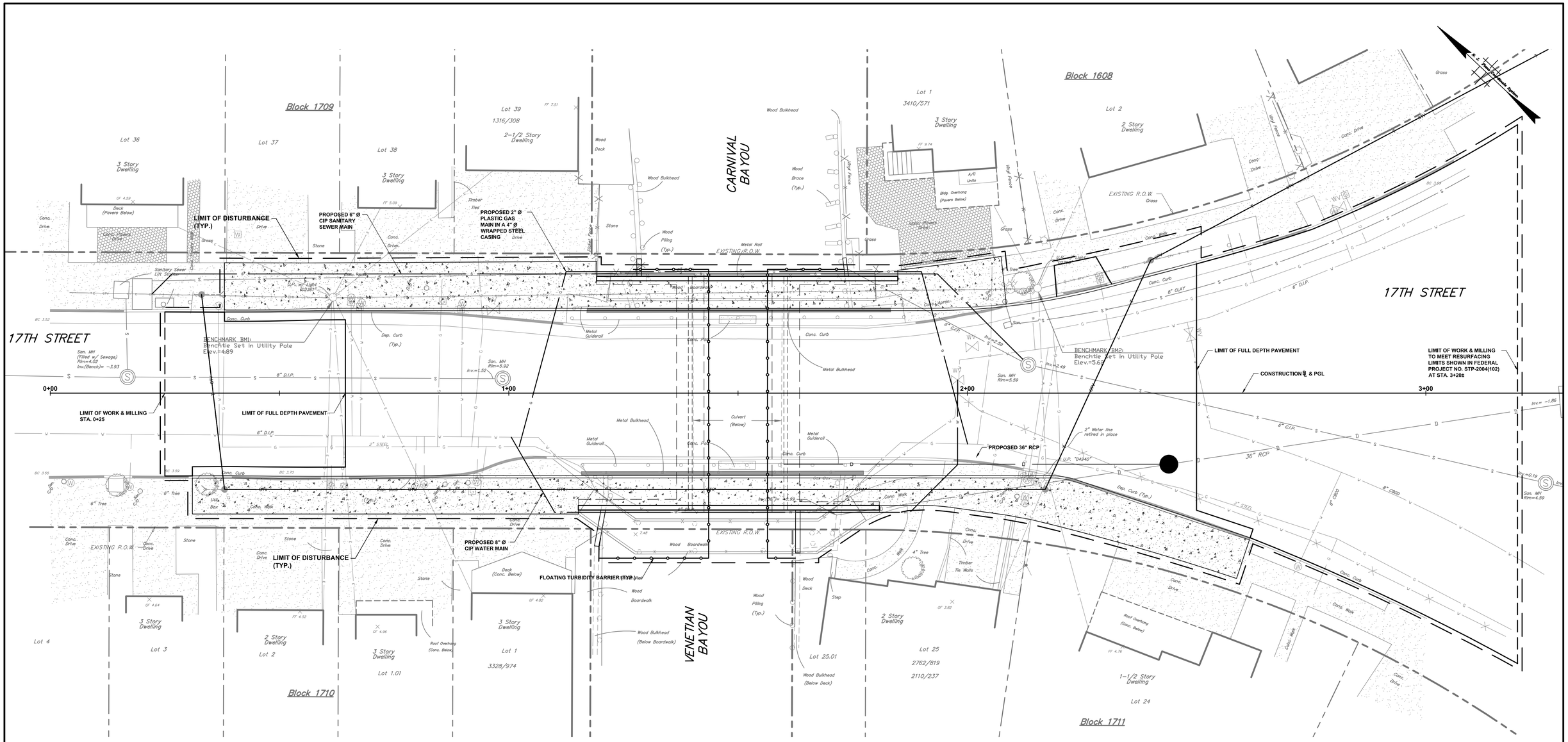

PLAN

SCALE: 1" = 10'

ITEM NUMBER	TO BE CONSTRUCTED	UNIT	CONTRACT QUANTITY

SE01 / SE03

10 0 10 20
SCALE IN FEET

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1800 Route 34, Suite 101 • Wall, NJ • 07719 • 732 312-9800

William C. Pyontek PE
WILLIAM C. PYONTEK, PE, PP
PROFESSIONAL ENGINEER, NJ LIC. No. GE29568

SOIL EROSION & SEDIMENT CONTROL PLAN

FOR

17TH STREET BRIDGE REPLACEMENT

OCEAN CITY
CAPE MAY COUNTY NEW JERSEY

DATE:	DESIGNED BY:	SCALE:	PROJECT NUMBER:
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SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE FREEHOLD SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY SOIL DISTURBING ACTIVITY.

2. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.

3. 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 FOR RE-CERTIFICATION. THE REVIEWED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.

4. N.J.S.A. 4:24-39 et. Seq. REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BEFORE THE DISTRICT DETERMINES THAT A PROJECT OR PORTION THEREOF IS IN FULL COMPLIANCE WITH THE CERTIFIED PLAN AND STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY AND A REPORT OF COMPLIANCE HAS BEEN ISSUED. UPON WRITTEN REQUEST FROM THE APPLICANT, THE DISTRICT MAY ISSUE A REPORT OF COMPLIANCE WITH CONDITIONS ON A LOT-BY-LOT OR SECTION-BY-SECTION BASIS, PROVIDED THAT THE PROJECT OR PORTION THEREOF IS IN SATISFACTORY COMPLIANCE WITH THE SEQUENCE OF DEVELOPMENT AND TEMPORARY MEASURES FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN IMPLEMENTED, INCLUDING PROVISIONS FOR STABILIZATION AND SITE WORK.

5. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN SIXTY (60) 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 2½ TONS PER ACRE, ACCORDING TO STATE STANDARD FOR STABILIZATION WITH MULCH ONLY.

6. 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, AND A MULCH ANCHOR, IN ACCORDANCE WITH STATE STANDARDS.

7. A SUBBASE 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 SUBBASE SHALL BE INSTALLED WITHIN FIFTEEN (15) DAYS OF PRELIMINARY GRADING.

8. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A PAD OF CLEAN CRUSHED STONE AT POINTS WHERE TRAFFIC WILL BE ACCESSING THE CONSTRUCTION SITE. AFTER INTERIOR ROADWAYS ARE PAVED, INDIVIDUAL LOTS REQUIRE A STABILIZED CONSTRUCTION ENTRANCE CONSISTING OF ONE INCH TO TWO INCH (1"-2") STONE FOR A MINIMUM LENGTH OF TEN FEET (10') EQUAL TO THE LOT ENTRANCE WIDTH. ALL OTHER ACCESS POINTS SHALL BE BLOCKED OFF.

9. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAYS WILL BE REMOVED IMMEDIATELY.

10. PERMANENT VEGETATION IS TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING.

11. 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.

12. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A pH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS/ACRE, (OR 450 LBS/SQ. FT. OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12" OF SETTLED SOIL WITH A pH OF 5 OR MORE, OR 24" WHERE TREES OR SHRUBS ARE TO BE PLANTED.

13. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.

14. UNFILTERED DEWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR DEWATERING.

15. 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.

16. 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. CERTIFICATION OF A NEW SOIL EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED FOR THESE ACTIVITIES IF AN AREA GREATER THAN 5,000 SQUARE FEET IS DISTURBED.

17. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #6.

18. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF THE CONSTRUCTION OF THE PROJECT.

CAPE ATLANTIC CONSERVATION DISTRICT
6260 OLD HARDING HIGHWAY
MAYS LANDING, NEW JERSEY 08330
PHONE: (609) 625-3144
FAX: (609) 625-7360

STABILIZATION WITH MULCH

METHODS AND MATERIALS

1. TEMPORARY SEEDING SHALL CONSIST OF SPRING OATS APPLIED AT A RATE OF 2.0 LBS. PER 1,000 S.F. (OPTIMUM SEEDING DATES ARE BETWEEN FEBRUARY 1 THRU MAY 1) OR WINTER CEREAL RYE APPLIED AT A RATE OF 2.8 LBS. PER 1,000 S.F. (OPTIMUM SEEDING DATES ARE BETWEEN AUGUST 1 THRU DECEMBER 15). TEMPORARY SEEDING TO BE MAINTAINED UNTIL DISTURBED AREAS ARE PERMANENTLY STABILIZED WITH PERMANENT SEEDING. IF ANY SERIOUS EROSION PROBLEM OCCURS, THE ERODED AREAS SHALL BE REPAIRED AND STABILIZED WITH A MULCH AS INDICATED IN NOTE 5.

2. PERMANENT SOD SHALL CONSIST OF THE FOLLOWING MIXTURE OR APPROVED EQUAL - OPTIMUM SEEDING DATES ARE BETWEEN APRIL 1 THRU SEPTEMBER 30:

HARD FESCUE	@	4.00#/1000 S.F.
PERENNIAL RYEGRASS	@	1.00#/1000 S.F.
KENTUCKY BLUEGRASS	@	1.00#/1000 S.F.

PLEASE NOTE THAT OTHER SEED MIXTURES CAN BE USED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.

PERMANENT SEEDING TO BE APPLIED BY CONVENTIONAL SEEDING AND/OR HYDROSEEDING, SLOPED AREAS TO BE COVERED WITH MULCH AS INDICATED IN NOTE 5.

3. FERTILIZER FOR THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER SHALL BE 10-10-10 APPLIED AT A RATE OF 11 LBS. PER 1,000 S.F. 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 APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING. LIMESTONE FOR PERMANENT & TEMPORARY SEEDING SHALL BE ESTABLISHED VIA SOIL TESTING.

4. IF SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY OR PERMANENT SEEDING, EXPOSED AREAS TO BE STABILIZED WITH MULCH AS INDICATED IN NOTE 5.

5. MULCHING FOR SEEDED AREAS:

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 DEEMED COMPLIANCE WITH THIS REQUIREMENT.

A. STRAW OR HAY. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, APPLIED AT THE RATE OF 1½ TO 2 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 CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO PRESENCE OF WEED SEED.

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 DISTRIBUTION 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.

A.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 CRISSCROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.

A.2. MULCH NETTING. STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTING TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.

A.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 TO 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.

A.4. LIQUID MULCH-BINDERS MAY BE USED TO ANCHOR SALT HAY OR STRAW MULCH:

A.4.1. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CREST OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.

A.4.2. USE ONE OF THE FOLLOWING:

A.4.2.1. 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 MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. 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.

A.4.2.2. 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 AND WEATHER CONDITIONS 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 A 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.

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 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, SEED AREAS WHERE WEED-SEED FREE MULCH IS DESIRED OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE.

APPLY THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETIZED MULCH ON THE SEEDBED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

6. IRRIGATION (WHERE FEASIBLE)

IF SOIL MOISTURE IS DEFICIENT, AND MULCH IS NOT USED, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER (A MINIMUM OF ¼ INCH 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.

STABILIZATION WITH MULCH

METHODS AND MATERIALS

1. SITE PREPARATION

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 FOR LAND GRADING.

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.

2. PROTECTIVE MATERIALS

A. UN-ROTTED SMALL-GRAIN STRAW, OR SALT HAY 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 CAN NOT BE BELOW THE MULCH.

B. ASPHALT EMULSION IS RECOMMENDED AT THE RATE OF 600 TO 1,200 GALLONS PER ACRE. THIS IS SUITABLE FOR A LIMITED PERIOD OF TIME WHERE TRAVEL BY PEOPLE, ANIMALS OR MACHINES IS NOT A PROBLEM.

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 MANUFACTURER'S REQUIREMENTS) MAY BE APPLIED BY A HYROSEEDER.

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 WHERE FLOWING WATER COULD WASH THEM INTO AN INLET AND PLUG IT.

G. GRAVEL, CRUSHED STONE, OR SAG 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. MULCH ANCHORING - SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA AND STEEPNESS OF SLOPES.

A. 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 CRIS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.

B. MULCH NETTING - STAPLE PAPER, COTTON, OR PLASTIC NETTINGS OVER MULCH. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED. NETTING IS USUALLY AVAILABLE IN ROLLS 4 FEET WIDE AND UP TO 300 FEET LONG.

