

# PORT CAPITAL DRIVE AT HARBOUR DRIVE

## MINI-ROUNDBABOUT

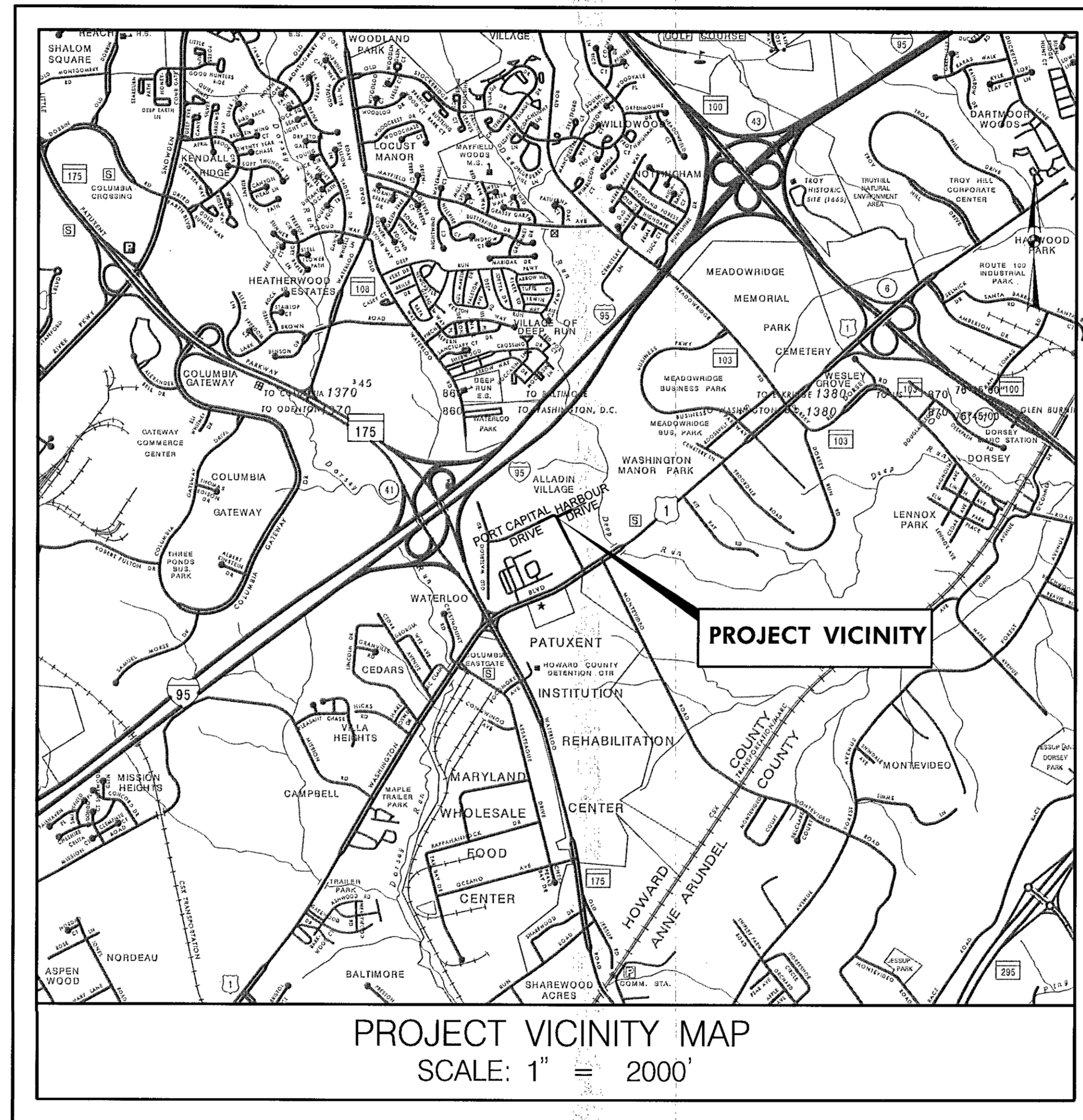
### HOWARD COUNTY, MARYLAND

#### DEPARTMENT OF PUBLIC WORKS

#### CAPITAL PROJECT NO. J-4168

#### INDEX OF SHEETS

TITLE SHEET	1
GENERAL NOTES /ABBREVIATIONS	2
TYPICAL SECTIONS	3
PAVEMENT DETAILS	4
ROADWAY DETAILS	5
ADA DETAILS	6
GEOMETRY SHEET	7
CURB STAKEOUT SHEET	8
ROADWAY PLANS	9 - 11
EROSION AND SEDIMENT CONTROL NOTES	12
STANDARD EROSION AND SEDIMENT CONTROL PLANS	12A-12C
MAINTENANCE OF TRAFFIC NARRATIVE	13
SIGNING AND PAVEMENT MARKING GENERAL NOTES	14
SIGNING AND PAVEMENT MARKING QUANTITIES	15
SIGNING AND PAVEMENT MARKING PLAN	16
LIGHTING PLAN	17



#### GENERAL NOTES

- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FROM SELECTED AVAILABLE RECORDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SOLICIT ALL UTILITY RECORDS AND VERIFY ALL EXISTING UTILITIES, INCLUDING THE USE OF TEST PITS. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- COORDINATES SHOWN HEREON ARE BASED ON MARYLAND STATE PLANE NAD 8307 AND NAVD 88 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS 43BA & 43BC.
- ALL TOPOGRAPHIC AND PROPERTY SURVEY PROVIDED BY RK&K (JUNE 2015).
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION) AND THE MDSHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (2008) AND THE MDSHA BOOK OF STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES. THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB. HOWARD COUNTY DESIGN MANUAL SHALL GOVERN WHERE APPLICABLE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
  - STATE HIGHWAY ADMINISTRATION (410) 531-5533
  - BALTIMORE GAS & ELECTRIC CO. - CONTRACTOR SERVICES (410) 850-4620
  - BALTIMORE GAS & ELECTRIC CO. - UNDERGROUND DAMAGE CONTROL SERVICES (410) 859-9004
  - BALTIMORE GAS & ELECTRIC CO. - TROUBLE SHOOTING (410) 298-9040
  - MISS UTILITY - (1800) 257-7777 (TO HAVE ALL UTILITIES LOCATED IN THE FIELD)
  - VERIZON - (410) 224-9452
  - BUREAU OF UTILITIES, HOWARD CO. DEPT. OF PUBIC WORKS (410) 313-4900
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT PRACTICAL.
- CONTRACTOR SHALL REMOVE TREES, STUMPS, AND ROOTS ALONG LINE OF EXCAVATION PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICES BID FOR CLEARING AND GRUBBING.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410)313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- ALL EXISTING MANHOLES, VALVE BOXES, METERS, VAULTS, ETC. SHALL BE ADJUSTED BY THE CONTRACTOR TO MEET THE FINISHED GRADE ELEVATION, UNLESS THESE APPURTENANCES ARE ABANDONED OR REMOVED UNDER THIS CONTRACT.
- THIS PROJECT WAS DESIGNED IN ACCORDANCE WITH THE 2011 EDITION OF AASHTO'S "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS" AND THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 672, "ROUNDBABOUTS: AN INFORMATIONAL GUIDE (SECOND EDITION)."

#### BGE STATEMENT

THIS DOCUMENT INCLUDES INFORMATION AND DEPICTION OF BALTIMORE GAS AND ELECTRIC COMPANY'S ("BGE") ELECTRIC AND/OR GAS UTILITIES LOCATED WITHIN THE PROJECT AREA (THE "BGE UTILITY INFORMATION"). LOCATIONS, DIMENSIONS, DEPTHS, AND OTHER DETAILS OF ANY SUCH UTILITIES MAY NOT BE AS-BUILT, AND THE INFORMATION SHALL NOT BE RELIED UPON WITHOUT FIELD VERIFICATION. EXCAVATORS MUST EMPLOY SAFE DIGGING BEST PRACTICES WHEN APPROACHING BGE ELECTRIC AND GAS UTILITIES AND COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, INCLUDING BUT NOT LIMITED TO THE "MISS UTILITY LAW." NO REPRESENTATIONS, GUARANTEES, OR WARRANTIES, EXPRESS OR IMPLIED, ARE MADE BY BGE AS TO THE QUALITY, COMPLETENESS, OR ACCURACY OF THE BGE UTILITY INFORMATION, AND IN ACCEPTING THIS DOCUMENT, THE RECIPIENT EXPRESSLY ACKNOWLEDGES AND AGREES THAT IT IS NOT RELYING ON THE ACCURACY OF THE SAME.

#### DEVELOPER'S CERTIFICATION

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT"

*Jay Stenard* DATE 7/28/16  
SIGNATURE OF DEVELOPER

#### ENGINEER'S CERTIFICATION

"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

EP-17-001

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Michael J. ...* DATE 7/27/16

RK&K  
81 MOSHER STREET  
BALTIMORE, MARYLAND 21217  
(410) 728-2900

HOWARD SOIL CONSERVATION DISTRICT DATE

THE CONTRACTOR SHALL NOTIFY MISS UTILITY  
1-800-257-7777, FIVE (5) WORKING DAYS BEFORE  
STARTING WORK SHOWN ON THESE DRAWINGS.

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18530, EXPIRATION DATE: DEC. 15, 2017.



**Rummel, Klepper & Kahl, LLP**  
81 MOSHER STREET | BALTIMORE, MD 21217  
PH: (410) 728-2900 FAX: (410) 728-3160  
Engineers | Construction Managers | Planners | Scientists  
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DES: SAK					
DRN: SAK					
CHK: RJG					
DATE: JULY 2016					
BY	NO.	REVISION	DATE		

TITLE SHEET

PORT CAPITAL DRIVE AT HARBOUR DRIVE  
MINI-ROUNDBABOUT  
CAPITAL PROJECT NO. J-4168  
HOWARD COUNTY, MARYLAND

SCALE  
1" = 2000'

SHEET NO.  
1 of 17

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Jay Stenard* DATE 7/28/16  
DIRECTOR OF PUBLIC WORKS

*Michael J. ...* DATE 7/27/16  
CHIEF, BUREAU OF ENGINEERING

*Jay Stenard* DATE 7/27/16  
CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIVISION

**STANDARD SYMBOLS**

	EXISTING SANITARY SEWER MANHOLE		GRINDING & OVERLAY
	EXISTING STORM DRAIN MANHOLE		4" CONCRETE SIDEWALK
	EXISTING ELECTRIC MANHOLE		WATERS OF THE U.S.
	EXISTING TELEPHONE MANHOLE		WETLANDS
	EXISTING WATER MANHOLE		WETLAND BUFFER
	EXISTING FIRE HYDRANT		LIMIT OF CUT
	EXISTING WATER METER		LIMIT OF FILL
	EXISTING WATER VALVE		PROPOSED STORM DRAIN
	EXISTING GAS VALVE		PROPOSED STORM DRAIN INLET
	EXISTING CLEAN OUT		
	EXISTING FENCE		
	EXISTING LIGHT POLE		
	EXISTING WATER		
	EXISTING SANITARY SEWER		
	EXISTING TELEPHONE LINE		
	EXISTING UNDERGROUND ELECTRIC		
	EXISTING OVERHEAD TRANSMISSION LINE		
	EXISTING UNDERGROUND GAS		
	EXISTING UNDERGROUND FIBER		
	EXISTING CULVERT		
	EXISTING MAILBOX		
	EXISTING UTILITY POLE		
	EXISTING TRAFFIC SIGN		
	TREE/BUSH LINE		
	EXISTING TREE		
	EXISTING EVERGREEN TREE		
	EXISTING PROPERTY/RIGHT-OF-WAY LINE		
	TRAVERSE CONTROL POINT		

**ABBREVIATIONS**

&	AND	SAN.	SANITARY
BL	BASELINE	SS	SANITARY SEWER
CL	CENTERLINE	SBR	SOUTHBOUND ROADWAY
C.O.	CLEANOUT	SSD	STOPPING SIGHT DISTANCE
CONC.	CONCRETE	STA	STATION
E.A.	EACH	STD.	STANDARD
E	EASTING	SD	STORM DRAIN
ELEC.	ELECTRICAL	SWM	STORM WATER MANAGEMENT
EL OR ELEV.	ELEVATION	TRAV.	TRAVERSE
EX.	EXISTING	TYP.	TYPICAL
FT.	FEET / FOOT	UG	UNDERGROUND
GRD.	GROUND	W/	WITH
HBX	HANDBOX	W.V.	WATER VALVE
INV.	INVERT	YR	YEAR
JB	JUNCTION BOX		
LT.	LEFT		
LF.	LINEAR FEET		
MAC.	MACADAM		
MH.	MANHOLE		
MAX.	MAXIMUM		
MIN.	MINIMUM		
MON.	MONUMENT		
MPH	MILES PER HOUR		
NBR	NORTHBOUND ROADWAY		
N	NORTHING		
NO. OR #	NUMBER		
OH	OVERHEAD		
PAV'T.	PAVEMENT		
PT.	POINT		
P.C.C.	POINT OF COMPOUND CURVE		
P.T.	POINT OF TANGENCY		
P.C.	POINT OF CURVATURE		
P.O.T.	POINT ON TANGENT		
P.V.C.	POINT OF VERTICAL CURVATURE		
P.V.I.	POINT OF VERTICAL INTERSECTION		
PVRC	POINT OF VERTICAL REVERSE CURVE		
P.V.T.	POINT OF VERTICAL TANGENCY		
PGE	PROFILE GRADE ELEVATION		
PGL	PROFILE GRADE LINE		
R	RADIUS		
RT.	RIGHT		
R/W OR ROW	RIGHT OF WAY		

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James*  
DIRECTOR OF PUBLIC WORKS  
DATE: 8/24/16

*Thomas E. Sullivan*  
CHIEF, BUREAU OF ENGINEERING  
DATE: 7/27/16

*Jay Stuey*  
CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIVISION  
DATE: 7/27/16

**RK&K**  
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DRN: SAK				
CHK: RJG				
DATE: JULY 2016				
BY	NO.	REVISION	DATE	

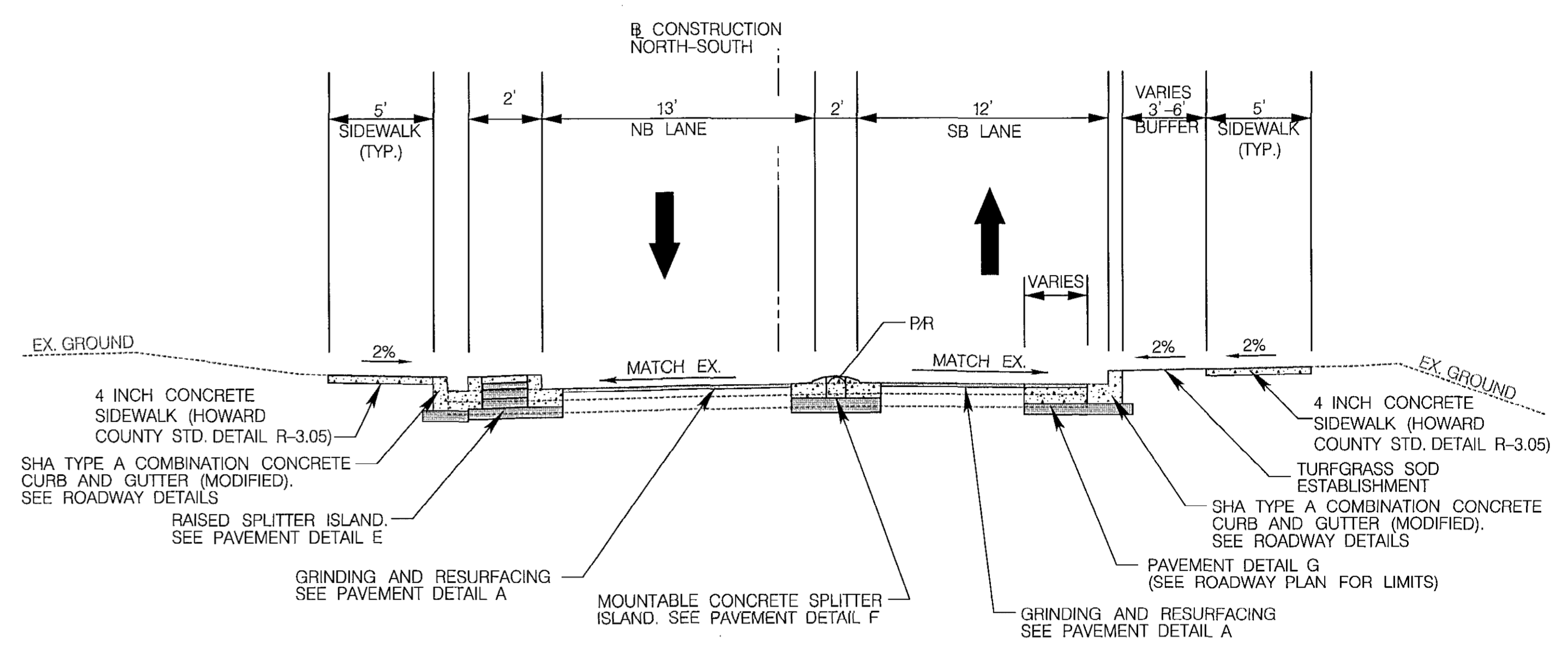
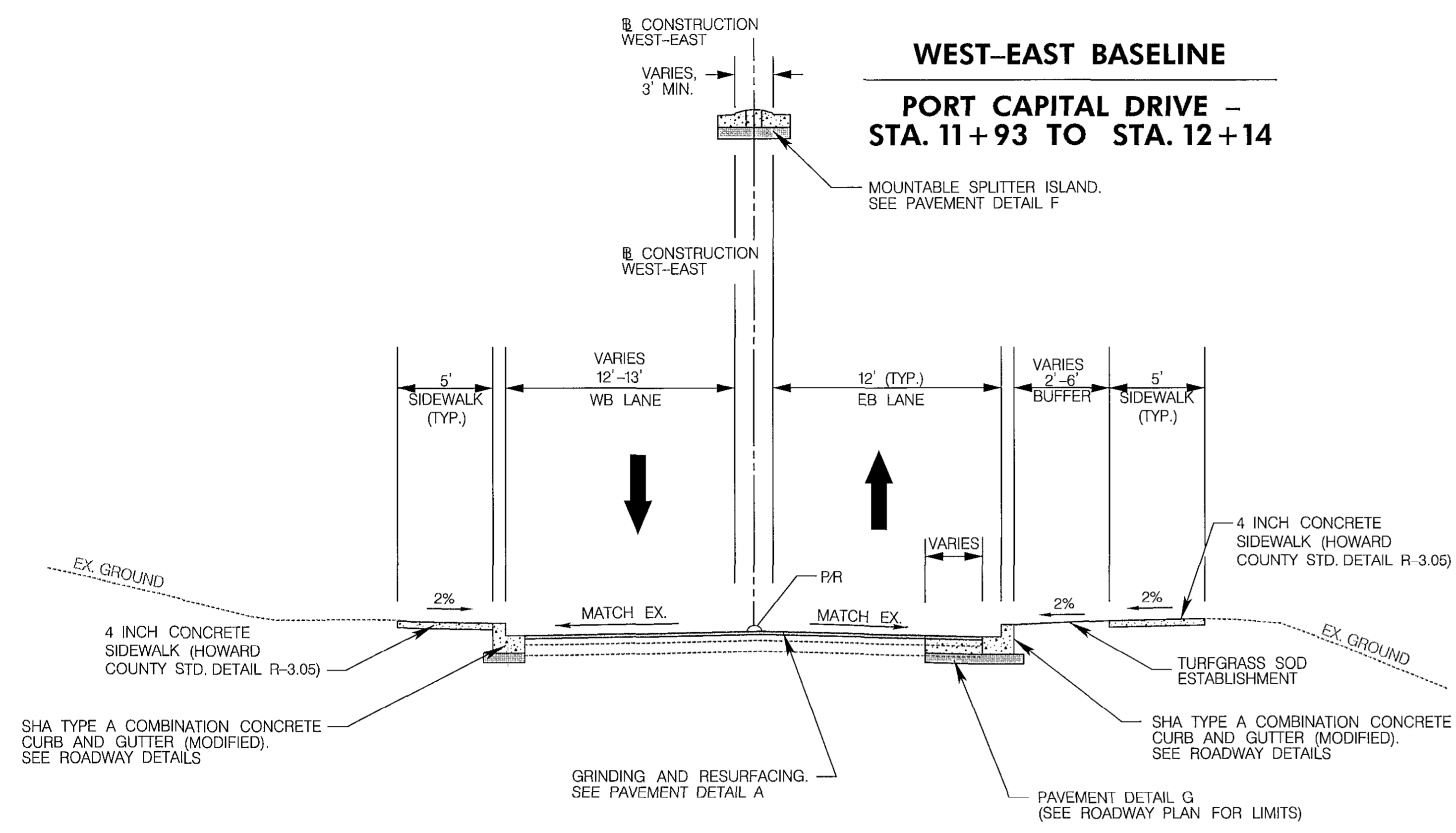
ABBREVIATIONS &  
STANDARD SYMBOLS

