



State of Delaware
Department of Natural Resources and Environmental Control
Delaware Division of Parks and Recreation
89 Kings Highway
Dover, Delaware 19901

**CONTRACT DOCUMENTS & TECHNICAL SPECIFICATIONS & PLANS
ADDENDUM No. 1**

**CAPE HENLOPEN STATE PARK
PARK ROAD - COLLEGE OF EARTH, OCEAN, & ENVIRONMENT
CONTRACT NO. 2013-CH-400
June 14, 2013**

This Addendum shall be attached to the specifications and/or drawings of the above named project and shall become part of the contract documents. All statements made herein shall supersede statements in the main body of the specifications and items shown on the drawings with which they are in conflict. Work and materials not specifically mentioned herein shall be as described in the main body of the specifications and as shown on the drawings. The bidder must acknowledge the receipt of this addendum on page 00300-2 of the Bid Form.

CHANGES AND/OR ADDITIONS TO THE CONTRACT DOCUMENTS

Change Drawings as follows:

(Drawings are attached)

Sheet No. C-8 - Relocation of Sign

Sheet No. C-11 - Add/Alternates No. 2

DELETE note that references: (See Note 24 on Sheet C1 regarding the use of Roto Millings.)

Sheet No C-12 - Add/Alternates No. 2

DELETE note that references: (See Note 24 on sheet C1 regarding the use of Roto Millings).

Sheet No. C20 - Signature of Chief Safety Officer

Sheet No. ES-01 - DELETE the S.C.E. Device at North End of Causeway.

Sheet No. ES-09 - Erosion and Sediment Control Details, under notes:

DELETE: North American Green SC 150 and Synthetic Industries Land Lock CS2 and
REPLACE with Soil Stabilization Matting shall be: North American Green SC-150BN.

Sheet No. S-1 - Joint Spacing for Sidewalk/Moment slab
ADD Notes 16, 17, 18

Sheet No. S-2 - ADD Joint Sealant at P.C.C. Curb.

Sheet S-3 - Water Stop and Keyway

Sheet S-4A - Barrier/Railing Details

NOTES:

- SEE DEMOLITION PLAN, SHEET C-18, FOR EXISTING PAVEMENT REMOVAL LIMITS AND DETAILS.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS AND MEASURES TO PROTECT THE EXISTING WATER MAIN RUNNING ALONG THE WEST SIDE OF THE EXISTING ROADWAY. ANY DAMAGES TO THE EXISTING LINE SHALL BE REPAIRED TO THE OWNERS SATISFACTION AT THE CONTRACTORS EXPENSE.
- CONTRACTOR TO NOTIFY AND COORDINATE WITH THE UTILITY OWNER PRIOR TO ADJUSTING THE VALVE. THE CONTRACTOR SHALL PERFORM THIS WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY OWNER. COST SHALL BE INCIDENTAL TO THE CONTRACT.
- THE CONTRACTOR SHALL INSTALL A STOP BAR, STOP SIGN AND SPEED LIMIT SIGNS WHERE SHOWN ON THE PLANS. ALL MATERIAL AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH DELDOT'S MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). THE COST FOR THIS WORK, INCLUDING SUPPLYING THE REQUIRED POSTS AND FASTENERS FOR SIGN INSTALLATION, SHALL BE INCLUDED IN ADD/ALTERNATE NO.1.
- THE CONTRACTOR SHALL INSTALL A CROSSWALK AND SHARED USE PATH STOP SIGNS WHERE SHOWN ON THE PLANS. ALL MATERIAL AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH DELDOT'S MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). THE COST FOR THIS WORK, INCLUDING SUPPLYING THE REQUIRED POSTS AND FASTENERS FOR SIGN INSTALLATION, SHALL BE INCLUDED IN ADD/ALTERNATE NO.3.
- FOR TYPICAL LANE PAVEMENT MARKINGS, SEE TYPICAL SECTIONS.

ADD/ALTERNATE NO.1

THE PROPOSED ROADWAY FROM STA.133+50 TO PILOT TOWN ROAD SHALL BE PROVIDED AS ADD/ALTERNATE NO.1 TO THE BASE BID. THIS ADD/ALTERNATE SHALL INCLUDE:

- REMOVAL OF THE EXISTING ROADWAY PAVEMENT AND SUB-BASE
- CONSTRUCTION OF A NEW ROADWAY
- RECONSTRUCTION OF THE EXISTING WIND TURBINE ACCESS ROAD TIE-IN TO PARK ROAD
- RECONFIGURATION OF EXISTING UNIVERSITY OF DELAWARE CAMPUS ACCESS ROAD TO PROVIDE ACCESS FROM PARK ROAD
- INSTALLING LANE PAVEMENT MARKINGS, STOP BARS, STOP SIGNS AND SPEED LIMIT SIGNS
- GRADING FOR THE PROPOSED SHARED USE PATH
- INSTALLING DRAINAGE PIPES AND STRUCTURES
- DITCH GRADING AND STABILIZATION
- TOPSOIL, SEED AND MULCH

ADD/ALTERNATE NO.3

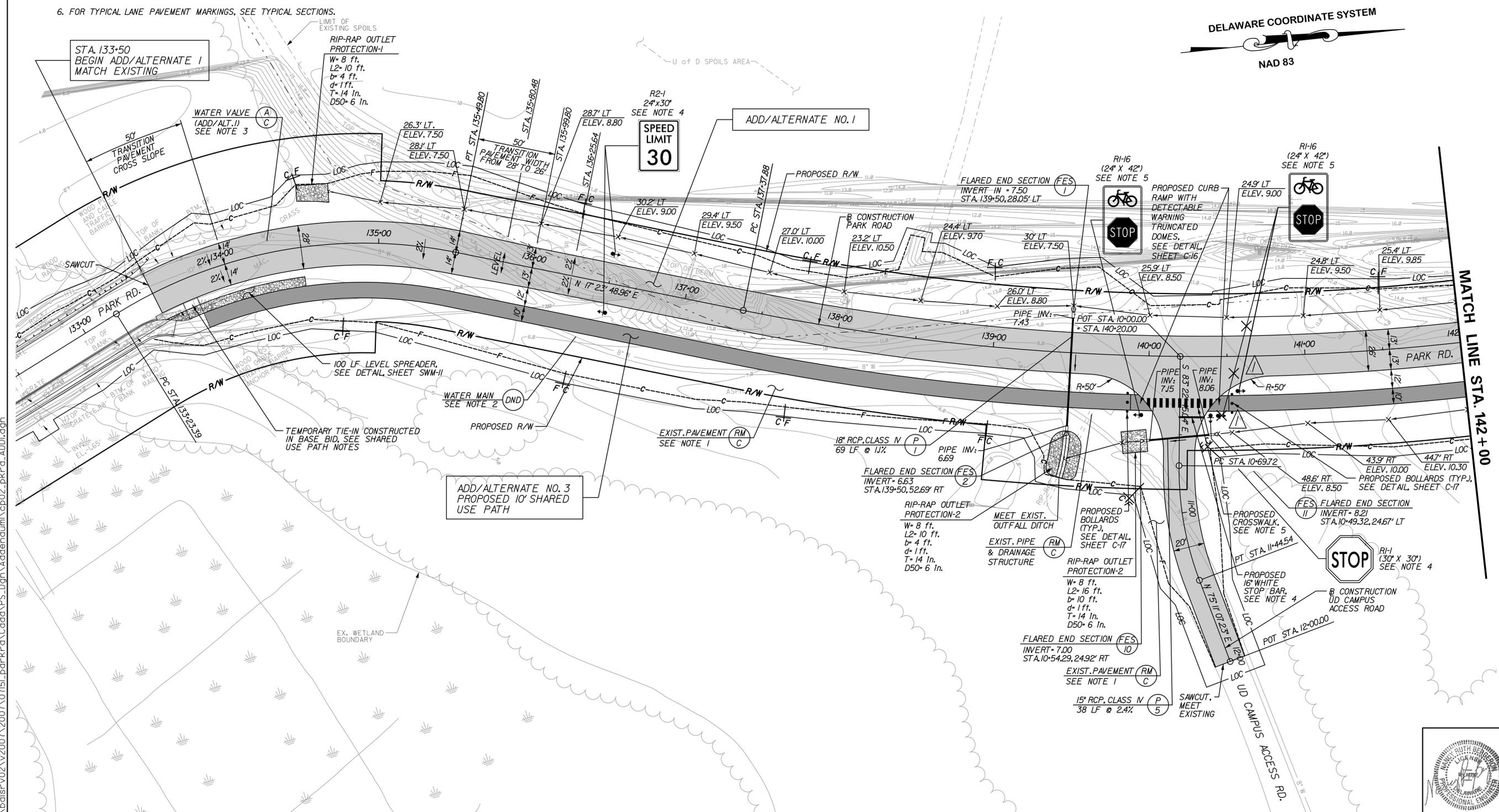
THE PROPOSED 10' SHARED USE PATH FROM STA.133+65 TO PILOT TOWN ROAD SHALL BE PROVIDED AS ADD/ALTERNATE NO.3 TO THE BASE BID. THIS ADD/ALTERNATE SHALL INCLUDE:

- 2" OF TYPE C HOT-MIX
- 6" GRADED AGGREGATE BASE COURSE, TYPE B
- INSTALLING CROSSWALK PAVEMENT MARKINGS, TRAIL STOP SIGNS, INCLUDING POSTS AND FASTENERS, BOLLARDS AND CURB RAMPS WITH DETECTABLE WARNING TRUNCATED DOMES

NOTE: GRADING AND DRAINAGE ASSOCIATED WITHIN THE LIMITS OF THIS ADD/ALTERNATE SHALL BE INCLUDED IN ADD/ALTERNATE NO.1.

SHARED USE PATH NOTES

IF MULTIPLE ADD/ALTERNATES ARE ACCEPTED SUCH THAT A CONTINUOUS PATH IS PROVIDED, THE TEMPORARY TIE-IN CONSTRUCTED UNDER THE BASE BID SHALL BE ELIMINATED.



