

ADDENDUM NO. 2**BID NO. 19-07****MIDDLETON ROAD EXTENSION
CITY OF ABERDEEN, MARYLAND**

To all holders of the specifications, the following corrections are hereby made. All other items shall remain unchanged. This addendum shall become part of the Contract Documents for the above referenced project.

Acknowledgement of Addendum

Name: _____

Company: _____

Date: _____

Signature: _____

- **Section 1: Answers to Questions Posed by Bidders**
- **Section 2: Updated Bid Schedule**
- **Section 3: Crosswalk and Crosswalk Line Detail**
- **Section 4: Revised Construction Drawings**

Section 1: Answers to questions posed by bidders:**Q1:** Is there an Access Road?**A1:** There will be an access drive to Colony at Beards Hill LLC. There will not be an access to Colgate Investments.**Q2:** Was the Colgate extension page supposed to be part of the bid documents?**A2:** No.**Q3:** Stone base paid by cubic yard or square yard?**A3:** The stone base will be bid and paid by the square yard (10" thick).**Q4:** Will the handicap ramp be paid by cubic yard or square yard?**A4:** The handicap ramp will not be paid directly but shall be paid by the unit cost of the curb and sidewalk. The detectable warning surface shall be incidental to the unit cost of the sidewalk.**Q5:** Crosswalks – 91 LF - 8" line or 12" line? Hashmarks?**A5:** Crosswalks shall be paid per each and constructed in accordance with Figure 3B-20a of the MUTCD in Section 3. Epoxy Paint. The cross walk in the area of the commercial entrance shall be two parallel solid white lines. The cross walks in the area of the round-about shall be two parallel lines with cross hatch. The painted island in the area of the round-about shall be the same as the cross walk and paid under this item. There are 4 units.

Q6: Yellow & White line striping plan, is it 1,400 LF or 2,800 LF?

A6: White line striping shall be paid per linear foot of striping. Double line striping shall be paid per linear foot of double line. All striping shall be Lead Free Thermoplastic.

Q7: Are bike symbols part of the striping plan?

A7: No.

Q8: 8" concrete in the island for the roundabout?

A8: Yes.

Q9: 8" concrete in islands?

A9: Yes, with Type 'C' curb and 4x4, W4.0XW4.0 wire mesh, no longitudinal tie-down devices.

Q10: For asphalt adjustment, will there be pay adjustment granted for price fluctuations?

A10: There will be no adjustment in price due to fluctuations in asphalt price.

Q11: Why is there builders risk insurance required? Should it be removed?

A11: Builders risk insurance has been eliminated from the contract.

Q12: Is the contractor supposed to adjust existing sanitary structures?

A12: Yes, adjustment to the structures as required, shall be incidental to the cost of the finish pavement.

Q13: Is the contractor supposed to demo existing chain link fence?

A13: Yes, the cost shall be incidental to the cost of Clearing and Grubbing.

Q14: ENS Quantity – not listed in the bid document?

A14: The Erosion and Sediment Control measures shall be measured and paid as a Lump Sum. The Bid Schedule has been revised to include this item.

Q15: Sheet 15 – Streetlight schedule – City to resolve.

A15: This is an open question that needs to be resolved with BG&E.

Q16: Sheet 1 Note 19 – Should it say "Contractor" and not "City or Contractor"?

A16: This is the Contractor's Responsibility.

Q17: There is no bid item for stakeout.

A17: Correct, this is incidental to the other items in the bid.

Q18: No office trailer will be necessary but posting ENS is still required.

A18: Correct.

Q19: Is the contractor responsible for the compaction testing?

A19: Yes, the contractor is responsible for testing in accordance with the standard specifications. All test results are to be provided to the City. The City reserves the right to provide additional testing to confirm compliance with the specifications.

Q20: Is concrete testing required?

A20: Yes.

Q21: 150 calendar days to substantial completion?

A21: Correct.

Q22: Note 19 (Sheet 1 of 15) states that staking/surveying is the responsibility of the contractor or the owner. Please clarify who the responsible party will be.

A22: Contractor.

Q23: Sheet 15 of 15 shows a county street light schedule. Are the lights part of this contract? If so, who is responsible for the conduits and electrical work? Will require specifications of the lights if in fact part of this contract.

A23: The lights are not part of the contract at this time.

Q24: There is no MOT plan for this project. Will a temporary detour be allowed (estimated 3 weeks for complete closure for roundabout construction) if all signage and required notifications are provided?

A24: A short term road closure will be allowed.

Q25: Will there be an item added for the payment of the Erosion & Sediment Control?

A25: Yes, Lump Sum.

Q26: Will bike symbols be required for the bike lanes? Will a marking plan be provided prior to bid opening?

A26: Bike symbols will not be required. No additional marking plan will be provided.

Q27: Will item #11 be paid as SY's or CY's?

A27: Item #11, 10" CABC will be paid per SY, 10" thick.

Q28: How will the sanitary sewer adjustments be paid? SMH's 3, 4 and 5 show on profiles as vertical adjustments required.

A28: This work will be paid incidental to the cost of the final paving.

Q29: For the waterline work, who is responsible for exercising the valves for tie-in purposes? Will a tapping sleeve and valve be acceptable for the tie-in at station 18+26? If a cut in tee and valve is the only approved method, will the shutdowns be allowed during the daytime?

A29: The City will work with the Contractor to shut-off the water for the tie-in. A tee and valves will be required. A temporary shutdown will be allowed but must be coordinated with the City.

Q30: Who will adjust existing sanitary structures? There is not a line item or detail.

A30: The Contractor will make the adjustments. They will be paid incidental to the cost of the finish pavement.

Q31: There is an existing fence and debris within limits of the project, there is not a line item for demolition.

A31: This work will be part of the Clearing and Grubbing.

Q32: Will there be a line striping plan forthcoming with type of striping and signage expected?

A32: No. The striping is shown on the plan. The lines will be painted with an epoxy paint. No additional signage or striping is proposed.

Q33: Class 51 is shown on the drawings, is this correct?

A33: The waterline will be C900 pipe with appropriate fittings.

Q34: There is not a line item for E&S.

A34: This item shall be measured and paid as a Lump Sum.

Q35: Some of the quantity measurements differ from the plan to bid item, i.e., Square Yard verses Cubic Yard.

A35: Item #11 has changed to SY. Item #13 has been eliminated. Item #15 has been clarified and a detail provided. For the watermain, the type of pipe has been revised.

Q36: There are 2 manhole that need adjustment, but there is no Item, under which item it will be paid?

A36: See question #30.

Q37: Who will be responsible for construction Stake-out, can an item be established?

A37: See question #22.

Q38: Who will be responsible for Compaction, Concrete and Asphalt Testing and under which item it will be paid. Or will the owner provide this service?

A38: See question #19.

Q39: Sediment and Erosion control drawing has been sent as part of addendum no. 1, but not a revision on the bid item has been sent/received New Item and Qty need to be establish, Construction Entrance, Check Dam. Silt Fence, Super Silt Fence, Diversion Fence, earth Dike, Temp. Class I Rip Rap, can a construction entrance be added at Beards Hills Rd.

A39: See question #14. An additional construction entrance is acceptable but will be paid as part of the Lump Sum item.

Q40: On Drawing ES-4 show Mill and Overlay but no paid item.

A40: These items are paid under items #8 & 9.

Q41: At the pre bid it was discussed that the Colgate entrance is not part of this contract, can you cross this out?

A41: See Question #2.

Q42: It show a light pole near Sta. 16+00 is this part of this contract? There is no detail on the light pole or showing where it will be electrical feed. (Drawing ES-2)

A42: The light poles are not currently part of this contract.

Q43: There is no drawing for striping/detail

A43: See question #6.

Q44: Under which item will be paid the removal of the existing storm drain show on ES-1 near sta. 7+50

A44: The pipe removal will be paid under the Clearing & Grubbing item.

**MIDDLETON ROAD EXTENSION
CITY OF ABERDEEN, MARYLAND**

BID NUMBER: 19-07

**BID SCHEDULE
Revised 3/25/19**

Estimated quantities shown for unit price items are for bidding purposes only and are not guaranteed. Whether quantities recorded and approved by the Owner are less than, equal to, or greater than the estimated quantities shown, payment shall be made on the unit bid price basis of this proposal.

PART I – ROAD & UTILITY ITEMS

Middleton Road Extension					
Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
1	Mobilization, Demobilization	1	L.S.		
2	Maintenance of Traffic & Pedestrian Access	1	L.S.		
3	Clearing and Grubbing	1	L.S.		
4	Furnish and Install 7" Concrete Curb and Gutter	810	L.F.		
5	Furnish and Install Type "C" Curb for roundabout	510	L.F.		
6	Furnish and Install 5" Type "D" Concrete Curb and Gutter	130	L.F.		
7	3" Hot Mix Asphalt Superpave Band, 12.5MM	1,150	TON		
8	1.5" Milling of Existing Pavement	250	S.Y.		
9	1.5" Hot Mix Asphalt Superpave Overlay	25	TON		
10	3" Hot Mix Asphalt Superpave Band, 19.0 MM	1,150	TON		
11	10" Crusher Run Aggregate Base Course	6700	S.Y.		
12	5' Wide Concrete Sidewalk	7480	S.F.		

13	Handicap Curb Ramps	280	S.F.		
14	Pavement Marking, Double Yellow	1,400	L.F.		
15	Pavement-Marking, Crosswalk	4	EA		
16	Pavement-Marking, Solid White Line	3000	L.F.		
17	Street Trees Deciduous	26	EA		
18	Street Trees Evergreen	40	EA		
19	Sheet Aluminum Traffic Signs	63	S.F.		
20	Precast or Cast-in-place COG/COS Opening for 8" Curb 10' only	3	EA		
21	Class I Riprap	78	S.Y.		
22	8" Concrete Apron for Roundabout	2,000	S.F.		
23	Common Borrow	2,100	C.Y.		
24	Site Grading	1	L.S.		
25	Grass Swale	2,148	L.F.		
26	Culvert 1 (12" HDPE)	40	L.F.		
27	Standard Type C 345.01 for 12" HDPE	1	UNIT		
28	Standard Concrete End Section MD 368.01 for 12" HDPE	1	UNIT		
29	Culvert 2 (38"x24" ERCCP)	70	L.F.		
30	Standard Type C 355.02 for 38"x24" ERCCP	1	UNIT		
31	Standard Concrete End Section Elliptical Pipe MD 369.00 38"x24" ERCCP	1	UNIT		
32	Culvert 3 (22"x14" ERCCP)	110	L.F.		
33	Standard Type C 355.02 for 22"x14" ERCCP	1	UNIT		
34	Standard Concrete End Section Elliptical Pipe MD 369.00 22"x14" ERCCP	1	UNIT		
Subtotal Amount Bid for Middleton Road Extension					\$

Optional: Watermain					
Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
1	8-Inch DIP C900 Watermain	1,500	L.F		
2	6-Inch DIP C900 Watermain	50	L.F.		
3	Fire Hydrants	2	EA		
4	Fittings, Bends, and Tees	6	UNIT		
5	8" Valve	3	EA		
Subtotal Amount Bid for Watermain					\$

**MIDDLETON ROAD EXTENSION
CITY OF ABERDEEN, MARYLAND**

BID NUMBER: 19-07

PART II – FIXED FEE CONTINGENT ITEMS

The following fixed fee contingent items shall be applied in computing the value of changes, additions, deletions, substitutions and cash allowances which may be made in the work in accordance with the specifications and as directed by the Owner. Each contingent item price includes costs for all labor, material, tools, equipment, overhead, profit and commission necessary to complete the item.

The Contract amount shall be adjusted in accordance with the provisions of the "General Conditions" when and if additions or deletions are made. A deduct change order will be issued upon completion of the work to reduce the Total Contract Amount by the unused Contingent Item amount listed below.

Contingent Items					
Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
1	Furnish and Place gravel refill to subgrade	100	C.Y.	\$53	\$5,300
2	Imported Suitable Backfill	100	C.Y.	\$20	\$2,000
3	Excavation, removal, haul-off, and disposal of unsuitable material including subgrade under cuts	100	C.Y.	\$15	\$1,500
4	Sod	2,000	S.F.	\$4.5	\$9,000
Subtotal Amount Bid for Contingent Items					\$17,800

By _____

Title _____

Address _____

Telephone No. (____) _____

If a Partnership, state names and addresses of Partners here:

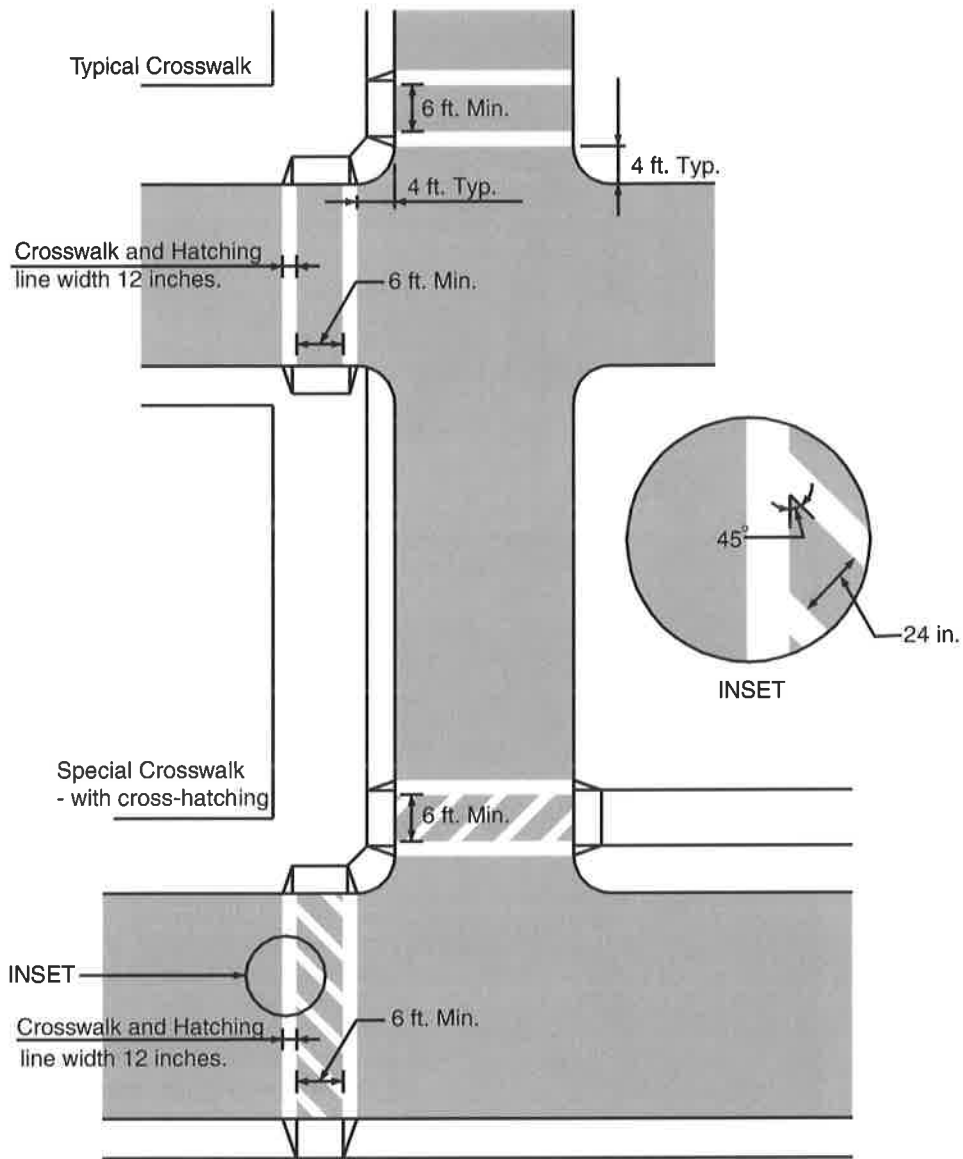
If a Corporation, affix Corporate Seal on Bid, beside signature.