C. CRIMPER MULCH ANCHORING COULTER TOOL - A TRACTOR-DAWN IMPLEMENT ESPECIALLY DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SURFACE. THIS PRACTICE AFFORDS MAXIMUM EROSION CONTROL, BUT IS USE IS LIMITED TO THOSE SLOPES UPON WHICH THE TRACTOR CAN OPERATE SAFELY. SOIL PENETRATION SHOULD BE ABOUT 3 TO 4 INCHES. ON SLOPING LAND, THE OPERATION SHOULD BE ON THE CONTOUR.

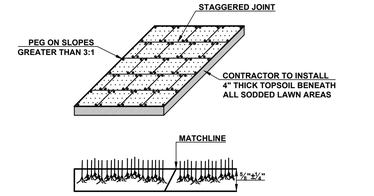
D. LIQUID MULCH-BINDERS

D.1. APPLICATION SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.

D.2. USE ONE OF THE FOLLOWING:

D.2.1. ORGANIC AND VEGETABLE BASED BINDER - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. VEGETABLE BASED GELS SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER.

D.2.2. 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 AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.



METHODS & MATERIAL:

1. HIGH QUALITY CULTIVATED SOD IS PREFERRED OVER NATIVE OR PASTURES SOD.
2. SOD SHOULD BE FREE OF BROADLEAF WEEDS AND UNDESIRABLE COARSE AND FINE WEEDY GRASSES.
3. SOD SHOULD BE UNIFORM THICKNESS, APPROXIMATELY ¾" (± ¼"), AT TIME OF CUTTING (EXCLUDES TOP GROWTH).
4. SOD SHOULD BE VIGOROUS AND DENSE AND BE ABLE TO RETAIN ITS OWN SHAPE AND WEIGHT WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP FROM THE UPPER 10 PERCENT OF THE STRIP. BROKEN PADS AND ROLLS OR TORN AND UNEVEN ENDS WILL NOT BE ACCEPTABLE.
5. FOR DROUGHTY SITES, A SOD OF TURF-TYPE TALL FESCUE OR TURF-TYPE TALL FESCUE MIXED WITH KENTUCKY BLUEGRASS IS PREFERRED OVER A 100% KENTUCKY BLUEGRASS SOD. ALTHOUGH NOT WIDELY AVAILABLE, A SOD OF FINE FESCUE IS ALSO ACCEPTABLE FOR DROUGHTY SITES.
6. ONLY MOIST, FRESH, UNHEATED SOD SHOULD BE USED. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 24 HOURS OR LESS DURING SUMMER MONTHS.

SOIL PREPARATION:

1. UNIFORM APPLY GROUND LIMESTONE.
2. APPLY FERTILIZER AT THE RATE OF 500 POUNDS PER ACRE USING 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATED OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES.
3. IF FERTILIZER IS NOT INCORPORATED, APPLY ½ THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER ½ RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING.
4. APPLY LIMESTONE AT THE RATE OF 2 TONS PER ACRE. UNLESS SOIL TESTING INDICATED OTHERWISE.
5. WORK LIME AND FERTILIZER INTO TOPSOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT.
6. REMOVE ALL OBJECTS THAT WOULD PREVENT GOOD SOD TO TOPSOIL CONTACT AND REMOVE ALL DEBRIS, SUCH AS WIRE, CABLE TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS, OR OTHER UNSUITABLE MATERIAL.
7. INSPECT SITE BEFORE SODDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED.

SOD PLACEMENT:

1. SOD STRIPS SHALL BE LAID ON CONTOUR, NEVER UP AND DOWN THE SLOPE, STARTING AT THE BOTTOM OF THE SLOPE AND WORKING UP. ON THE STEEP SLOPES, USE OF LADDERS WILL FACILITATE THE WORK AND PREVENT DAMAGE TO THE SOD. DURING PERIODS OF HIGH TEMPERATURE, LIGHTLY IRRIGATE THE SOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
2. PLACE SOD STRIPS WITH SNUG, EVEN JOINTS (SEAMS) THAT ARE STAGGERED. OPEN SPACE WILL INVITE EROSION.
3. LIGHTLY ROLL OR TAMP SOD IMMEDIATELY FOLLOWING PLACEMENT. DO NOT OVERLAP SOD. ALL JOINTS SHOULD BE BUTTED TIGHTLY TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS AND INVASION OF GRASS.
4. ON SLOPES GREATER THAN 3 TO 1, SECURE SOD TO SURFACE SOIL WITH WOOD PEGS, WIRE STAPLES, BIODEGRADABLE PLASTIC SPIKES, OR SPLIT SHINGLES.
5. IMMEDIATELY FOLLOWING INSTALLATION, SOD SHALL BE WATERED UNTIL WATER PENETRATES THE SOIL LAYER BENEATH SOD TO A DEPTH OF 1 INCH. MAINTAIN OPTIMUM WATER FOR AT LEAST TWO WEEKS.

TOPDRESSING:

1. WHERE GROSS NITROGEN DEFICIENCY EXIST IN THE SOIL TO THE EXTENT THAT TURF FAILURE MAY DEVELOP, TOPDRESSING SHALL THEN BE APPLIED. TOPDRESS WITH 10-0-10 OR EQUIVALENT AT 7 POUNDS PER 1,000 SQUARE FEET EVERY 3 TO 5 WEEKS UNTIL GROSS NITROGEN DEFICIENCY IN THE TURF IS AMELIORATED.

SOD DETAIL
N.T.S.