DATE: 6/13/13

DESCRIPTION: CAPE HENLOPEN STATE PARK PARK ROAD CONSTRUCTION PLAN ADD/ALTERNATES NO.s 1 & 3



DESIGNED BY:	RKK
DRAWN BY:	RKK
BUILDING NO.:	N/A
DATE:	5/3/13
SCALE:	1" = 30'
SHEET NO.:	C-8
PARKS PROJECT #:	CH-49
CONTRACT #:	2013-CH-400

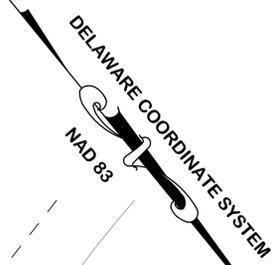
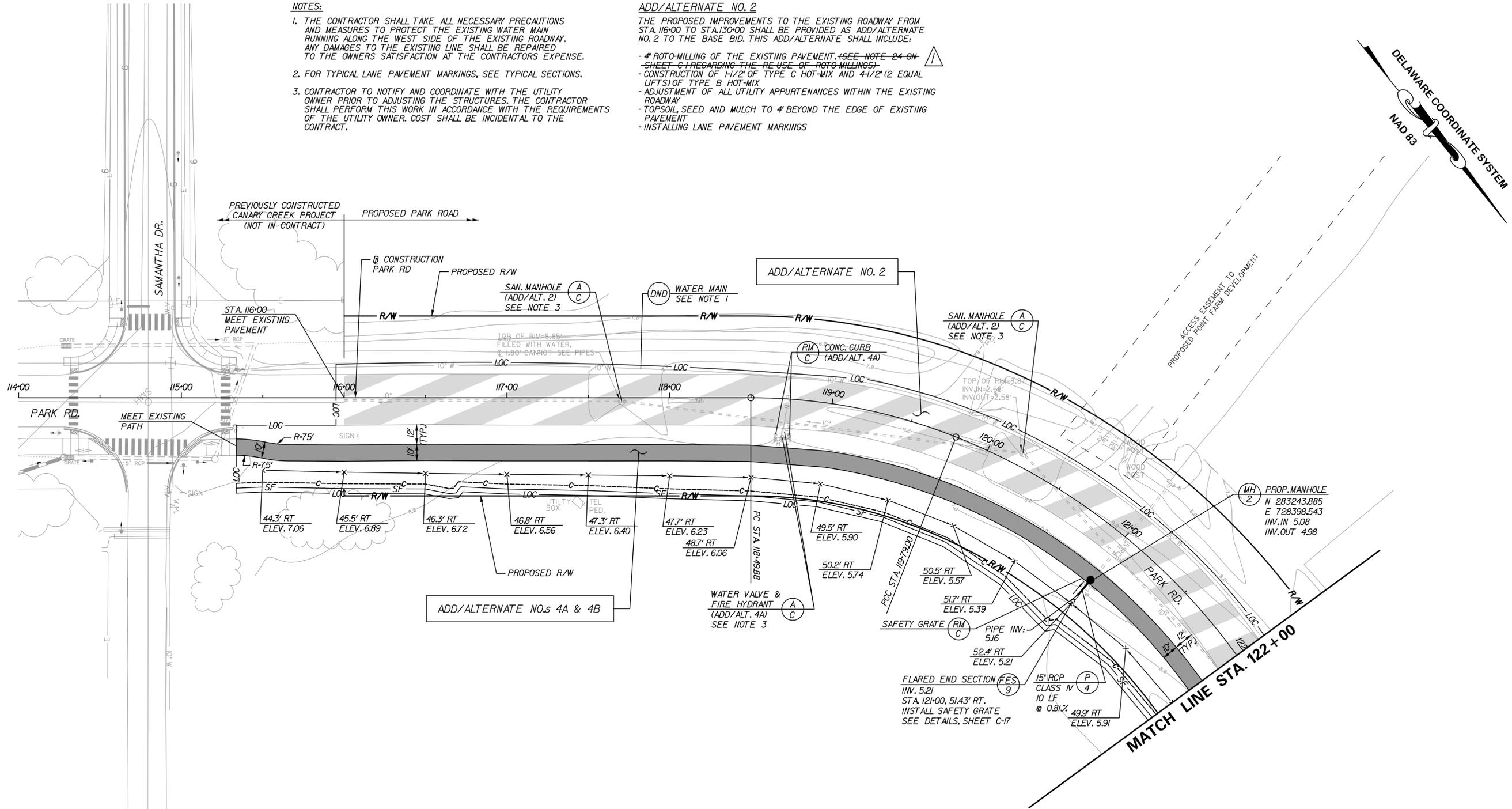
6/12/2013 9:54:39 AM \\bdalstr-v02\2007\07151-parkr\d\cadd\ps_dgm\Addendum\cp02_pkr\d_ADD1.dgn

NOTES:

1. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS AND MEASURES TO PROTECT THE EXISTING WATER MAIN RUNNING ALONG THE WEST SIDE OF THE EXISTING ROADWAY. ANY DAMAGES TO THE EXISTING LINE SHALL BE REPAIRED TO THE OWNERS SATISFACTION AT THE CONTRACTORS EXPENSE.
2. FOR TYPICAL LANE PAVEMENT MARKINGS, SEE TYPICAL SECTIONS.
3. CONTRACTOR TO NOTIFY AND COORDINATE WITH THE UTILITY OWNER PRIOR TO ADJUSTING THE STRUCTURES. THE CONTRACTOR SHALL PERFORM THIS WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY OWNER. COST SHALL BE INCIDENTAL TO THE CONTRACT.

ADD/ALTERNATE NO. 2

- THE PROPOSED IMPROVEMENTS TO THE EXISTING ROADWAY FROM STA. 116+00 TO STA. 130+00 SHALL BE PROVIDED AS ADD/ALTERNATE NO. 2 TO THE BASE BID. THIS ADD/ALTERNATE SHALL INCLUDE:
- 4" ROTO-MILLING OF THE EXISTING PAVEMENT. (SEE NOTE 24 ON SHEET C-1 REGARDING THE RE-USE OF ROTO-MILLINGS)
 - CONSTRUCTION OF 1-1/2" OF TYPE C HOT-MIX AND 4-1/2" (2 EQUAL LIFTS) OF TYPE B HOT-MIX
 - ADJUSTMENT OF ALL UTILITY APPURTENANCES WITHIN THE EXISTING ROADWAY
 - TOPSOIL SEED AND MULCH TO 4' BEYOND THE EDGE OF EXISTING PAVEMENT
 - INSTALLING LANE PAVEMENT MARKINGS



DATE: 6.13.13
 DESCRIPTION: ADD/ALTERNATE No. 2 NOTE

**CAPE HENLOPEN STATE PARK
 PARK ROAD
 COLLEGE OF EARTH, OCEAN AND ENVIRONMENT
 CONSTRUCTION PLAN
 ADD/ALTERNATES NO.s 2, 4A & 4B**



DESIGNED BY:	RKK
DRAWN BY:	RKK
BUILDING NO.:	N/A
DATE:	5/3/13
SCALE:	1" = 30'
SHEET NO.:	C-11
PARKS PROJECT #:	CH-49
CONTRACT #:	2013-CH-400

ADD/ALTERNATE NO.s 4A & 4B

ADD/ALTERNATE NO. 2

ADD/ALTERNATE NO. 4A

THE GRADING ASSOCIATED WITH CONSTRUCTION OF A 10' SHARED USE PATH FROM STA. 115+32 TO STA. 130+00 SHALL BE PROVIDED AS ADD/ALTERNATE NO. 4A TO THE BASE BID. THIS ADD/ALTERNATE SHALL INCLUDE:

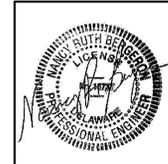
- GRADING FOR THE PROPOSED PATH
- DRAINAGE MODIFICATIONS
- DITCH GRADING AND STABILIZATION
- ADJUSTMENTS OF UTILITY APPURTENANCES WITHIN THE LIMITS OF GRADING
- TOPSOIL SEED AND MULCH
- EROSION AND SEDIMENT CONTROL MEASURES

ADD/ALTERNATE NO. 4B

THE PROPOSED 10' SHARED USE PATH FROM STA. 115+32 TO STA. 130+00 SHALL BE PROVIDED AS ADD/ALTERNATE NO. 4B TO THE BASE BID. THIS ADD/ALTERNATE SHALL INCLUDE CONSTRUCTION OF 10' WIDE SHARED USE PATH CONSISTING OF:

- 2" OF TYPE C HOT-MIX
- 6" GRADED AGGREGATE BASE COURSE

NOTE:
 THE CONTRACTOR SHALL SAWCUT AND REMOVE EXISTING CONCRETE CURB AND CONSTRUCT A FLUSH CURB MATCHING THE EXISTING WIDTH AS REQUIRED TO CONSTRUCT PROPOSED CURB RAMPS.



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NOTES:

1. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS AND MEASURES TO PROTECT THE EXISTING WATER MAIN RUNNING ALONG THE WEST SIDE OF THE EXISTING ROADWAY. ANY DAMAGES TO THE EXISTING LINE SHALL BE REPAIRED TO THE OWNERS SATISFACTION AT THE CONTRACTORS EXPENSE.
2. FOR TYPICAL LANE PAVEMENT MARKINGS, SEE TYPICAL SECTIONS.
3. CONTRACTOR TO NOTIFY AND COORDINATE WITH THE UTILITY OWNER PRIOR TO ADJUSTING THE STRUCTURES. THE CONTRACTOR SHALL PERFORM THIS WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY OWNER. COST SHALL BE INCIDENTAL TO THE CONTRACT.