Bid Preparer's signature _____

Maryland Contractor's License Number _____

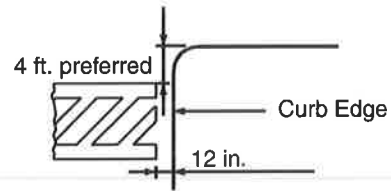
**** END OF BID FORM ****

Figure 3B-20a. Examples of Crosswalk and Crosswalk Lines



A crosswalk placed at an intersection is preferred to be placed no closer than 4 feet from the nearest edge of the intersecting roadway.

Across roadways at non-intersection locations, locations that are unexpected, school crossing, and across ramps, crosswalk lines shall be 12 inches wide. The space between the crosswalk lines shall be hatched with diagonal white lines that are 12 inches wide.



When using lane tape material, allow for gutter drainage by starting material 12 inches from the curb edge.

MIDDELTON ROAD EXTENSION

CONTRACT #19-07

CONSTRUCTION DRAWINGS

CITY OF ABERDEEN HARFORD COUNTY, MARYLAND

GENERAL NOTES

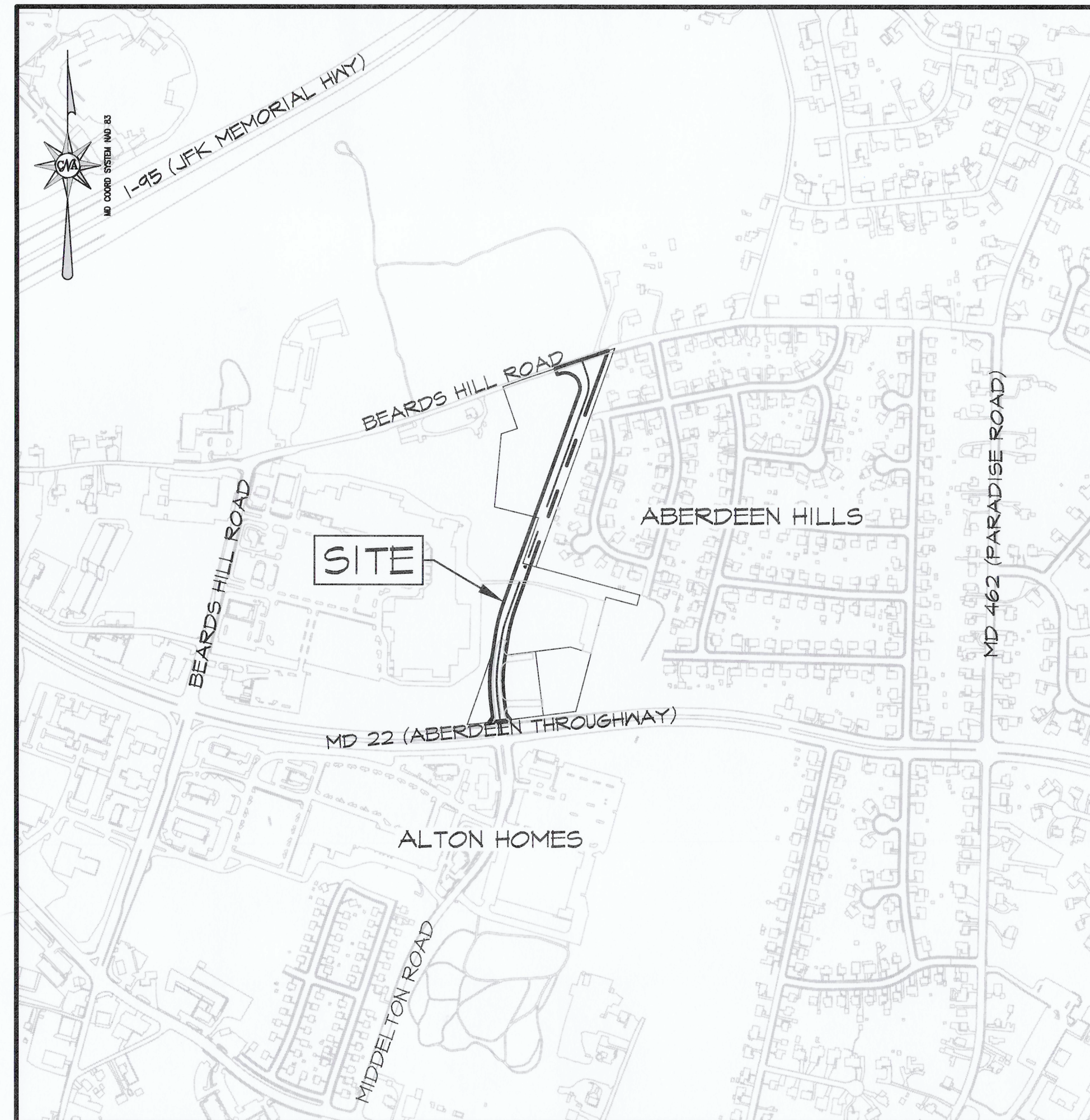
- BEFORE THE START OF CONSTRUCTION, THE CONTRACTOR IS TO VERIFY THE LOCATION OF EXISTING UTILITIES BY CONTACTING "MISS UTILITY" (1-800-251-7777). CONTRACTOR SHALL ALSO NOTIFY THE CITY OF ABERDEEN INSPECTIONS DEPARTMENT (410) 212-1600 X223 A MINIMUM OF 48 HRS PRIOR TO ANY CONSTRUCTION.
- CONSTRUCTION FROM THESE PLANS MUST BE STARTED WITHIN ONE (1) YEAR OF THE APPROVAL DATE OR APPROVAL IS NULL AND VOID.
- ALL WORK PERFORMED ON THIS PROJECT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE HARFORD COUNTY ROAD CODE AND STANDARD SPECIFICATIONS (LATEST EDITION), DETAILS AND AS AMENDED & APPROVED BY THE CITY OF ABERDEEN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO AND MAINTENANCE AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES.
- WHERE REQUIRED BY ENCOUNTERED SPRINGS OR OTHER SEEPAGE CONDITIONS, UNDERDRAIN LINES SHALL BE INSTALLED USING 6-INCH DIAMETER PERFORATED UNDERDRAIN PIPE MEETING CITY OF ABERDEEN SPECIFICATIONS AS INDICATED IN GENERAL NOTE #3.
- STORM DRAIN PIPES, MANHOLES, AND ENDWALLS ARE NOT TO BE CONSTRUCTED UNTIL GRADING OPERATIONS ARE COMPLETE, UNLESS SPECIFIED OTHERWISE IN SEQUENCE OF CONSTRUCTION.
- ALL DISTURBED AREAS AS A RESULT OF ROADWAYS AND STORM DRAIN CONSTRUCTION SHALL BE PERMANENTLY STABILIZED WITHIN SEVEN (7) DAYS AFTER COMPLETION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF TRAFFIC AND TRAFFIC CONTROL DURING CONSTRUCTION, CONSISTENT WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES - LATEST EDITION.
- ALL ROADS AND STREETS SHALL BE SIGNED AND MARKED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION) AND AS DIRECTED BY THE CITY ENGINEER.
- EXISTING UTILITIES ARE SHOWN HEREIN FOR THE CONVENIENCE OF THE CONTRACTOR AND THE COMPLETENESS OR ACCURACY OF THE SAME IS NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF THE EXISTING UTILITIES BEFORE ANY EXCAVATION BEGINS. HE SHALL PROTECT SERVICE CONNECTIONS AND MAINTAIN THEIR UNINTERRUPTED SERVICE. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED IMMEDIATELY. THE COST OF SUCH REPAIRS SHALL BE BORNE BY THE CONTRACTOR.
- ALL STORM DRAIN PIPE SHALL BE CONSTRUCTED AND BACKFILLED IN ACCORDANCE W/ MANUFACTURER'S SPECIFICATIONS AND THE HARFORD COUNTY ROAD CODE (LATEST EDITION). SEE GENERAL NOTE 3.
- ALL INLETS AND MANHOLES SHALL BE BACKFILLED WITH NO. 57 AGGREGATE FOR A WIDTH OF 1.5 FEET OUTSIDE THE PERIMETER OF THE INLET AS PER SECTION 603 OF THE CITY OF ABERDEEN ROAD CODE. SEE GENERAL NOTE #3.
- WHEN DRIVEWAY ENTRANCES CAN BE LOCATED DURING THE ROADWAY CONSTRUCTION, CURBING SHALL BE DEPRESSED THROUGH THE ENTRANCE IN ACCORDANCE WITH DETAIL S-11, S-12, OR S-13 IN THE HARFORD COUNTY ROAD CODE (DEC 2008). SEE GENERAL NOTE 3.
- PIPE JOINTS SHALL BE SEALED IN A MANNER APPROPRIATE TO THE PIPE MATERIAL. REINFORCED CONCRETE PIPE JOINTS SHALL BE SEALED WITH RUBBER TYPE GASKETS (CIRCULAR PIPE) OR RESILIENT TYPE MATERIAL (ELLIPTICAL PIPE) CONFORMING TO M 148. MORTAR JOINTS ARE PROHIBITED. METAL PIPE JOINTS SHALL BE SEALED WITH RUBBER GASKETS AND COUPLING BANDS CONFORMING TO M 36.
- COORDINATES SHOWN ON THIS DRAWING REFER TO THE MARYLAND COORDINATE SYSTEM (NAD 83) AND ARE BASED ON CNA PIN # CAP. BM-1 N 67°10'03.46" E 152530.850 ELEVATIONS SHOWN HEREON ARE REFERRED TO NAVD 84 WITH LOGAL REFERENCE TO CNA PIN # CAP. BM-1 ELEV. 196.
- ALL CONSTRUCTION TO BE PERFORMED IN ACCORDANCE WITH STATE OF MARYLAND OCCUPATIONAL SAFETY REGULATIONS.
- ALL TRENCH REPAIR IN EXISTING ROAD TO COMPLY WITH PLATE R-3.
- ALL STAKING, RESTAKING AND CUT SHEETS SHALL BE PERFORMED BY A REGISTERED LAND SURVEYOR OR PROFESSIONAL ENGINEER AT THE CONTRACTOR'S EXPENSE, INCLUDING HOUSE SERVICES. A COPY OF ALL CUT SHEETS SHALL BE PROVIDED TO THE CITY INSPECTOR PRIOR TO CONSTRUCTION.

CENTERLINE LINE TABLE

CURVE	CHORD BEARING	CHORD LENGTH
L5	N 07°04'28" W	161.01'
L6	N 08°48'44" E	104.39'
L7	N 19°52'15" E	109.14'
L8	N 19°14'04" W	72.94'

CENTERLINE CURVE TABLE

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	186.76'	670.00'	15°58'17"	S 00°44'41" W	186.16'
C2	86.84'	450.00'	11°03'26"	S 14°20'32" W	86.71'
C3	102.38'	150.00'	34°06'19"	N 00°19'06" E	100.40'



LOCATION MAP

SCALE 1" = 500'

CITY OF ABERDEEN
DEPARTMENT OF PUBLIC WORKS

INDEX OF DRAWINGS

- TITLE SHEET
- ROADWAY PLAN/PROFILE SHEET
- ROADWAY PLAN/PROFILE SHEET
- SECTIONS AND STORM DRAIN PROFILES
- ROADWAY DETAILS
- TRAFFIC CIRCLE DETAILS
- ESC PLAN SHEET
- ESC PLAN SHEET
- ESC DETAILS
- SIGNING, MARKING, AND LIGHTING
- WATER PLAN/PROFILE SHEET
- WATER PLAN/PROFILE SHEET
- WATER DETAILS
- LANDSCAPE PLAN

LEGEND

---	PARCEL BOUNDARY
---	EXISTING 2' CONTOUR
---	EXISTING 10' CONTOUR
---	EXISTING BUILDINGS
---	EXISTING PROPERTY LINES
---	EXISTING ROAD LEFT
---	EXISTING ROAD RIGHT
---	EXISTING ROAD CENTER LINE
---	EXISTING TREELINE
[]	EXISTING BUILDING
---	PROPOSED ROAD CENTER LINE

AS-BUILT CERTIFICATION

"I HEREBY CERTIFY THAT THE 'AS-BUILT' DRAWINGS CORRECTLY SHOW THE HORIZONTAL AND VERTICAL LOCATION OF THE ROADS AND DRAIN STRUCTURES AND APPURTENANCES; CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND AS-BUILT SURVEYS WHICH ARE CONDUCTED AFTER THE ROADS AND STORM DRAIN UTILITIES ARE CONSTRUCTED. THE ON-SITE INSPECTIONS AND AS-BUILT SURVEYS ARE THOSE VISUAL OBSERVATIONS AND SURVEYS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING PRACTICES. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES."