SE02 / SE03

FRENCH & PARRELLO
ASSOCIATES, P.A., CONSULTING ENGINEERS
1800 Route 34, Suite 101 • Wall, NJ • 07719 • 732 312-9800
William C. Pyontek, PE
WILLIAM C. PYONTEK, PE, PP
PROFESSIONAL ENGINEER, NJ LIC. No. GE29568

SOIL EROSION & SEDIMENT CONTROL NOTES
FOR
17TH STREET BRIDGE REPLACEMENT
OCEAN CITY
CAPE MAY COUNTY NEW JERSEY

DATE:	DESIGNED BY:	SCALE:	PROJECT NUMBER:
JULY 2014	-	AS SHOWN	5805.001
DRAWN BY:	CHECKED BY:	FIELD BOOK	SHEET:
-	WCP	-	21 of --

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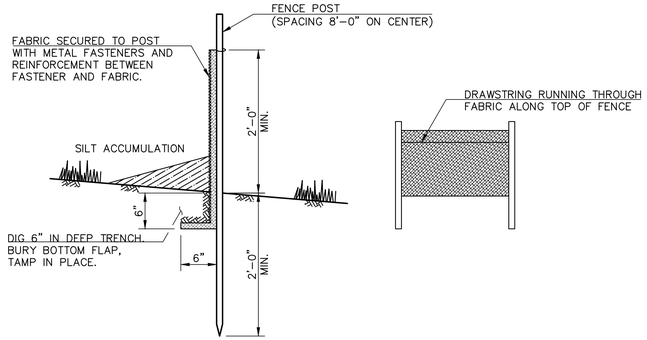

SILT FENCE
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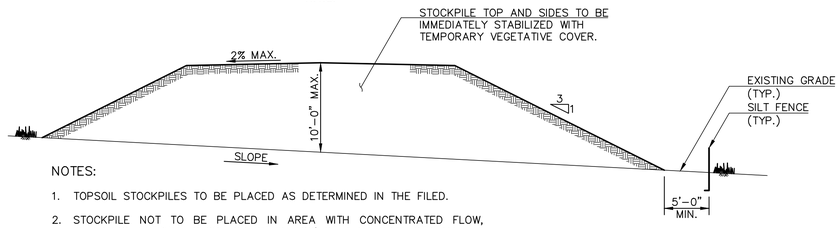
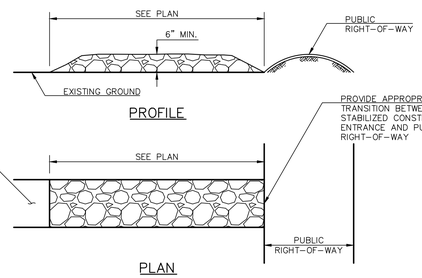


NOTES:

1. TOPSOIL STOCKPILES TO BE PLACED AS DETERMINED IN THE FILED.
2. STOCKPILE NOT TO BE PLACED IN AREA WITH CONCENTRATED FLOW, WETLANDS, EXTREME SLOPE OR WITHIN 100' OF A NATURAL STREAM.

TEMPORARY SOIL STOCKPILE
N.T.S.



PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED	
	COURSE GRAINED SOILS	FINE GRAINED SOILS
0 TO 2%	50 FEET	100 FEET
2% TO 5%	100 FEET	200 FEET
> 5%	ENTIRE SURFACE STABILIZED WITH FABC BASE COURSE, AS PRESCRIBED BY LOCAL ORDINANCE OR OTHER GOVERNING AUTHORITY	

CONSTRUCTION SPECIFICATIONS

1. STONE SIZE – USE ASTM C-33, SIZE NO. 2 (2½ TO 1½ IN.) OR 3 (2 TO 1 IN.). USE CLEAN CRUSHED ANGULAR STONES. CRUSHED CONCRETE OF SIMILAR SIZE MAY BE SUBSTITUTED BUT WILL REQUIRE MORE FREQUENT UPGRADING AND MAINTENANCE.

2. LENGTH – 50 FEET MINIMUM WHERE SOILS ARE COARSE GRAINED (SAND OR GRAVEL), OR 100 FEET MINIMUM WHERE SOILS ARE FINE GRAINED (CLAYS OR SILTS), EXCEPT WHERE THE TRAVEL 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 THE STABILIZED PAD (SEE STANDARD FOR DIVERSIONS). WHERE DIVERSION IS NOT POSSIBLE, THE LENGTH OF THE STABILIZED PAD SHALL BE SHOWN AS IN TABLE ABOVE. WHERE THE SLOPE OF THE ACCESS ROAD EXCEEDS 5%, A STABILIZED BASE OF HOT MIX ASPHALT BASE COURSE SHALL BE INSTALLED. THE TYPE AND THICKNESS OF THE BASE COURSE AND USE OF A DENSE-GRADED AGGREGATE SUBBASE 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 STABILIZED CONSTRUCTION ENTRANCE.

   WHERE A STABILIZED CONSTRUCTION ENTRANCE EXIT TRAVERSES BETWEEN TWO BUILDINGS, IT SHALL BE STONED THE ENTIRE LENGTH OF THE RIGHT-OF-WAY. MOUNTABLE STONE BERMS PLACED ACROSS THE WIDTH OF THE EXIT MAY ALSO BE REQUIRED AT THE TRANSITION POINT BETWEEN PAVED AND NON-PAVED AREAS TO TRAP SEDIMENTS WHICH ARE CARRIED BY STORMWATER FLOWING ALONG THE CURBLINE.

3. THICKNESS – NOT LESS THAN 6 INCHES.

4. WIDTH – NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.

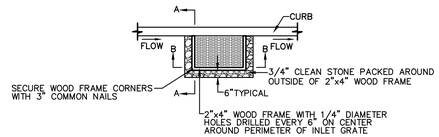
5. TIRE WASHING – IF SPACE IS LIMITED, VEHICLE TIRES MAY BE WASHED WITH CLEAN WATER BEFORE ENTERING A PAVED AREA. A WASH STATION MUST BE LOCATED SUCH THAT WATER WILL NOT FLOW ONTO PAVED ROADWAYS OR INTO UNPROTECTED STORM DRAINAGE SYSTEMS.

   WHEN THE CONSTRUCTION ACCESS EXITS ONTO A MAJOR ROADWAY, A PAVED TRANSITION AREA MAY BE INSTALLED BETWEEN THE MAJOR ROADWAY AND THE STONED ENTRANCE TO PREVENT LOOSE STONES FROM BEING TRANSPORTED OUT ONTO THE ROADWAY BY THE HEAVY EQUIPMENT ENTERING OR LEAVING THE SITE.