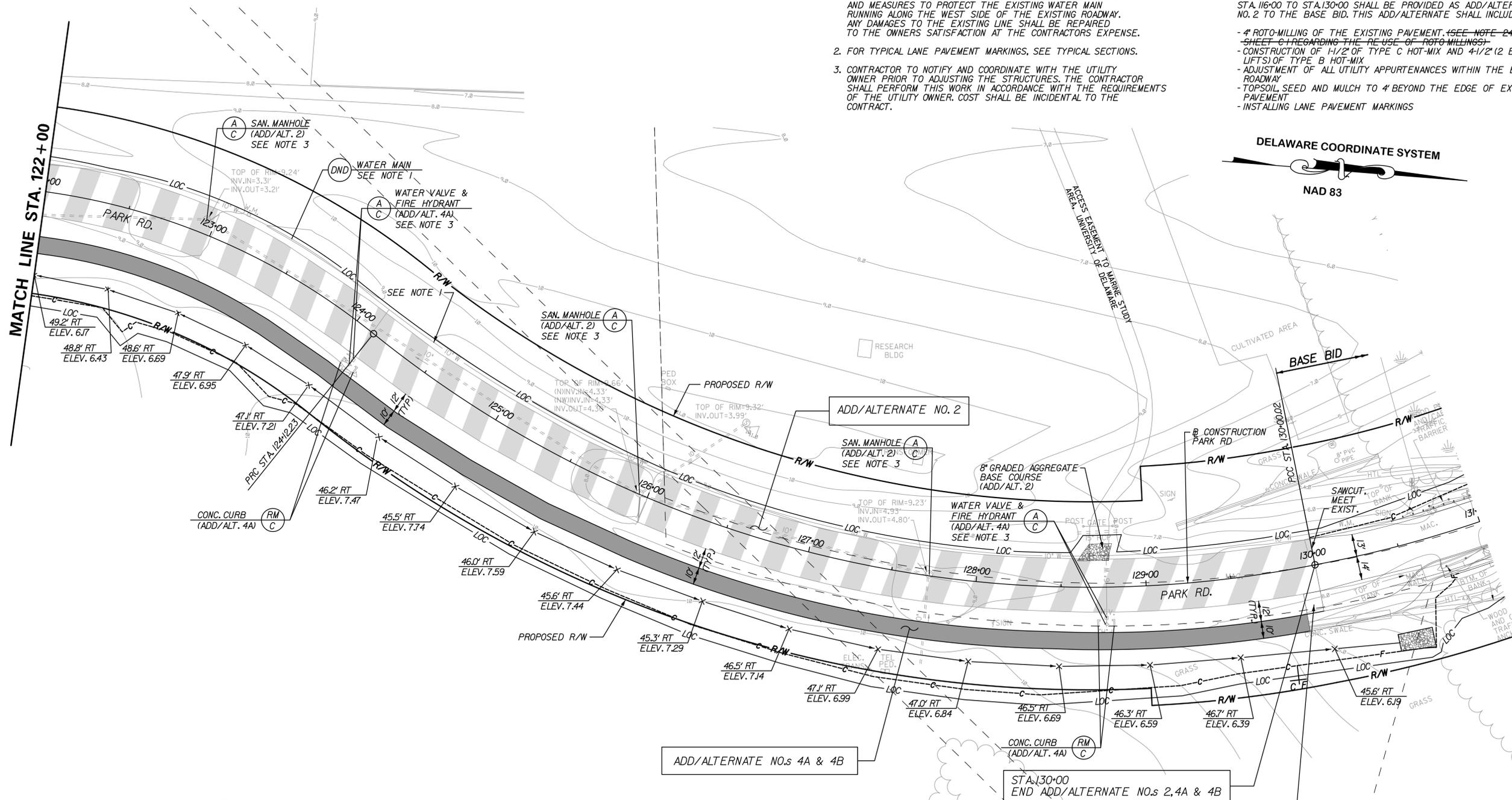
ADD/ALTERNATE NO. 2

THE PROPOSED IMPROVEMENTS TO THE EXISTING ROADWAY FROM STA. 116+00 TO STA. 130+00 SHALL BE PROVIDED AS ADD/ALTERNATE NO. 2 TO THE BASE BID. THIS ADD/ALTERNATE SHALL INCLUDE:

- 4" ROTO-MILLING OF THE EXISTING PAVEMENT. (SEE NOTE 24 ON SHEET 6 REGARDING THE RE-USE OF ROTO-MILLINGS)
- CONSTRUCTION OF 1-1/2" OF TYPE C HOT-MIX AND 4-1/2" (2 EQUAL LIFTS) OF TYPE B HOT-MIX
- ADJUSTMENT OF ALL UTILITY APPURTENANCES WITHIN THE EXISTING ROADWAY
- TOPSOIL, SEED AND MULCH TO 4' BEYOND THE EDGE OF EXISTING PAVEMENT
- INSTALLING LANE PAVEMENT MARKINGS

DELAWARE COORDINATE SYSTEM

NAD 83



ADD/ALTERNATE NO.s 4A & 4B

STA. 130+00
END ADD/ALTERNATE NO.s 2, 4A & 4B

SHARED USE PATH NOTES

IF MULTIPLE ADD/ALTERNATES ARE ACCEPTED SUCH THAT A CONTINUOUS PATH IS PROVIDED, THE TEMPORARY TIE-INS CONSTRUCTED UNDER THE BASE BID SHALL BE ELIMINATED.

ADD/ALTERNATE NO. 4A

THE GRADING ASSOCIATED WITH CONSTRUCTION OF A 10' SHARED USE PATH FROM STA. 115+32 TO STA. 130+00 SHALL BE PROVIDED AS ADD/ALTERNATE NO. 4A TO THE BASE BID. THIS ADD/ALTERNATE SHALL INCLUDE:

- GRADING FOR THE PROPOSED PATH
- DRAINAGE MODIFICATIONS
- DITCH GRADING AND STABILIZATION
- ADJUSTMENTS OF UTILITY APPURTENANCES WITHIN THE LIMITS OF GRADING
- TOPSOIL, SEED AND MULCH
- EROSION AND SEDIMENT CONTROL MEASURES

ADD/ALTERNATE NO. 4B

THE PROPOSED 10' SHARED USE PATH FROM STA. 115+32 TO STA. 130+00 SHALL BE PROVIDED AS ADD/ALTERNATE NO. 4B TO THE BASE BID. THIS ADD/ALTERNATE SHALL INCLUDE CONSTRUCTION OF 10' WIDE SHARED USE PATH CONSISTING OF:

- 2" OF TYPE C HOT-MIX
- 6" GRADED AGGREGATE BASE COURSE

NOTE:
THE CONTRACTOR SHALL SAWCUT AND REMOVE EXISTING CONCRETE CURB AND CONSTRUCT A FLUSH CURB MATCHING THE EXISTING WIDTH AS REQUIRED TO CONSTRUCT PROPOSED CURB RAMPS.

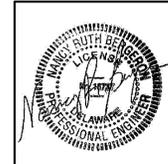
TEMPORARY TIE-IN CONSTRUCTED IN BASE BID. SEE SHARED USE PATH NOTES.

DESCRIPTION:

CAPE HENLOPEN STATE PARK
PARK ROAD
COLLEGE OF EARTH, OCEAN AND ENVIRONMENT
CONSTRUCTION PLAN
ADD/ALTERNATES NO.s 2, 4A & 4B



DESIGNED BY:	RKK
DRAWN BY:	RKK
BUILDING NO.:	N/A
DATE:	5/3/13
SCALE:	1" = 30'
SHEET NO.:	C-12
PARKS PROJECT #:	CH-49
CONTRACT #:	2013-CH-400