PORT CAPITAL DRIVE AT HARBOUR DRIVE  
CAPITAL PROJECT NO. J-4168  
HOWARD COUNTY, MARYLAND

SCALE  
N/A

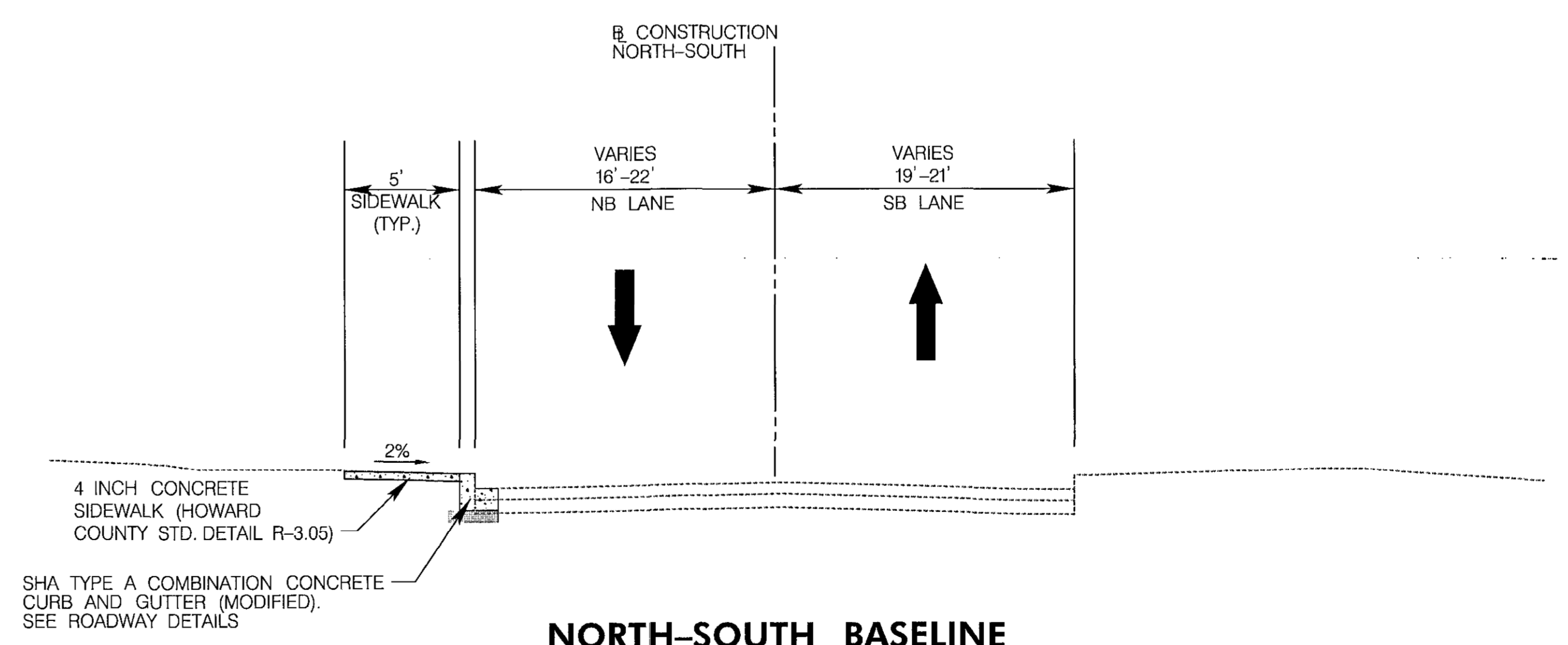
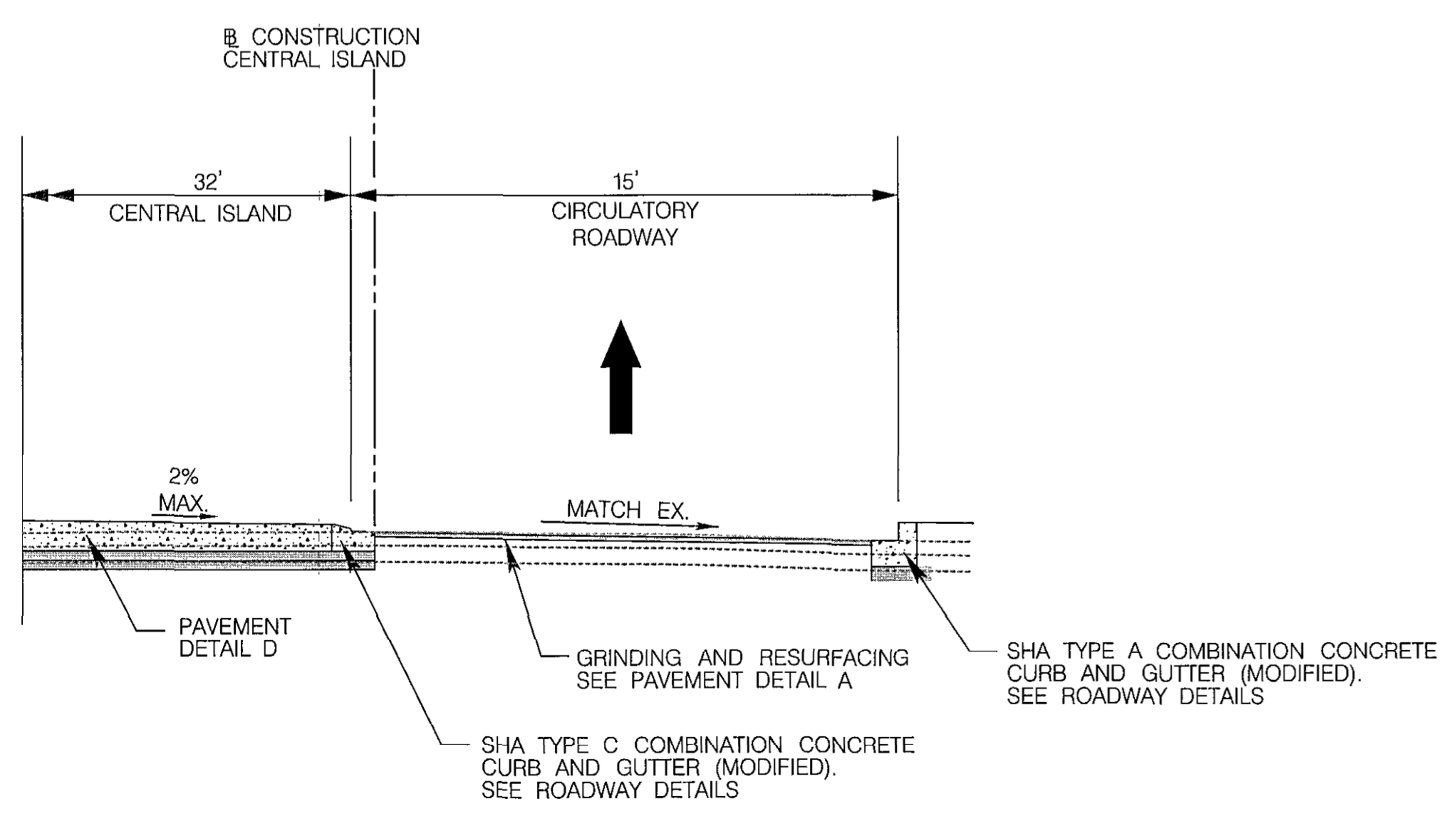
SHEET NO.  
2 OF 17

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**WEST-EAST BASELINE**  
**PORT CAPITAL DRIVE - STA. 11+05 TO STA. 11+93**  
**HARBOUR DRIVE - STA. 12+82 TO STA. 13+72**

**NORTH-SOUTH BASELINE**  
**PORT CAPITAL DRIVE - STA. 21+98 TO STA. 23+22**



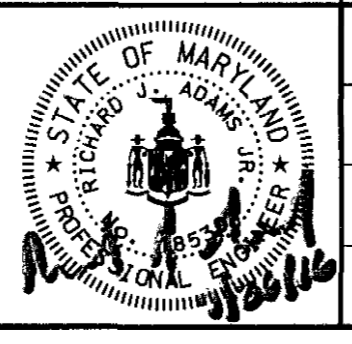
**CENTRAL ISLAND**  
**STA. 40+00 TO STA. 40+81.68**

**NORTH-SOUTH BASELINE**  
**PORT CAPITAL DRIVE - STA. 23+22 TO STA. 28+73**

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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: *[Signature]* DATE: 8/24/16  
 Chief, Bureau of Engineering: *[Signature]* DATE: 7/28/16  
 Chief, Transportation & Special Projects Division: *[Signature]* DATE: 7/27/16

**RKK**  
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DATE: JULY 2016	BY	NO.	REVISION	DATE

TYPICAL SECTIONS

PORT CAPITAL DRIVE AT HARBOUR DRIVE  
 CAPITAL PROJECT NO. J-4168  
 HOWARD COUNTY, MARYLAND

SCALE  
 1"=5'  
 SHEET NO.  
 3 OF 17

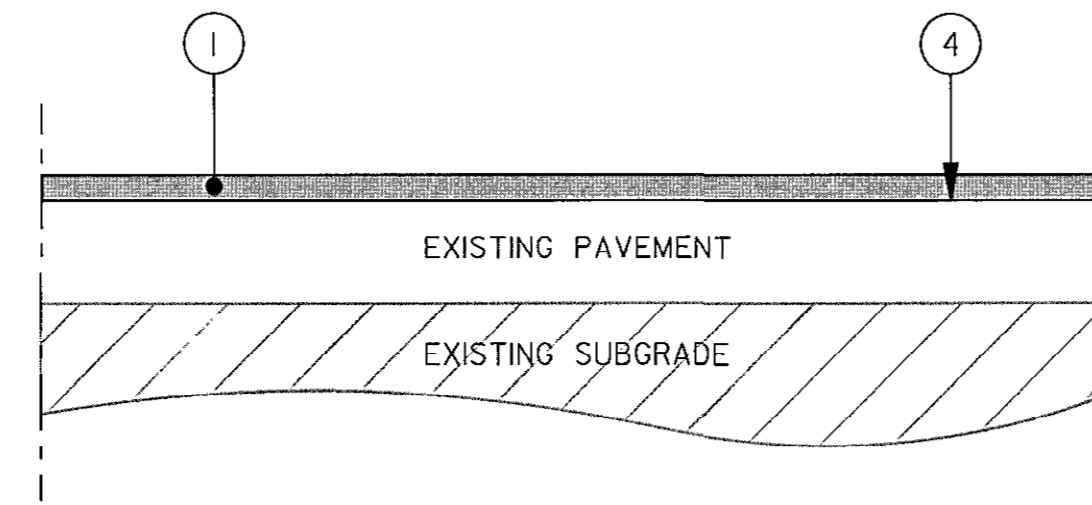
**PAVEMENT LEGEND**

- ① 2" HOT MIX ASPHALT SUPERPAVE 12.5 MM FOR SURFACE, PG 64-22, LEVEL 2
- ② 8" PORTLAND CEMENT CONCRETE MIX #9 FOR FULL-DEPTH PAVEMENT
- ③ VARIABLE DEPTH HOT MIX ASPHALT SUPERPAVE 19.0MM FOR FULL-DEPTH PATCH, PG 64-22, LEVEL 2 (2" MINIMUM LIFT, 3" MAXIMUM LIFT)
- ④ TOP OF EXISTING PAVEMENT SURFACE AFTER 2" GRINDING
- ⑤ TOP OF EXISTING PAVEMENT SURFACE PRIOR TO GRINDING
- ⑥ 8" PORTLAND CEMENT CONCRETE MIX #3 (INCIDENTAL TO CURB AND GUTTER PLACEMENT ITEM). (SEE NOTE 5).
- ⑦ 4" PORTLAND CEMENT CONCRETE MIX #3 - STAMPED RED COLOR (NOTE 10).
- ⑧ 11" JOINTED PLAIN PORTLAND CEMENT CONCRETE PAVEMENT MIX #7 - STAMPED RED COLOR (SEE NOTES 7, 8, 9 & 10)
- ⑨ 4" GRADED AGGREGATE BASE COURSE
- ⑩ 6" GRADED AGGREGATE BASE COURSE
- ⑪ SHA TYPE A COMBINATION CONCRETE CURB AND GUTTER (MODIFIED). SEE ROADWAY DETAILS.
- ⑫ SHA TYPE C COMBINATION CONCRETE CURB AND GUTTER (MODIFIED). SEE ROADWAY DETAILS.
- ⑬ MOUNTABLE CONCRETE SPLITTER ISLAND. PORTLAND CEMENT CONCRETE MIX #9 - STAMPED RED COLOR (SEE NOTE 10).
- ⑭ TOP OF SUBGRADE AND LIMIT OF CLASS 1 EXCAVATION
- ⑮ LONGITUDINAL TIE DEVICES (SEE NOTE 8)

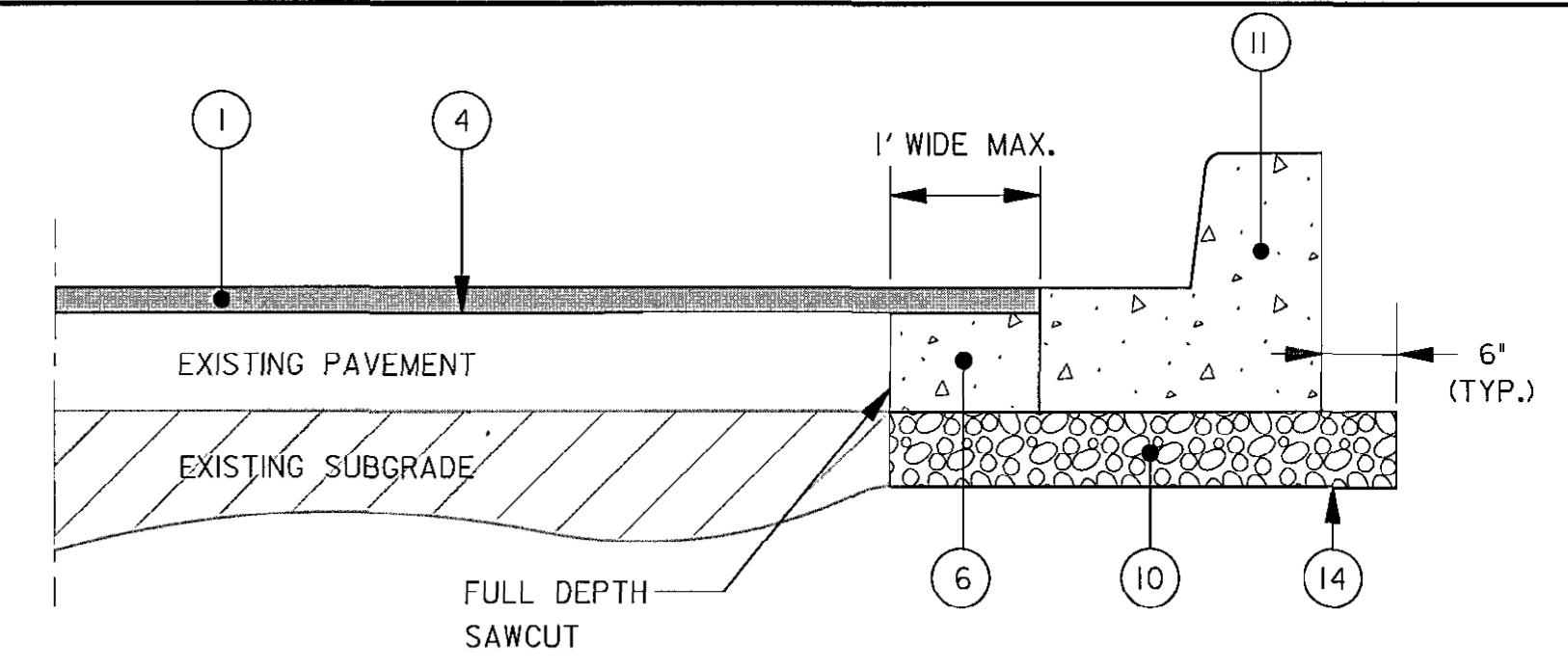
**PAVEMENT NOTES**

NOTES:

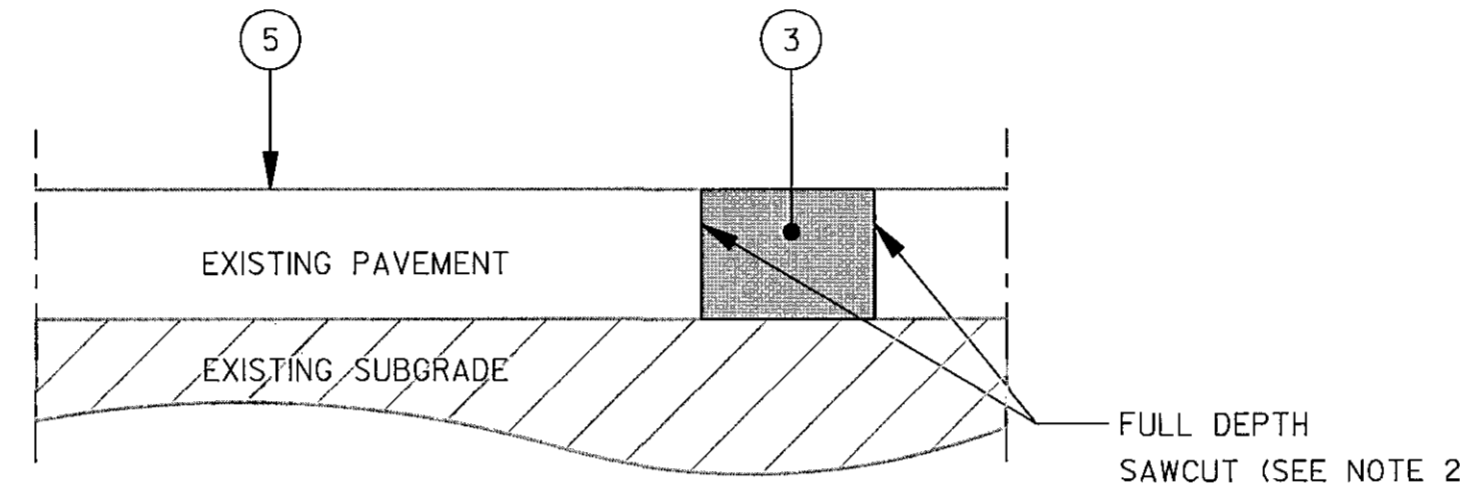
1. BASED ON THE PAVEMENT CORE RESULTS, THE EXISTING PAVEMENT STRUCTURE ON PORT CAPITAL DRIVE CONSISTS OF THE FOLLOWING:  
  
INTERSECTION OF PORT CAPITAL DRIVE AT HARBOUR DRIVE: 5.875" ASPHALT CONCRETE OVER 7" GRADED AGGREGATE BASE.  
  
PORT CAPITAL DRIVE, APPROXIMATELY 175' SOUTH OF THE INTERSECTION WITH HARBOUR DRIVE: 6.5" ASPHALT CONCRETE OVER 7" GRADED AGGREGATE BASE.
2. DURING FULL DEPTH PATCHING, IF THE EXISTING AGGREGATE BASE LAYER IS FOUND TO BE DETERIORATED, AN ADDITIONAL 18" OF AGGREGATE BASE LAYER AND SUBGRADE MATERIAL SHOULD BE REMOVED AND REPLACED WITH COMPACTED AGGREGATE BASE MATERIAL. A 6" MAXIMUM LIFT MAY BE USED FOR THE AGGREGATE BASE COURSE.
3. GRINDING SHALL BE PERFORMED AFTER FULL DEPTH PATCHING IS COMPLETED.
4. IN AREAS WHERE THE EXISTING PAVEMENT IS BEING REMOVED, THE LIMIT OF CLASS 1 EXCAVATION SHALL BE AT THE BOTTOM OF THE BOUND MATERIALS IN THE EXISTING PAVEMENT OR AT THE TOP OF SUBGRADE, WHICHEVER IS LOWER.
5. THIS WORK IS TO BE DONE AT THE CONTRACTOR'S OPTION. AN ADDITIONAL 1' WIDTH (MAXIMUM) EXCAVATION MAY BE USED FOR CURB AND GUTTER FORM PLACEMENT. THE ADDITIONAL EXCAVATION WIDTH IS TO BE FILLED WITH A MINIMUM OF 6" GAB AND PORTLAND CEMENT CONCRETE MIX NO. 3 FROM THE BOTTOM OF THE STANDARD CURB AND GUTTER TO 2" BELOW THE FINAL HMA SURFACE ELEVATION. TRANSVERSE JOINTS SHALL MATCH THOSE OF THE CURB AND GUTTER. DOWEL BARS ARE NOT NECESSARY.  
  
ALTERNATIVELY, THE CONTRACTOR MAY CHOOSE TO SAW-CUT THE EXISTING PAVEMENT AND PLACE THE NEW CURB AND GUTTER DIRECTLY AGAINST THE SAWED EDGE.
6. ALL FULL-DEPTH SAW CUTS FOR PATCHING, PAVEMENT REMOVAL AND CURB AND GUTTER PLACEMENT ARE INCIDENTAL TO THE RESPECTIVE PAY ITEM.
7. LOAD TRANSFER DEVICES: #10 SMOOTHPLAIN EPOXY COATED DOWEL BAR, 18" LONG, SPACED 12" CENTER TO CENTER. SEE SHA STANDARD NO. MD 572.21 FOR DETAILS.
8. LONGITUDINAL TIE DEVICES (AT LONGITUDINAL JOINTS AND SLAB/CURB INTERFACES): #4 EPOXY COATED J BARS, 14" LONG, SPACED 36" CENTER TO CENTER. SEE STANDARD NO. MD 572.61 FOR DETAILS.
9. JOINTS AND SPACING:  
1. MAXIMUM TRANSVERSE JOINT SPACING 15'. NO MID-SLAB REINFORCEMENT.  
2. ALL TRANSVERSE JOINTS SHALL BE SAWED CONTRACTION JOINTS.  
3. TRUCK APRON ONLY: TWO EXPANSION JOINTS ON THE DIAMETRICALLY OPPOSITE SIDES OF THE APRON.  
4. SEE SHA STANDARD NO. MD 572.92 AND ROADWAY DETAILS FOR LAYOUT.
10. SEE SPECIAL PROVISION INCLUDED WITH THIS CONTRACT FOR MORE INFORMATION ABOUT PATTERN AND COLOR OF CONCRETE.