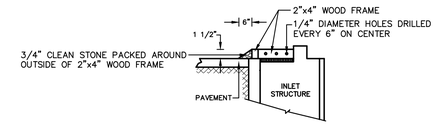
6. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS (PRIVATE OR PUBLIC) OR OTHER IMPERVIOUS SURFACES MUST BE REMOVED IMMEDIATELY.

   WHERE ACCUMULATION OF DUST/SEDIMENT IS INADEQUATELY CLEANED OR REMOVED BY CONVENTIONAL METHODS, A POWER BROOM OR STREET SWEEPER WILL BE REQUIRED TO CLEAN PAVED OR IMPERVIOUS SURFACES. ALL OTHER ACCESS POINTS WHICH ARE NOT STABILIZED SHALL BE BLOCKED OFF.

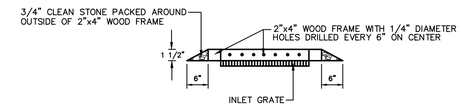
STABILIZED CONSTRUCTION ENTRANCE
N.T.S.



PLAN

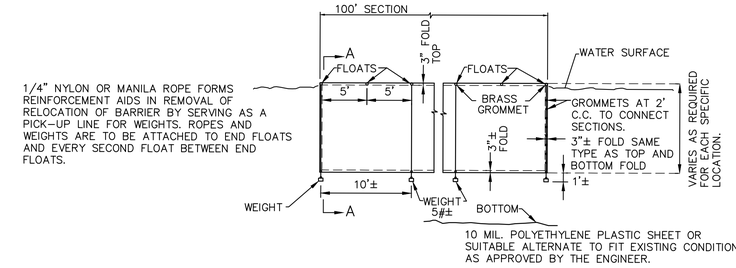


SECTION A–A



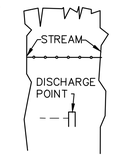
SECTION B–B

INLET PROTECTION DETAIL
N.T.S.

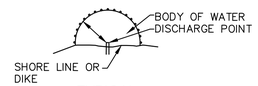


FRONT VIEW

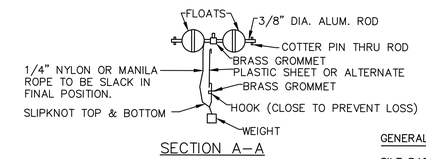
SIDE VIEW
FOLDING DETAIL



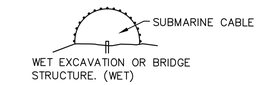
TYPICAL
APPLICATION



TYPICAL
APPLICATION



SECTION A–A



NOTE:

AT SHALLOW WATER LOCATIONS THE PLASTIC SHEET OR SUITABLE ALTERNATE MAY BE FASTENED TO STAKES DRIVEN INTO THE BOTTOM IN LIEU OF FLOATS AND WEIGHTS.

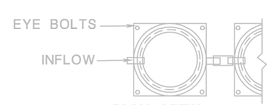
GENERAL NOTES:

SILT BARRIER TO PREVENT DRIFTING OF SILT CAUSED BY DISCHARGE OF STORM SEWERS DURING CONSTRUCTION, DREDGING OR FILLING OPERATIONS.

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

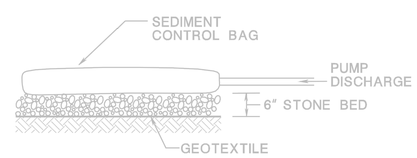
THE DETAILS SHOWN ON THIS SHEET ARE SUGGESTED METHODS ONLY. ALTERNATE SOLUTION AND USAGE OF MATERIALS MAY BE USED AS APPROVED.

FLOATING TURBIDITY BARRIER DETAIL
N.T.S.



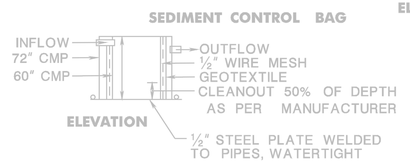
PLAN VIEW

EXAMPLE OF PORTABLE SEDIMENT TANK

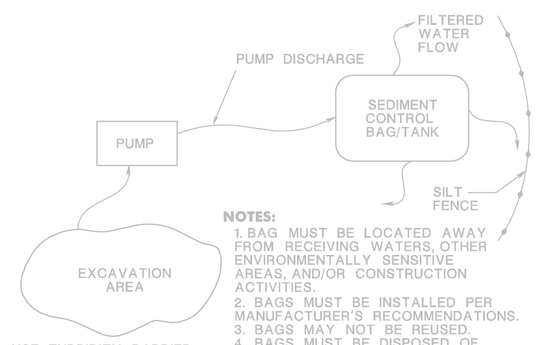


ELEVATION

SEDIMENT CONTROL BAG



ELEVATION

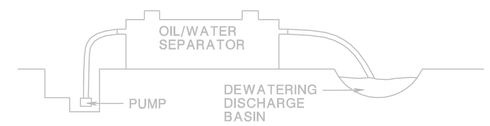


NOTES:

1. BAG MUST BE LOCATED AWAY FROM RECEIVING WATERS, OTHER ENVIRONMENTALLY SENSITIVE AREAS, AND/OR CONSTRUCTION ACTIVITIES.
2. BAGS MUST BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
3. BAGS MAY NOT BE REUSED.
4. BAGS MUST BE DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

PLAN VIEW

SEDIMENT CONTROL TANK OR BAG



NOTES:

1. THE OIL/WATER SEPARATOR SHALL MEET THE UNDERWRITERS LABORATORY UL-58 STANDARD FOR FLAMMABLE AND COMBUSTIBLE LIQUIDS.
2. THE OIL/WATER SEPARATOR SHALL BE CAPABLE OF ACHIEVING A DISCHARGE QUALITY OF 30 PARTS PER MILLION OF PETROLEUM HYDROCARBONS OR LESS.