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CHANGEABLE MESSAGE BOARDS

PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

CMS-1

XXXXXXXXXX
XXXXXXXXXX
XXXXXXXXXX

XXXXXXXXXX
XXXXXXXXXX
XXXXXXXXXX

DURING DETOUR

CMS-1

XXXXXXXXXX
XXXXXXXXXX
XXXXXXXXXX

XXXXXXXXXX
XXXXXXXXXX
XXXXXXXXXX

PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

CMS-2

XXXXXXXXXX
XXXXXXXXXX
XXXXXXXXXX

XXXXXXXXXX
XXXXXXXXXX
XXXXXXXXXX

DURING DETOUR

CMS-2

XXXXXXXXXX
XXXXXXXXXX
XXXXXXXXXX

XXXXXXXXXX
XXXXXXXXXX
XXXXXXXXXX

SPECIAL SIGNS

V

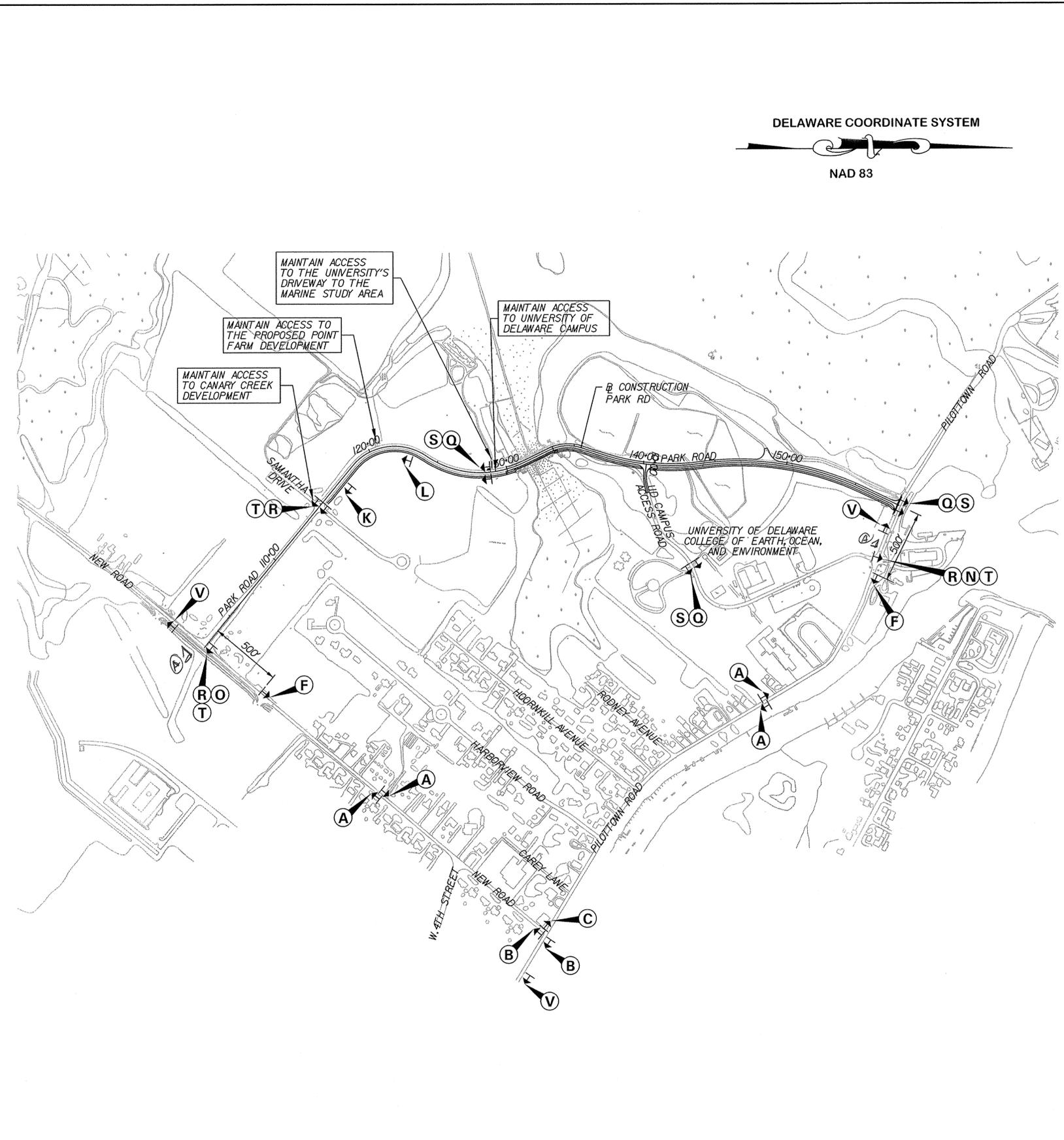
48"

72"

Park Rd
Closed
Between
New Rd and
Pilottown Rd

FOLLOW
DETOUR

BLACK COPY
ORANGE BACKGROUND
*TEXT 50% COMPRESSED



LEGEND

A: DETOUR (up arrow)

B: DETOUR (left arrow)

C: DETOUR (right arrow)

D: DETOUR (up-left arrow)

E: DETOUR (up-right arrow)

F: END DETOUR

G: DETOUR AHEAD (diamond)

H: DETOUR 1000 FT (diamond)

I: DETOUR 500 FT (diamond)

J: ROAD CLOSED AHEAD (diamond)

K: ROAD CLOSED 1000 FT (diamond)

L: ROAD CLOSED 500 FT (diamond)

M: ROAD NAME (rectangle)

N: DETOUR (left arrow)

O: DETOUR (right arrow)

P: ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY (rectangle)

Q: ROAD CLOSED (rectangle)

R: ROAD CLOSED TO THRU TRAFFIC (rectangle)

S: Barricade symbol

T: Barricade symbol

- GENERAL NOTES**
- ALL DETOUR SIGNING INCLUDING TRAILBLAZERS, ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR IN COMPLIANCE TO THE DE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
 - THE CONTRACTOR SHALL COMPLY WITH GUIDELINES IN "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE-MUTCD PART 6)" FOR LIGHTS, BARRICADES AND SIGNS, AS PER LATEST REVISION.
 - FIELD CONDITIONS MAY DICTATE CHANGES AT SOME TIME DURING THE LIFE OF THE CONTRACT. IN THE EVENT OF OMISSIONS OR CORRECTIONS, THE SIGNING PROVISIONS OF THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES WILL PREVAIL.
 - SIGNS J THROUGH L AND P THROUGH R, THE WORD (ROAD) SHOULD BE CHANGED TO RAMP, R/R OR BRIDGE WHERE APPLICABLE.
 - WARNING SIGNS SHOULD BE MOUNTED ON BREAKAWAY POSTS AND HAVE RETROREFLECTIVE FLUORESCENT SHEETING.
 - "S" BARRICADES SHALL COMPLETELY RUN THE FULL WIDTH OF ROADWAY.
 - BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

RECOMMENDED _____ DATE: _____

RECOMMENDED _____ DATE: _____

RECOMMENDED _____ DATE: _____

APPROVED CHIEF SAFETY OFFICER *[Signature]* DATE: 5-2-13

APPROVED TRAFFIC ENGINEER *[Signature]* DATE: 4/27/13

DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT 2013-CH-400 PERMIT NO. X COUNTY SUSSEX CHECKED BY: RLS

NOT TO SCALE

CAPE HENLOPEN STATE PARK
PARK ROAD - COLLEGE OF EARTH,
OCEAN AND ENVIRONMENT

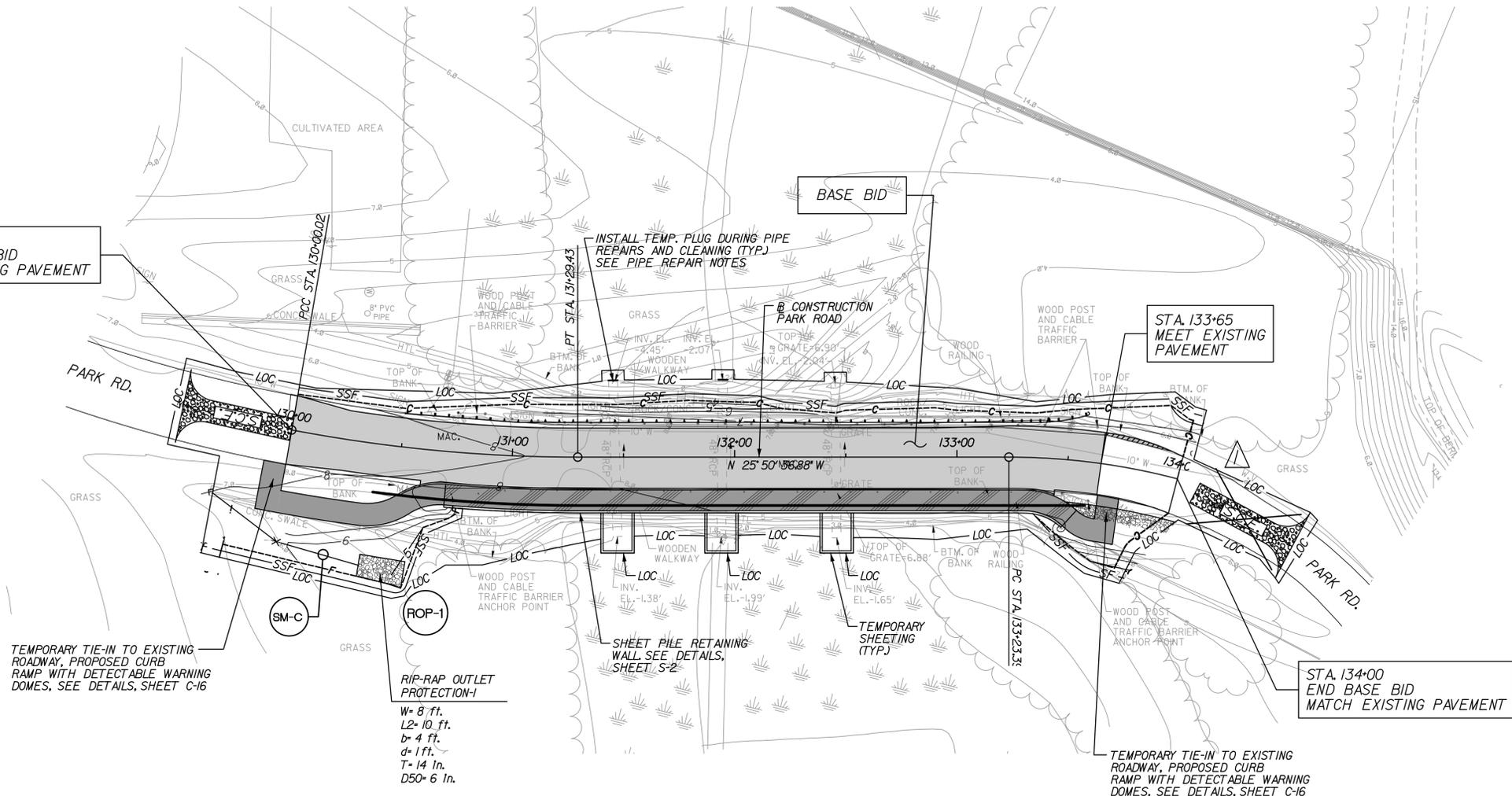
DETOUR PLAN
PARK RD AT NEW ROAD
PARK RD AT PILOTTOWN RD

SHEET NO. C-20 TOTAL SHTS. X

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DELAWARE COORDINATE SYSTEM
NAD 83

STA. 130+00
BEGIN BASE BID
MEET EXISTING PAVEMENT



TEMPORARY TIE-IN TO EXISTING ROADWAY, PROPOSED CURB RAMP WITH DETECTABLE WARNING DOMES, SEE DETAILS, SHEET C-16

RIP-RAP OUTLET PROTECTION-1
W= 8 ft.
L2= 10 ft.
b= 4 ft.
d= 1 ft.
T= 14 in.
D50= 6 in.