SURVEY DATES _____

SIGNATURE _____ P.E. # _____ DATE _____

ROAD CLASSIFICATION

ROAD NAME	LIMIT OF WORK	CLASSIFICATION	DESIGN SPEED
MIDDELTON ROAD	C/L RD STA. 4+05 TO 18+11.47	COMM/INDUSTRIAL	35 MPH



Professional Certification: I hereby certify that 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. 28378, Expiration Date: 01/01/2021.

DATE	REVISION	BY

CITY OF ABERDEEN
MARYLAND

APPROVED: ABERDEEN DEPT. OF PUBLIC WORKS

CITY ENGINEER DATE

DIRECTOR DATE

GRADING PERMIT NO. _____

STORM WATER MANAGEMENT NO.: _____

PUBLIC WORKS AGREEMENT NO.: _____

3RD ELECTION DISTRICT

CITY OF ABERDEEN

MIDDELTON ROAD EXTENSION
TITLE SHEET

HARFORD COUNTY, MARYLAND

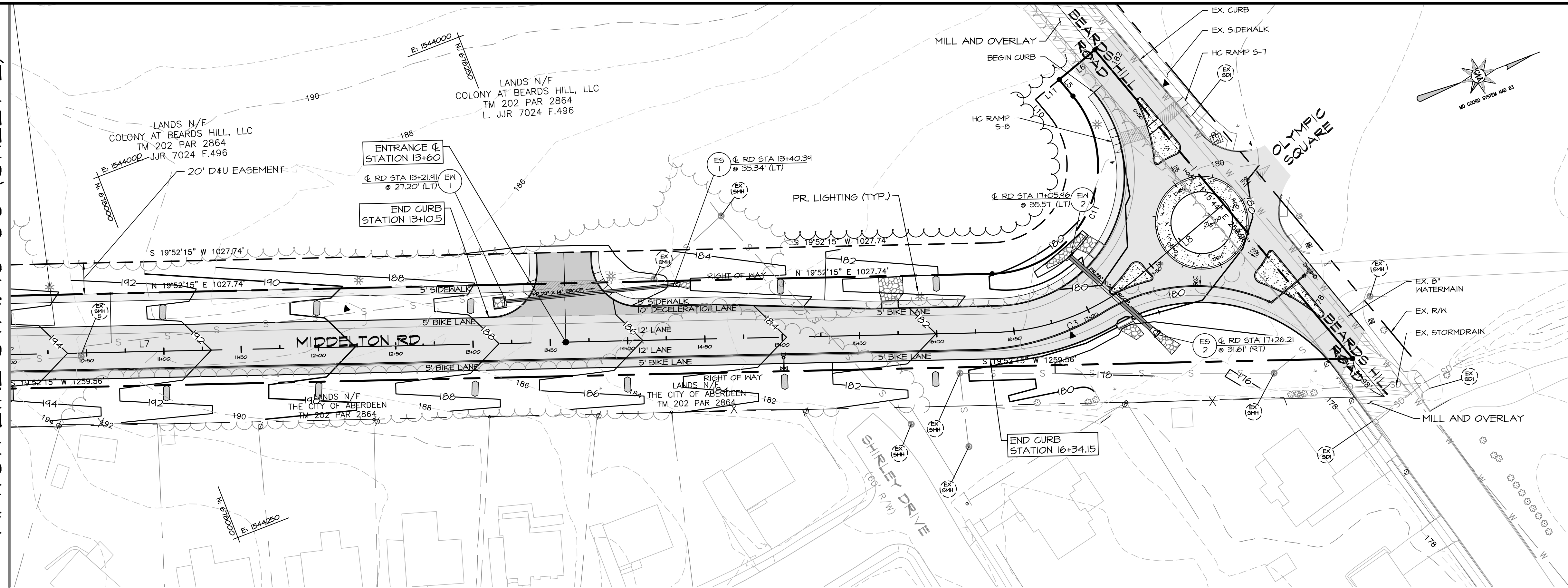
CNA
Engineers, Surveyors & Landscape Architects
Civil Engineers • Land Surveyors • Landscape Architects
Planners • Geotechnical Engineers • Environmental Engineers
100 North One
Forest Hill, Maryland 21050
Phone (443) 652-1111 • Fax (410) 838-1811
E-mail: cna@cna-engineers.com

DESIGNED SPM/RLR
TRACED SPM/RRL
CHECKED GRM

SCALE AS SHOWN

FAX MAP	PARCEL	SHEET
202	2064	1
1600		
ADZ. MAP	NO.	FILES
NO.	14	
XX X-X X-X	OF	

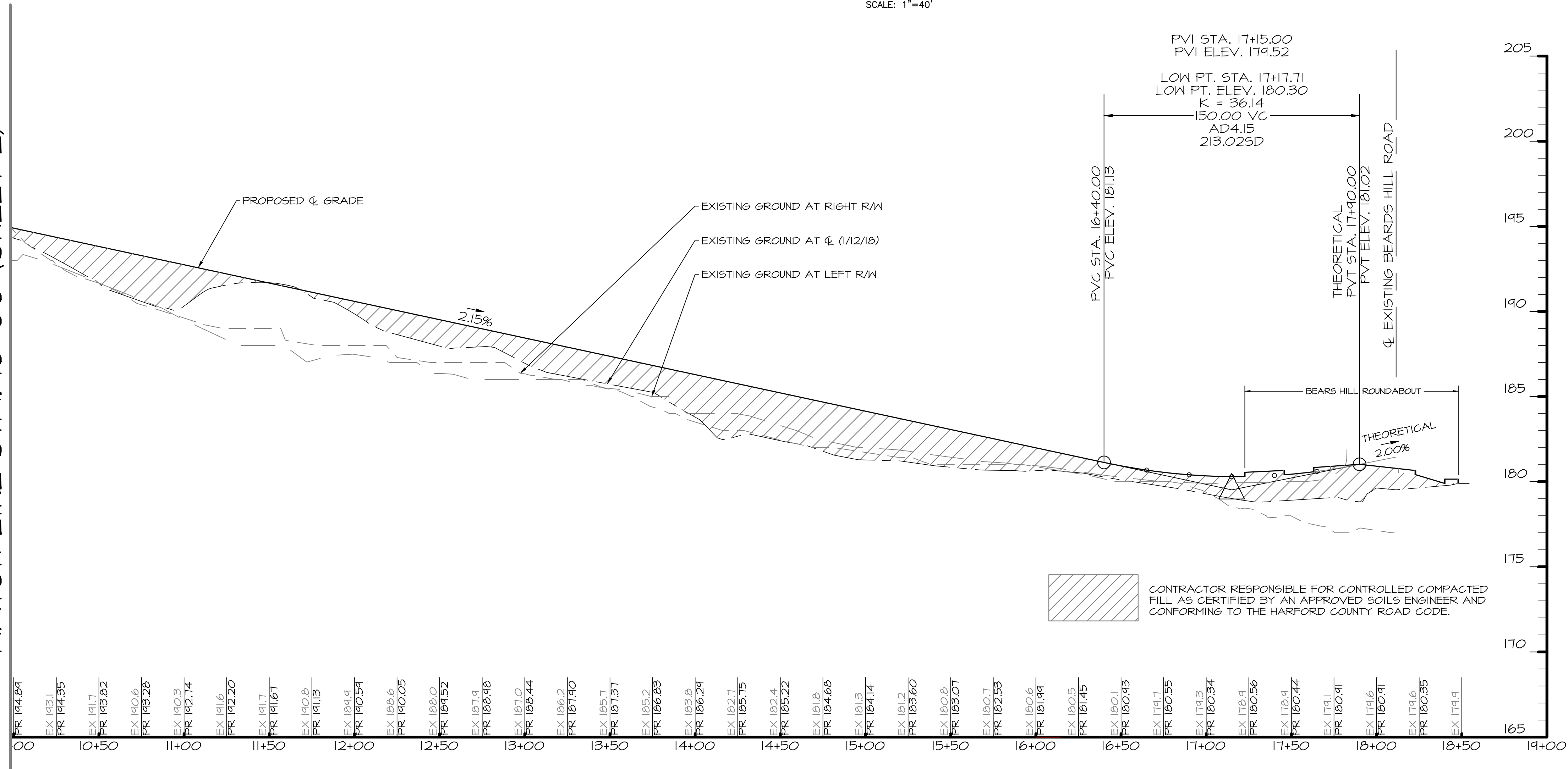
MATCH LINE STA. 10+00 (SHEET 2)



NOTE:
SEE SHEET 6 FOR
ROUNDBOUT DETAIL INFO

PLAN
SCALE: 1"=40'

MATCH LINE STA. 10+00 (SHEET 2)



MIDDELTON ROAD PROFILE - STA. 10+00 TO STA. 17+89.99

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL



DATE	REVISION	BY

CITY OF ABERDEEN
MARYLAND

APPROVED: ABERDEEN DEPT. OF PUBLIC WORKS
CITY ENGINEER
DIRECTOR

GRADING PERMIT NO.
STORM WATER MANAGEMENT NO.
PUBLIC WORKS AGREEMENT NO.

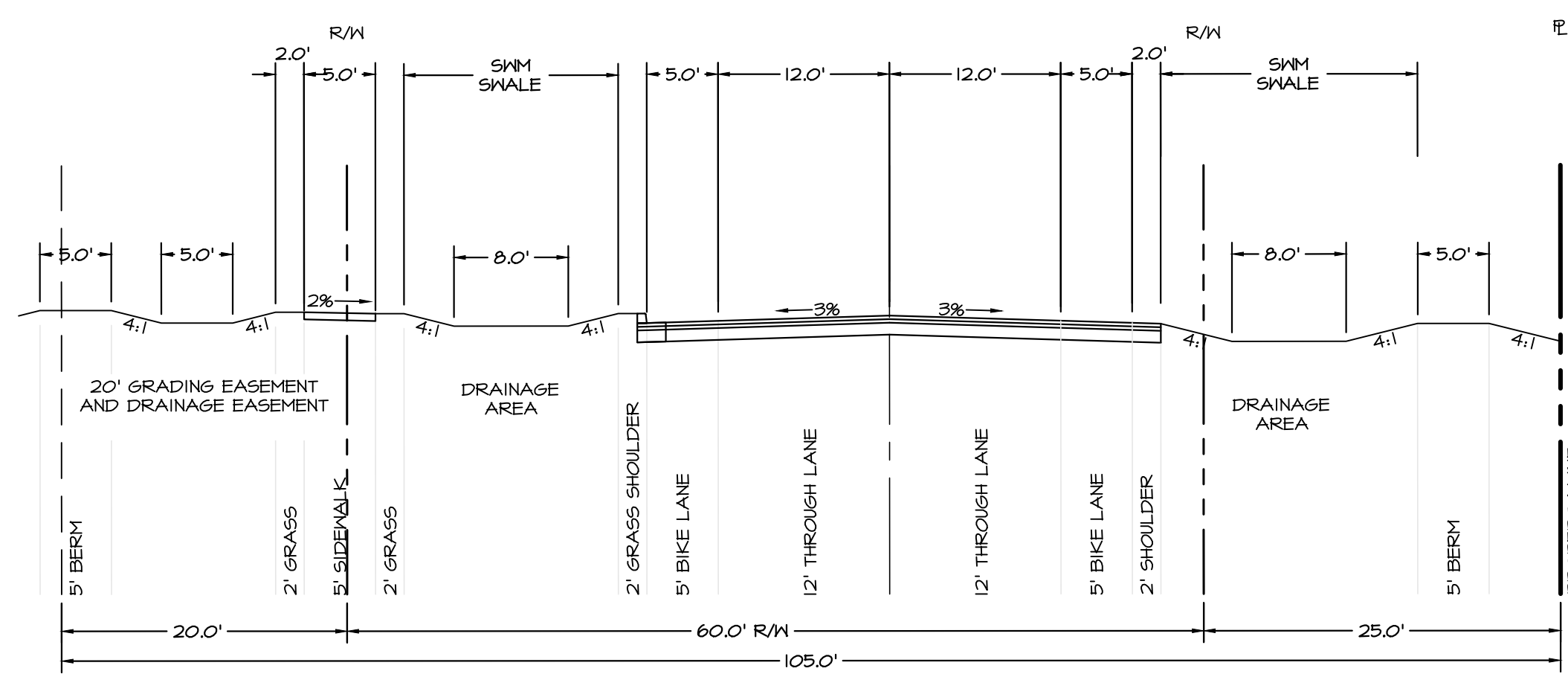
CITY OF ABERDEEN

MIDDELTON ROAD EXTENSION
ROADWAY PLAN AND PROFILES
HARFORD COUNTY, MARYLAND

CNA
Civil Engineers - Land Surveyors - Landscape Architects
Planners - Geotechnical Engineers - Environmental Engineers
1800 Robin Drive
Ft. Belvoir, Maryland 21050
Phone (443) 462-6114 • Fax (410) 536-1811
E-mail: cna@md-cna-engineers.com