USE OF AN OIL/WATER SEPARATOR DURING DEWATERING

SE03 / SE03

FRENCH & PARRELLO
ASSOCIATES, P.A., CONSULTING ENGINEERS
1800 Route 34, Suite 101 • Wall, NJ • 07719 • 732 312-9800
William C. Pyntek, PE
WILLIAM C. PYONTEK, PE, PP
PROFESSIONAL ENGINEER, NJ LIC. No. GE29568

SOIL EROSION & SEDIMENT CONTROL DETAILS
FOR
17TH STREET BRIDGE REPLACEMENT
OCEAN CITY
CAPE MAY COUNTY NEW JERSEY

DATE:	DESIGNED BY:	SCALE:	PROJECT NUMBER:
JULY 2014	-	AS SHOWN	5805.001
DRAWN BY:	CHECKED BY:	FIELD BOOK	SHEET:
-	WCP	-	22 of --

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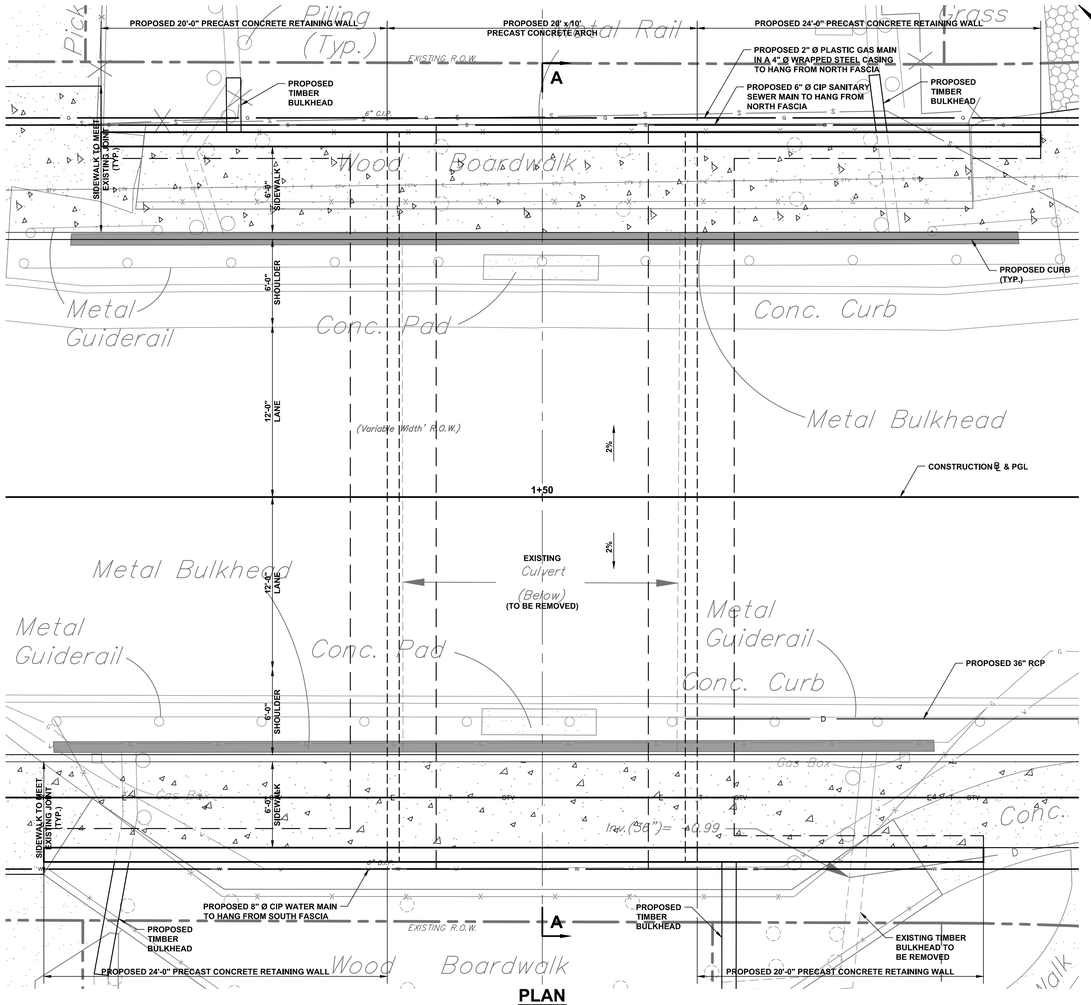
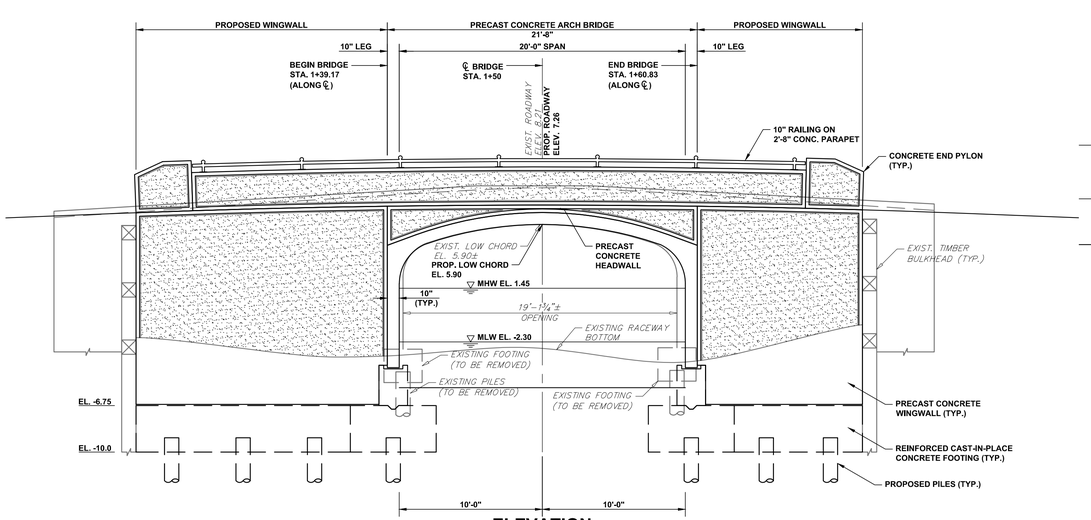


PLAN

SCALE: 1" = 5'