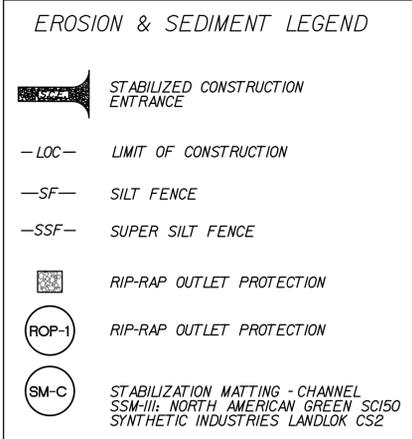
STA. 134+00
END BASE BID
MATCH EXISTING PAVEMENT

TEMPORARY TIE-IN TO EXISTING ROADWAY, PROPOSED CURB RAMP WITH DETECTABLE WARNING DOMES, SEE DETAILS, SHEET C-16

OWNER'S CERTIFICATION

I, _____, HEREBY CERTIFY THAT ALL LAND CLEARING, CONSTRUCTION AND DEVELOPMENT SHALL BE PURSUANT TO THE APPROVED PLAN AND RESPONSIBLE PERSONS INVOLVED WILL HAVE A CERTIFICATE OF TRAINING FROM THE DEPARTMENT OF NATURAL RESOURCES (DNREC). DNREC PERSONNEL SHALL HAVE THE RIGHT TO CONDUCT ON-SITE INSPECTIONS.

DATE _____ SIGNATURE _____



SEDIMENT AND STORMWATER - GENERAL NOTES

- THE DNREC SEDIMENT AND STORMWATER MANAGEMENT PROGRAM MUST BE NOTIFIED IN WRITING FIVE (5) DAYS PRIOR TO THE START OF ANY CONSTRUCTION TO SET UP A PRE-CONSTRUCTION MEETING. THE PROGRAM MUST ALSO BE NOTIFIED IN WRITING FIVE (5) DAYS PRIOR TO COMMENCING WITH CONSTRUCTION. FAILURE TO DO SO CONSTITUTES A VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLAN.
- REVIEW AND/OR APPROVAL OF THE SEDIMENT AND STORMWATER MANAGEMENT PLAN SHALL NOT RELIEVE THE CONTRACTOR FROM HIS OR HER RESPONSIBILITIES FOR COMPLIANCE WITH THE REQUIREMENTS OF THE SEDIMENT AND STORMWATER REGULATIONS, NOR SHALL IT RELIEVE THE CONTRACTOR FROM ERRORS OR OMISSIONS IN THE APPROVED PLAN.
- IF THE APPROVED PLAN NEEDS TO BE MODIFIED, ADDITIONAL SEDIMENT AND STORMWATER CONTROL MEASURES MAY BE REQUIRED AS DEEMED NECESSARY BY THE DNREC.
- FOLLOWING SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 14 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER SEDIMENT CONTROLS AND SOIL STOCKPILES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIR OF ALL EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT PRACTICES DURING ALL CONSTRUCTION ACTIVITIES.
- TOTAL DISTURBED AREA: 11.68 ACRES. APPROXIMATE BORROW VOLUME: 15,000 CUBIC YARDS.
- DUST IS TO BE CONTROLLED EXCLUSIVELY THROUGH THE USE OF WATER. COSTS ASSOCIATED WITH THE FURNISHING AND APPLICATION OF WATER FOR DUST CONTROL SHALL BE INCLUDED IN THE BASE BID.
- IT IS INTENDED THAT MUD TRACKING BE ELIMINATED ON ALL ROADWAYS ADJOINING THE PROJECT. EACH POINT OF INGRESS AND EGRESS FROM THE PROJECT SHALL HAVE INSTALLED A STABILIZED CONSTRUCTION ENTRANCE (SCE). ALL PAVED SURFACES ADJOINING THE PROJECT LIMITS SHALL BE LEFT IN A BROOM CLEAN CONDITION AT THE END OF EACH WORKDAY. STABILIZED CONSTRUCTION ENTRANCES SHALL BE TOP DRESSED WITH TWO (2) INCHES OF CLEAN DE NO. 3 STONES WHEN THE VOIDS BECOME CLOGGED OR AS DIRECTED BY THE OWNER. IN THE EVENT THAT IT IS DETERMINED THAT VEHICLES ARE TRANSPORTING SEDIMENT FROM THE SITE, A WHEEL WASH SHALL BE INSTALLED TO CLEAN VEHICLES PRIOR TO THEIR EGRESS FROM THE SITE AT NO ADDITIONAL COST. THIS DETERMINATION SHALL BE MADE BY THE ON SITE CERTIFIED CONSTRUCTION REVIEWER (CCR) AND/OR BY THE OWNER.

SEDIMENT AND STORMWATER - GENERAL SEQUENCE OF CONSTRUCTION

- THE DNREC SEDIMENT AND STORMWATER MANAGEMENT PROGRAM MUST BE NOTIFIED IN WRITING FIVE (5) DAYS PRIOR TO THE START OF ANY CONSTRUCTION TO SET UP A PRE-CONSTRUCTION MEETING. THE PROGRAM MUST ALSO BE NOTIFIED IN WRITING FIVE (5) DAYS PRIOR TO COMMENCING WITH CONSTRUCTION. FAILURE TO DO SO CONSTITUTES A VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLAN.
- AS A FIRST ORDER OF WORK, INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLANS.
- BEGIN CONSTRUCTION OF THE SHEET PILE RETAINING WALL, ROADWAY IMPROVEMENTS AND PIPE REPAIRS OVER THE EXISTING CAUSEWAY.
- BEGIN ROUGH GRADING FOR THE REALIGNED ROADWAY IF THIS ADD/ALTERNATE IS SELECTED.
- CONSTRUCT DRAINAGE IMPROVEMENTS SHOWN ON THE PLANS IF THIS ADD/ALTERNATE IS SELECTED.
- CONSTRUCT PAVEMENT NORTH OF THE CAUSEWAY IF THIS ADD/ALTERNATE IS SELECTED.
- FINAL GRADE AREA NORTH OF THE CAUSEWAY IF THIS ADD/ALTERNATE IS SELECTED. THE CONTRACTOR SHALL 'STABILIZE AS YOU GO'.
- BEGIN PAVEMENT REHABILITATION SOUTH OF THE CAUSEWAY IF THIS ADD/ALTERNATE IS SELECTED.
- BEGIN GRADING OPERATIONS FOR THE PEDESTRIAN PATH IF THESE ADD/ALTERNATES ARE SELECTED. THE CONTRACTOR SHALL 'STABILIZE AS YOU GO'.
- REMOVE ALL SEDIMENT CONTROL DEVICES AFTER RECEIVING APPROVAL FROM DNREC'S SEDIMENT AND STORMWATER MANAGEMENT PROGRAM.

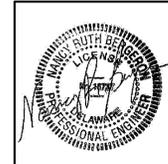
CAPE HENLOPEN STATE PARK
PARK ROAD
COLLEGE OF EARTH, OCEAN AND ENVIRONMENT
EROSION AND SEDIMENT CONTROL PLAN