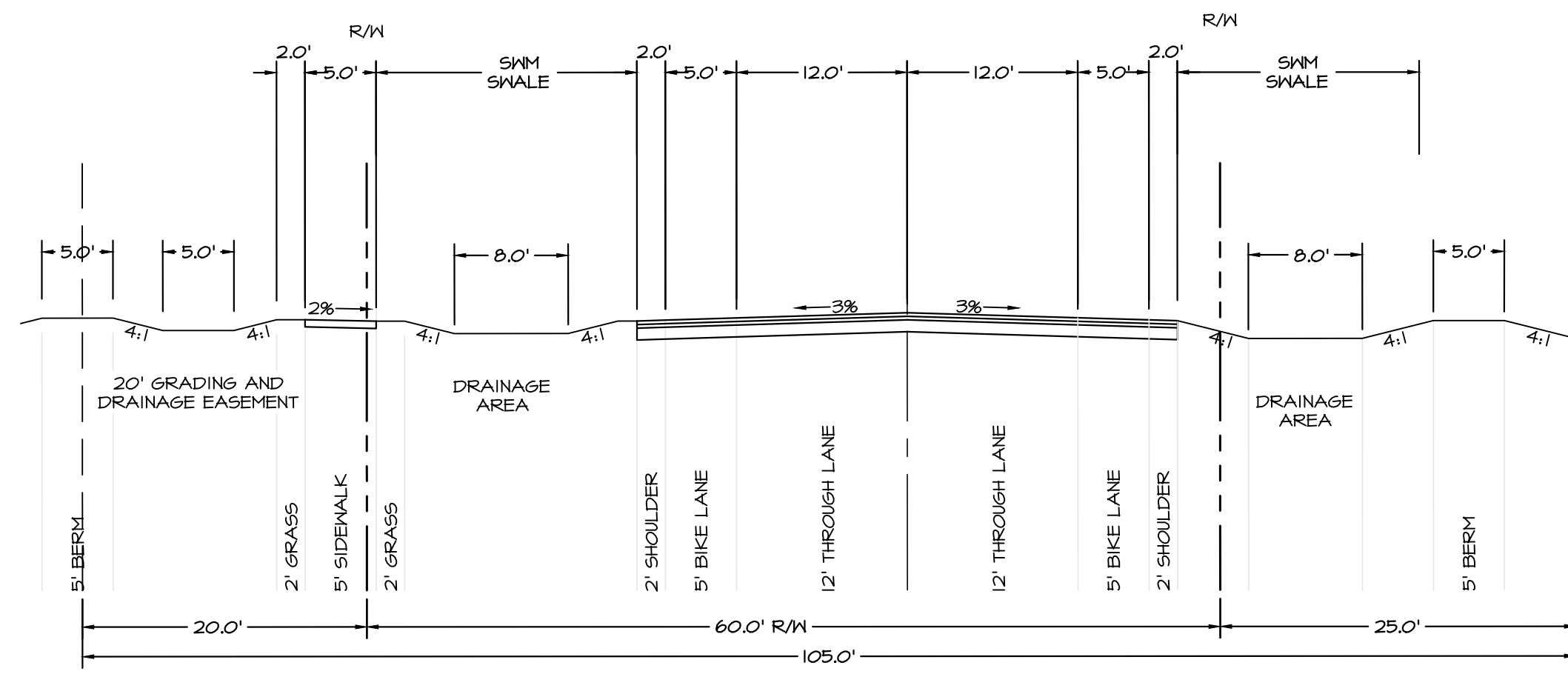
DESIGNED: SPM/RLR
DRAWN: SPM/RLR
CHECKED: RLR

SCALE	AS SHOWN	SHEET	3	OF	14
FAX MAP	202	PARCEL	2004	NO.	600
AD.2. MAP	NO.	GRIDS	XX	X-X	X-X
DATE	10/12/2016	FILES			



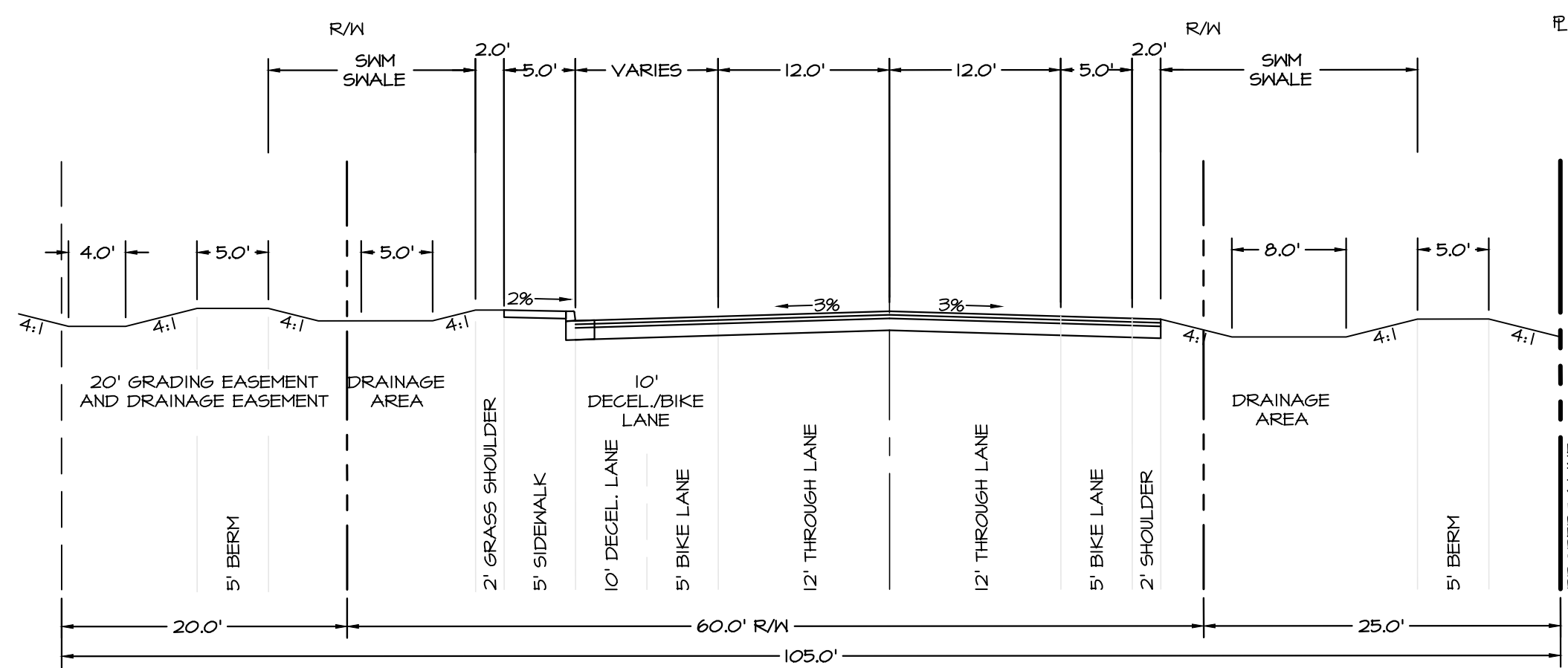
TYPICAL SECTION - STATION 13+10.5

SCALE: 1"=10'



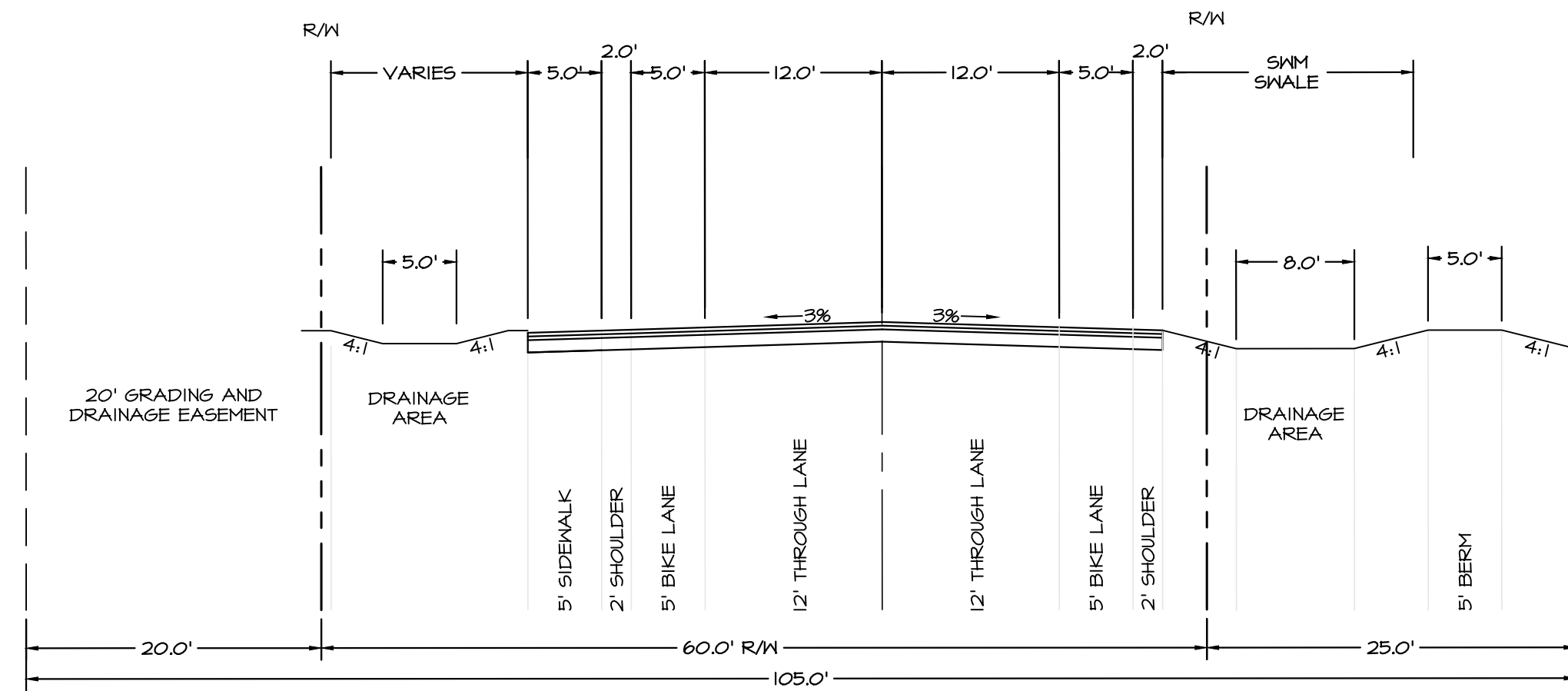
TYPICAL SECTION - STATION 5+00 TO 13+10.5

SCALE: 1"=10'



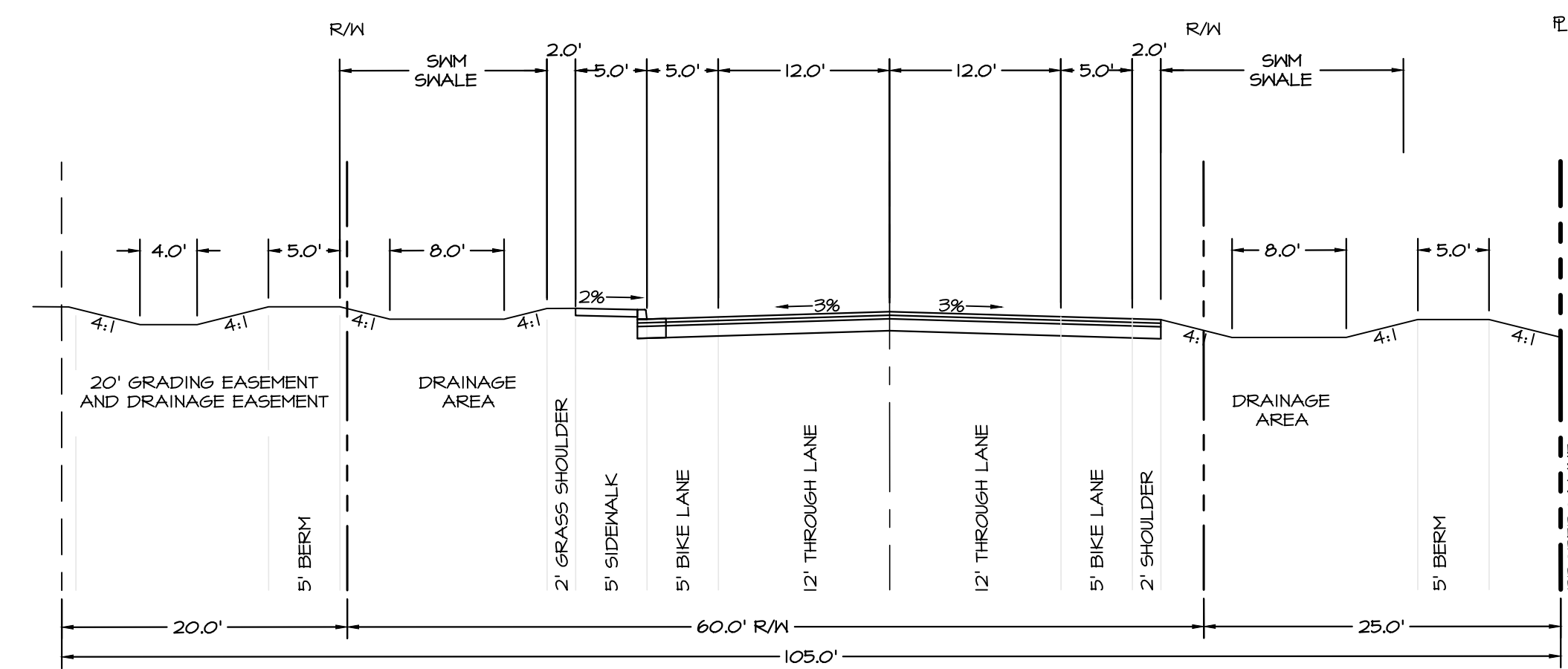
TYPICAL SECTION - STATION 14+00 TO 15+50

SCALE: 1"=10'



TYPICAL SECTION - STATION 4+05 TO 5+00

SCALE: 1"=10'