**PAVEMENT DETAIL 'A'**  
GRINDING AND RESURFACING  
N.T.S.

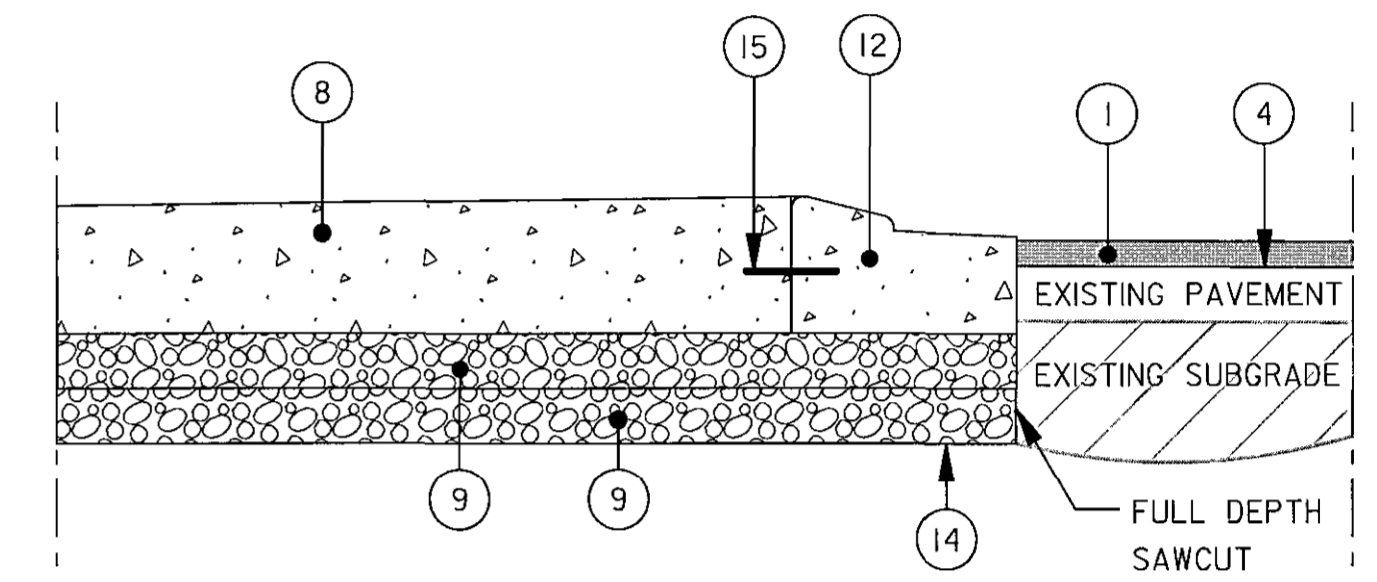


**PAVEMENT DETAIL 'B'**  
NEW CURB AND GUTTER PLACEMENT  
N.T.S.

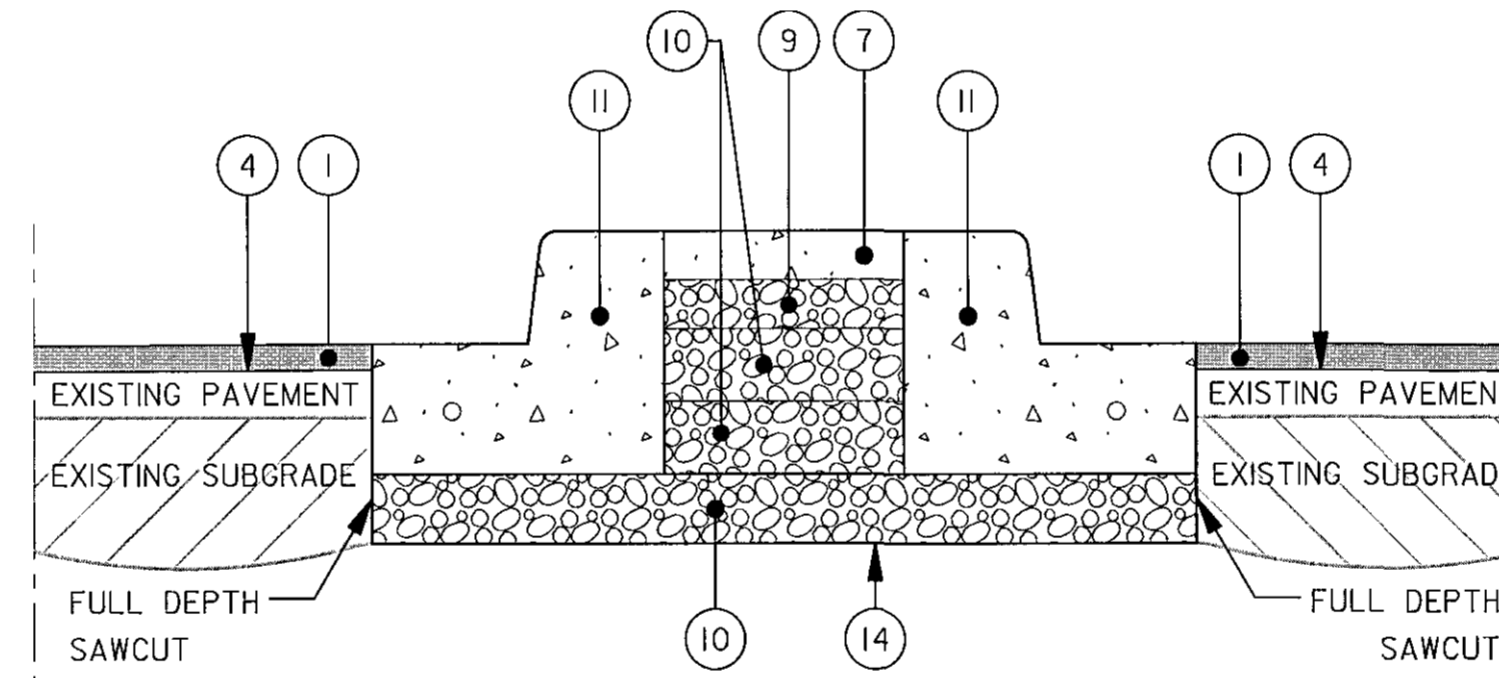


NOTE: SQUARE-OFF FOUR SIDES OF THE PATCH WITH VERTICAL FACE.

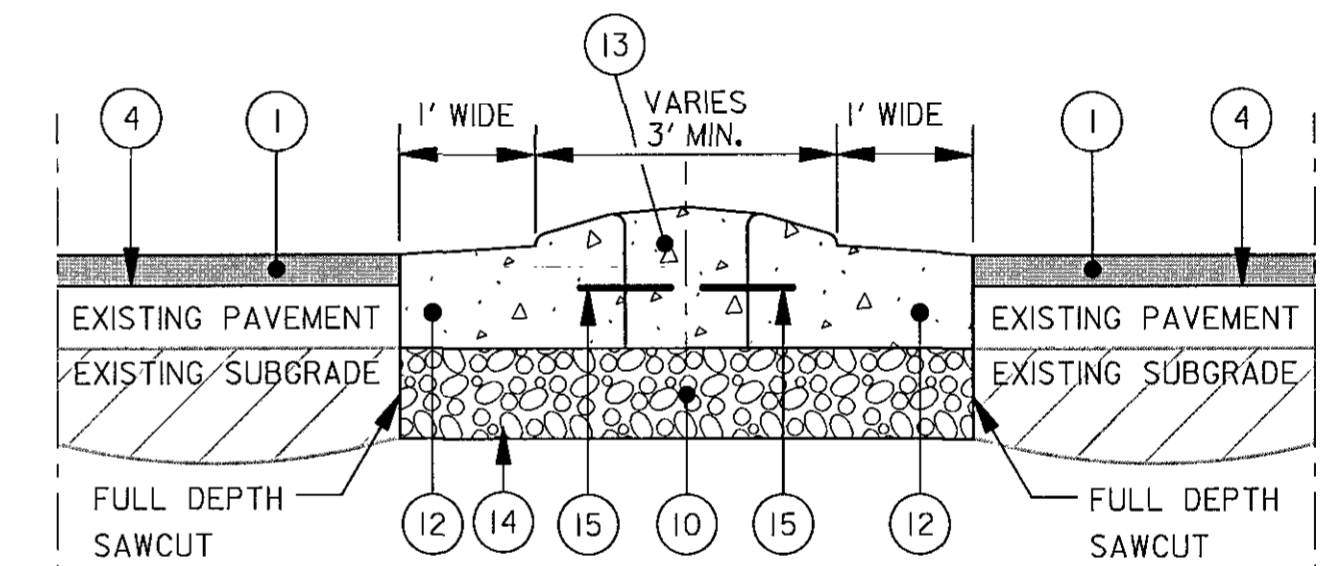
**PAVEMENT DETAIL 'C'**  
FULL DEPTH PATCHING  
N.T.S.



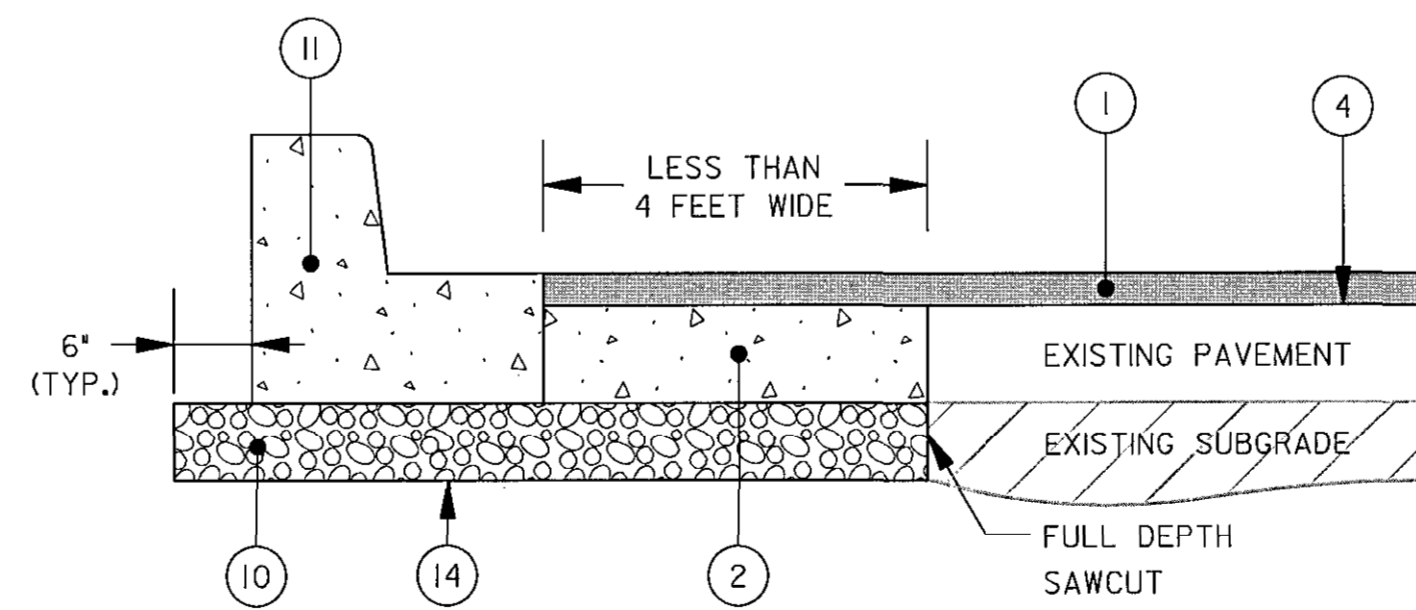
**PAVEMENT DETAIL 'D'**  
MINI-ROUNDAABOUT CENTRAL ISLAND  
N.T.S.



**PAVEMENT DETAIL 'E'**  
RAISED ISLAND  
N.T.S.



**PAVEMENT DETAIL 'F'**  
MOUNTABLE SPLITTER ISLAND  
N.T.S.



**PAVEMENT DETAIL 'G'**  
NARROW BASE WIDENING  
N.T.S.

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DATE: JULY 2016	BY	NO.	REVISION
			DATE

**PAVEMENT DETAILS**

**PORT CAPITAL DRIVE AT HARBOUR DRIVE**  
CAPITAL PROJECT NO. J-4168  
HOWARD COUNTY, MARYLAND

SCALE  
N.T.S.  
SHEET NO.  
4 OF 17

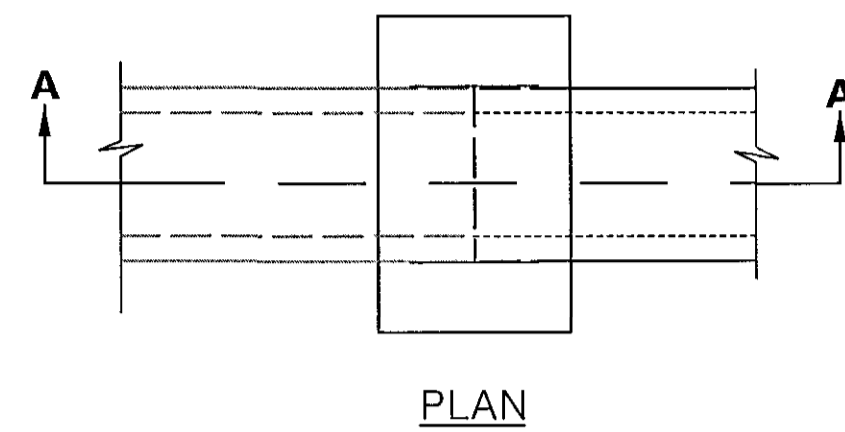
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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

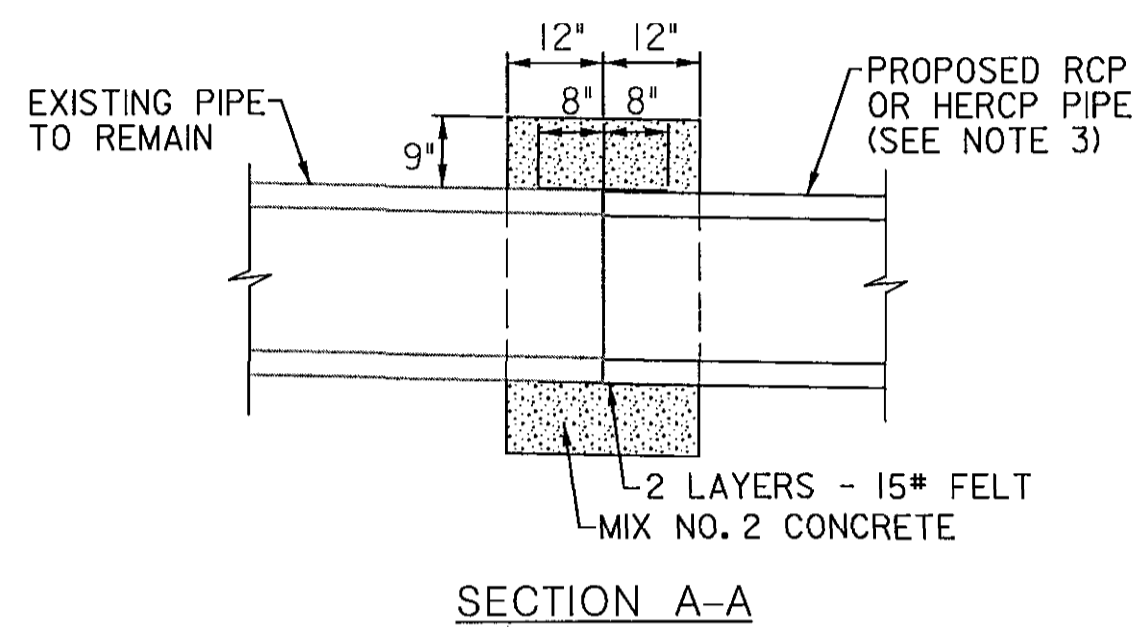
DIRECTOR OF PUBLIC WORKS  
 DATE: 8/24/16

CHIEF, BUREAU OF ENGINEERING  
 DATE: 7/27/16

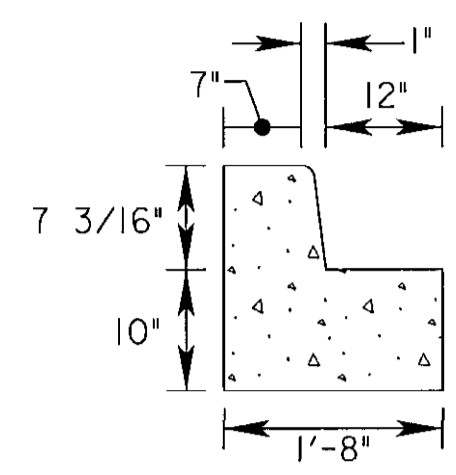
CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIVISION  
 DATE: 7/27/16



PLAN



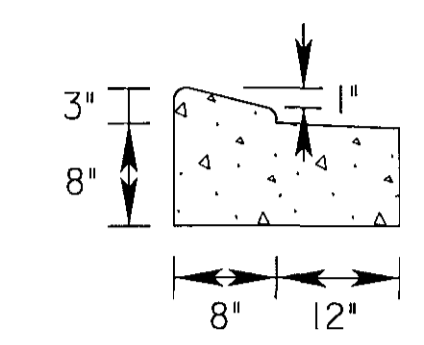
SECTION A-A



NOTE: CONTRACTOR TO PROVIDE 10 INCH GUTTER PAN DEPTH ON TOP OF 6 INCHES OF GRADED AGGREGATE BASE

SHA TYPE A COMBINATION CONCRETE CURB & GUTTER (MODIFIED)

N.T.S.



NOTE: GUTTER PAN IS TO SLOPE 1/2" PER FOOT AWAY FROM THE FLOW LINE

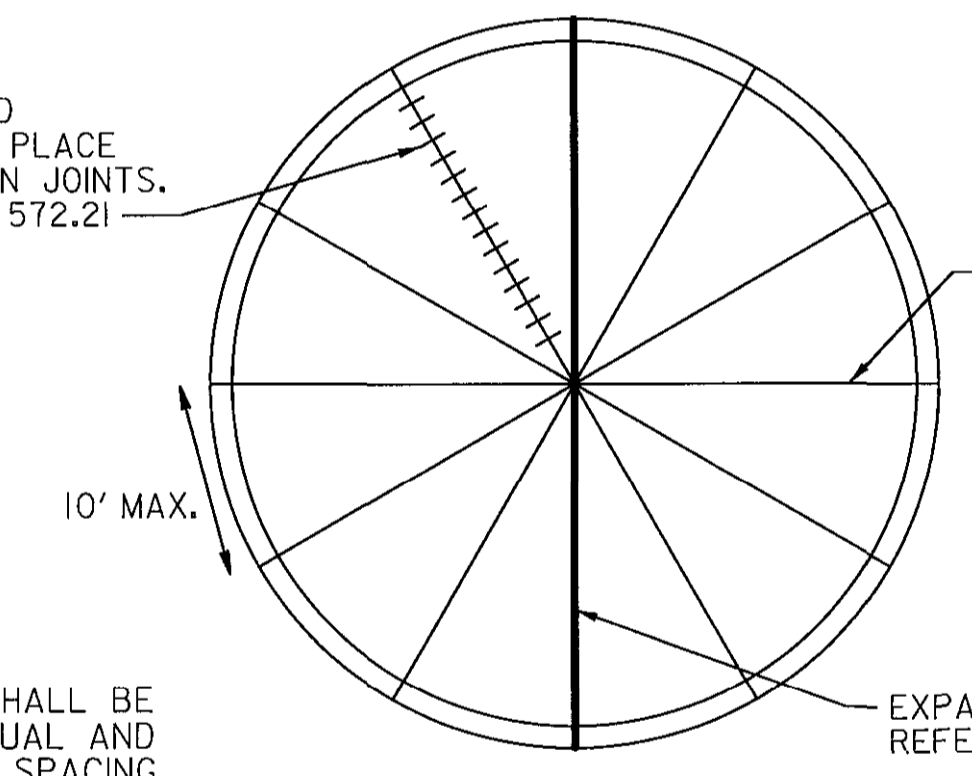
SHA TYPE C COMBINATION CONCRETE CURB & GUTTER (MODIFIED)

N.T.S.

PIPE CONNECTION NOTES:

1. PIPE COLLAR SHALL BE CONSTRUCTED OF PLAIN CONCRETE (MIX NO. 2) SIZE, TYPE & DIRECTION OF CONNECTION WILL VARY TO SUIT CONDITIONS.
2. PIPE CONNECTION SHALL BE WRAPPED WITH DOUBLE LAYER OF 15# FELT PRIOR TO PLACEMENT OF CONCRETE COLLAR. THE COST SHALL BE INCIDENTAL TO THE UNIT PRICE OF MIX 2 CONCRETE FOR MISCELLANEOUS STRUCTURES.
3. NEW PIPE STUB SHALL MATCH THE SIZE, DIRECTION AND SLOPE OF THE EXISTING PIPE AT THE PIPE CONNECTION.
4. PIPE COLLAR WILL BE MEASURED AND PAID FOR AS MIX 2 CONCRETE FOR MISCELLANEOUS STRUCTURES.

PLAIN/SMOOTH LOAD TRANSFER DEVICES, PLACE IN ALL CONTRACTION JOINTS. REFER TO STD. MD 572.21



NOTE:

EVERY ATTEMPT SHALL BE MADE TO HAVE EQUAL AND CONSISTENT JOINT SPACING AROUND THE TRUCK APRON.

MINI-ROUNDABOUT JOINT LAYOUT DETAIL

N.T.S.

Monday, July 25, 2016 AT 11:06 AM \\balsrv03\v2010\2010\10023.HCCivil\Task -08 - Port Capital MiniR Final\Cadd\plans\pDE\_0002\_PortCapital.cgn

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18530, EXPIRATION DATE: DEC. 15, 2017.