DATE: 6.13.13
DESCRIPTION: DELETED ESC DEVICE

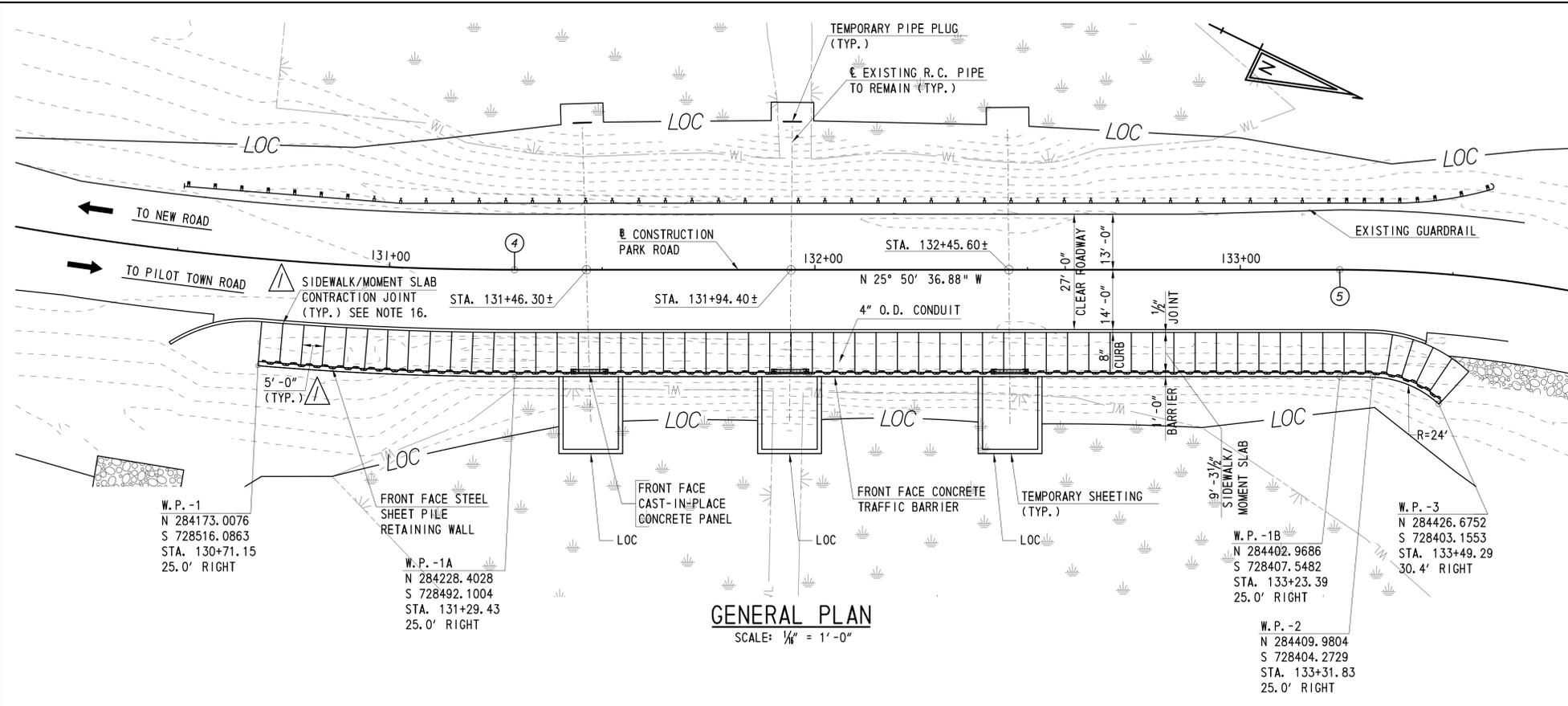
BY: RLS



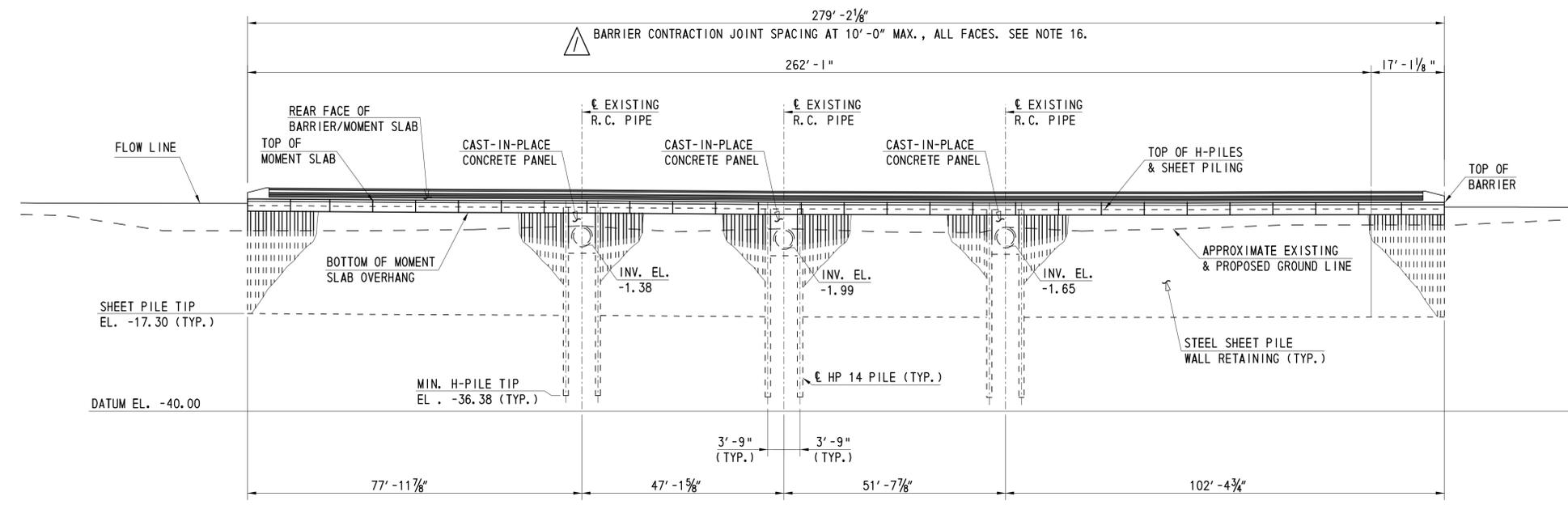
DESIGNED BY: RKK
DRAWN BY: RKK
BUILDING NO.: N/A
DATE: 5/3/13
SCALE: 1"=30'
SHEET NO.: ES-01
PARKS PROJECT #: CH-49
CONTRACT #: 2013-CH-400



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GENERAL PLAN
SCALE: 1/4" = 1'-0"



ELEVATION
SCALE: 1/4" = 1'-0"

CURVE DATA

①	②	③	④
Δ = 21° 34' 56.79" RT Dc = 16' 42" 56.66" R = 342.77' T = 65.33' L = 129.11' E = 6.77'	Δ = 63° 17' 01.70" RT Dc = 14' 36" 25.76" R = 392.24' T = 24.71' L = 433.24' E = 68.49'	Δ = 50° 11' 48.49" LT Dc = 8' 32" 23.99" R = 670.91' T = 314.25' L = 587.78' E = 69.95'	Δ = 10° 47' 59.24" LT Dc = 8' 20" 44.11" R = 686.54' T = 64.90' L = 129.41' E = 3.06'
⑤	⑥	⑦	⑧
Δ = 43° 14' 25.84" RT Dc = 19' 05" 54.94" R = 300.00' T = 118.90' L = 226.41' E = 22.70'	Δ = 25° 12' 18.34" LT Dc = 3' 49" 10.99" R = 1500.00' T = 335.36' L = 659.87' E = 37.03'	Δ = 33° 06' 18.25" RT Dc = 2' 51" 53.24" R = 2,000.00' T = 594.42' L = 1,155.58' E = 86.47'	Δ = 21° 26' 07.73" LT Dc = 28' 38" 52.40" R = 200.00' T = 37.85' L = 74.82' E = 3.55'

NOTES:

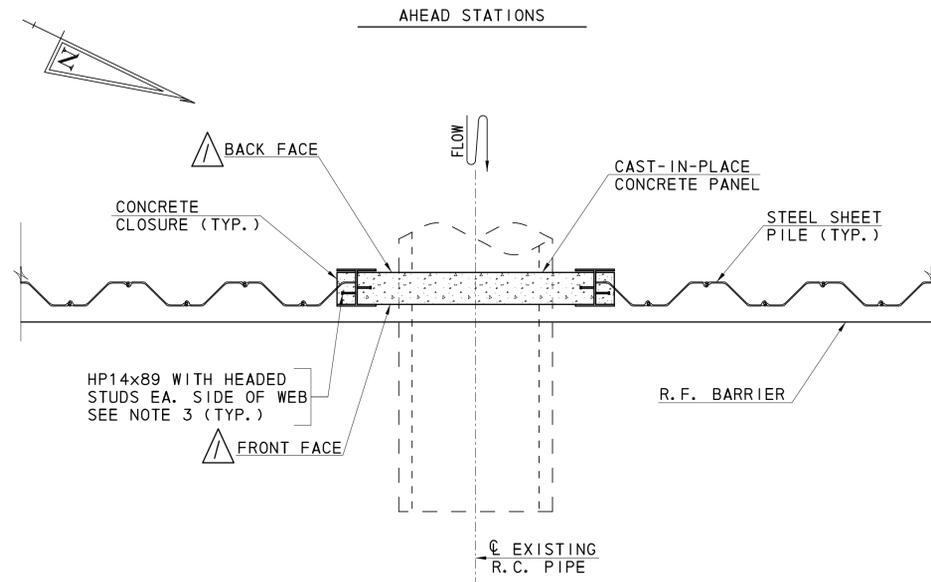
- THIS PLAN IS GENERALLY FOR WORK PERTAINING TO THE SHEET PILE RETAINING WALL. FOR DETAILS PERTAINING TO OTHER WORK IN THIS AREA, REFER TO OTHER DRAWING SHEETS INCLUDING, BUT NOT NECESSARILY LIMITED TO, C-2 THROUGH C-12.
- IN ALL CASES THE CONTRACTOR SHALL LOCATE THE PIPE OR OBSTRUCTION AT THE WALL INTERFACE PRIOR TO DRIVING SOLDIER PILES AND CONSTRUCTING CONCRETE PANELS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY IN THE FIELD THE HORIZONTAL LOCATION AND INVERT ELEVATION OF ALL EXISTING PIPES AND UTILITIES.
- HP-14 PILES SHALL BE ASTM A588 GRADE 60 WEATHERING STEEL.
- HP-14 PILES SHALL HAVE 7/8" DIA. x 4" LONG HEADED STUDS WELDED AT 1'-0" SPACING ALONG BOTH SIDES OF THE WEB ABOVE THE FINISHED GROUND ELEVATION ON THE LOW SIDE OF THE WALL.
- IF THE HEIGHT FROM THE TOP TO THE BOTTOM OF THE CONCRETE PANEL EXCEEDS 12 FEET THE ENGINEER SHALL BE CONTACTED IMMEDIATELY AND WORK SHALL BE HALTED ON THE PIPE OPENING. SIMILARLY, IF THE PIPE LOCATION IS SHALLOWER THAN AS DEPICTED IN THE DETAIL THE ENGINEER SHALL BE CONTACTED IMMEDIATELY AND WORK SHALL BE HALTED ON THE PIPE OPENING.
- REINFORCEMENT SHALL BE CUT IN THE FIELD TO ACCOMMODATE PANEL HEIGHT VARIATIONS.
- C.C.N.S. DENOTES CLOSED CELL NEOPRENE SPONGE.
- ALL REINFORCING BARS SHALL CONFORM TO AASHTO M31 (ASTM A615), GRADE 60 AND SHALL BE EPOXY-COATED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO M284 (ASTM D3963). DAMAGED COATING OF EPOXY-COATED REINFORCING BARS THAT OCCURS DURING SHIPMENT, HANDLING, PLACEMENT AND FIELD CUTTING OF BARS SHALL BE REPAIRED IN ACCORDANCE WITH SECTIONS 604.03 AND 604.08 OF THE DELDOT STANDARD SPECIFICATIONS.
- ALL CONCRETE SHALL BE CLASS A (f'c 4,500 PSI AT 28 DAYS) IN ACCORDANCE WITH SECTION 812 OF THE DELDOT STANDARD SPECIFICATIONS. ALL EDGES OF CONCRETE SHALL BE CHAMFERED 3/4", UNLESS OTHERWISE NOTED.
- ALL STEEL PLATES SHALL CONFORM TO AASHTO M270 (ASTM A709), GRADE 36. HOLLOW STRUCTURAL STEEL SECTIONS (HSS) SHALL CONFORM TO ASTM A500, GRADE B. ALL STRUCTURAL STEEL SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123 AFTER FABRICATION. ALL STRUCTURAL STEEL HARDWARE (BOLTS, NUTS, AND WASHERS) SHALL BE EITHER HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A 153, CLASS C OR MECHANICALLY GALVANIZED IN ACCORDANCE WITH ASTM 8695, CLASS 50.
- WELDING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO/AWS D1.5M/D1.5-2008 BRIDGE WELDING CODE. WELDING SHALL BE PERFORMED BY THE SHIELDED METAL ARC WELDING (SMAW) PROCESS. ALL WELDS SHALL BE MADE WITH E7018 ELECTRODES. ALL WELDS ARE TO BE SHOP WELDS, UNLESS OTHERWISE NOTED.
- POSTS SHALL BE SEATED ON ELASTOMERIC PADS 1/4" MAXIMUM THICKNESS, HAVING A NOMINAL DUROMETER HARDNESS OF 60. PADS SHALL CONFORM TO POST BASE DIMENSIONS.
- CONSTRUCT PEDESTAL, TERMINAL WALL, ANCHORAGES, AND POST NORMAL TO GRADE IN THE LONGITUDINAL DIRECTION AND VERTICAL IN THE TRANSVERSE DIRECTION. IF REQUIRED, GALVANIZED STEEL SHIMS 1/2" MAXIMUM THICKNESS, MAY BE USED FOR ADJUSTING POST ALIGNMENT. WHERE GREATER ADJUSTMENT IS REQUIRED, GRIND PEDESTAL CONCRETE AS NECESSARY.
- DRAIN HOLES (1/2" DIA.) SHALL BE PROVIDED IN ALL RAILS (TOP AND BOTTOM) APPROXIMATELY HALF-WAY BETWEEN POSTS EXCEPT AT OPEN JOINTS NEAR RAIL SPLICE AND EXPANSION JOINTS. DRAIN HOLES SHALL ALSO BE PROVIDED AT EACH LOW END OF RAIL.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND DETAILS NECESSARY FOR FABRICATION AND INSTALLATION OF BARRIER RAIL AND PEDESTAL. THE PROPOSED BARRIER POST LAYOUT PROVIDED IS REQUIRED TO MAINTAIN PROPER ALIGNMENT OF ALL BARRIER POSTS.
- THE SIDEWALK/MOMENT SLAB SHALL BE MARKED INTO RECTANGULAR SLABS BY SCORING, 1/2" MINIMUM, WITH APPROVED EDGING TOOLS. THE SURFACE EDGES OF EACH SLAB SHALL BE ROUNDED TO A 1/4" RADIUS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SHOWING CONTRACTION JOINT LAYOUT AND SPACING.
- SILICONE RUBBER JOINT SEALANT SHALL CONFORM TO ASTM D5893.
- WATERSTOPS SHALL BE POLYVINYL CHLORIDE (PVC) COMPOUNDED AS NECESSARY TO CONFORM TO THE REQUIREMENTS OF U.S. ARMY CORPS OF ENGINEERS SPECIFICATION CDR-C57S. NO RECLAIMED PVC FROM ANY SOURCES SHALL BE INCORPORATED IN THE COMPOUNDING. THE EXTRUDED MATERIAL SHALL BE DENSE, HOMOGENEOUS, AND FREE FROM POROSITY OR OTHER IMPERFECTIONS THAT COULD AFFECT ITS DURABILITY OR PERFORMANCE. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE WATERSTOP.