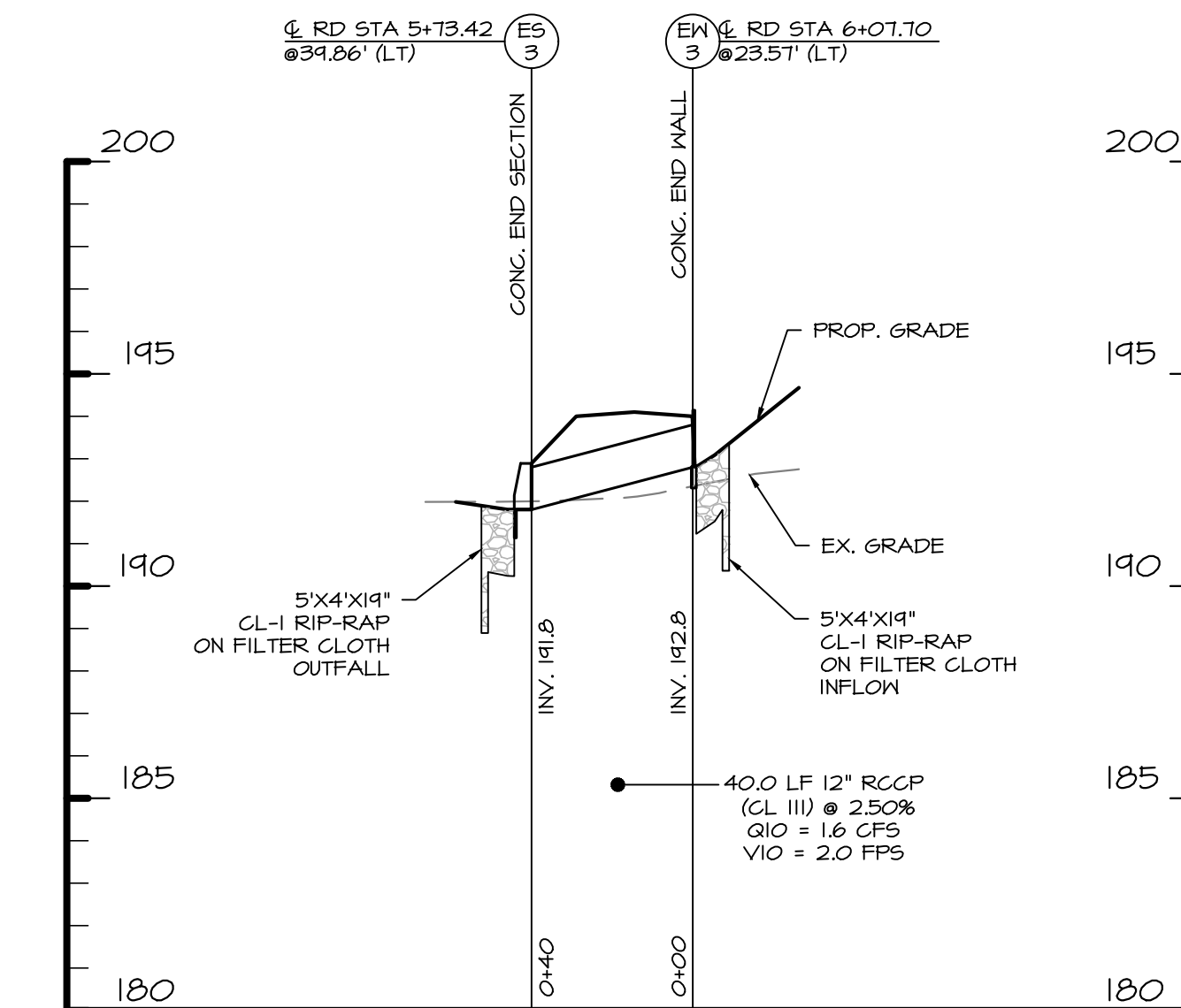


TYPICAL SECTION - STATION 15+50 TO ISLAND "C" (SEE SHEET 6)

SCALE: 1"=10'

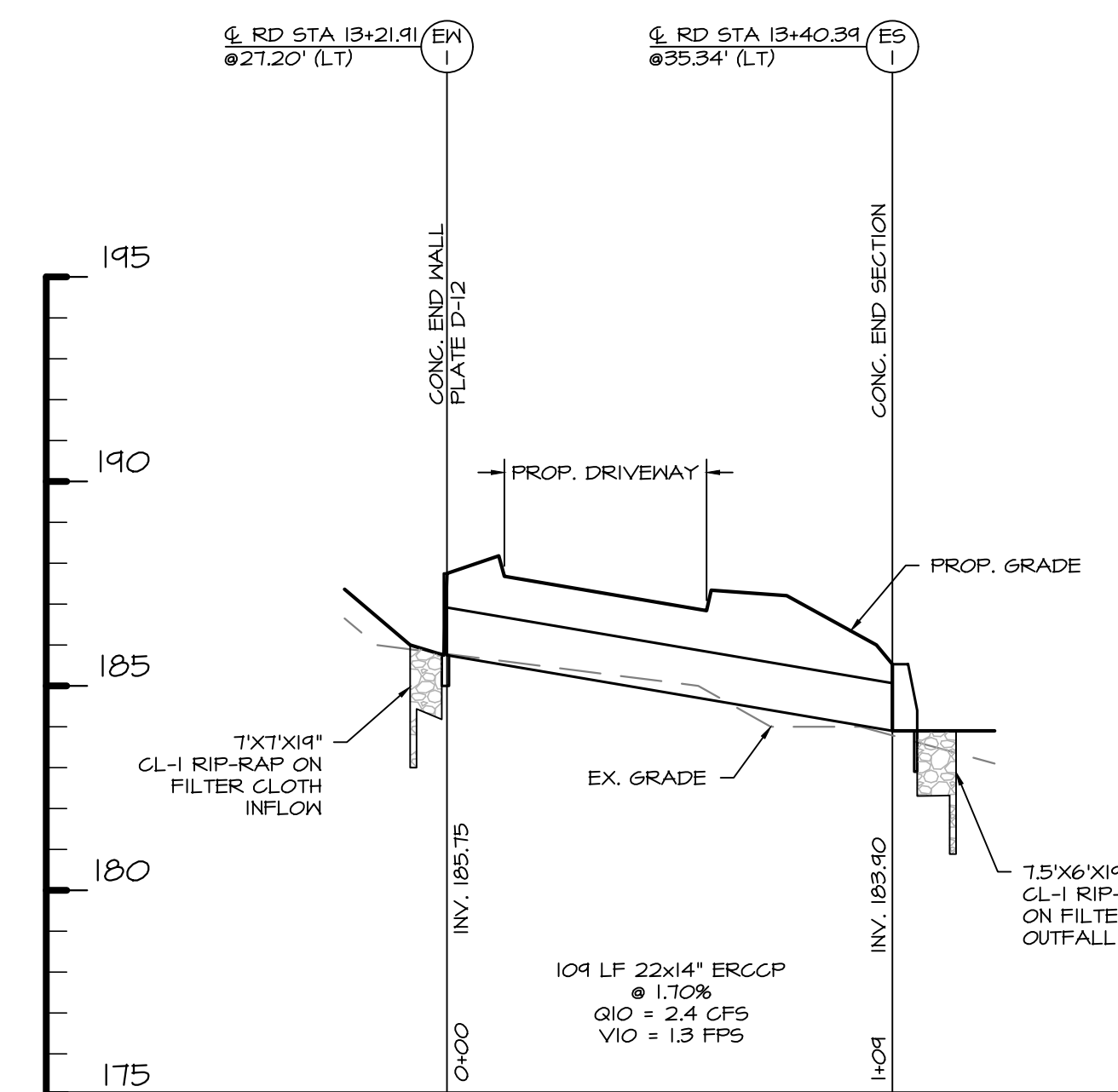
MANHOLE/END SECTION STRUCTURE SCHEDULE

NO.	DESCRIPTION	INVERT IN	INVERT OUT	TOP ELEV.
EW-1	STD. HA. CO. TYPE 'C' ENDWALL	22X14	185.75	-
EW-2	STD. HA. CO. TYPE 'C' ENDWALL	38X24	176.51	-
EW-3	STD. HA. CO. TYPE 'C' ENDWALL	12"	192.80	-
ES-1	STD. HA. CO. CONCRETE END SECTION	-	-	22X14
ES-2	STD. HA. CO. CONCRETE END SECTION	-	-	38X24
ES-3	STD. HA. CO. CONCRETE END SECTION	-	-	12"