**RK&K**  
**Rummel, Klepper & Kahl, LLP**  
 81 MOSHER STREET | BALTIMORE, MD 21217  
 PH: (410) 728-2900 FAX: (410) 728-3160  
 Engineers | Construction Managers | Planners | Scientists  
 www.rkk.com



DES: SAK			
DRN: SAK			
CHK: RJG			
DATE: JULY 2016			
BY	NO.	REVISION	DATE

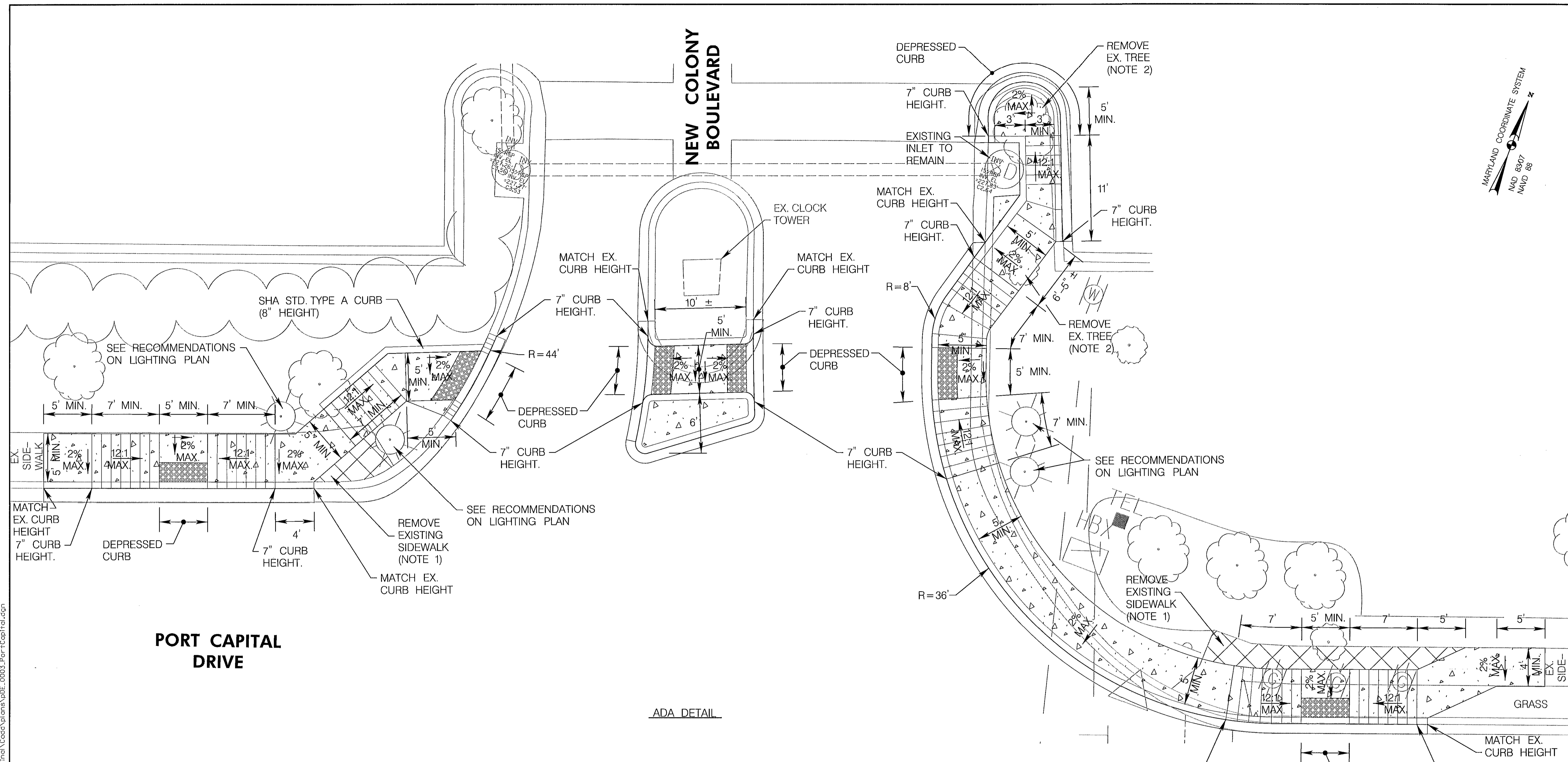
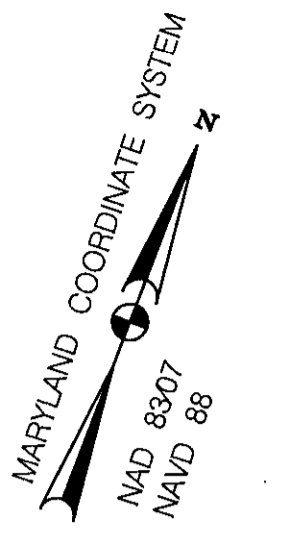
**ROADWAY DETAILS**

**PORT CAPITAL DRIVE AT HARBOUR DRIVE**  
 CAPITAL PROJECT NO. J-4168  
 HOWARD COUNTY, MARYLAND

SCALE  
N.T.S.  
SHEET NO.  
5 OF 17

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

<i>Jay Stantz</i> DIRECTOR OF PUBLIC WORKS DATE: 8/15/16	<i>Thomas G. Butler, Jr.</i> CHIEF, BUREAU OF ENGINEERING DATE: 7/29/16
<i>Jay Stantz</i> CHIEF, BUREAU OF HIGHWAYS DATE: 8/24/16	<i>Jay Stantz</i> CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIVISION DATE: 7/29/16



**PORT CAPITAL DRIVE**

**HARBOUR DRIVE**

ADA DETAIL

**NOTES:**

1. COMPLETELY REMOVE SIDEWALK AND BACKFILL WITH FURNISHED SUBSOIL, FOLLOWED BY 4" TOPSOIL AND TURFGRASS SOD ESTABLISHMENT.
2. TREE REMOVALS SHALL NOT BE MEASURED BUT SHALL BE INCIDENTAL TO THE CLEARING AND GRUBBING PAY ITEM.

**LEGEND**

- 4 INCH CONCRETE SIDEWALK
- SIDEWALK REMOVAL (PAID FOR AS CLASS I EXCAVATION)
- DETECTABLE WARNING SURFACE

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18530, EXPIRATION DATE: DEC. 15, 2017

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 8/15/16  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 7/27/16  
CHIEF, BUREAU OF ENGINEERING DATE

*[Signature]* 7/27/16  
CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIVISION DATE

**RKK**  
Rummel, Klepper & Kahl, LLP  
81 MOSHER STREET | BALTIMORE, MD 21217  
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DES: SAK			
DRN: SAK			
CHK: RJG			
DATE: JULY 2016	BY	NO.	REVISION

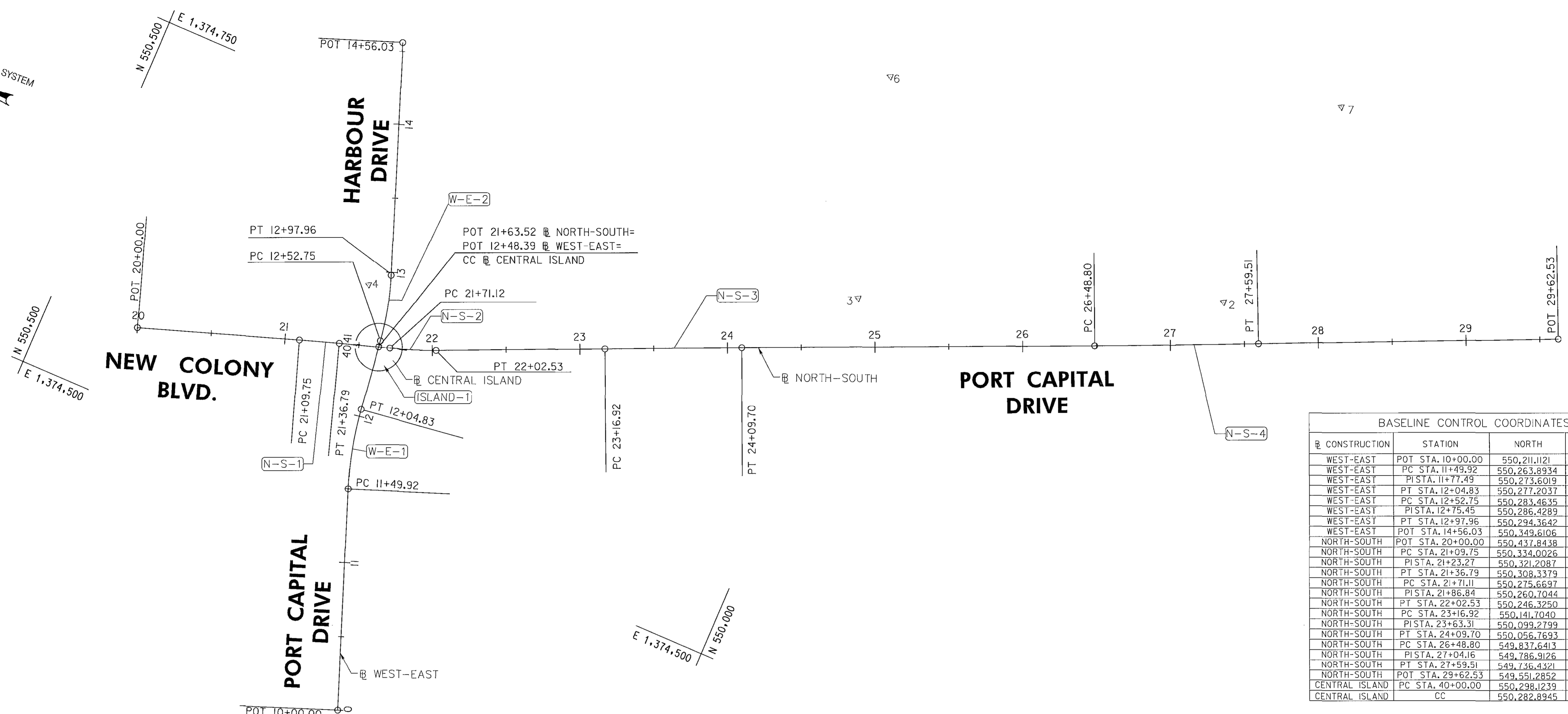
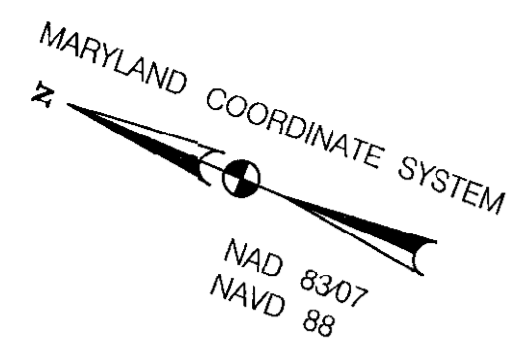
**ADA DETAILS**

**PORT CAPITAL DRIVE AT HARBOUR DRIVE**  
CAPITAL PROJECT NO. J-4168  
HOWARD COUNTY, MARYLAND

SCALE  
1"=5'

SHEET NO.  
6 OF 17

Monday, July 25, 2016 AT 11:23 AM  
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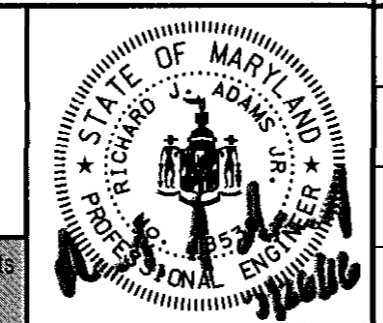
BASELINE CONTROL COORDINATES			
CONSTRUCTION	STATION	NORTH	EAST
WEST-EAST	POT STA. 10+00.00	550,211.1121	1,374,367.3856
WEST-EAST	PC STA. 11+49.92	550,263.8934	1,374,507.7035
WEST-EAST	PI STA. 11+77.49	550,273.6019	1,374,533.5133
WEST-EAST	PT STA. 12+04.83	550,277.2037	1,374,560.8524
WEST-EAST	PC STA. 12+52.75	550,283.4635	1,374,608.3662
WEST-EAST	PI STA. 12+75.45	550,286.4289	1,374,630.8750
WEST-EAST	PT STA. 12+97.96	550,294.3642	1,374,652.1464
WEST-EAST	POT STA. 14+56.03	550,349.6106	1,374,800.2417
NORTH-SOUTH	POT STA. 20+00.00	550,437.8438	1,374,551.8020
NORTH-SOUTH	PC STA. 21+09.75	550,334.0026	1,374,587.3288
NORTH-SOUTH	PI STA. 21+23.27	550,321.2087	1,374,591.7060
NORTH-SOUTH	PT STA. 21+36.79	550,308.3379	1,374,595.8517
NORTH-SOUTH	PC STA. 21+71.12	550,275.6697	1,374,606.3745
NORTH-SOUTH	PI STA. 21+86.84	550,260.7044	1,374,611.949
NORTH-SOUTH	PT STA. 22+02.53	550,246.3250	1,374,617.5532
NORTH-SOUTH	PC STA. 23+16.92	550,141.7040	1,374,663.8150
NORTH-SOUTH	PI STA. 23+63.31	550,099.2799	1,374,682.5742
NORTH-SOUTH	PT STA. 24+09.70	550,056.7693	1,374,701.1364
NORTH-SOUTH	PC STA. 26+48.80	549,837.6413	1,374,796.8186
NORTH-SOUTH	PI STA. 27+04.16	549,786.9126	1,374,818.693
NORTH-SOUTH	PT STA. 27+59.51	549,736.4321	1,374,841.6802
NORTH-SOUTH	POT STA. 29+62.53	549,551.2852	1,374,924.9769
CENTRAL ISLAND	PC STA. 40+00.00	550,298.1239	1,374,599.1418
CENTRAL ISLAND	CC	550,282.8945	1,374,604.0473

CURVE DATA						
CURVE NO.	Δ	Dc	R	T	L	E
W-E-1	13°06'31.55" (RT)	23°52'23.67"	240.00'	27.5753	54.9099'	1.5790'
W-E-2	12°57'09.30" (L T)	28°38'52.40"	200.00'	22.7033'	45.2130'	1.2845'
N-S-1	1°01'58.71" (RT)	3°49'10.99"	1,500.00'	13.5220'	27.0432'	0.0609'
N-S-2	6°00'00.17" (L T)	19°05'54.94"	300.00'	15.7225'	31.4162'	0.4117'
N-S-3	0°15'56.79" (RT)	0°17'11.32"	20,000.00'	46.3865'	92.7729'	0.0538'
N-S-4	0°38'03.49" (L T)	0°34'22.65"	10,000.00'	55.3539'	110.7067'	0.1532'
ISLAND-1	360°00'00.00"	440°44'12.36"	13.00'	0.0000'	81.6813'	26.0000'

TRAVERSE POINTS				
POINT NO.	NORTH	EAST	ELEVATION	DESCRIPTION
1	549,515.4010	1,374,986.4530	214.60'	REBAR & CAP
2	549,769.2600	1,374,858.4330	219.04'	REBAR & CAP
3	549,997.4680	1,374,763.3000	216.06'	REBAR & CAP
4	550,306.0520	1,374,640.3140	227.42'	MAG NAIL
5	550,349.6850	1,374,839.8220	222.01'	REBAR & CAP
6	550,037.0750	1,374,909.5060	216.99'	REBAR & CAP
7	549,748.5110	1,375,011.0500	218.93'	REBAR & CAP

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DES:	SAK				
DRN:	SAK				
CHK:	RJG				
DATE:	JULY 2016	BY:	NO.	REVISION	DATE

GEOMETRY SHEET

PORT CAPITAL DRIVE AT HARBOUR DRIVE  
 CAPITAL PROJECT NO. J-4168  
 HOWARD COUNTY, MARYLAND

SCALE  
1"=40'  
SHEET NO.  
7 OF 17

Monday, July 25, 2016 11:44 AM  
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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*[Signature]* 8/29/16  
 DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 7/27/16  
 CHIEF, BUREAU OF HIGHWAYS DATE

*[Signature]* 7/27/16  
 CHIEF, BUREAU OF ENGINEERING DATE

*[Signature]* 7/27/16  
 CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIVISION DATE

SIDEWALK STAKEOUT CHART

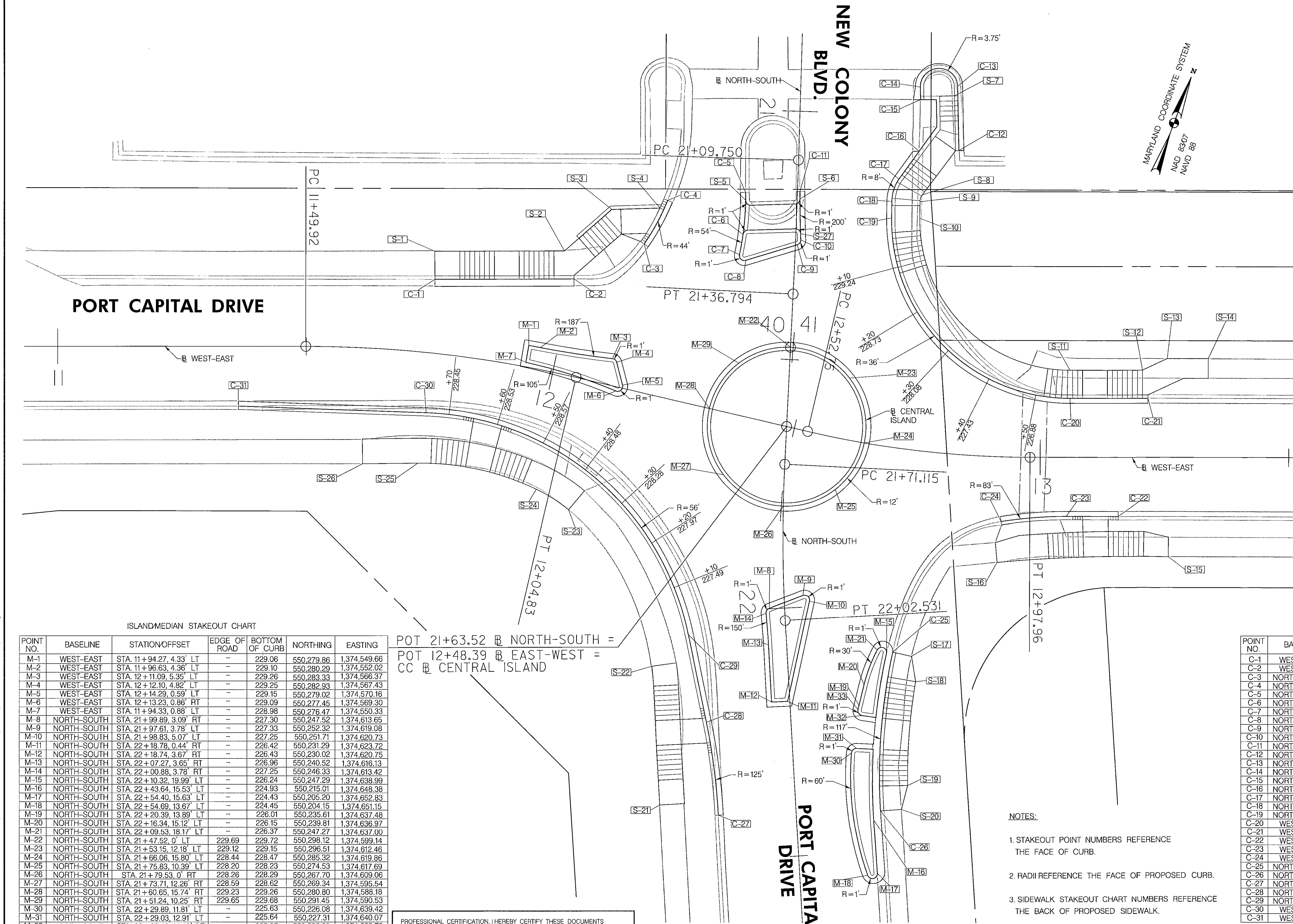
POINT NO.	BASELINE	STATION/OFFSET	NORTHING	EASTING
S-1	WEST-EAST	STA. 11+73.86, 20.51' LT	550,291.01	1,374,525.22
S-2	WEST-EAST	STA. 11+97.48, 24.44' LT	550,300.26	1,374,549.65
S-3	WEST-EAST	STA. 12+04.21, 34.63' LT	550,311.44	1,374,555.63
S-4	WEST-EAST	STA. 12+13.49, 37.11' LT	550,315.13	1,374,564.59
S-5	NORTH-SOUTH	STA. 21+18.21, 10.38' RT	550,322.68	1,374,580.21
S-6	NORTH-SOUTH	STA. 21+17.56, 0.55' LT	550,326.79	1,374,590.36
S-7	NORTH-SOUTH	STA. 20+95.97, 31.02' LT	550,357.09	1,374,612.22
S-8	NORTH-SOUTH	STA. 21+15.89, 25.18' LT	550,336.25	1,374,613.16
S-9	NORTH-SOUTH	STA. 21+17.26, 24.76' LT	550,334.79	1,374,613.21
S-10	NORTH-SOUTH	STA. 21+20.52, 24.84' LT	550,331.68	1,374,614.34
S-11	WEST-EAST	STA. 13+05.94, 17.56' LT	550,313.60	1,374,653.49
S-12	WEST-EAST	STA. 13+20.49, 17.57' LT	550,318.70	1,374,667.11
S-13	WEST-EAST	STA. 13+25.48, 19.91' LT	550,322.64	1,374,670.97
S-14	WEST-EAST	STA. 13+33.74, 19.92' LT	550,325.53	1,374,678.70
S-15	WEST-EAST	STA. 13+25.85, 19.97' RT	550,285.40	1,374,685.25
S-16	WEST-EAST	STA. 12+92.03, 21.20' RT	550,272.30	1,374,653.37
S-17	NORTH-SOUTH	STA. 22+11.20, 25.00' LT	550,248.51	1,374,643.92
S-18	NORTH-SOUTH	STA. 22+16.29, 25.55' LT	550,244.08	1,374,646.49
S-19	NORTH-SOUTH	STA. 22+37.07, 22.76' LT	550,223.94	1,374,652.34
S-20	NORTH-SOUTH	STA. 22+41.83, 21.22' LT	550,218.96	1,374,652.85
S-21	NORTH-SOUTH	STA. 22+38.17, 27.35' RT	550,202.67	1,374,606.95
S-22	NORTH-SOUTH	STA. 22+10.21, 27.39' RT	550,228.22	1,374,595.61
S-23	WEST-EAST	STA. 12+09.42, 26.29' RT	550,251.73	1,374,568.84
S-24	WEST-EAST	STA. 12+01.85, 23.71' RT	550,253.33	1,374,561.29
S-25	WEST-EAST	STA. 11+74.85, 22.36' RT	550,249.82	1,374,537.11
S-26	WEST-EAST	STA. 11+62.61, 23.35' RT	550,245.79	1,374,526.75
S-27	NORTH-SOUTH	STA. 21+25.75, 1.04' LT	550,319.16	1,374,593.42