DESCRIPTION:
CAPE HENLOPEN STATE PARK
PARK ROAD
COLLEGE OF EARTH, OCEAN AND ENVIRONMENT
SHEET PILE RETAINING WALL
GENERAL PLAN AND ELEVATION

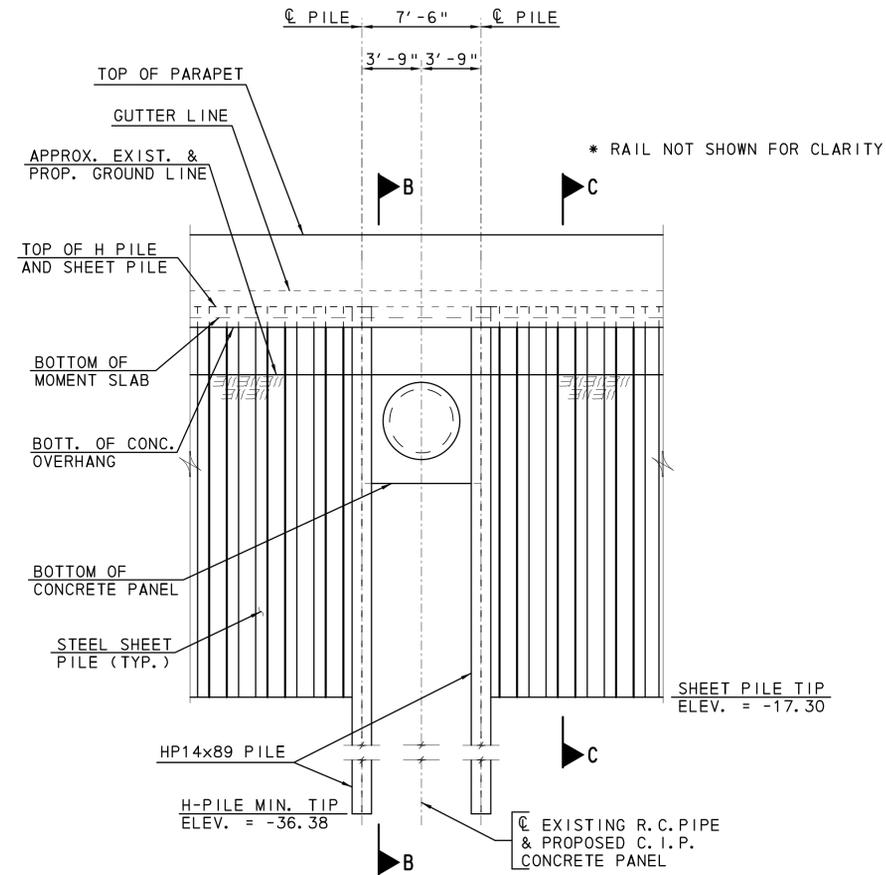
DATE: 6/13/13
BY: DEF

DESIGNED BY: RKK
DRAWN BY: RKK
BUILDING NO.: N/A
DATE: 5/3/13
SCALE: AS NOTED
SHEET NO.: S-1
PARKS PROJECT #: CH-49
CONTRACT #: 2013-CH-400

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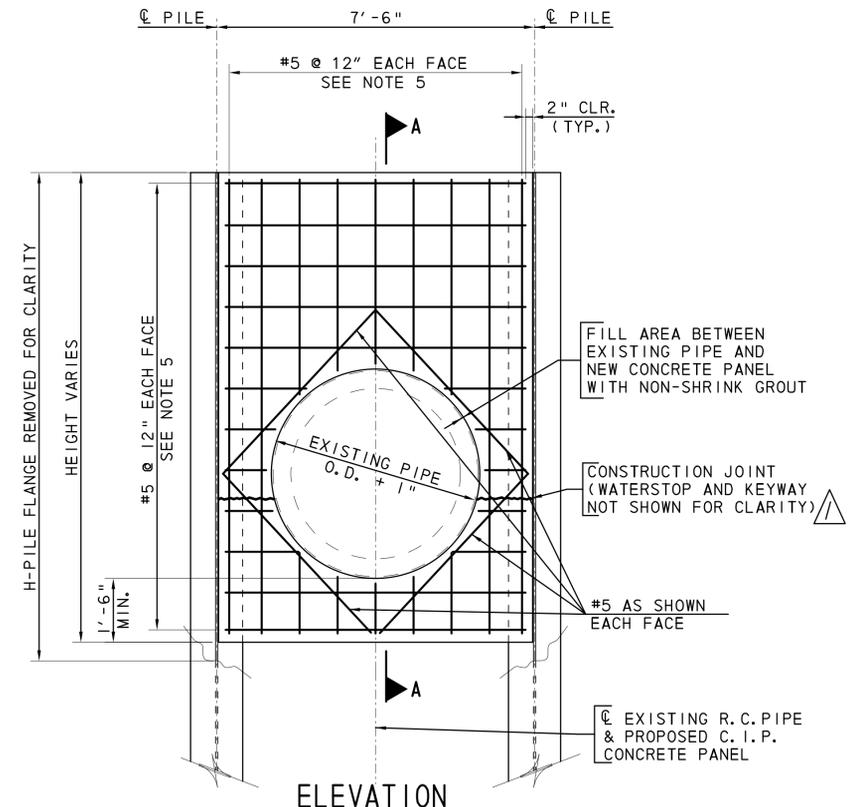


PARTIAL PLAN
SCALE: 3/8" = 1'-0"
MOMENT SLAB NOT SHOWN FOR CLARITY

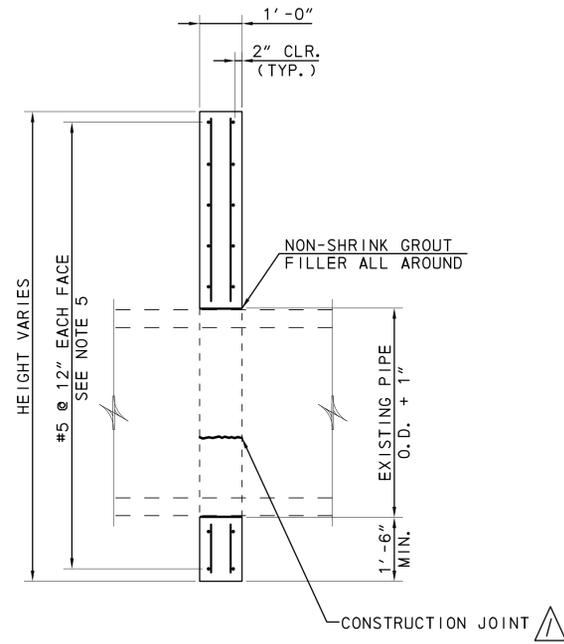


PARTIAL EAST ELEVATION
SCALE: 3/8" = 1'-0"

NOTE:
FOR GENERAL NOTES SEE SHEET S-1.