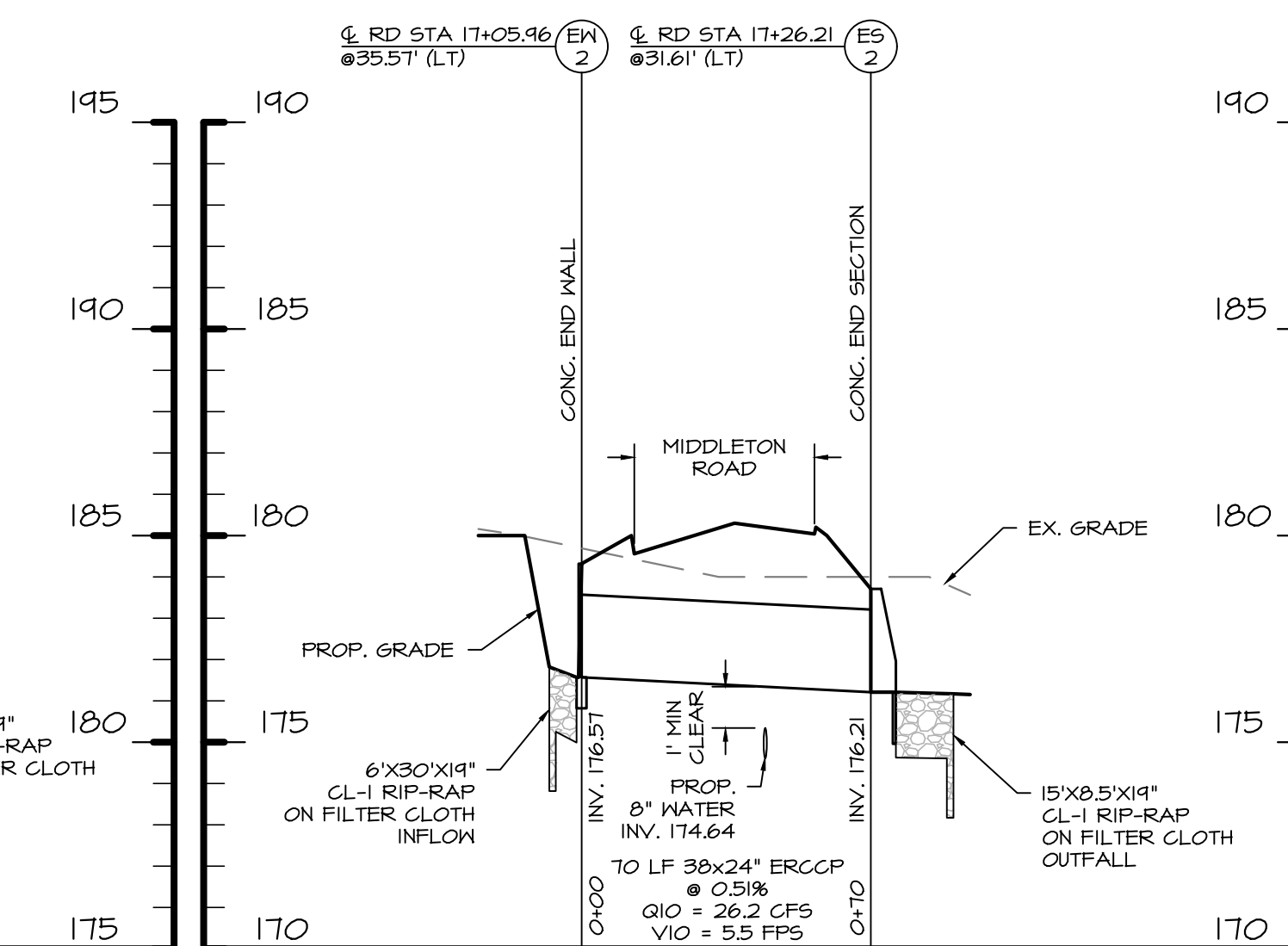
EW-3 TO ES-3

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL



EW-1 TO ES-1

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL



EW-2 TO ES-2

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL



DATE	REVISION	BY

CITY OF ABERDEEN
MARYLAND

APPROVED: ABERDEEN DEPT. OF PUBLIC WORKS

CITY ENGINEER DATE
DIRECTOR DATE

GRADING PERMIT NO. _____

STORM WATER MANAGEMENT NO. _____

PUBLIC WORKS AGREEMENT NO. _____

CITY OF ABERDEEN

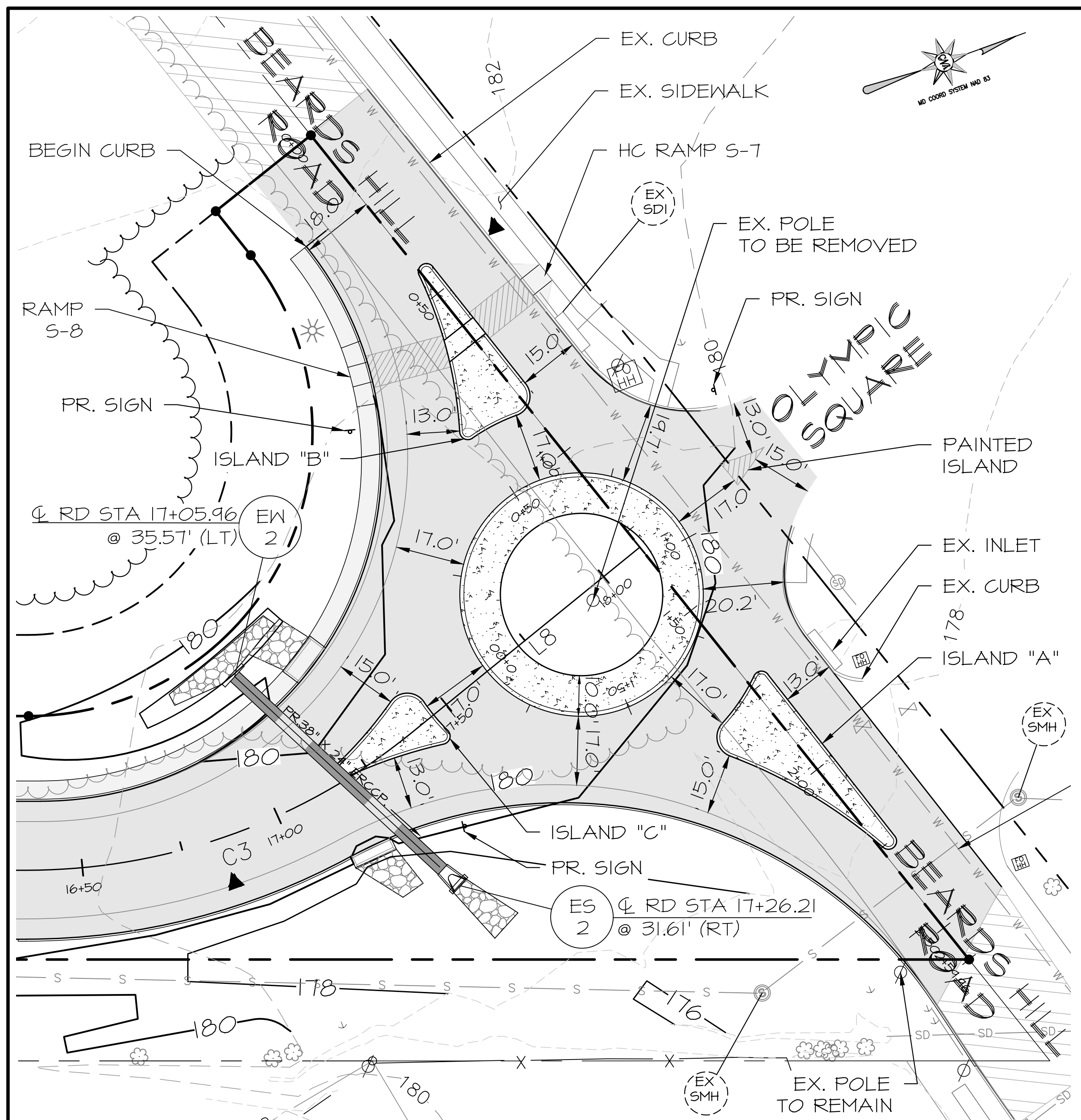
MIDDELTON ROAD EXTENSION
ROAD SECTIONS AND STORM DRAIN PROFILES

HARFORD COUNTY, MARYLAND

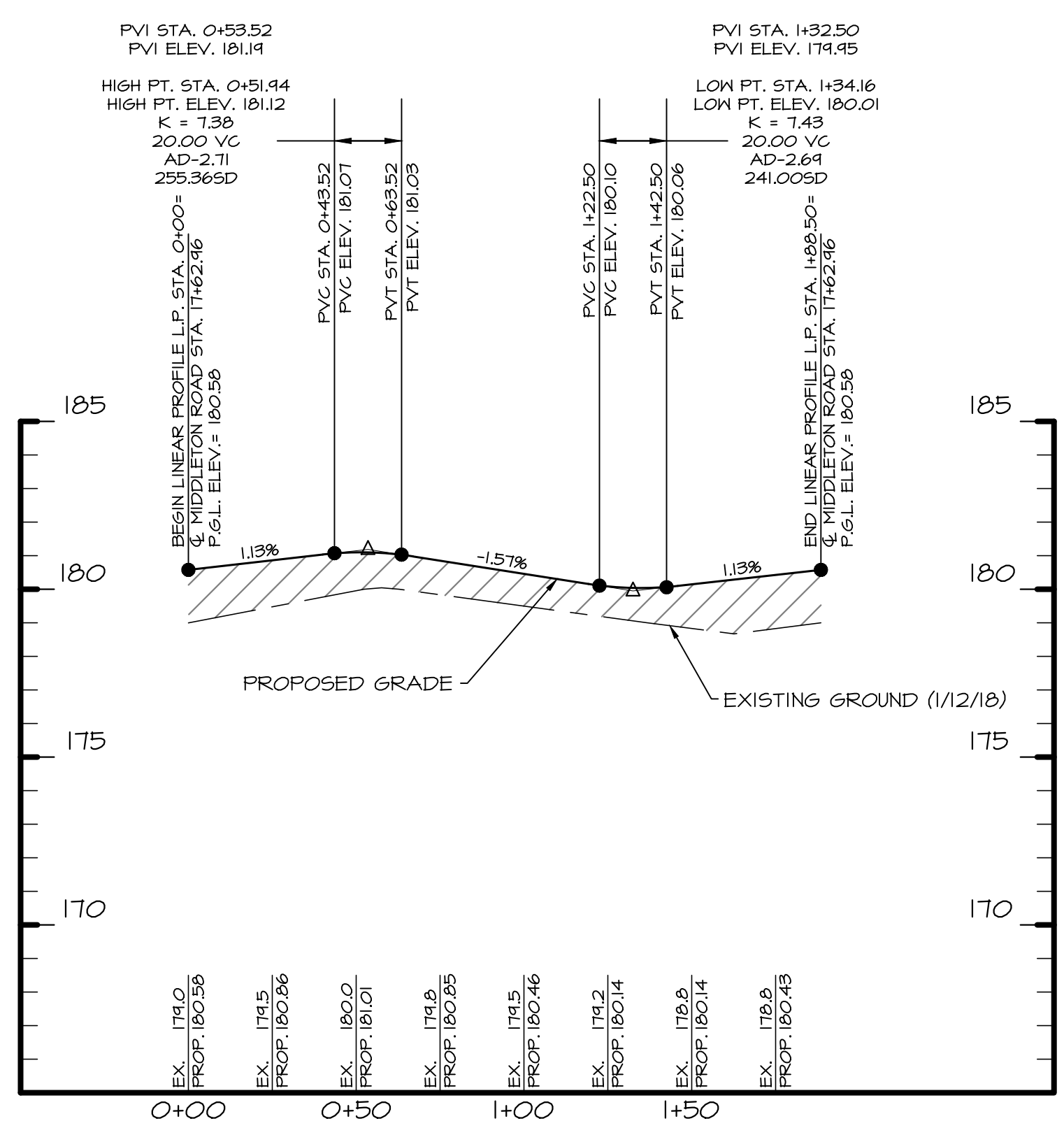
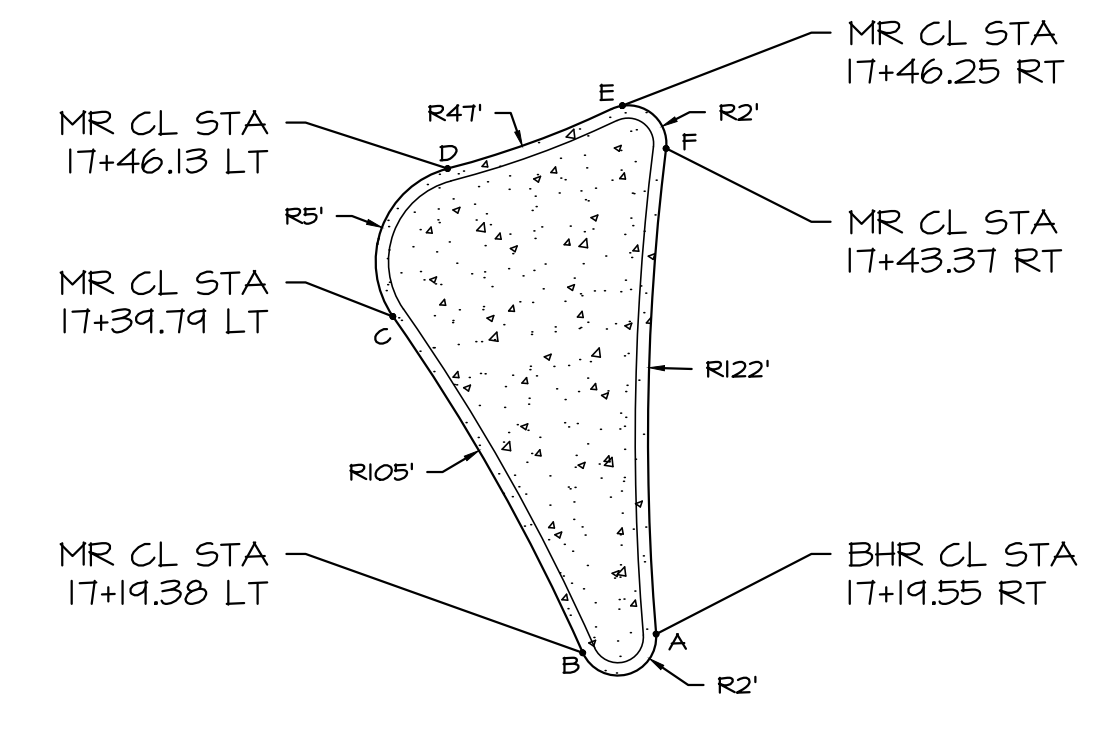
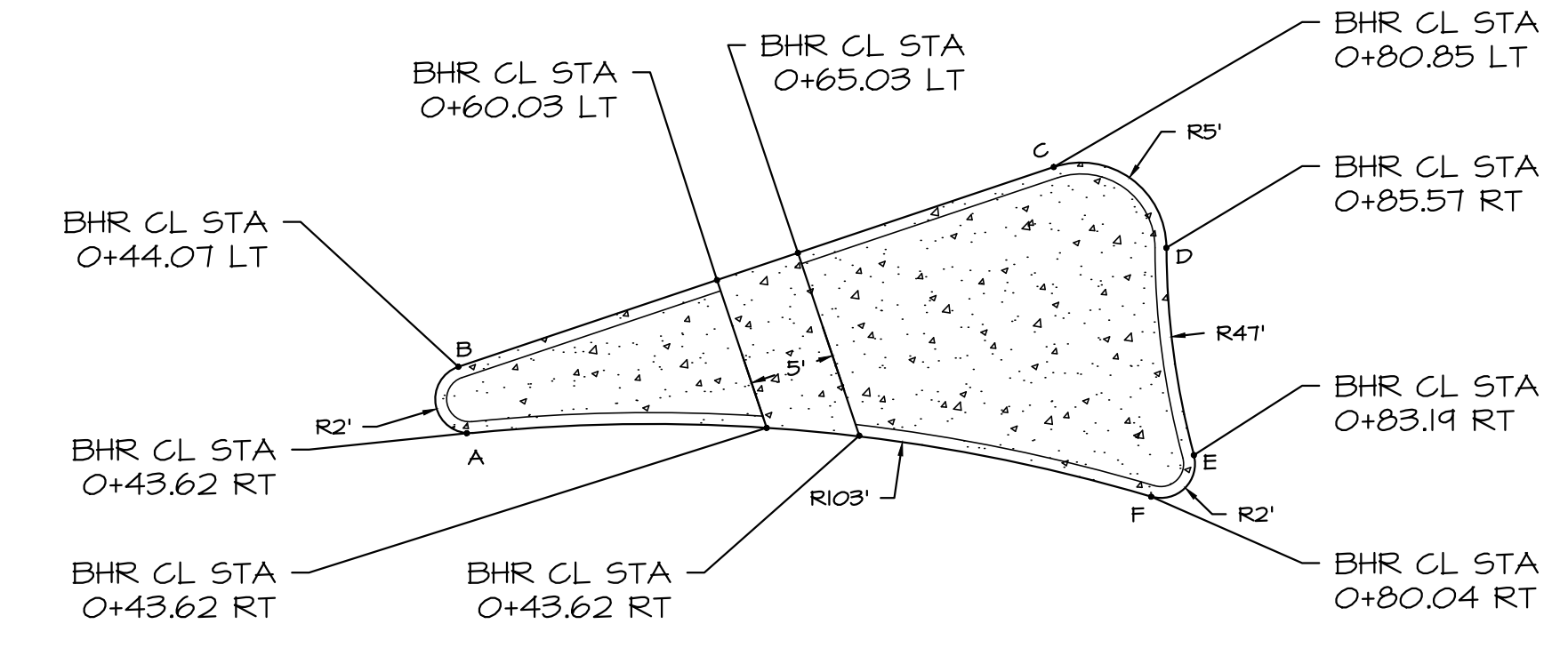
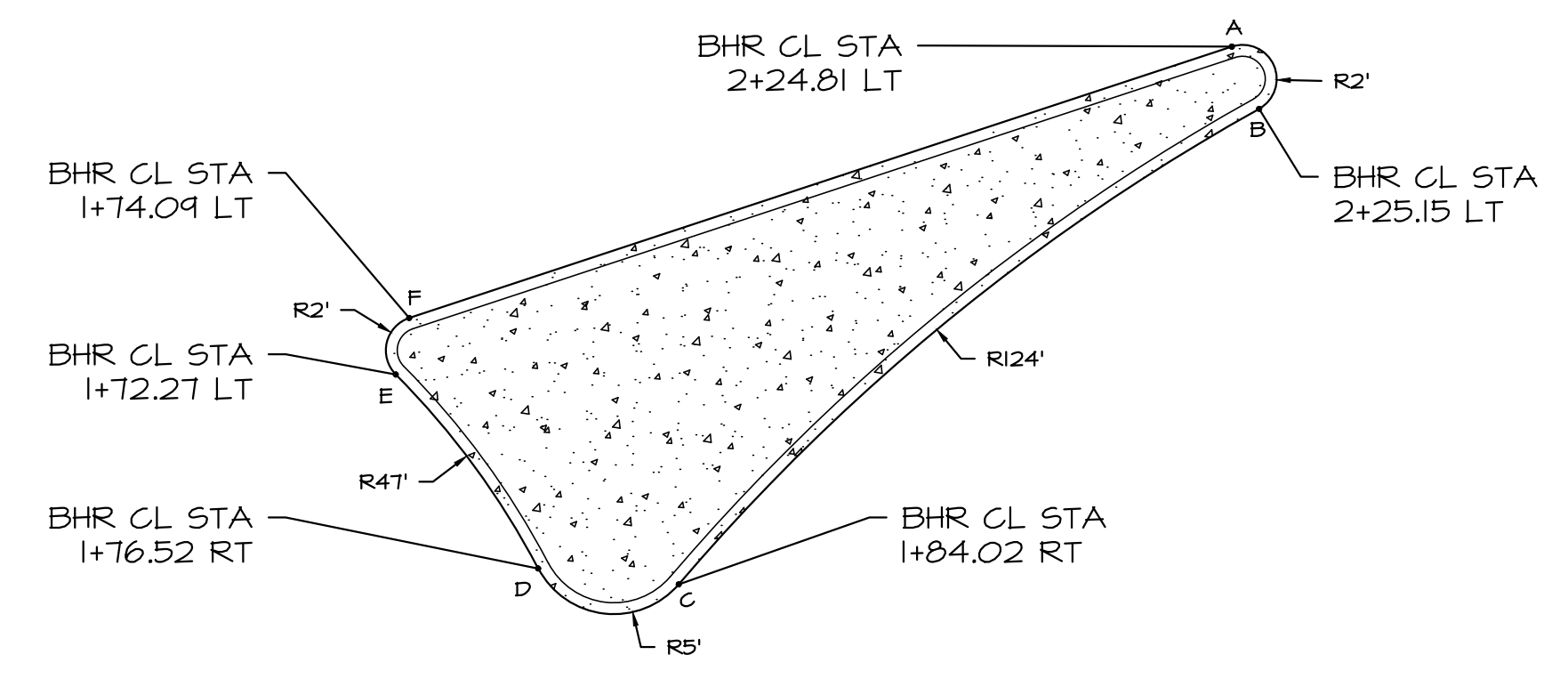
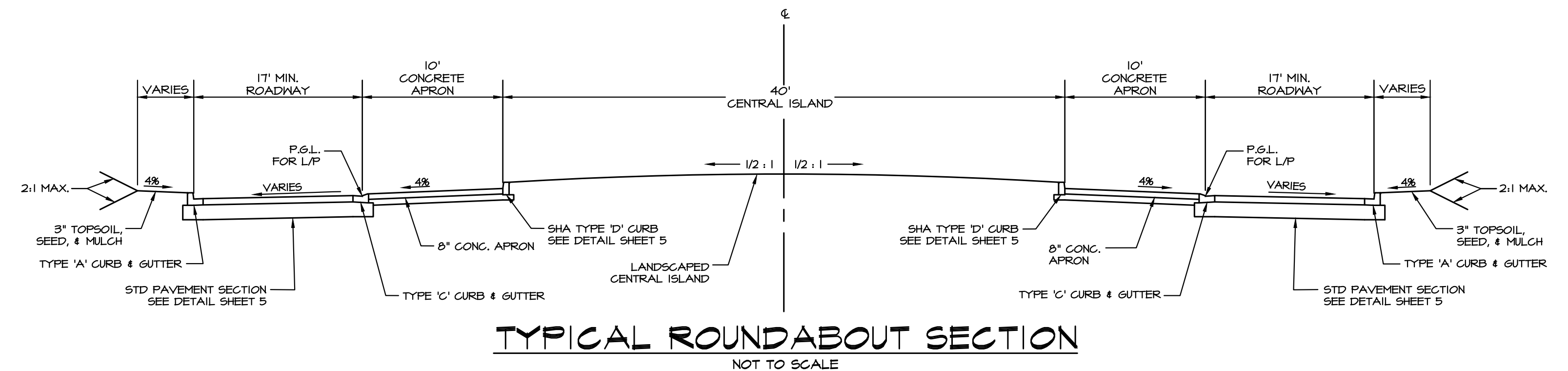
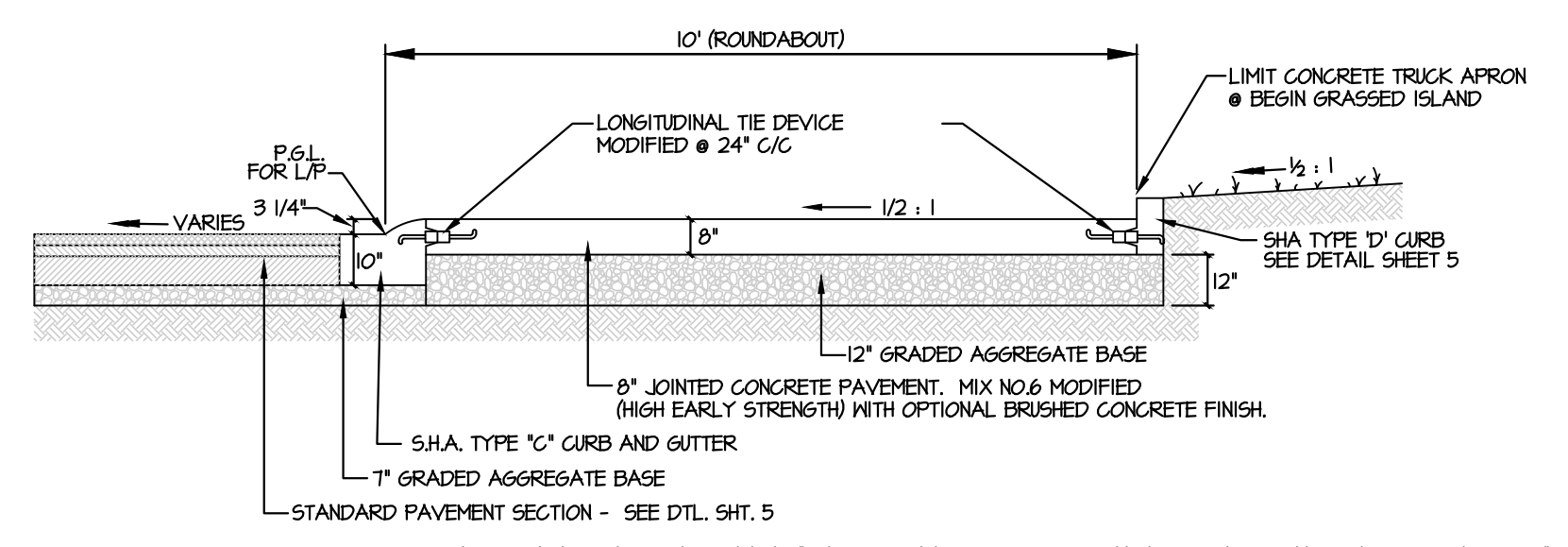
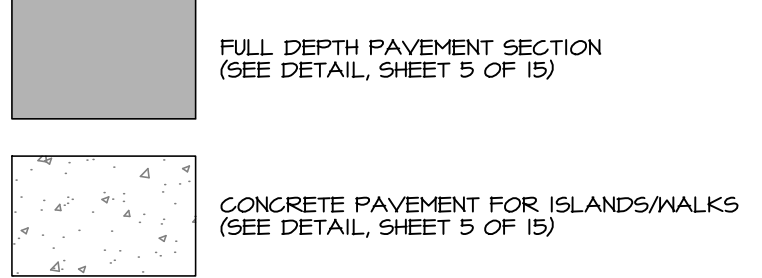
CNA
Civil Engineers - Land Surveyors - Landscape Architects
Planners - Geotechnical Engineers - Environmental Engineers
1800 North Gate
Ft. Belvoir, Maryland 21050
Phone (443) 862-8111 Fax (410) 835-1811
E-mail: cna@md-engineers.com