HARBOUR DRIVE

CURB STAKEOUT CHART

POINT NO.	BASELINE	STATION/OFFSET	EDGE OF ROAD	BOTTOM OF CURB	NORTHING	EASTING
C-1	WEST-EAST	STA. 11+74.41, 14.87' LT	228.56	228.50	550,285.71	1,374,527.24
C-2	WEST-EAST	STA. 12+00.26, 19.32' LT	229.00	228.94	550,295.66	1,374,553.44
C-3	NORTH-SOUTH	STA. 21+27.94, 30.46' RT	229.46	229.42	550,307.25	1,374,564.17
C-4	NORTH-SOUTH	STA. 21+18.83, 26.08' RT	229.83	229.79	550,317.11	1,374,565.52
C-5	NORTH-SOUTH	STA. 21+16.63, 10.44' RT	230.33	230.29	550,324.15	1,374,579.65
C-6	NORTH-SOUTH	STA. 21+25.17, 10.63' RT	230.15	230.11	550,316.05	1,374,582.15
C-7	NORTH-SOUTH	STA. 21+29.25, 11.18' RT	230.02	229.98	550,312.03	1,374,582.90
C-8	NORTH-SOUTH	STA. 21+30.37, 9.86' RT	230.04	230.00	550,311.39	1,374,584.50
C-9	NORTH-SOUTH	STA. 21+26.78, 0.37' LT	230.13	230.09	550,317.97	1,374,593.10
C-10	NORTH-SOUTH	STA. 21+25.75, 1.04' LT	230.15	230.11	550,319.16	1,374,593.42
C-11	NORTH-SOUTH	STA. 21+16.05, 0.50' LT	230.46	230.42	550,328.20	1,374,589.83
C-12	NORTH-SOUTH	STA. 21+06.89, 32.25' LT	230.43	230.39	550,347.15	1,374,616.92
C-13	NORTH-SOUTH	STA. 20+94.02, 31.59' LT	230.25	230.21	550,359.11	1,374,612.13
C-14	NORTH-SOUTH	STA. 20+94.41, 24.10' LT	230.15	230.11	550,356.32	1,374,605.17
C-15	NORTH-SOUTH	STA. 20+96.91, 24.23' LT	230.02	229.98	550,354.00	1,374,606.10
C-16	NORTH-SOUTH	STA. 21+07.24, 24.26' LT	229.59	229.55	550,344.23	1,374,609.47
C-17	NORTH-SOUTH	STA. 21+12.93, 20.37' LT	229.65	229.61	550,337.54	1,374,607.64
C-18	NORTH-SOUTH	STA. 21+17.39, 19.10' LT	229.61	229.57	550,332.86	1,374,607.88
C-19	NORTH-SOUTH	STA. 21+20.66, 19.18' LT	229.53	229.49	550,329.75	1,374,609.01
C-20	WEST-EAST	STA. 13+05.95, 11.89' LT	226.67	226.63	550,308.29	1,374,655.47
C-21	WEST-EAST	STA. 13+21.60, 11.90' LT	226.26	226.22	550,313.78	1,374,670.13
C-22	WEST-EAST	STA. 13+15.75, 11.88' RT	226.52	226.48	550,299.45	1,374,672.96
C-23	WEST-EAST	STA. 13+05.30, 11.87' RT	226.82	226.78	550,285.80	1,374,663.17
C-24	WEST-EAST	STA. 12+92.54, 12.99' RT	227.10	227.06	550,280.25	1,374,651.25
C-25	NORTH-SOUTH	STA. 22+10.13, 21.27' LT	226.27	226.23	550,247.98	1,374,640.08
C-26	NORTH-SOUTH	STA. 22+41.88, 17.01' LT	225.01	224.95	550,217.22	1,374,648.02
C-27	NORTH-SOUTH	STA. 22+40.89, 15.68' RT	225.33	225.29	550,204.90	1,374,618.73
C-28	NORTH-SOUTH	STA. 22+22.07, 17.03' RT	226.56	226.52	550,221.57	1,374,609.88
C-29	NORTH-SOUTH	STA. 22+04.31, 19.66' RT	227.69	227.65	550,236.75	1,374,600.29
C-30	WEST-EAST	STA. 11+75.46, 12.08' RT	228.68	228.64	550,259.91	1,374,535.07
C-31	WEST-EAST	STA. 11+36.37, 12.05' RT	227.76	227.72	550,247.85	1,374,499.27

- NOTES:
1. STAKEOUT POINT NUMBERS REFERENCE THE FACE OF CURB.
  2. RADII REFERENCE THE FACE OF PROPOSED CURB.
  3. SIDEWALK STAKEOUT CHART NUMBERS REFERENCE THE BACK OF PROPOSED SIDEWALK.
  4. ALL SIDEWALK SHALL HAVE A 2% (MAX.) CROSS-SLOPE.



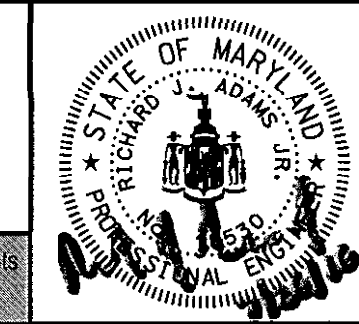
ISLAND/MEDIAN STAKEOUT CHART

POINT NO.	BASELINE	STATION/OFFSET	EDGE OF ROAD	BOTTOM OF CURB	NORTHING	EASTING
M-1	WEST-EAST	STA. 11+94.27, 4.33' LT	-	229.06	550,279.86	1,374,549.66
M-2	WEST-EAST	STA. 11+96.63, 4.36' LT	-	229.10	550,280.29	1,374,552.02
M-3	WEST-EAST	STA. 12+11.09, 5.35' LT	-	229.26	550,283.33	1,374,566.37
M-4	WEST-EAST	STA. 12+12.10, 4.82' LT	-	229.25	550,282.93	1,374,567.43
M-5	WEST-EAST	STA. 12+14.29, 0.59' LT	-	229.15	550,279.02	1,374,570.16
M-6	WEST-EAST	STA. 12+13.23, 0.86' RT	-	229.09	550,277.45	1,374,569.30
M-7	WEST-EAST	STA. 11+94.33, 0.88' LT	-	228.98	550,276.47	1,374,550.33
M-8	NORTH-SOUTH	STA. 21+99.89, 3.09' RT	-	227.30	550,247.52	1,374,613.65
M-9	NORTH-SOUTH	STA. 21+97.61, 3.78' LT	-	227.33	550,252.32	1,374,619.08
M-10	NORTH-SOUTH	STA. 21+98.83, 5.07' LT	-	227.25	550,251.71	1,374,620.73
M-11	NORTH-SOUTH	STA. 22+18.78, 0.44' RT	-	226.42	550,231.29	1,374,623.72
M-12	NORTH-SOUTH	STA. 22+18.74, 3.67' RT	-	226.43	550,230.02	1,374,620.75
M-13	NORTH-SOUTH	STA. 22+07.27, 3.65' RT	-	226.96	550,240.52	1,374,616.13
M-14	NORTH-SOUTH	STA. 22+00.88, 3.78' RT	-	227.25	550,246.33	1,374,613.42
M-15	NORTH-SOUTH	STA. 22+10.32, 19.99' LT	-	226.24	550,247.29	1,374,638.99
M-16	NORTH-SOUTH	STA. 22+43.64, 15.53' LT	-	224.93	550,215.01	1,374,648.38
M-17	NORTH-SOUTH	STA. 22+54.40, 15.63' LT	-	224.43	550,205.20	1,374,652.83
M-18	NORTH-SOUTH	STA. 22+54.69, 13.67' LT	-	224.45	550,204.15	1,374,651.15
M-19	NORTH-SOUTH	STA. 22+20.39, 13.89' LT	-	226.01	550,235.61	1,374,637.48
M-20	NORTH-SOUTH	STA. 22+16.34, 15.12' LT	-	226.15	550,239.81	1,374,636.97
M-21	NORTH-SOUTH	STA. 22+09.53, 18.17' LT	-	226.37	550,247.27	1,374,637.00
M-22	NORTH-SOUTH	STA. 21+47.52, 0' LT	229.69	229.72	550,298.12	1,374,599.14
M-23	NORTH-SOUTH	STA. 21+53.15, 12.18' LT	229.12	229.15	550,296.51	1,374,612.46
M-24	NORTH-SOUTH	STA. 21+66.06, 15.80' LT	228.44	228.47	550,285.32	1,374,619.86
M-25	NORTH-SOUTH	STA. 21+75.83, 10.39' LT	228.20	228.23	550,274.53	1,374,617.69
M-26	NORTH-SOUTH	STA. 21+79.53, 0' RT	228.26	228.29	550,267.70	1,374,609.06
M-27	NORTH-SOUTH	STA. 21+73.71, 12.26' RT	228.59	228.62	550,269.34	1,374,595.54
M-28	NORTH-SOUTH	STA. 21+60.65, 15.74' RT	229.23	229.26	550,280.80	1,374,588.18
M-29	NORTH-SOUTH	STA. 21+51.24, 10.25' RT	229.65	229.68	550,291.45	1,374,590.53
M-30	NORTH-SOUTH	STA. 22+29.89, 11.81' LT	-	225.63	550,226.08	1,374,639.42
M-31	NORTH-SOUTH	STA. 22+29.03, 12.91' LT	-	225.64	550,227.31	1,374,640.07
M-32	NORTH-SOUTH	STA. 22+22.49, 14.40' LT	-	225.87	550,233.89	1,374,638.79
M-33	NORTH-SOUTH	STA. 22+21.24, 13.64' LT	-	225.97	550,234.73	1,374,637.59

POT 21+63.52 @ NORTH-SOUTH =  
 POT 12+48.39 @ EAST-WEST =  
 CC @ CENTRAL ISLAND

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18530, EXPIRATION DATE: DEC. 15, 2017.

**Rummel, Klepper & Kahl, LLP**  
 81 MOSHER STREET | BALTIMORE, MD 21217  
 PH: (410) 728-2900 FAX: (410) 728-3160  
 www.rkk.com



DES: SAK				
DRN: SAK				
CHK: RJG				
DATE: JULY 2016				
BY	NO.	REVISION		DATE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

**PORT CAPITAL DRIVE AT HARBOUR DRIVE**  
 CAPITAL PROJECT NO. J-4168  
 HOWARD COUNTY, MARYLAND

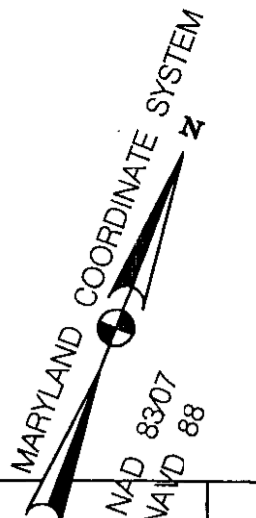
**CURB STAKEOUT SHEET**

SCALE  
 1"=10'

SHEET NO.  
 8 OF 17

Monday, July 25, 2016 AT 11:45 AM  
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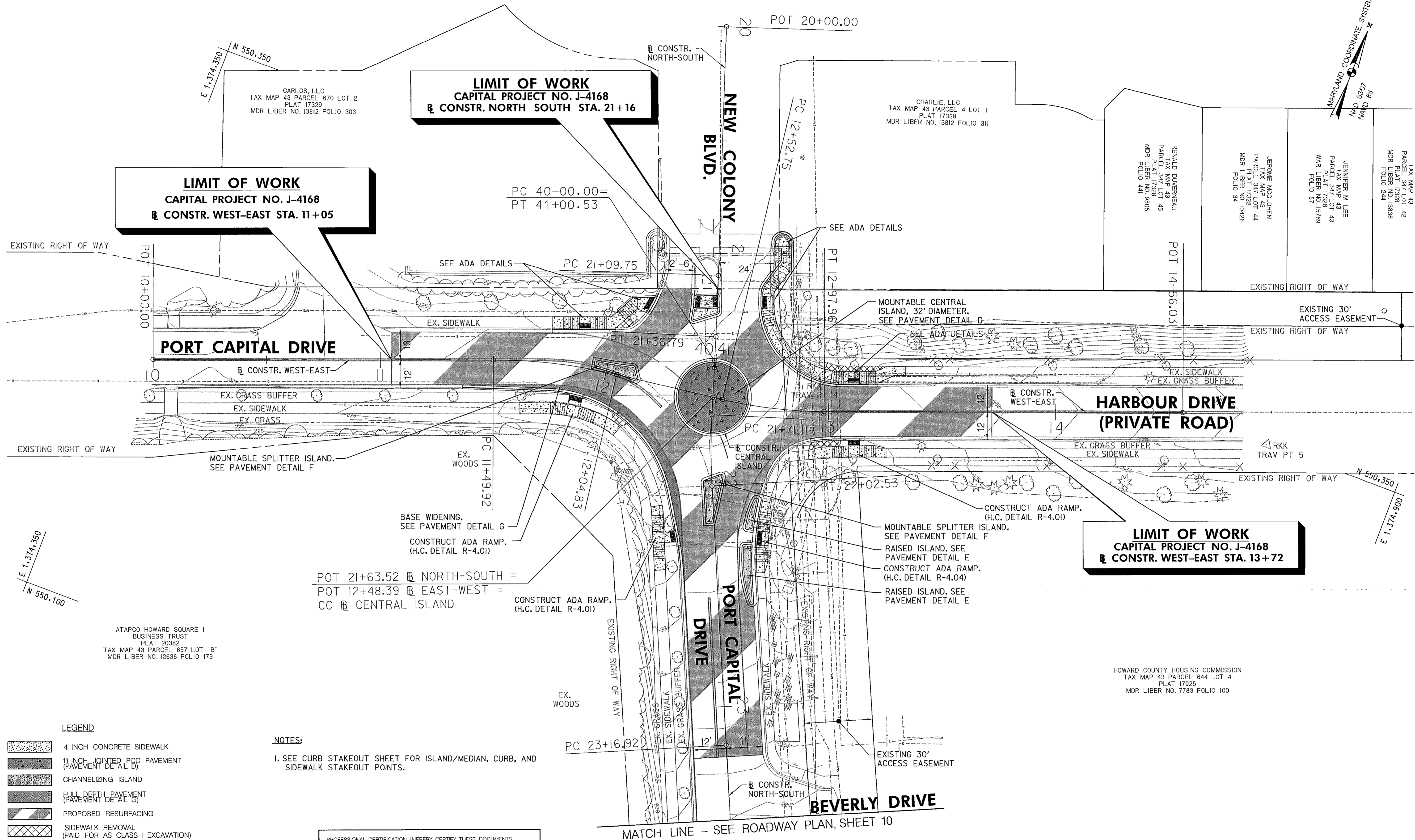




**LIMIT OF WORK**  
CAPITAL PROJECT NO. J-4168  
CONSTR. NORTH-SOUTH STA. 21+16

**LIMIT OF WORK**  
CAPITAL PROJECT NO. J-4168  
CONSTR. WEST-EAST STA. 11+05

**LIMIT OF WORK**  
CAPITAL PROJECT NO. J-4168  
CONSTR. WEST-EAST STA. 13+72



ATAPCO HOWARD SQUARE I  
BUSINESS TRUST  
PLAT 20382  
TAX MAP 43 PARCEL 657 LOT "B"  
MDR LIBER NO. 12638 FOLIO 179

HOWARD COUNTY HOUSING COMMISSION  
TAX MAP 43 PARCEL 644 LOT 4  
PLAT 17925  
MDR LIBER NO. 7783 FOLIO 100

**LEGEND**

- 4 INCH CONCRETE SIDEWALK
- 11 INCH JOINTED PCC PAVEMENT (PAVEMENT DETAIL D)
- CHANNELIZING ISLAND
- FULL DEPTH PAVEMENT (PAVEMENT DETAIL G)
- PROPOSED RESURFACING
- SIDEWALK REMOVAL (PAID FOR AS CLASS I EXCAVATION)
- DETECTABLE WARNING SURFACE

**NOTES:**

1. SEE CURB STAKEOUT SHEET FOR ISLAND/MEDIAN, CURB, AND SIDEWALK STAKEOUT POINTS.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18530, EXPIRATION DATE: DEC. 15, 2017.

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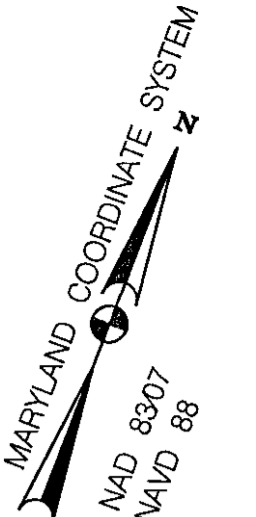
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DRN: SAK					
CHK: RJG					
DATE: JULY 2016					
BY	NO.	REVISION		DATE	

**ROADWAY PLAN**

PORT CAPITAL DRIVE AT HARBOUR DRIVE  
CAPITAL PROJECT NO. J-4168  
HOWARD COUNTY, MARYLAND

SCALE  
1"=20'  
SHEET NO.  
9 OF 17

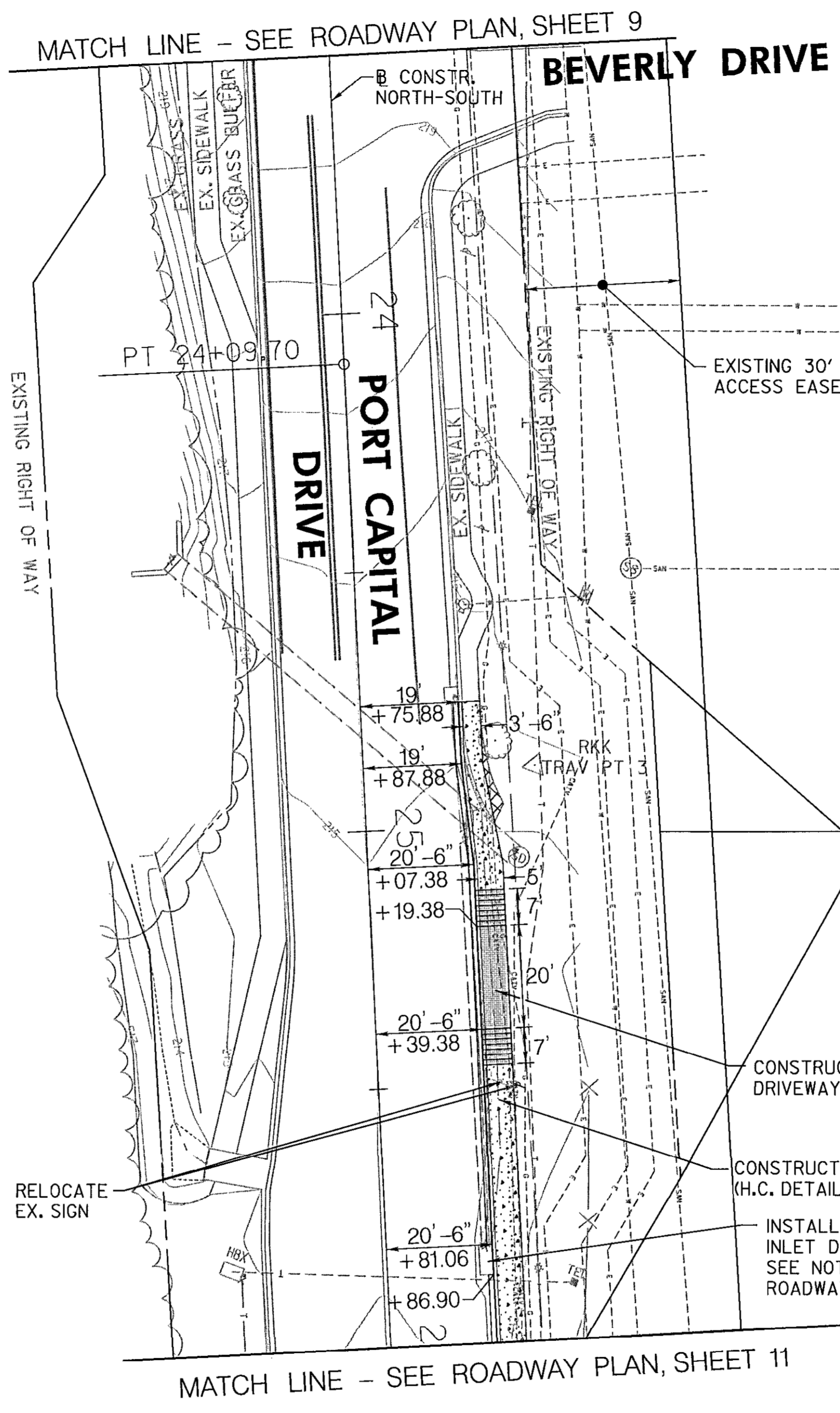
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ATAPCO HOWARD SQUARE I  
 BUSINESS TRUST  
 PLAT 20382  
 TAX MAP 43 PARCEL 657 LOT "B"  
 MDR LIBER NO. 12638 FOLIO 179

HOWARD COUNTY HOUSING COMMISSION  
 TAX MAP 43 PARCEL 644 LOT 4  
 PLAT 17925  
 MDR LIBER NO. 7783 FOLIO 100

PORT CAPITAL CENTER  
 OF MARYLAND LLC  
 TAX MAP 43 PARCEL 644 LOT "A"  
 PLAT 16228  
 MDR LIBER NO. 4393 FOLIO 334



**NOTES:**  
 I. CONTRACTOR TO MATCH EXISTING PIPE INVERT. INLET DEPRESSION WILL NOT BE MEASURED BUT SHALL BE INCIDENTAL TO THE INLET PAY ITEM.