ELEVATION

(LOOKING NORTH; UTILITY SUPPORT HANGER NOT SHOWN FOR CLARITY PURPOSES)

SCALE: 1" = 5'

CONSTRUCTION NOTES:

1. THE PRECAST CONCRETE ARCH STRUCTURE, WING WALLS AND FOOTINGS ARE DEPICTED FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL DESIGN AND DETAILING OF THE PRECAST STRUCTURES, AND COORDINATION OF THE CAST-IN-PLACE FOOTINGS. THE CONTRACTOR SHALL SUBMIT WORKING DRAWINGS IN ACCORDANCE WITH SUB-SECTION 505.03.02A OF THE 2007 NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND DESIGN CALCULATIONS FOR THE PRECAST CONCRETE ARCH STRUCTURE, WINGWALLS AND HEADWALLS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY FOR APPROVAL PRIOR TO FABRICATION. FABRICATION SHALL NOT BEGIN UNTIL WRITTEN APPROVAL HAS BEEN RECEIVED FROM THE ENGINEER.

2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL FIELD MEASUREMENTS AND COORDINATION OF ALL WORK SUBSEQUENT TO APPROVAL OF WORKING DRAWINGS FOR THE PRECAST STRUCTURES, THE CONTRACTOR SHALL VERIFY ALL LOCATIONS AND DIMENSIONS OF COORDINATING FACILITIES.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH UTILITIES.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF WATER THROUGHOUT THE DURATION OF CONSTRUCTION. PRIOR TO EXCAVATION, THE CONTRACTOR SHALL SUBMIT A PLAN FOR THE CONTROL OF WATER TO THE ENGINEER FOR APPROVAL. THE PLAN SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY. SUBMISSION OF SUCH A PLAN DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PROTECTING HIS WORK AND THE ENVIRONMENT.

5. THE PRECAST CONCRETE ARCH STRUCTURE, WINGWALLS AND HEADWALLS, SHALL BE CONSTRUCTED IN ACCORDANCE WITH SUB-SECTIONS 504.03 AND 505.03.03 OF THE 2007 NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

6. ALL PRECAST CONCRETE ARCH STRUCTURE, WINGWALL, AND HEADEWALL STRUCTURE SHOP AND WORKING DRAWINGS SHALL BE CERTIFIED BY A LICENSED NEW JERSEY PROFESSIONAL ENGINEER AS TO THEIR ABILITY TO WITHSTAND THE LIVE LOADING GIVEN IN GENERAL NOTE 3, AND SUITABILITY FOR THEIR INTENDED USE. THE BRIDGE PLANS, DETAILS AND SPECIFICATIONS ARE SUBJECT TO REVIEW AND APPROVAL OF THE CITY OF OCEAN CITY AND COUNTY OF CAPE MAY.

7. STRUCTURAL STEEL PLATES AND SHAPES SHALL CONFORM TO ASTM A36 AND SHALL BE GALVANIZED PER ASTM A123.

8. HIGH STRENGTH BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325. HARDWARE SHALL BE GALVANIZED PER ASTM A153.

9. HIGH STRENGTH BOLTS FOR BASE PLATE ANCHORAGE SHALL BE FULLY THREADED AND INSTALLED IN CORED HOLES NO GREATER THAN THE BOLT DIAMETER PLUS 1/4". CARE SHALL BE EXERCISED TO AVOID DAMAGE TO EXISTING REINFORCEMENT AND CONDUITS. MINIMUM EMBEDMENT LENGTH SHALL BE 6". BOLTS SHALL BE EPOXY GROUTED IN PLACE PER MANUFACTURER'S RECOMMENDATIONS TO ATTAIN A MINIMUM PULLOUT STRENGTH OF 24,000 POUNDS AT THE CONSTRUCTION SITE AS CERTIFIED BY THE CONTRACTOR.

10. WELDING OF POSTS TO BASE PLATES SHALL CONFORM TO THE ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE.

11. NO SEPARATE PAYMENT SHALL BE MADE FOR BASE PLATES, WELDING, BOLTS, NUTS, AND WASHERS. COSTS SHALL BE INCLUDED IN THE PAY ITEM "BRIDGE RAILING."

PRECAST NOTES:

1. POSITIVE MEANS SHALL BE PROVIDED TO EXTERNALLY DRAW TOGETHER AND BUTT JOINT ADJOINING PRECAST CONCRETE ARCH STRUCTURE SEGMENTS AS THE SEGMENTS ARE PLACED. A FLEXIBLE CONTINUOUS WATER TIGHT RUBBER GASKET SHALL BE PROVIDED AT THE JOINT BETWEEN PRECAST SECTIONS.

2. COST OF MATERIALS SHOWN IN POCKET DETAIL SHALL BE INCLUDED IN THE PAY ITEM "PRECAST CONCRETE ARCH STRUCTURE."

3. COST OF MEMBRANE STRIP, VEGETABLE FIBERBOARD OR FIBERGLASS INSULATION BOARD, LOW-MOD JOINT SEALER AND NEOPRENE FOAM STRIP USED IN THE PRECAST JOINTS TO BE INCLUDED IN THE PAY ITEM "PRECAST CONCRETE ARCH STRUCTURE."

4. LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT.

GENERAL NOTES:

1. DESIGN SPECIFICATIONS

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (LATEST EDITION WITH CURRENT INTERIMS), AS MODIFIED BY SECTION 3 OF THE 2009 (5TH EDITION) NJDOT DESIGN MANUAL FOR BRIDGES AND STRUCTURES.

2. CONSTRUCTION SPECIFICATIONS

2007 NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION WITH CURRENT SUPPLEMENTAL SPECIFICATIONS, AS MODIFIED BY THE SPECIAL PROVISIONS.

3. LIVE LOAD

AASHTO LRFD HL-93 VEHICULAR LIVE LOADING OR THE NJDOT PERMIT VEHICLE, WHICHEVER GOVERNS.