DESIGNED: SPM/RLR
DRAWN: SPM/RLR
CHECKED: GRM

SCALE: AS SHOWN
SHEET: 202 OF 600
NO. 4
OF 14
DATE: 10/20/16



NOTE:
FOR ALL SIDEWALK RAMP SEE DETAIL ON
SHEET 5 OF 15



SPLITTER ISLAND "A" CURB CHART

NAME	CL RF STA.	P.G.L.	L.P. STA.
A	BHR CL STA 2+24.81	178.25	0+00/1+28.76
B	BHR CL STA 2+25.15	178.25	0+05.90
C	BHR CL STA 1+84.02	179.40	0+50.07
D	BHR CL STA 1+76.52	179.45	0+54.83
E	BHR CL STA 1+72.27	179.45	0+73.97
F	BHR CL STA 1+74.09	179.40	0+78.04

SPLITTER ISLAND "B" CURB CHART

NAME	CL RF STA.	P.G.L.	L.P. STA.
A	BHR CL STA 0+43.62	181.70	0+00/1+08.78
B	BHR CL STA 0+44.07	181.70	0+05.84
C	BHR CL STA 0+80.85	180.91	0+42.62
D	BHR CL STA 0+85.57	180.91	0+52.09
E	BHR CL STA 0+83.19	180.91	0+64.38
F	BHR CL STA 0+80.04	180.91	0+68.62

SPLITTER ISLAND "C" CURB CHART

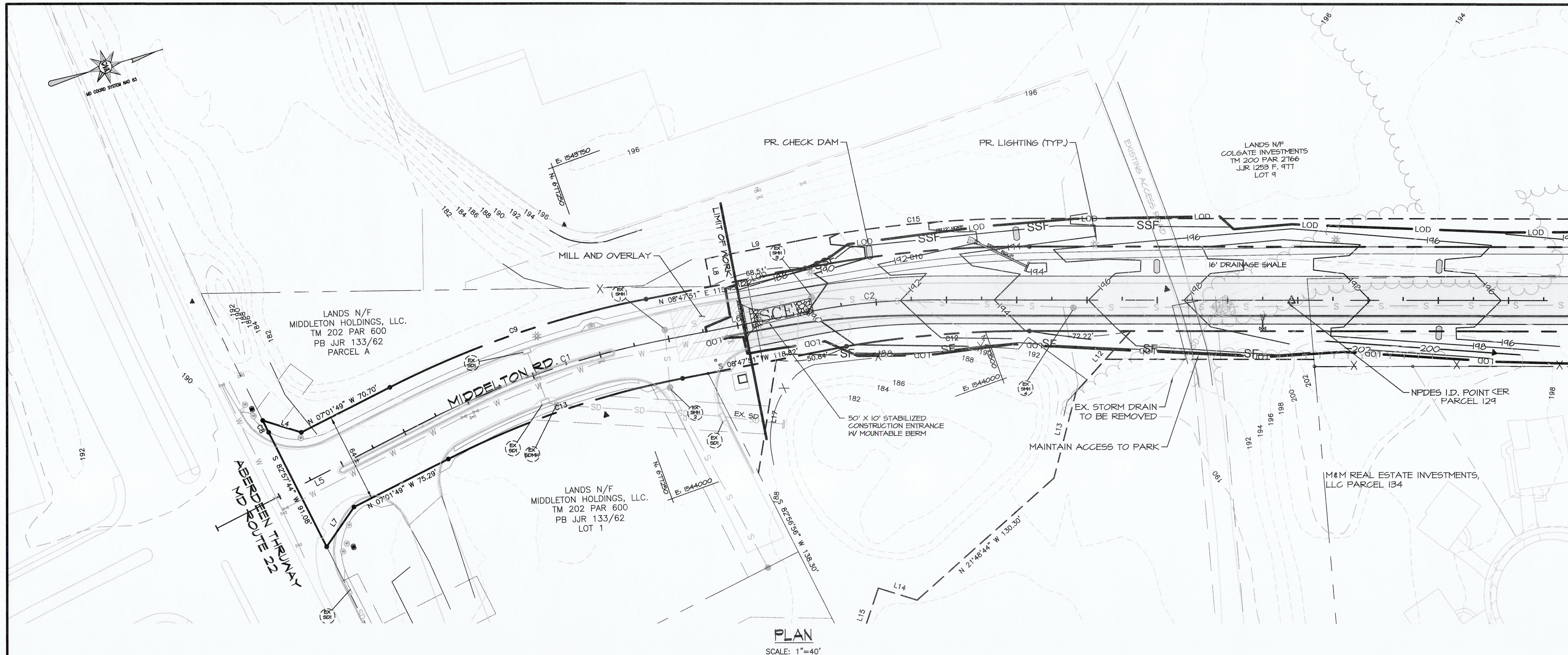
NAME	CL RF STA.	P.G.L.	L.P. STA.
A	MR CL STA 17+19.55	180.30	0+00/1+14.13
B	MR CL STA 17+19.39	180.20	0+05.61
C	MR CL STA 17+39.79	180.20	0+25.76
D	MR CL STA 17+46.13	180.29	0+35.40
E	MR CL STA 17+46.25	180.29	0+44.50
F	MR CL STA 17+43.37	180.29	0+48.78



DRAWING COMPLETED

DATE	REVISION	BY

CITY OF ABERDEEN MARYLAND	APPROVED: ABERDEEN DEPT. OF PUBLIC WORKS	GRADING PERMIT NO. _____	MIDDLETON ROAD EXTENSION TRAFFIC CIRCLE DETAIL HARFORD COUNTY, MARYLAND	CNA Civil Engineers - Land Surveyors - Landscape Architects Planners - Geotechnical Engineers - Environmental Engineers 1800 Robin Drive Fesseltown, Maryland 21030 Phone (443) 862-8414 Fax (410) 835-1811 E-mail: cna@md-cna-engineers.com	DESIGNED: SPM	SCALE: AS SHOWN	FAX MAP PARCEL: 280-4	SHEET: 6	DATE: 12/20/16
	CITY ENGINEER: _____ DATE: _____	STORM WATER MANAGEMENT NO.: _____			DRAWN: SPM/RRL	NO. OF GRIDS: 6	FILES: _____		
DIRECTOR: _____ DATE: _____	PUBLIC WORKS AGREEMENT NO.: _____	CITY OF ABERDEEN	CHECKED: GRM	NO. OF XX: 14					



MATCH LINE STA. 10+00 (SHEET 8)

LEGEND	
	PARCEL BOUNDARY
	EXISTING 2' CONTOUR
	EXISTING 10' CONTOUR
	EXISTING BUILDINGS
	EXISTING PROPERTY LINES
	EXISTING ROAD LEFT
	EXISTING ROAD RIGHT
	EXISTING ROAD CENTER LINE
	EXISTING TREE LINE
	EXISTING BUILDING
	PROPOSED ROAD CENTER LINE
	PROPOSED CONTOUR
	LIMIT OF DISTURBANCE
	SILT FENCE
	SUPER SILT FENCE
	STABILIZED CONSTRUCTION ENTRANCE
	EARTH DIKE

PLAN
SCALE: 1"=40'

SEQUENCE OF CONSTRUCTION

1. NOTIFY CITY OF ABERDEEN PUBLIC WORKS, SEDIMENT CONTROL INSPECTOR AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. PHONE (410) 638-3127. (1 DAY)
2. CLEAR AND GRUB AREA FOR STABILIZED CONSTRUCTION ENTRANCE. (1 DAY)
3. INSTALL STABILIZED CONSTRUCTION ENTRANCE. (1 DAY)
4. CLEAR AND GRUB ONLY THOSE AREAS NECESSARY TO INSTALL PERIMETER SEDIMENT & EROSION CONTROL MEASURES. ALL SEDIMENT & EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITY. (1 DAY)
5. INSTALL SEDIMENT CONTROLS, CLEAR AND GRUB REMAINDER OF THE SITE. (1 DAY)
6. BEGIN GRADING OF THE SITE. (2 WEEKS)
7. BEGIN ROAD AND SWALE CONSTRUCTION. CONTRACTOR TO FOLLOW TEMPORARY AND PERMANENT STABILIZATION REQUIREMENTS.
8. WITH THE APPROVAL OF THE CITY OF ABERDEEN PUBLIC WORKS, SEDIMENT CONTROL INSPECTOR, REMOVE EXISTING SEDIMENT CONTROLS FROM THE REMAINDER OF THE SITE ONCE PERMANENTLY STABILIZED.