**LEGEND**

- 4 INCH CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- SIDEWALK REMOVAL (PAID FOR AS CLASS I EXCAVATION)

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18530, EXPIRATION DATE: DEC. 15, 2017.

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*[Signature]* 8/20/16  
 DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 7/27/16  
 CHIEF, BUREAU OF HIGHWAYS DATE

*[Signature]* 7/27/16  
 CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIVISION DATE

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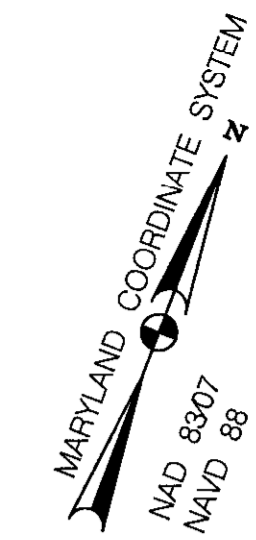
ROADWAY PLAN

PORT CAPITAL DRIVE AT HARBOUR DRIVE  
 CAPITAL PROJECT NO. J-4168  
 HOWARD COUNTY, MARYLAND

SCALE  
 1"=20'

SHEET NO.  
 10 OF 17

MATCH LINE - SEE ROADWAY PLAN, SHEET 10

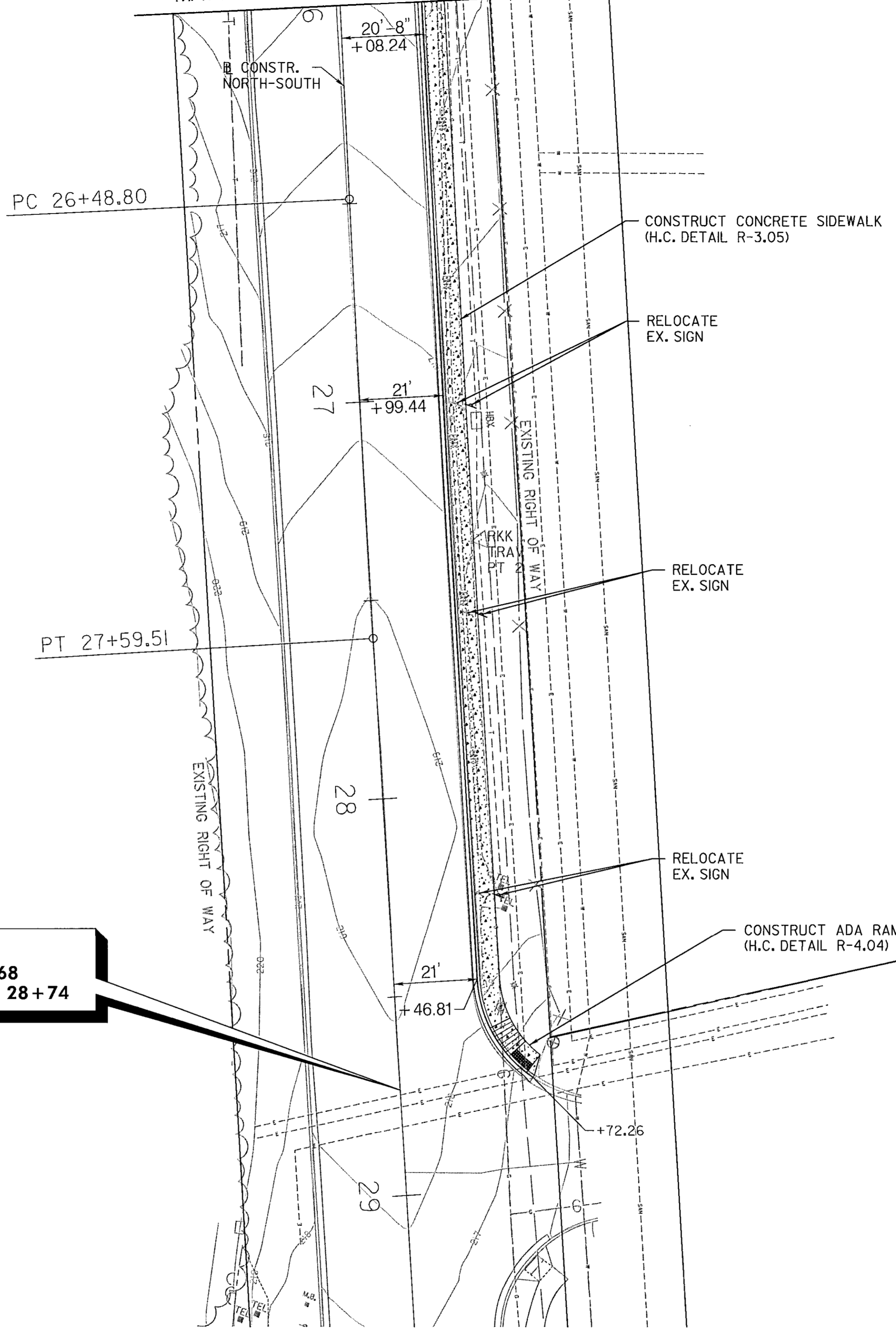


ATAPCO HOWARD SQUARE I  
BUSINESS TRUST  
PLAT 20382  
TAX MAP 43 PARCEL 657 LOT "B"  
MDR LIBER NO. 12638 FOLIO 179

PORT CAPITAL CENTER  
OF MARYLAND LLC  
TAX MAP 43 PARCEL 644 LOT "A"  
PLAT 16228  
MDR LIBER NO. 4393 FOLIO 334

6601 LITTLE RIVER TURNPIKE LLC  
TAX MAP 43 PARCEL 644 LOT 1  
MDR LIBER NO. 09011 FOLIO 349

**LIMIT OF WORK**  
CAPITAL PROJECT NO. J-4168  
CONSTR. NORTH SOUTH STA. 28+74



LEGEND

- 4 INCH CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- SIDEWALK REMOVAL (PAID FOR AS CLASS I EXCAVATION)
- DETECTABLE WARNING SURFACE

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18539, EXPIRATION DATE: DEC. 15, 2017.

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DATE: JULY 2016	BY	NO.	REVISION
			DATE

ROADWAY PLAN

PORT CAPITAL DRIVE AT HARBOUR DRIVE  
CAPITAL PROJECT NO. J-4168  
HOWARD COUNTY, MARYLAND

SCALE  
1"=20'  
SHEET NO.  
11 OF 17

Monday, July 25, 2016 11:50 AM  
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HOWARD SOIL CONSERVATION DISTRICT  
STANDARD SEDIMENT CONTROL NOTES

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOURS NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:
  - a. PRIOR TO THE START OF EARTH DISTURBANCE,
  - b. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING,
  - c. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT,
  - d. PRIOR TO THE REMOVAL OR MODIFICATIONS OF SEDIMENT CONTROL PRACTICES.

15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTIVE PERIODS (INCLUSIVE):

- USE I AND II MARCH 1 - JUNE 15
- USE III AND III OCTOBER 1 - APRIL 30
- USE IV MARCH 1 - MAY 31

16. A COPY OF THIS PLAN, THE '2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL', AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.

2. ALL VEGETATIVE PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE '2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL', AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER SEDIMENT CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE UNDER ACTIVE GRADING.
4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE '2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL' FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS 15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).
5. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE, AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE CID.

6. SITE ANALYSIS:

TOTAL AREA OF SITE:	0.46 AC
AREA DISTURBED:	0.20 AC
AREA TO BE ROOFED OR PAVED:	0.06 AC
AREA TO BE VEGETATIVELY STABILIZED:	0
TOTAL CUT:	0
TOTAL FILL:	0
OFFSITE WASTE/BORROW AREA LOCATION:	TO BE DETERMINED*

\*MUST HAVE AN ACTIVE APPROVED SEDIMENT CONTROL PLAN

7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID, THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY, AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:
  - INSPECTION DATE
  - INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
  - NAME AND TITLE OF INSPECTOR
  - WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
  - BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
  - EVIDENCE OF SEDIMENT DISCHARGES
  - IDENTIFICATION OF PLAN DEFICIENCIES
  - IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
  - IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
  - COMPLIANCE STATUS REGARDING SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
  - PHOTOGRAPHS
  - MONITORING/SAMPLING
  - MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
  - OTHER INSPECTIONS TIMES AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE)
9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORK DAY, WHICHEVER IS SHORTER.
10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY BE ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.
11. DISTURBANCE SHALL NOT OCCUR OUTSIDE OF THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN IN ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID, UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE CID, NO MORE THAN 20 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, OR OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.
13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.
14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION.

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Raydon* 8/25/16  
DIRECTOR OF PUBLIC WORKS DATE

*Norman B. Sullivan* 7/27/16  
CHIEF, BUREAU OF ENGINEERING DATE

*Jan Stank* 7/27/16  
CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIVISION DATE

*Jan Stank* 8/29/16  
CHIEF, BUREAU OF HIGHWAYS DATE

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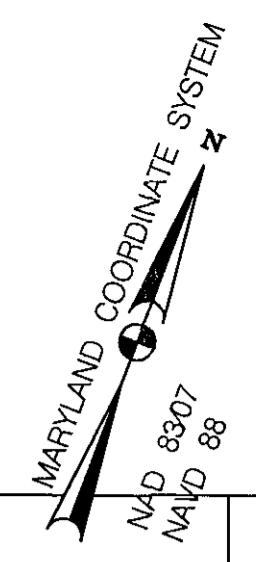
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DRN: SAK				
CHK: RJG				
DATE: JULY 2016	BY	NO.	REVISION	DATE

EROSION AND SEDIMENT CONTROL NOTES

PORT CAPITAL DRIVE AT HARBOUR DRIVE  
CAPITAL PROJECT NO. J-4168  
HOWARD COUNTY, MARYLAND

SCALE 1"=20'  
SHEET NO. 12 OF 17

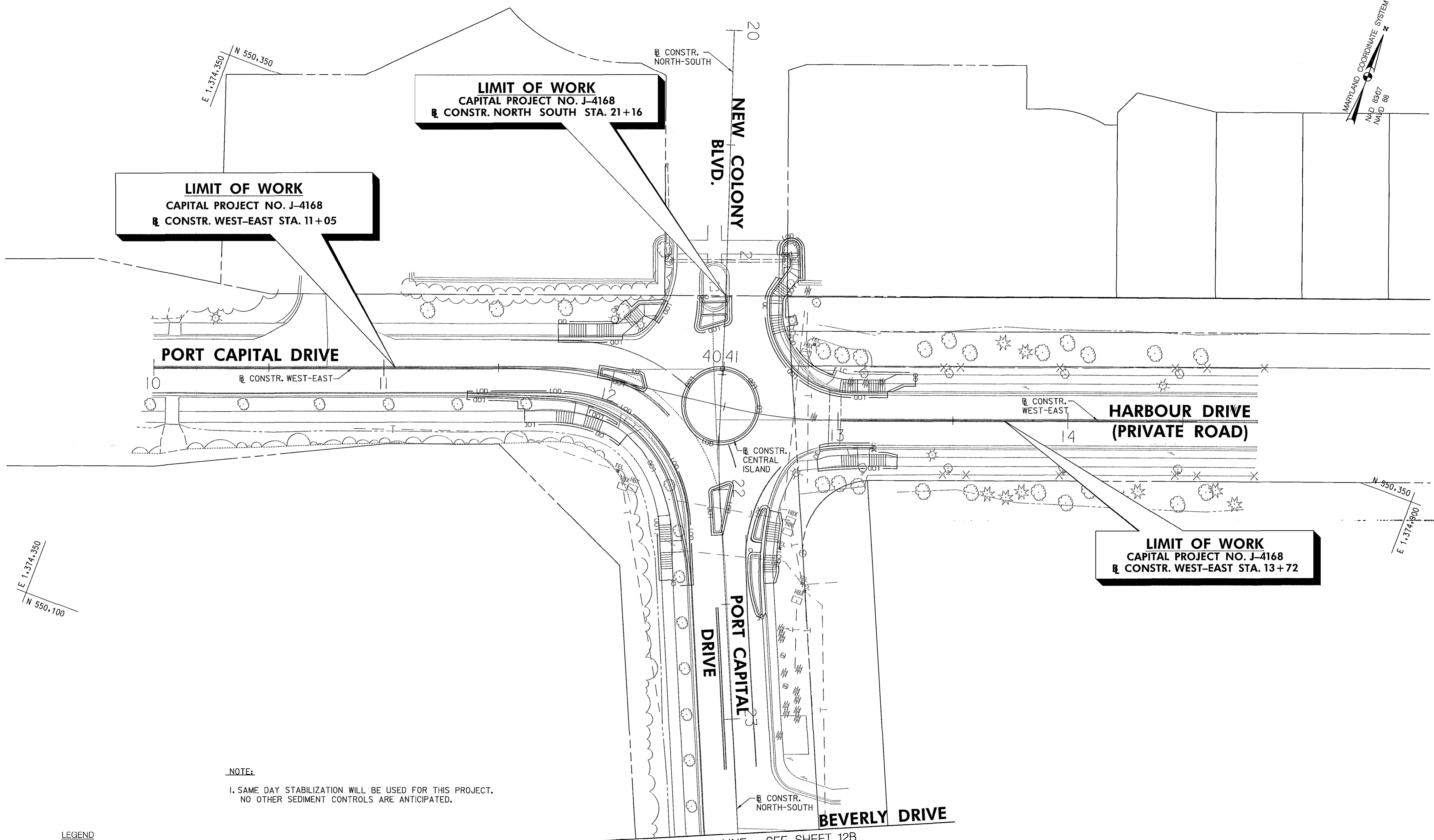
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**LIMIT OF WORK**  
CAPITAL PROJECT NO. J-4168  
CONSTR. NORTH-SOUTH STA. 21+16

**LIMIT OF WORK**  
CAPITAL PROJECT NO. J-4168  
CONSTR. WEST-EAST STA. 11+05

**LIMIT OF WORK**  
CAPITAL PROJECT NO. J-4168  
CONSTR. WEST-EAST STA. 13+72



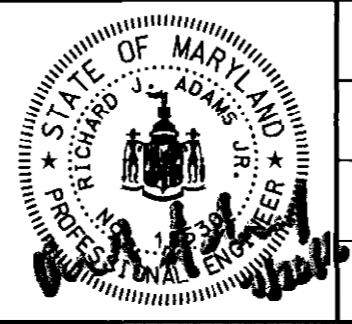
**NOTE:**  
1. SAME DAY STABILIZATION WILL BE USED FOR THIS PROJECT.  
NO OTHER SEDIMENT CONTROLS ARE ANTICIPATED.

**LEGEND**  
LOD LIMIT OF DISTURBANCE

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
Director of Public Works: [Signature] DATE: 8/24/16  
Chief, Bureau of Engineering: [Signature] DATE: 8/24/16  
Chief, Transportation & Special Projects Division: [Signature] DATE: 8/24/16

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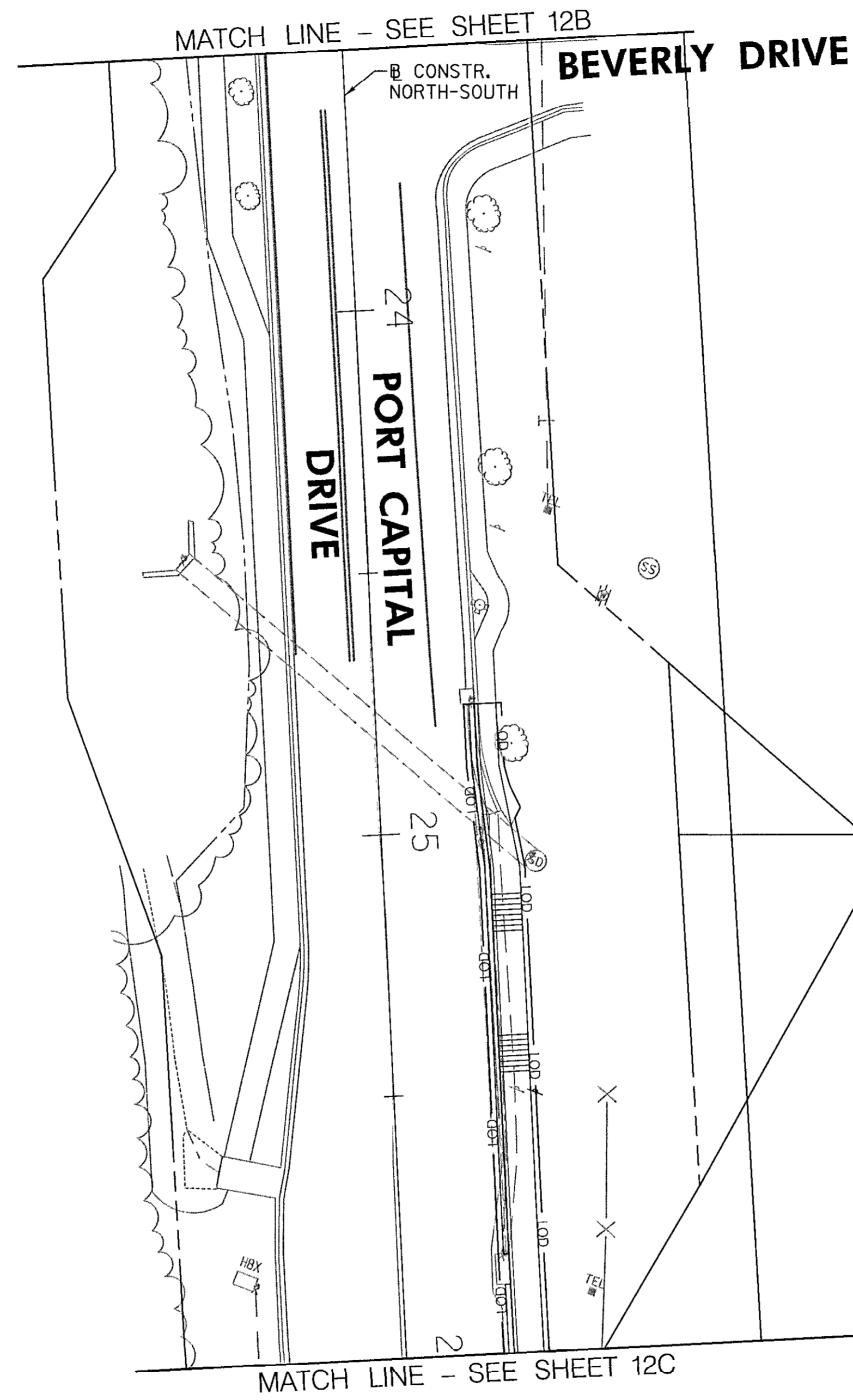
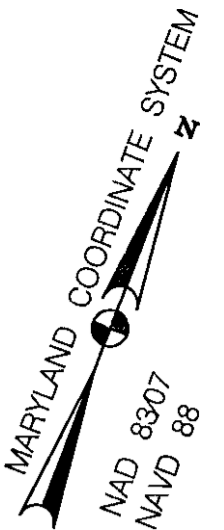
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DRN:	SAK
CHK:	RJG
DATE:	JULY 2016
BY:	NO.
REVISION:	DATE

STANDARD EROSION AND SEDIMENT CONTROL PLAN

PORT CAPITAL DRIVE AT HARBOUR DRIVE  
CAPITAL PROJECT NO. J-4168  
HOWARD COUNTY, MARYLAND

SCALE 1"=20'  
SHEET NO. 12A

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**NOTE:**  
 1. SAME DAY STABILIZATION WILL BE USED FOR THIS PROJECT.  
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**LEGEND**

— LOD — LIMIT OF DISTURBANCE

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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*Jan Stine* 8/24/16  
 DIRECTOR OF PUBLIC WORKS DATE

*Thomas J. Buller* 7/27/16  
 CHIEF, BUREAU OF ENGINEERING DATE

*Jan Stine* 7/27/16  
 CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIVISION DATE

*Jan Stine* 8/24/16  
 CHIEF, BUREAU OF HIGHWAYS DATE

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 Engineers | Construction Managers | Planners | Scientists  
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STANDARD EROSION AND SEDIMENT CONTROL PLAN

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 HOWARD COUNTY, MARYLAND

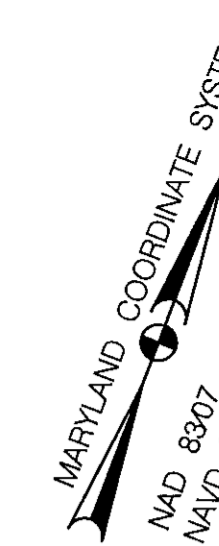
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SHEET NO.  
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MATCH LINE - SEE SHEET 12B

CONSTR. NORTH-SOUTH



**LIMIT OF WORK**  
 CAPITAL PROJECT NO. J-4168  
 CONSTR. NORTH SOUTH STA. 28+74

**NOTE:**  
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**LEGEND**

— LOD — LIMIT OF DISTURBANCE

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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*James* 8/24/16  
 DIRECTOR OF PUBLIC WORKS DATE

*Thomas E. Sullivan* 7/29/16  
 CHIEF, BUREAU OF ENGINEERING DATE

*Jan Steiny* 7/27/16  
 CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIVISION DATE

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**STANDARD EROSION AND SEDIMENT CONTROL PLAN**

PORT CAPITAL DRIVE AT HARBOUR DRIVE  
 CAPITAL PROJECT NO. J-4168  
 HOWARD COUNTY, MARYLAND

SCALE  
 1"=20'

SHEET NO.  
 12C

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**GENERAL NOTES**

1. MAINTAIN ACCESS TO ALL ROADWAYS AND ENTRANCES AT ALL TIMES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. ALL STANDARD REGULATORY AND WARNING SIGNS USED FOR MAINTENANCE OF TRAFFIC SHALL CONFORM TO THE LATEST VERSION OF FHWA'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", AS WELL AS MDSHA'S "BOOK OF STANDARDS" AND "SUPPLEMENT TO MUTCD".
3. CONSTRUCTION EQUIPMENT AND MATERIALS SHALL BE STORED OFF THE TRAVEL LANES AND PEDESTRIAN FACILITIES AT ALL TIMES.
4. EXISTING REGULATORY SIGNS IN THE WORK ZONE SHALL BE MAINTAINED AT ALL TIMES AS DIRECTED BY THE ENGINEER. SIGNS THAT ARE NOT APPLICABLE SHALL BE REMOVED OR COMPLETELY COVERED WITH NONTRANSPARENT MATERIAL.
5. REFER TO THE SP 104 FOR WORK RESTRICTIONS AND TEMPORARY LANE /SHOULDER CLOSURE SCHEDULE.
6. REFER TO SPI104.31 FOR ACCESSIBLE PEDESTRIAN MAINTENANCE OF TRAFFIC.
7. MAINTAIN POSITIVE DRAINAGE ALONG THE ROADWAY SURFACE THROUGHOUT CONSTRUCTION.
8. MISS UTILITY SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.
9. THE SEQUENCE OF CONSTRUCTION IS PROVIDED FOR THE CONTRACTOR'S USE AND CONSIDERATION. THE SEQUENCE OF CONSTRUCTION MAY BE MODIFIED BY THE CONTRACTOR WITH PRIOR APPROVAL BY THE COUNTY.

**TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATIONS (TTCTA)**

THE FOLLOWING TTCTA FROM THE SHA BOOK OF STANDARDS ARE TO BE FOLLOWED AS APPROPRIATE:

- |                              |                                   |
|------------------------------|-----------------------------------|
| MD 104.02-14                 | - INTERSECTION FLAGGING OPERATION |
| MD 104.02-06                 | - WORK IN CENTER OF ROADWAY       |
| MD 104.06-15 TO MD 104.06-19 | - PAVEMENT EDGE DROP-OFFS         |

**SEQUENCE OF CONSTRUCTION**

**PHASE 1 (SOUTH-WEST QUADRANT OF INTERSECTION):**

1. INSTALL TEMPORARY TRAFFIC CONTROL DEVICES FOLLOWING MD 104.02-14.
2. RECONSTRUCT THE CURB LINE AND PERFORM FULL DEPTH PAVING. RECONSTRUCT SIDEWALK AND INSTALL PEDESTRIAN RAMPS AS SHOWN ON THE PLANS.

**PHASE 2 (NORTHWEST AND NORTHEAST QUADRANTS OF INTERSECTION):**

1. REMOVE PHASE 1 TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNS THAT ARE NO LONGER NEEDED.
2. INSTALL TEMPORARY TRAFFIC CONTROL DEVICES FOLLOWING MD 104.02-14 FOR THE NORTHWEST AND NORTHEAST QUADRANT OF THE INTERSECTION (NEW COLONY BOULEVARD).
3. RECONSTRUCT SIDEWALK, CURB AND GUTTER AND INSTALL PEDESTRIAN RAMPS AS SHOWN ON THE PLANS. CONSTRUCT MEDIAN ISLAND CUT-THROUGH AT NEW COLONY BOULEVARD AS SHOWN ON THE PLANS.

**PHASE 3 (SOUTHEAST QUADRANT OF INTERSECTION):**

1. REMOVE PHASE 2 TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNS THAT ARE NO LONGER NEEDED.
2. INSTALL TEMPORARY TRAFFIC CONTROL DEVICES FOLLOWING MD 104.02-14 FOR THE SOUTHEAST QUADRANT OF THE INTERSECTION.
3. RECONSTRUCT SIDEWALK, CURB AND GUTTER, PEDESTRIAN RAMPS AND RAISED ISLAND AS SHOWN ON THE PLANS.

**PHASE 4 (CONSTRUCTION OF CENTRAL ISLAND):**

1. REMOVE PHASE 3 TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNS THAT ARE NO LONGER NEEDED.
2. INSTALL DRUMS FOR MAINTENANCE OF TRAFFIC AND TEMPORARY PAVEMENT MARKINGS AT THE CENTER OF THE INTERSECTION TO CONVERT INTERSECTION TO OPERATE AS A ROUNDABOUT.
3. CONSTRUCT CENTRAL ISLAND UTILIZING DAYTIME FLAGGING OPERATIONS.

**PHASE 5 (SPLITTER ISLANDS):**

1. REMOVE PHASE 4 TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNS THAT ARE NO LONGER NEEDED.
2. INSTALL TEMPORARY TRAFFIC CONTROL DEVICES FOLLOWING MD 104.02-06.
3. CONSTRUCT THE SPLITTER ISLANDS ALONG THE WEST AND SOUTH LEGS OF THE INTERSECTION AS IDENTIFIED ON THE PLANS.

**PHASE 6:**

1. REMOVE PHASE 5 TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNS THAT ARE NO LONGER NEEDED.
2. PERFORM FULL DEPTH PATCHING OPERATION AS DIRECTED BY THE ENGINEER AND THEN PERFORM GRINDING AND RESURFACING OPERATIONS.
3. INSTALL FINAL PAVEMENT MARKINGS AND SIGNS; OPEN LANES TO THEIR PROPOSED TRAFFIC PATTERN.

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PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18530, EXPIRATION DATE: DEC. 15, 2017.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
<i>James J. ...</i> DIRECTOR OF PUBLIC WORKS DATE: 8/24/16	<i>Thomas E. Butler</i> 7/29/16 CHIEF, BUREAU OF ENGINEERING DATE: 7/27/16
<i>James J. ...</i> CHIEF, BUREAU OF HIGHWAYS DATE:	<i>Jay Stentz</i> CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIVISION DATE:

**RK&K**  
**Rummel, Klepper & Kahl, LLP**  
 81 MOSHER STREET | BALTIMORE, MD 21217  
 PH: (410) 728-2900 FAX: (410) 728-3160  
 Engineers | Construction Managers | Planners | Scientists  
 www.rkk.com



DES: SAK				
DRN: SAK				
CHK: RJG				
DATE: JULY 2016	BY	NO.	REVISION	DATE

MAINTENANCE OF TRAFFIC NARRATIVE

PORT CAPITAL DRIVE AT HARBOUR DRIVE  
 CAPITAL PROJECT NO. J-4168  
 HOWARD COUNTY, MARYLAND

SCALE: N/A  
 SHEET NO. 13 OF 17



**CRITERIA**

THE CONTRACTOR SHALL BE GOVERNED BY THE STANDARDS AND REQUIREMENTS OF THE FOLLOWING PUBLICATIONS, EXCEPT AS MODIFIED BY THE SPECIAL PROVISIONS OF THIS CONTRACT:

**DESIGN**

MDSHA - "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", 2011 EDITION AND SUBSEQUENT REVISIONS. (MdMUTCD)

A A S H T O - "HIGHWAY SAFETY DESIGN AND OPERATIONS GUIDE" -1997

A A S H T O - "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS LUMINAIRES AND TRAFFIC SIGNALS", 2001 EDITION (CATEGORY II FOR ALL OVERHEAD AND CANTILEVER SIGN STRUCTURES).

**MATERIALS AND CONSTRUCTION**

MDSHA - "STANDARD SPECIFICATIONS FOR CONSTRUCTION & MATERIALS", 2008 EDITION AND SUBSEQUENT SUPPLEMENTS.

**DESIGN WIND**

- 100 MPH - WOOD SUPPORTS  
10 YEAR RECURRENCE INTERVAL
  - 100 MPH - GROUND MOUNT SIGN STEEL SUPPORTS  
10 YEAR RECURRENCE INTERVAL
  - 100 MPH - OVERHEAD AND CANTILEVER STRUCTURES  
50 YEAR RECURRENCE INTERVAL
- } ALL DISTRICTS

**DESIGN STRESS**

SOIL BEARING PRESSURE - S = 3,000 P.S.F. (ASSUMED)  
SEE MATERIAL & CONSTRUCTION ABOVE AND SPECIAL PROVISIONS FOR DESIGN STRESSES FOR STRUCTURAL STEEL, ALUMINUM, REINFORCING STEEL AND CONCRETE.

**CHAMFER**

ALL EXPOSED EDGES OF CONCRETE SHALL HAVE A 3/4" X 3/4" CHAMFER.

**CLASSIFICATION OF SIGNS**

SIGNS ARE DIVIDED INTO TWO (2) GENERAL CATEGORIES.

1. GUIDE SIGNS
  - A) STRUCTURAL TYPES
    - OH - OVERHEAD
    - C - CANTILEVER
    - GM - GROUND MOUNT, BREAKAWAY OR NON-BREAKAWAY
    - BM - BRIDGE MOUNTED
  - B) PANELS
    - MATERIAL - EXTRUDED ALUMINUM COPY - DIRECT APPLIED
    - I) HIGH INTENSITY (NEW SIGNS AND REVISIONS TO EXISTING SIGNS)
2. STANDARD SIGNS (REGULATORY, WARNING, ETC.)
  - A) STRUCTURAL TYPES
    - WOOD SUPPORTS
    - SQUARE TUBE
  - B) PANELS
    - MATERIAL - SHEET ALUMINUM COPY - DIRECT APPLIED

**IDENTIFICATION OF SIGNS AND PANELS**

- GUIDE SIGNS**  
EACH GUIDE SIGN IS IDENTIFIED BY A SIGN NUMBER ON THE PLANS AND IN THE TABULATIONS. (GM-1, GM-2, GM-3, etc)  
SIGNS ON STRUCTURES ARE IDENTIFIED WITH A NUMBER AND WHERE VARIATIONS OCCUR, A LOWER CASE LETTER. (OH-1a, OH-1b, OH-1c)
- STANDARD SIGNS**  
STANDARD SIGNS ARE IDENTIFIED BY PANEL NUMBERS AND ARE CLASSIFIED AS FOLLOWS  
R - REGULATORY  
W - WARNING  
M - ROUTE MARKERS AND ACCESSORIES  
D - DESTINATION AND MILEAGE PANELS  
S - SCHOOL
- PANELS SHALL BE DESIGNATED TO AGREE WITH MARYLAND STANDARD SIGN BOOK. EACH STANDARD SIGN IS IDENTIFIED FIRST BY THE SHEET NUMBER, THEN BY THE NUMERICAL ORDER OF THE SIGN AS IT APPEARS ON THE PLAN.  
FOR EXAMPLE SHEET SN 2.1-101,102,103, ETC. SHEET SN 2.2-201,202,203,ETC.

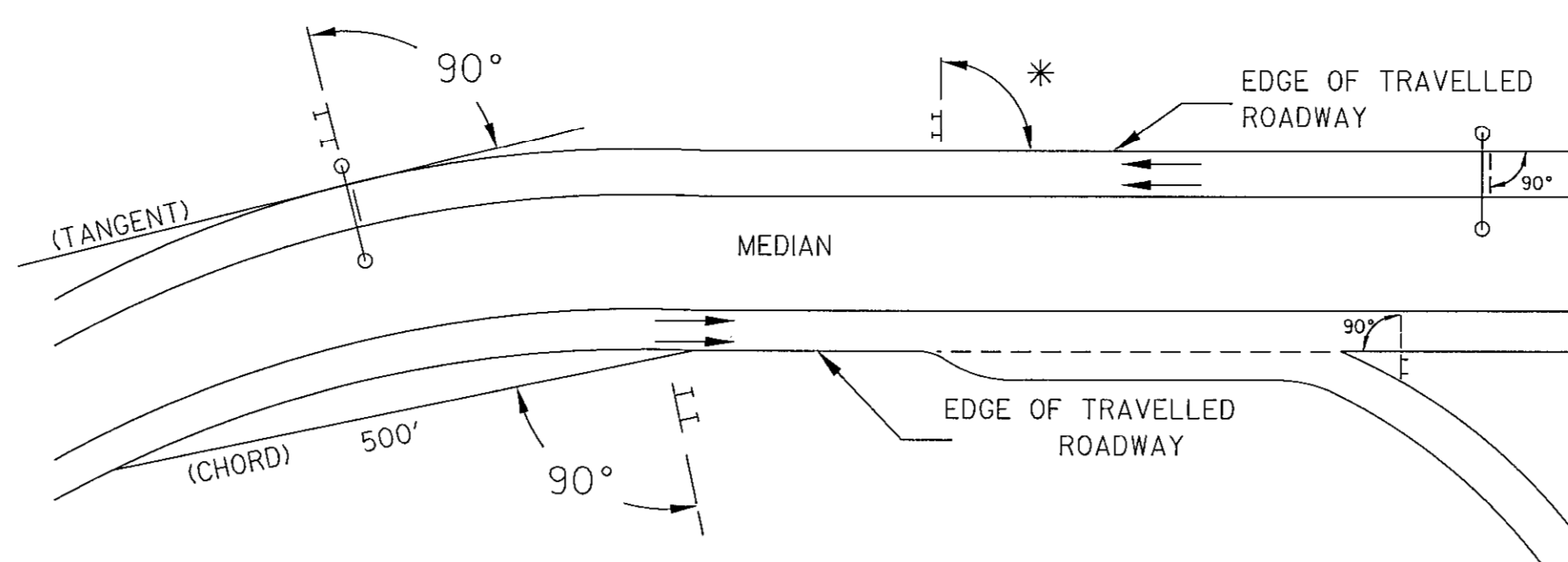
**PANEL LAYOUT AND ALPHABETS**

1. GUIDE SIGN PANEL LAYOUTS ARE BASED ON THE A.A.S.H.T.O. MANUALS NOTED ABOVE.
2. STANDARD SIGN PANEL LAYOUTS ARE BASED ON THE MdMUTCD WITH SPECIFICATIONS DETAILED IN THE MARYLAND STATE HIGHWAY ADMINISTRATION PUBLICATION, "STANDARD SIGN BOOK", AVAILABLE ONLINE @ [https://www.marylandroads.com/businesswithsha/bizstdspecs/desManualStdPub/publicationonline/oots/Internet\\_signbook.asp](https://www.marylandroads.com/businesswithsha/bizstdspecs/desManualStdPub/publicationonline/oots/Internet_signbook.asp)

**REFLECTORIZATION**

BACKGROUNDS, BORDERS, TEXTS AND ALL OTHER ELEMENTS OF SIGN PANELS SHALL BE REFLECTORIZED EXCEPT WHERE NOTED. REFER TO PROJECT REQUIREMENTS FOR MORE DETAIL.

**ORIENTATION OF SIGN FACES**



\* UNDER 30 FEET FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN - 93° AWAY FROM THE ROAD TO AVOID SPECULAR REFLECTION AS INDICATED IN 813.03 OF THE MARYLAND STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.  
OVER 30 FEET FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN - 90°

**SIGN LOCATIONS**

1. GUIDE SIGNS ARE LOCATED ON THE PLANS BY DIMENSION TO SURVEY STATIONS, OR WHEN NECESSARY, TO IDENTIFIABLE PHYSICAL FEATURES.
2. ALL CHANGES IN THE LOCATIONS OF SIGNS AS SHOWN ON THE PLAN SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

**EXISTING UTILITIES**

THE ENGINEER DOES NOT WARRANT OR GUARANTEE THE ACCURACY OR COMPLETENESS OF UTILITY INFORMATION SHOWN ON THE PLAN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PROTECT ALL EXISTING FACILITIES WHICH MIGHT BE AFFECTED BY THIS WORK OR HIS OPERATION.

**ROADSIDE SIGNS**

1. VERTICAL ALIGNMENT  
POSITION PANEL SO FACE IS PLUMB.
2. HORIZONTAL ALIGNMENT (SEE DIAGRAM ABOVE)
  - A) ON STRAIGHT ROADWAY SECTIONS, ANGLE OF SIGN FACE TO ROADWAY VARIES WITH DISTANCE FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN - SEE DIAGRAM.
  - B) ON THE INSIDE OF HORIZONTAL CURVES, POSITION SIGN SO FACE OF PANEL MAKES AN ANGLE OF 90° WITH A CHORD BETWEEN A POINT ON NEAR EDGE OF PAVEMENT AT SIGN LOCATION AND A POINT ON EDGE OF PAVEMENT 500' IN ADVANCE OF SIGN.
  - C) ON THE OUTSIDE OF HORIZONTAL CURVES, POSITION SIGN SO FACE OF PANEL IS AT RIGHT ANGLES TO THE TANGENT OF THE CURVE AT THE SIGN LOCATION.
  - D) POSITIONING OF SIGNS AT GORES AND RAMP SEPARATIONS IS REFERRED TO THE NORMAL EDGE OF THE MAINLINE ROADWAY.

**OVERHEAD SIGNS**

1. VERTICAL ALIGNMENT  
POSITION PANELS FOR ALL OVERHEAD STRUCTURES SO THAT PANEL FACE IS PLUMB.
2. OVERHEAD SIGN STRUCTURES SHALL NOT BE ERECTED WITHOUT ATTACHING LUMINAIRES, SUPPORTS, AND/OR SIGNS.
3. HORIZONTAL ALIGNMENT
  - A) POSITION ALL OVERHEAD SIGNS SO THAT THE FACE OF THE PANEL IS AT RIGHT ANGLES TO THE NORMAL EDGE OF ROADWAY, IF ON A STRAIGHT ROADWAY SECTION.
  - B) POSITION ALL OVERHEAD SIGNS SO THAT THE FACE OF THE PANEL IS AT RIGHT ANGLES TO THE TANGENT OF THE CURVE AT SIGN LOCATION, IF ON A HORIZONTAL CURVE.
  - C) POSITIONING OF SIGNS AT GORES AND RAMP SEPARATIONS IS REFERRED TO THE NORMAL EDGE OF THE MAINLINE ROADWAY.
4. VERTICAL CLEARANCE
  - A) OVERHEAD SIGNS SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 17'-9" FROM ROADWAY TO THE BOTTOM OF LIGHT FIXTURES. ALL LIGHT FIXTURES ARE TO BE AT THE SAME ELEVATION.
  - B) IF THE CONTRACTOR CANNOT OBTAIN 17'-9" (SEE 3A) CLEARANCE, HE IS TO CEASE WORK AND CONTACT THE PROJECT ENGINEER FOR FURTHER INSTRUCTIONS. THE PROJECT ENGINEER MAY CONTACT THE TRAFFIC ENGINEERING DESIGN DIVISION FOR ASSISTANCE.
  - C) ON ALL OVERHEAD SIGNS, THE MINIMUM CLEARANCE TO BOTTOM OF SIGN: 20'-9".

**PROJECT REQUIREMENTS**

ALL NEW SIGNS ON THIS PROJECT SHALL BE FABRICATED FROM SHEETING WHICH MEETS ALL OF THE FOLLOWING REQUIREMENTS, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS DIRECTED BY THE ENGINEER:

1. SHEETING SHALL MEET THE REQUIREMENTS OF SECTIONS 813 AND 950.03 OF MDSHA'S STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (JULY 2008) AND SUBSEQUENT REVISIONS
2. LISTED ON MDSHA OFFICE OF TRAFFIC AND SAFETY'S QUALIFIED PRODUCTS LIST (QPL)

**PROJECT REQUIREMENTS CONT'D**

3. THE FOLLOWING TYPES OF SHEETING SHALL BE USED FOR THE SPECIFIED SIGN CLASSIFICATIONS

- A) **GUIDE, EXIT GORE, AND GENERAL INFORMATION SIGNS-** RETROREFLECTIVE SHEETING FOR GUIDE SIGNS, EXIT GORE, AND GENERAL INFORMATION (INCLUDES WHITE ON GREEN, WHITE ON BLUE, WHITE ON BROWN AND THE REVERSE OF THESE COLORS) SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX SHEETING. REGULATORY AND WARNING MESSAGES WITHIN GUIDE SIGNS SHALL BE NON-REFLECTIVE BLACK LEGEND ON BACKGROUND SHEETING WHICH MEETS OR EXCEEDS THE REQUIREMENTS FOR ASTM TYPE IX SHEETING.
- B) **WARNING SIGNS** - RETROREFLECTIVE SHEETING FOR BLACK ON FLUORESCENT YELLOW WARNING SIGNS SHALL BE NON-REFLECTIVE BLACK LEGEND ON BACKGROUND SHEETING WHICH MEETS OR EXCEEDS THE REQUIREMENTS FOR ASTM TYPE IX SHEETING. REGULATORY MESSAGES WITHIN WARNING SIGNS SHALL FOLLOW THE GUIDELINES FOR REGULATORY SIGNS.
- C) **SCHOOL SIGNS** - RETROREFLECTIVE SHEETING FOR SCHOOL SIGNS (BLACK ON FLUORESCENT YELLOW AND BLACK ON FLUORESCENT YELLOW GREEN) SHALL BE NON-REFLECTIVE BLACK LEGEND ON BACKGROUND SHEETING WHICH MEETS OR EXCEEDS THE REQUIREMENTS FOR ASTM TYPE IX SHEETING. REGULATORY MESSAGES WITHIN SCHOOL SIGNS SHALL FOLLOW THE REQUIREMENTS FOR REGULATORY SIGNS.
- D) **REGULATORY SIGNS** - FALL INTO THREE SUBCATEGORIES:
  - I. "RED" REGULATORY SIGNS (STOP, YIELD, DO NOT ENTER AND WRONG WAY) RETROREFLECTIVE SHEETING FOR THESE SIGNS AND THEIR SUPPLEMENTAL PANELS (INCLUDES WHITE ON RED AND RED ON WHITE) SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX SHEETING.
  - II. ALL R7 AND R8 SERIES PARKING RELATED SIGNS AND THEIR SUPPLEMENTAL PANELS, NO TRESPASSING SIGNS, AND SIGNS DIRECTED AT PEDESTRIANS AND BICYCLISTS ONLY (INCLUDES RED ON WHITE, GREEN ON WHITE, BLUE ON WHITE, BLACK ON WHITE AND THE REVERSE OF THESE COLORS) SHALL BE ASTM TYPE I LEGEND ON ASTM TYPE I BACKGROUND.
  - III. ALL OTHER REGULATORY SIGNS - RETROREFLECTIVE SHEETING FOR THESE SIGNS AND THEIR SUPPLEMENTAL PANELS (INCLUDES BLACK ON WHITE) SHALL BE NON-REFLECTIVE BLACK LEGEND ON ASTM TYPE IV BACKGROUND. WHERE RED IS SPECIFIED, OR WHERE THE COLOR OF THE SIGN IS WHITE ON BLACK, THE LEGEND SHALL BE ASTM TYPE IV RETROREFLECTIVE SHEETING ON NON-REFLECTIVE BLACK BACKGROUND. WARNING MESSAGES WITHIN REGULATORY SIGNS SHALL FOLLOW THE GUIDELINES FOR WARNING SIGNS.
- E) **ROUTE MARKERS** - RETROREFLECTIVE SHEETING FOR ROUTE MARKERS (INCLUDES BLACK ON WHITE, GREEN ON WHITE, WHITE ON GREEN, WHITE ON RED/BLUE) SHALL MEET THE REQUIREMENTS OF GUIDE SIGNS ABOVE WHEN SPECIFIED AS THE LEGEND OF A GUIDE SIGN. RETROREFLECTIVE SHEETING FOR ALL INDEPENDENT ROUTE MARKERS AND THEIR AUXILIARY PANELS SHALL BE ASTM TYPE IV AND/OR NON-REFLECTIVE BLACK LEGEND ON ASTM TYPE IV BACKGROUND.
- F) **LOGOS AND/OR GRAPHICS** - WITHIN SIGNS SHALL FOLLOW THE GUIDELINES FOR THE RESPECTIVE SIGN CLASSIFICATION UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS DIRECTED BY THE ENGINEER.
- G) **CIVIL DEFENSE SIGNS AND OTHER SIGNS** - NOT SPECIFICALLY FALLING INTO ONE OF THE CATEGORIES ABOVE, SHALL FOLLOW THE GUIDELINES FOR THE SIGN CLASSIFICATION THAT MOST CLOSELY MATCHES THE COLOR(S) OF THE PROPOSED SIGN.