4. CONCRETE DESIGN STRESSES

DESIGN COMPRESSIVE STRENGTH (f'c):

CLASS A	=	4,000 PSI (CAST-IN-PLACE CONCRETE PARAPET, PYLONS & BRIDGE PEDESTALS)
CLASS B	=	3,000 PSI (CAST-IN-PLACE CONCRETE FOOTINGS)
CLASS P	=	5,000 PSI (PRECAST CONCRETE ARCH STRUCTURE, WINGWALLS & HEADWALLS)

CHAMFER ALL EXPOSED CONCRETE EDGES ¾" BY ¾", UNLESS OTHERWISE NOTED.

5. REINFORCEMENT STEEL

ASTM A615 (GRADE 60) f_s = 24,000 PSI

ALL REINFORCEMENT STEEL SHALL BE GALVANIZED. THE ENDS OF ANY REINFORCEMENT STEEL BAR CUT IN THE FIELD SHALL BE PAINTED WITH 2 COATS OF A ZINC RICH REPAIR PAINT.

PRIOR TO REINFORCEMENT STEEL FABRICATION, THE CONTRACTOR SHALL SUBMIT FULLY DETAILED DRAWINGS FOR PROPOSED CONCRETE ELEMENTS TO THE ENGINEER FOR APPROVAL. THE DRAWING SHALL CONTAIN A BAR SCHEDULE AND BAR PLACEMENT DIAGRAMS FOR ALL REINFORCEMENT STEEL.

ALL REINFORCEMENT SHALL BE SECURELY HELD IN PLACE BEFORE POURING CONCRETE. INSERTING DOWELS AFTER CONCRETE IS POURED WILL NOT BE PERMITTED.

CONCRETE COVER SHALL BE 1½" ON PRECAST ELEMENTS, UNLESS NOTED OTHERWISE. CONCRETE COVER SHALL BE 2" ON CAST-IN-PLACE ELEMENTS, UNLESS NOTED OTHERWISE.

6. SUPERSTRUCTURE

DEAD LOAD INCLUDES 25 LBS/SF PROVISION FOR FUTURE 2" THICK WEARING SURFACE

7. DATUM

VERTICAL DATUM IS NAVD88.
HORIZONTAL DATUM IS NAD83.

8. MANUFACTURE'S QUALIFICATION

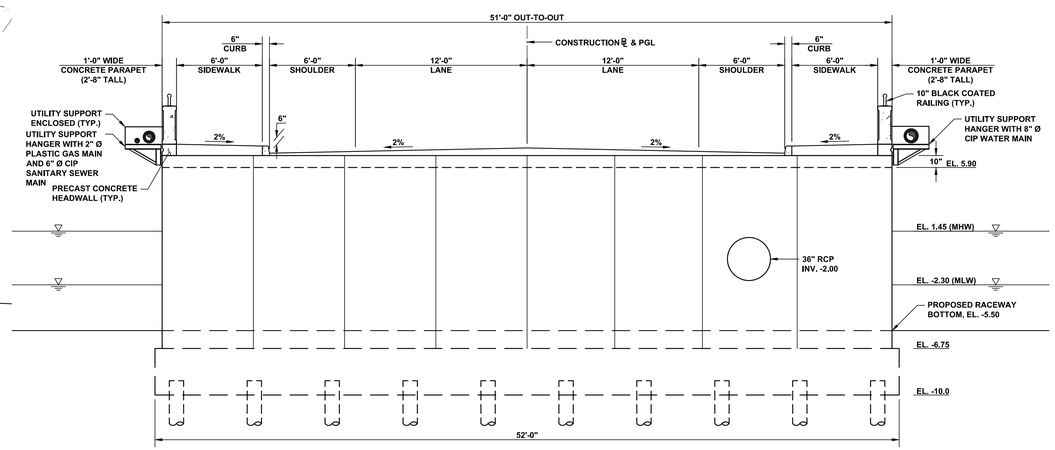
THE PRECAST CONCRETE MANUFACTURING PLANT SHALL BE CERTIFIED IN ACCORDANCE WITH SEC. 1011.01 OF THE 2007 NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. CERTIFICATION SHALL LIST THE PROPER PRODUCT GROUP(S) AND CATEGORY(IES) FOR EACH OF THE PRODUCTS BEING SUPPLIED. WRITTEN PLANT CERTIFICATION(S) SHALL BE SUBMITTED WITH THE SHOP DRAWINGS.

9. BORINGS

B-1 INDICATES LOCATION OF BORINGS

10. FOUNDATION

THE PROPOSED BRIDGE SUBSTRUCTURE WILL CONSIST OF PRECAST CONCRETE ARCH BRIDGE SEGMENTS ON CAST-IN-PLACE REINFORCED CONCRETE PEDESTALS ON CAST-IN-PLACE REINFORCED CONCRETE FOOTINGS FOUNDED ON EITHER 8"-10"-12" HELICAL PILES WITH 8⅝" DIAMETER SHAFT HAVING AN ALLOWABLE VERTICAL CAPACITY OF 40 KIPS OR 7" DIAMETER DRILLED MICROPILES HAVING AN ALLOWABLE VERTICAL CAPACITY OF 60KIPS. IT IS ANTICIPATED THAT THE PILES WOULD BE DRIVEN TO A MINIMUM TIP ELEVATION OF -59 FEET.



PROPOSED SECTION A-A

(LOOKING EAST)

SCALE: 1" = 5'

5 0 5 10
SCALE IN FEET

B01
B0-

FRENCH & PARRELLO
ASSOCIATES, P.A., CONSULTING ENGINEERS
1800 Route 34, Suite 101 • Wall, NJ • 07719 • 732 312-9800

William C. Pyontek, PE
WILLIAM C. PYONTEK, PE, PP
PROFESSIONAL ENGINEER, NJ LIC. No. GE29568

GENERAL PLAN & ELEVATION
FOR
17TH STREET BRIDGE REPLACEMENT
OCEAN CITY
CAPE MAY COUNTY NEW JERSEY

DATE:	DESIGNED BY:	SCALE:	PROJECT NUMBER:
JULY 2014	MJW	AS SHOWN	5805.001
DRAWN BY:	CHECKED BY:	FIELD BOOK	SHEET:
MJW	WCP	-	32 of --

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