CAST-IN-PLACE CONCRETE PANEL DETAILS
SCALE: 1/2" = 1'-0"



SECTION A-A
H PILE NOT SHOWN FOR CLARITY

CAST-IN-PLACE CONCRETE PANEL SEQUENCE OF CONSTRUCTION

1. FORM BACK FACE AND PLACE REINFORCING.
2. FORM FRONT FACE TO CONSTRUCTION JOINT.
3. PLACE WATER STOP AT CONSTRUCTION JOINT.
4. PROVIDE 1"x3" KEY WAY AT CONSTRUCTION JOINT.
5. PLACE CONCRETE TO CONSTRUCTION JOINT.
6. CURE CONCRETE FOR 3-DAYS OR 60% F'C BEFORE REMOVING FORM.
7. PLACE REMAINING CONCRETE ABOVE CONSTRUCTION JOINT.

DATE: 6/13/13

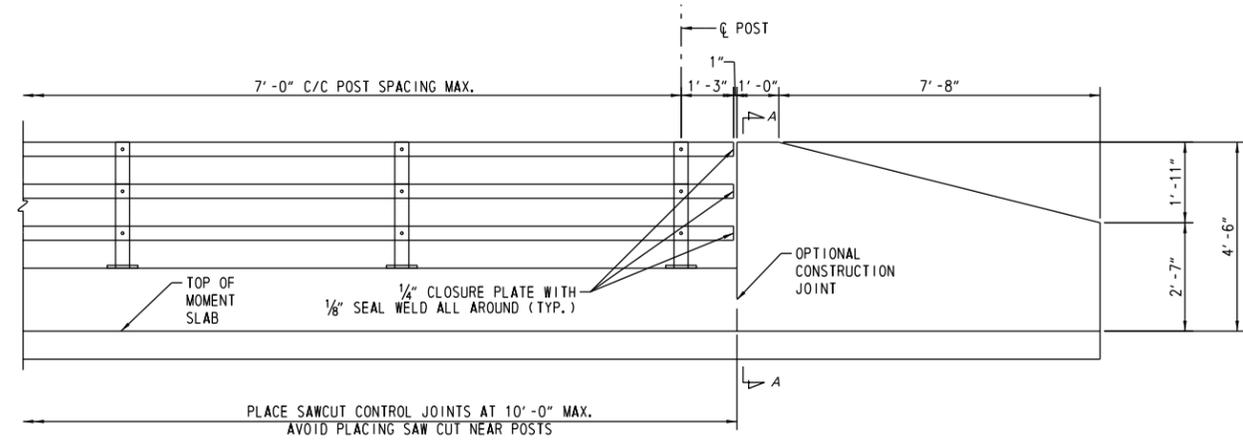
DESCRIPTION:
CAPE HENLOPEN STATE PARK
PARK ROAD
COLLEGE OF EARTH, OCEAN AND ENVIRONMENT
SHEET PILE RETAINING WALL
DETAILS



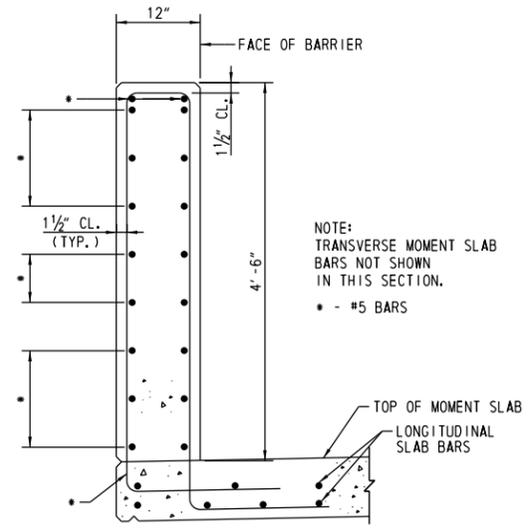
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DRAWN BY:	RKK
BUILDING NO.:	N/A
DATE:	5/3/13
SCALE:	AS NOTED
SHEET NO.:	S-3
PARKS PROJECT #:	CH-49
CONTRACT #:	2013-CH-400



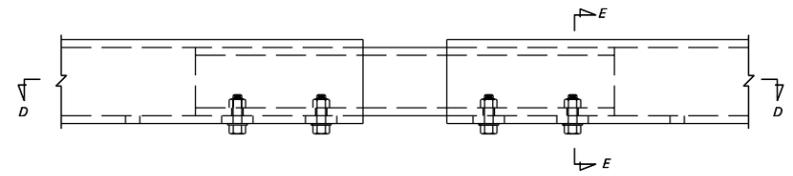
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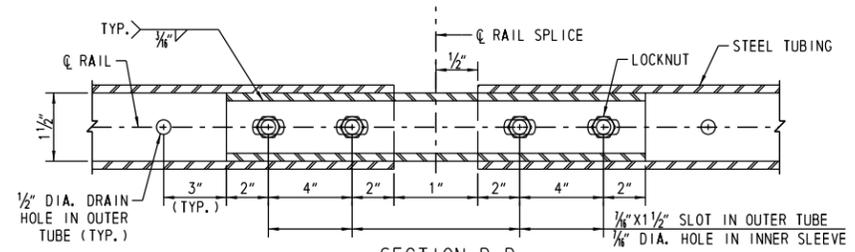
TYPICAL BARRIER ELEVATION
SCALE: NOT TO SCALE



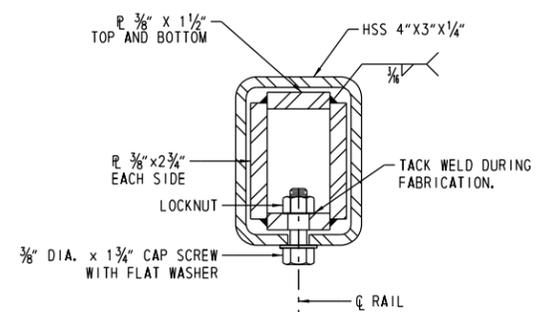
SECTION A-A
SCALE: 1" = 1'-0"



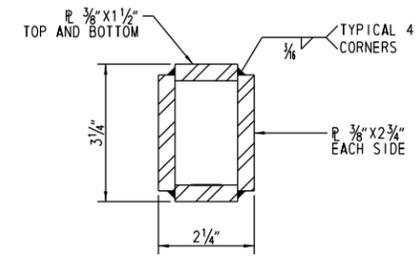
ELEVATION VIEW
SCALE: NOT TO SCALE



SECTION D-D
SCALE: NOT TO SCALE



SECTION E-E
SCALE: 6" = 1'-0"



FINISHED DIMENSIONS OF INNER SLEEVE RAIL
SCALE: 6" = 1'-0"

RAIL SPLICE DETAIL

BARRIER NOTES:

1. PLATES SHALL BE ASTM A36 STEEL.
2. POSTS AND RAIL MEMBERS SHALL BE ASTM A500 GRADE B STEEL. STEEL PIPE SLEEVES SHALL BE ASTM A53. ROUND HEAD BOLTS SHALL BE ASTM449. ALL OTHER BOLTS SHALL BE ASTM A 325. NUTS SHALL BE ASTM A563. GRADE DH OR ASTM A194. GRADE 2H AND WASHERS SHALL BE ASTM F436.
3. ALL STEEL SHALL BE HOT DIP GALVANIZED.
4. POSTS SHALL BE SEATED ON NEOPRENE PADS 1/8" MINIMUM THICKNESS, HAVING A NOMINAL DUROMETER HARDNESS OF 60. PADS SHALL CONFORM TO POST BASE DIMENSIONS.
5. BOLTS FOR ATTACHING RAILS TO POSTS ARE 3/4" DIAMETER ROUND HEAD (WITH SLOTS IN HEAD) WITH HEX NUT AND WASHER. HOLES IN POST AND RAILING TUBING SHALL BE 7/8" DIAMETER. BOLT EXTENSIONS BEYOND THE NUT SHALL BE LIMITED TO THE SMALLER OF ONE AND A HALF FINISHING TURNS OR 1/4 INCH. IF THE EXTENSION IS LONGER, THE EXCESS WILL BE CUT OFF, THE EDGES OF THE BOLT END GROUND SO THAT NO SHARP EDGES REMAIN AND COLD GALVANIZING APPLIES TO DAMAGED GALVANIZED AREAS.
6. CUT BOTTOM OF POSTS TO MATCH CROSS SLOPE BEFORE WELDING SO THAT POSTS WILL BE VERTICAL. STEEL SHIMS MAY BE USED FOR ADJUSTING POST ALIGNMENT, MAXIMUM THICKNESS OF SHIM BUILD-UP NOT TO EXCEED 1/8". WHERE MORE TILTING OF THE POST IS REQUIRED, THE CONCRETE SHALL BE GROUND DOWN.
7. ANCHOR BOLTS MAY BE SET NORMAL TO PROFILE GRADE.
8. 1/2" DIAMETER DRAIN HOLES SHALL BE PROVIDED IN BOTH TOP AND BOTTOM RAILS APPROXIMATELY HALF-WAY BETWEEN POSTS EXCEPT AT OPEN JOINTS NEAR PIER(S). DRAIN HOLES SHALL BE PROVIDED AT EACH LOW END OF RAIL.
9. SAWCUT CONTROL JOINTS, SHALL BE 1/2" DEEP AROUND ALL SIDES OF THE BARRIER.
10. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS BEFORE SPLICING.

CROSS REFERENCE NOTES:

1. FOR RAIL SECTIONS, SEE SHEET S-2.

DATE: DESCRIPTION:

DATE: 6/13/13 DESCRIPTION: NEW SHEET

CAPE HENLOPEN STATE PARK
PARK ROAD
COLLEGE OF EARTH, OCEAN AND ENVIRONMENT
SHEET PILE RETAINING WALL
DETAILS



DESIGNED BY:

RKK

DRAWN BY:

RKK

BUILDING NO.:

N/A

DATE:

5/3/13

SCALE:

AS NOTED

SHEET NO.:

S-4A

PARKS PROJECT #:

CH-49

CONTRACT #:

2013-CH-400



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