4. THE FOLLOWING MINIMUM THICKNESS SHALL BE USED FOR THE APPROPRIATE WIDTH OF SHEET ALUMINUM BLANKS.

LONGEST DIMENSION	MINIMUM THICKNESS
UP TO 12"	0.040"
GREATER THAN 12" TO 24"	0.063"
GREATER THAN 24" TO 36"	0.080"
GREATER THAN 36" TO 48"	0.100"
OVER 48"	0.125"

Monday, July 25, 2016 AT 03:39 PM  
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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James*  
DIRECTOR OF PUBLIC WORKS  
DATE: 8/24/16

*Thomas E. Butler*  
CHIEF, BUREAU OF ENGINEERING  
DATE: 7/20/16

*James*  
CHIEF, BUREAU OF HIGHWAYS  
DATE: 8/24/16

*James*  
CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIVISION  
DATE: 7/27/16

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO. 42794 EXPIRATION DATE: 06-16-2017

**RK&K**  
Rummel, Klepper & Kahl, LLP  
81 MOSHER STREET | BALTIMORE, MD 21217  
PH: (410) 728-2900 FAX: (410) 728-3160

Engineers | Construction Managers | Planners | Scientists  
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DES: WFW				
DRN: AFD				
CHK: BJG				
DATE: JULY 2016	BY	NO.	REVISION	DATE

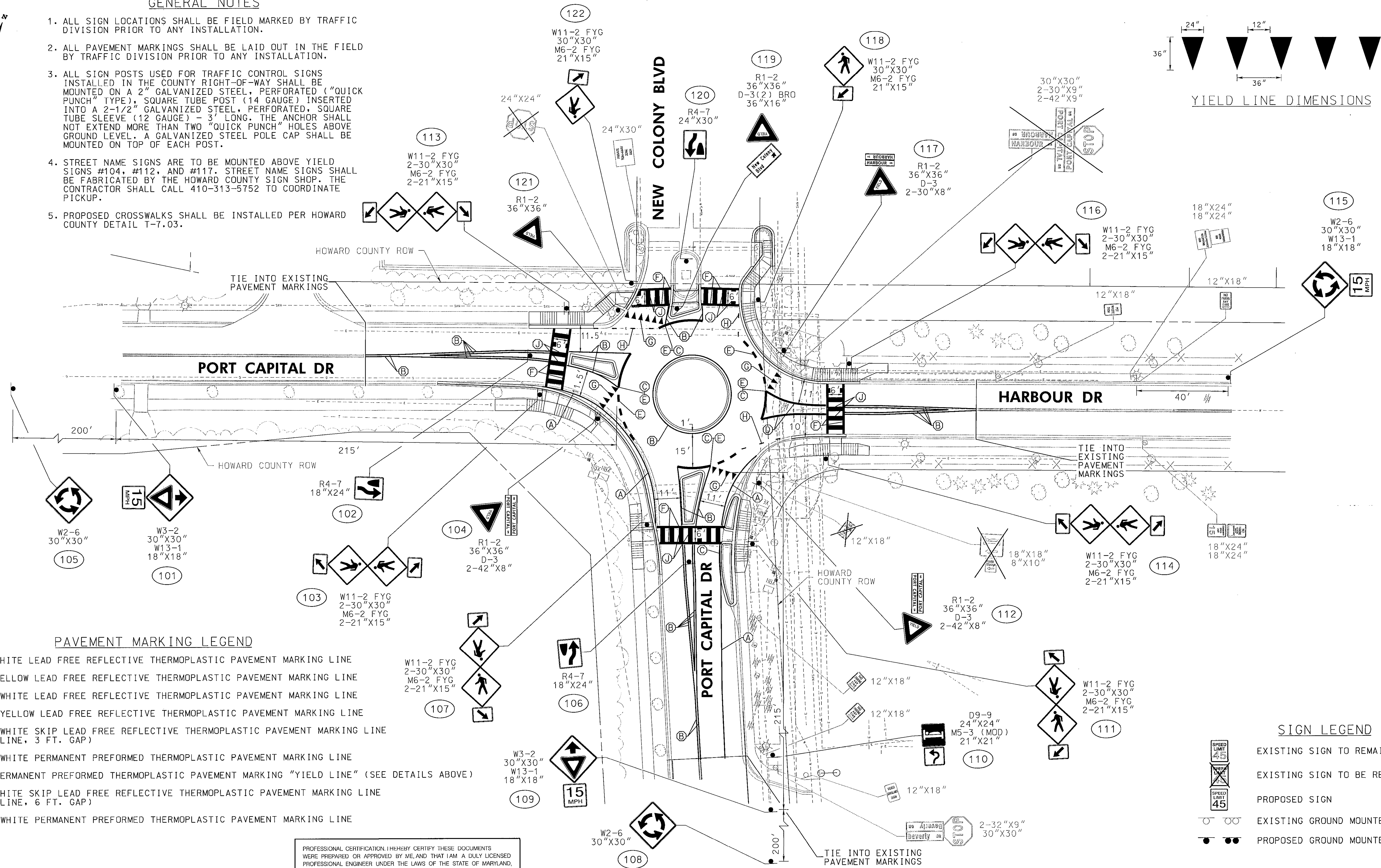
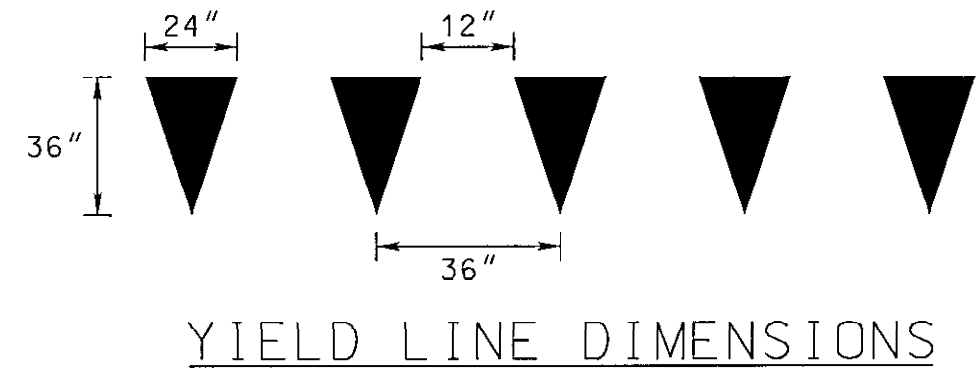
GENERAL NOTES AND PROPOSALS

PORT CAPITAL DRIVE AT HARBOUR DRIVE  
CAPITAL PROJECT NO. J-4168  
HOWARD COUNTY, MARYLAND

SCALE: NONE  
SHEET NO. 14 OF 17

**GENERAL NOTES**

1. ALL SIGN LOCATIONS SHALL BE FIELD MARKED BY TRAFFIC DIVISION PRIOR TO ANY INSTALLATION.
2. ALL PAVEMENT MARKINGS SHALL BE LAID OUT IN THE FIELD BY TRAFFIC DIVISION PRIOR TO ANY INSTALLATION.
3. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED ("QUICK PUNCH" TYPE), SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO "QUICK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
4. STREET NAME SIGNS ARE TO BE MOUNTED ABOVE YIELD SIGNS #104, #112, AND #117. STREET NAME SIGNS SHALL BE FABRICATED BY THE HOWARD COUNTY SIGN SHOP. THE CONTRACTOR SHALL CALL 410-313-5752 TO COORDINATE PICKUP.
5. PROPOSED CROSSWALKS SHALL BE INSTALLED PER HOWARD COUNTY DETAIL T-7.03.



**PAVEMENT MARKING LEGEND**

- A. 5 IN. WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKING LINE
- B. 5 IN. YELLOW LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKING LINE
- C. 12 IN. WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKING LINE
- D. 10 IN. YELLOW LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKING LINE
- E. 12 IN. WHITE SKIP LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKING LINE (3 FT. LINE, 3 FT. GAP)
- F. 12 IN. WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING LINE
- G. WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING "YIELD LINE" (SEE DETAILS ABOVE)
- H. 5 IN. WHITE SKIP LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKING LINE (2 FT. LINE, 6 FT. GAP)
- J. 24 IN. WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING LINE

**SIGN LEGEND**

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 40794, EXPIRATION DATE: 06-16-2017

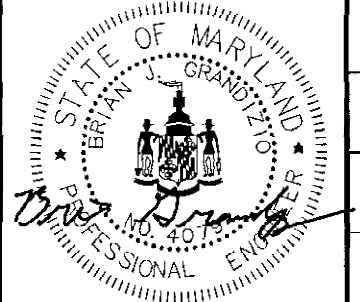
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Lang*  
DIRECTOR OF PUBLIC WORKS  
DATE: 8/24/16

*James P. Butler*  
CHIEF, BUREAU OF ENGINEERING  
DATE: 7/28/16

*John Stant*  
CHIEF, TRANSPORTATION & SPECIAL PROJECTS DIVISION  
DATE: 7/27/16

**RK&K**  
Rummel, Klepper & Kahl, LLP  
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PH: (410) 728-2900 FAX: (410) 728-3160



DES: WFW	DRN: AFD	CHK: BJG	DATE: JULY 2016
BY	NO.	REVISION	DATE

**SIGNING AND PAVEMENT MARKING PLAN**

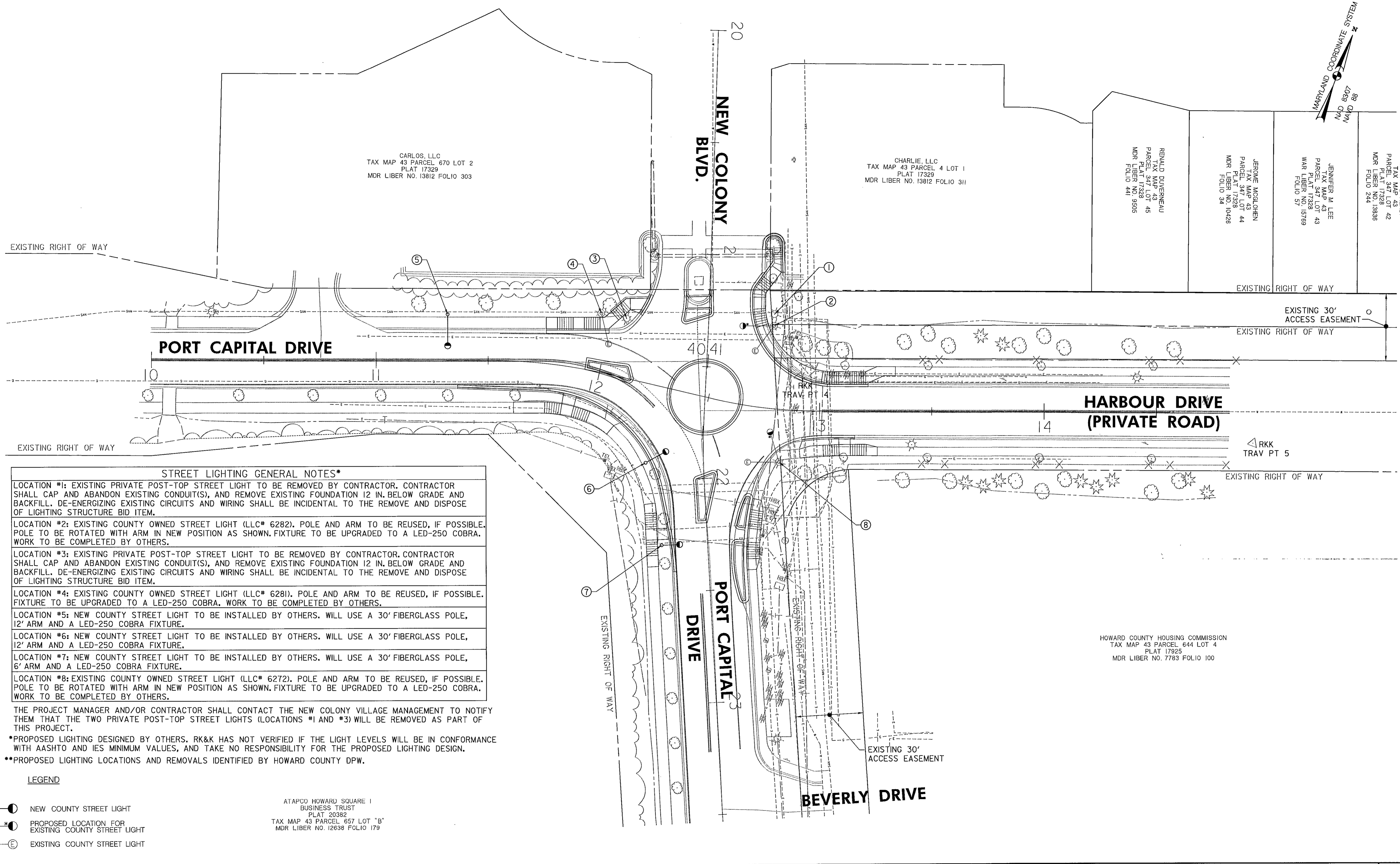
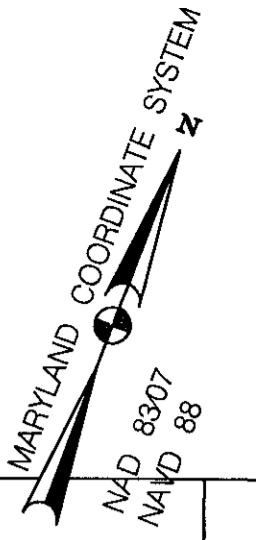
**PORT CAPITAL DRIVE AT HARBOUR DRIVE**  
CAPITAL PROJECT NO. J-4168  
HOWARD COUNTY, MARYLAND

SCALE  
1"=20'

SHEET NO.  
15 OF 17

Monday, July 25, 2016 AT 03:44 PM \\balsrv03\2010\2010\02023\_HCG\IT\Task - Port Capital\MinIR\_Final\Cadd\plans\pssn-2001\_PortCapital.dgn





**STREET LIGHTING GENERAL NOTES\***

- LOCATION #1: EXISTING PRIVATE POST-TOP STREET LIGHT TO BE REMOVED BY CONTRACTOR. CONTRACTOR SHALL CAP AND ABANDON EXISTING CONDUIT(S), AND REMOVE EXISTING FOUNDATION 12 IN. BELOW GRADE AND BACKFILL. DE-ENERGIZING EXISTING CIRCUITS AND WIRING SHALL BE INCIDENTAL TO THE REMOVE AND DISPOSE OF LIGHTING STRUCTURE BID ITEM.
- LOCATION #2: EXISTING COUNTY OWNED STREET LIGHT (LLC# 6282). POLE AND ARM TO BE REUSED, IF POSSIBLE. POLE TO BE ROTATED WITH ARM IN NEW POSITION AS SHOWN. FIXTURE TO BE UPGRADED TO A LED-250 COBRA. WORK TO BE COMPLETED BY OTHERS.
- LOCATION #3: EXISTING PRIVATE POST-TOP STREET LIGHT TO BE REMOVED BY CONTRACTOR. CONTRACTOR SHALL CAP AND ABANDON EXISTING CONDUIT(S), AND REMOVE EXISTING FOUNDATION 12 IN. BELOW GRADE AND BACKFILL. DE-ENERGIZING EXISTING CIRCUITS AND WIRING SHALL BE INCIDENTAL TO THE REMOVE AND DISPOSE OF LIGHTING STRUCTURE BID ITEM.
- LOCATION #4: EXISTING COUNTY OWNED STREET LIGHT (LLC# 6281). POLE AND ARM TO BE REUSED, IF POSSIBLE. FIXTURE TO BE UPGRADED TO A LED-250 COBRA. WORK TO BE COMPLETED BY OTHERS.
- LOCATION #5: NEW COUNTY STREET LIGHT TO BE INSTALLED BY OTHERS. WILL USE A 30' FIBERGLASS POLE, 12' ARM AND A LED-250 COBRA FIXTURE.
- LOCATION #6: NEW COUNTY STREET LIGHT TO BE INSTALLED BY OTHERS. WILL USE A 30' FIBERGLASS POLE, 12' ARM AND A LED-250 COBRA FIXTURE.
- LOCATION #7: NEW COUNTY STREET LIGHT TO BE INSTALLED BY OTHERS. WILL USE A 30' FIBERGLASS POLE, 6' ARM AND A LED-250 COBRA FIXTURE.
- LOCATION #8: EXISTING COUNTY OWNED STREET LIGHT (LLC# 6272). POLE AND ARM TO BE REUSED, IF POSSIBLE. POLE TO BE ROTATED WITH ARM IN NEW POSITION AS SHOWN. FIXTURE TO BE UPGRADED TO A LED-250 COBRA. WORK TO BE COMPLETED BY OTHERS.

THE PROJECT MANAGER AND/OR CONTRACTOR SHALL CONTACT THE NEW COLONY VILLAGE MANAGEMENT TO NOTIFY THEM THAT THE TWO PRIVATE POST-TOP STREET LIGHTS (LOCATIONS #1 AND #3) WILL BE REMOVED AS PART OF THIS PROJECT.

- \*PROPOSED LIGHTING DESIGNED BY OTHERS. RK&K HAS NOT VERIFIED IF THE LIGHT LEVELS WILL BE IN CONFORMANCE WITH AASHTO AND IES MINIMUM VALUES, AND TAKE NO RESPONSIBILITY FOR THE PROPOSED LIGHTING DESIGN.
- \*\*PROPOSED LIGHTING LOCATIONS AND REMOVALS IDENTIFIED BY HOWARD COUNTY DPW.

- LEGEND**
- NEW COUNTY STREET LIGHT
  - PROPOSED LOCATION FOR EXISTING COUNTY STREET LIGHT
  - EXISTING COUNTY STREET LIGHT

ATAPCO HOWARD SQUARE I  
BUSINESS TRUST  
PLAT 20382  
TAX MAP 43 PARCEL 657 LOT "B"  
MDR LIBER NO. 12636 FOLIO 179

HOWARD COUNTY HOUSING COMMISSION  
TAX MAP 43 PARCEL 644 LOT 4  
PLAT 17925  
MDR LIBER NO. 7783 FOLIO 100

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>James Elsie</i> 8/24/16 DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>James Elsie</i> 8/24/16 CHIEF, BUREAU OF HIGHWAYS DATE</p>	<p><b>RK&amp;K</b> Rummel, Klepper &amp; Kahl, LLP 81 MOSHER STREET   BALTIMORE, MD 21217 PH: (410) 728-2900 FAX: (410) 728-3160</p> <p><i>Thomas E. Ruppel</i> 7/27/16 CHIEF, BUREAU OF ENGINEERING DATE</p> <p><i>John Kennedy</i> 7/27/16 CHIEF, TRANSPORTATION &amp; SPECIAL PROJECTS DIVISION DATE</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DES: HO, DPW</td> <td></td> <td></td> <td></td> </tr> <tr> <td>DRN: SAK</td> <td></td> <td></td> <td></td> </tr> <tr> <td>CHK: RJG</td> <td></td> <td></td> <td></td> </tr> <tr> <td>DATE: JULY 2016</td> <td>BY</td> <td>NO.</td> <td>REVISION</td> </tr> </table>	DES: HO, DPW				DRN: SAK				CHK: RJG				DATE: JULY 2016	BY	NO.	REVISION	<p><b>LIGHTING PLAN</b></p> <p>PORT CAPITAL DRIVE AT HARBOUR DRIVE CAPITAL PROJECT NO. J-4168 HOWARD COUNTY, MARYLAND</p>	<p>SCALE 1"=20'</p> <p>SHEET NO. 17 OF 17</p>
DES: HO, DPW																				
DRN: SAK																				
CHK: RJG																				
DATE: JULY 2016	BY	NO.	REVISION																	

Tuesday, July 26, 2016 AT 11:29 AM  
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