OVERALL SITE ANALYSIS

1. TOTAL SITE AREA: 3.39 AC.±
 2. TOTAL DISTURBED AREA: 3.39 AC.± (147,772 SF.)
 3. ESTIMATED EARTHWORK:
 - A. GRADING CUT: 226 C.Y.
 - B. GRADING FILL: 1,917 C.Y.
 - C. TOPSOIL: 2,100 C.Y.
 4. TOTAL PROPOSED IMPERVIOUS AREA: 1.55 AC.±
 5. AREA TO BE VEGETATIVELY STABILIZED: 1.85 AC.±
 6. NPDES I.D. POINT N: 677,712.44 E: 1,544,017.08
 7. WATERSHED: BUSH RIVER
 8. SITE IS NOT LOCATED WITHIN A TIER II WATERSHED
- NOTE: THESE EARTHWORK ESTIMATES ARE FOR SEDIMENT CONTROL USE ONLY. CONTRACTOR SHALL NOT RELY ON THESE EARTHWORK FIGURES FOR ESTIMATING AND BIDDING PURPOSES.

SUMMARY OF SEDIMENT CONTROL QUANTITIES

SWALE:	0	L.F.
EARTH DIKE:	240	L.F.
DIVERSION FENCE:	0	L.F.
SILT FENCE:	1,018±	L.F.
SUPER SILT FENCE:	1,035±	L.F.
ORANGE CONSTRUCTION FENCE:	0	L.F.
SEDIMENT BASIN:	0	EA.
SEDIMENT TRAP:	0	EA.
MOUNTABLE BERM:	0	EA.
STABILIZED CONSTRUCTION ENTRANCE:	1	ENTRANCE(S)
AREA TO BE PERMANENTLY STABILIZED:	3.40±	ACRES

NOTE: THIS SUMMARY OF SEDIMENT CONTROL QUANTITIES IS FOR USE BY THE CITY OF ABERDEEN. THIS SUMMARY IS NOT INTENDED TO BE USED BY THE CONTRACTOR FOR ESTIMATING AND BIDDING PURPOSES.

CITY OF ABERDEEN SEDIMENT CONTROL NOTES

1. THE CONTRACTOR/OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS. FURTHER, NO CONSTRUCTION ACTIVITY SHALL TAKE PLACE UNTIL ALL REQUIRED PERMITS HAVE BEEN OBTAINED.
2. THE LIMITS OF DISTURBANCE SHALL BE CLEARLY DELINEATED IN THE FIELD PRIOR TO GRADING OF THE SITE TO ENSURE COMPLIANCE WITH APPROVED PLANS. ALL FOREST RETENTION AREAS WILL BE DELINEATED WITH BLAZE ORANGE FENCE AS WELL AS ANY SWM INFILTRATION PRACTICE PRIOR TO ANY CLEARING WORK BEYOND THE LIMITS OF DISTURBANCE AND IN ANY AREA INSIDE THE FOREST RETENTION AND SWM INFILTRATION AREA IS CONSIDERED TO BE A VIOLATION OF THIS PLAN.
3. ALL SEDIMENT CONTROL PRACTICES MUST BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITY. UPON COMPLETION OF THE INSTALLATION OF PERIMETER SEDIMENT CONTROL PRACTICES THE SITE MUST BE INSPECTED BY THE DEPARTMENT OF PUBLIC WORKS (DPW). NO ADDITIONAL CONSTRUCTION ACTIVITY WILL BE AUTHORIZED WITHOUT THE APPROVAL FROM DPW.
4. ALL POINTS OF INGRESS AND EGRESS SHALL BE PROTECTED TO PREVENT TRACKING OF MUD INTO PUBLIC WAYS. DURING CONSTRUCTION, EVERY MEANS WILL BE TAKEN TO CONTROL SOIL EROSION AND SILTATION. IF NECESSARY A WASH RACK MAY NEED TO BE ESTABLISHED.
5. EARTH DIKES, SEDIMENT TRAPS, ETC. WILL BE LOCATED AS SHOWN ON THESE DRAWINGS. FIELD CHANGES AND MINOR ADJUSTMENTS ARE PERMISSIBLE AS LONG AS THE INSTALLATION FUNCTIONS AND CONFORMS TO SPECIFICATIONS. THE SITE INSPECTOR PRIOR TO INSTALLATION MUST APPROVE ALL SUCH CHANGES. MAJOR CHANGES TO THE APPROVED PLAN WILL REQUIRE RE-APPROVAL BY THE HARFORD SOIL CONSERVATION DISTRICT.
6. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
 - A. THREE CALENDAR DAYS ON SLOPES GREATER THAN 3:1, ALL WATERWAYS AND TO THE SURFACE OF ALL PERIMETER CONTROLS.
 - B. SEVEN CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS OF THE PROJECT SITE.
7. DUST CONTROL MUST BE MANAGED AS PART OF ALL SEDIMENT CONTROL PLANS. FAILURE TO DO SO IS A VIOLATION OF THIS PLAN.
8. SEDIMENT BASINS MUST BE BUILT TO DESIGN SPECIFICATIONS SHOWN ON THE PLAN. IF THE BASIN IS TO BE USED AS A FUTURE SWM FACILITY, THE BASIN WILL BE BUILT IN ACCORDANCE WITH THE LATEST MD-378 STANDARDS AND SPECIFICATIONS. SPECIFIED MATERIALS MUST BE USED. NO CHANGES OR MODIFICATIONS WILL BE MADE WITHOUT WRITTEN AUTHORIZATION OF THE HARFORD SOIL CONSERVATION DISTRICT.
9. TEMPORARY FENCING SHALL BE PLACED AROUND ALL SEDIMENT BASINS, TRAPS, AND PONDS DURING CONSTRUCTION AND SITE GRADING.
10. AT THE END OF EACH WORKING DAY ALL SEDIMENT CONTROL PRACTICES WILL BE INSPECTED AND LEFT OPERATIONAL BY THE CONTRACTOR. A WEEKLY LOG WILL BE KEPT IN ACCORDANCE WITH MD/NPDES REGULATIONS. A COPY OF THE APPROVED SEDIMENT CONTROL PLANS SHALL BE AVAILABLE AT THE SITE AT ALL TIMES.
11. ENSURE POSITIVE DRAINAGE TO ALL ROAD INLETS DURING ALL PHASES OF ROAD CONSTRUCTION TO ENSURE POSITIVE FLOW TO TRAPS AND OR BASINS.
12. CUT AND/OR FILL SHALL BE DONE IN CONFORMANCE WITH 2011 EROSION AND SEDIMENT CONTROL STANDARDS AND SPECIFICATIONS FOR LAND GRADING.
13. SURFACE FLOWS OVER CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER REDIRECTING FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO SAFELY CONVEY WATER DOWN SLOPES WITHOUT CAUSING EROSION.
14. OFF-SITE WASTE OR BORROW AREAS SHALL HAVE AN APPROVED EROSION AND SEDIMENT CONTROL PLAN PRIOR TO THE IMPORT OR EXPORT OF MATERIAL TO/FROM THE PROJECT SITE.
15. ALL MATERIAL ORIGINATING FROM THE DEVELOPMENT OF THE PROPERTY AND DEPOSITED ON THE PUBLIC RIGHT-OF-WAY SHALL BE IMMEDIATELY REMOVED.
16. STORM DRAIN INLETS AND OUTLETS SHALL BE PROTECTED PER 2011 EROSION AND SEDIMENT CONTROL STANDARDS AND SPECIFICATIONS.
17. TOPSOIL, LIMING, FERTILIZING, SEEDING, MULCHING, SOG, ETC. ARE ALL ESSENTIAL PARTS OF THE SEDIMENT CONTROL PLAN AND MUST BE COMPLETED ALONG WITH ALL OTHER PRACTICES.
18. TRAPS TO BE REMOVED SHALL BE DEWATERED AS PER THE 2011 EROSION AND SEDIMENT CONTROL STANDARDS AND SPECIFICATIONS.
19. PRIOR TO REMOVAL OF TRAPS OR CONVERSION OF SEDIMENT BASINS TO SWM FACILITIES, THE STORM DRAINS WILL BE FLUSHED.
20. SEDIMENT CONTROL PRACTICES WILL BE MAINTAINED UNTIL ALL DISTURBED AREAS FOR WHICH THE PRACTICES WERE INSTALLED HAVE BEEN STABILIZED. SEDIMENT CONTROL PRACTICES MAY BE REMOVED ONLY WITH THE AUTHORIZATION OF THE DPW INSPECTOR. ALL DISTURBED AREAS RESULTING FROM THE REMOVAL OF SEDIMENT CONTROL DEVICES SHALL BE STABILIZED IMMEDIATELY. REMOVAL PRIOR TO INSPECTOR'S APPROVAL CONSTITUTES A VIOLATION.

ADDITIONAL SEDIMENT CONTROL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, SEDIMENT CONTROL INSPECTOR AT (410) 901-4020 AND CITY OF ABERDEEN PUBLIC WORKS SEDIMENT CONTROL INSPECTOR AT (410) 638-3127 AT LEAST 48 HOURS PRIOR TO COMMENCING ANY LAND DISTURBING ACTIVITIES AND, UNLESS WAIVED BY THE SEDIMENT CONTROL INSPECTOR, SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING AT THE PROJECT SITE. THE CONTRACTOR MUST PROVIDE THE NAME OF THE PERSON ON THE SITE WHO IS RESPONSIBLE FOR INSPECTION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES, AND A COPY OF THEIR GREEN CARD TO THE SEDIMENT CONTROL INSPECTOR.
2. ALL PROJECTS WITH CONSTRUCTION ACTIVITIES DISTURBING 1 ACRE OR MORE ARE REQUIRED TO SUBMIT A NOTICE OF INTENT (NOI) TO ADE TO COMPLY WITH THE GENERAL PERMIT FOR CONSTRUCTION ACTIVITY FOR STORMWATER DISCHARGES. THE NOI SHOULD BE SUBMITTED AFTER EAS/SWM APPROVAL HAS BEEN ISSUED AND PRIOR TO BEGINNING CONSTRUCTION. TO ATTAIN A NOI FORMAL CONTACT BARBARA TYLER, MDE GENERAL PERMITS COORDINATOR AT (410) 537-3025 OR, PREFERABLY, BY E-MAIL AT ETL@MDE.STATE.MD.US
3. THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE KEPT AT THE PROJECT SITE.
4. THE HARFORD SOIL CONSERVATION DISTRICT RESERVES THE RIGHT TO MODIFY THE EROSION AND SEDIMENT CONTROL PLAN.
5. THE HARFORD SOIL CONSERVATION DISTRICT MAY REVOKE THE APPROVAL OF THE EROSION AND SEDIMENT CONTROL PLAN IF WORK PERFORMED AT THE PROJECT SITE DOES NOT CONFORM TO THE PROVISIONS OF THE GRADING PERMIT, THE APPROVED PLAN OR TO ANY WRITTEN INSTRUCTIONS FROM THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, THE CITY OF ABERDEEN PUBLIC WORKS OR THE HARFORD SOIL CONSERVATION DISTRICT
6. THE CONTRACTOR MUST REQUEST THAT THE CITY OF ABERDEEN APPROVE WORK COMPLETED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN, THE GRADING OR BUILDING PERMIT AND THE CITY OF ABERDEEN AT THE FOLLOWING POINTS OF PROJECT DEVELOPMENT:
 - A. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROL MEASURES, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING, OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY MDE IS MADE.
 - B. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).
 - C. UPON FINAL STABILIZATION OF THE SITE AND PRIOR TO THE REMOVAL OF ANY SEDIMENT CONTROL MEASURES.
7. THE CONTRACTOR SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE AND SHALL HAVE THEM INSPECTED AND APPROVED BY THE CITY OF ABERDEEN INSPECTOR PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES.
8. THE CONTRACTOR SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES, AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM THE CITY OF ABERDEEN. THE CONTRACTOR IS RESPONSIBLE FOR THE SEDIMENT CONTROL INSPECTION AND DOCUMENTATION IN ACCORDANCE WITH THE MARYLAND DEPARTMENT OF THE ENVIRONMENT NPDES/NOI REQUIREMENTS.
9. THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIMES AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE CITY OF ABERDEEN.
15. SEDIMENT CONTROL PRACTICES WILL BE MAINTAINED UNTIL THE ENTIRE CONTRIBUTING AREA TO THE PRACTICE HAS BEEN STABILIZED TO THE SATISFACTION OF THE SEDIMENT CONTROL INSPECTOR. SEDIMENT CONTROLS MAY ONLY BE REMOVED WITH THE AUTHORIZATION OF THE SEDIMENT CONTROL INSPECTOR.
16. ALL AREAS DISTURBED BY THE REMOVAL OF SEDIMENT CONTROL DEVICES MUST BE IMMEDIATELY STABILIZED.
17. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS. A SLOPE GRADIENT OF 1:1 TO 2:1 WILL BE PERMITTED IN NON-MAINTENANCE AREAS PROVIDED THAT THESE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLANS WITH A LOW-MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATION STABILIZATION.
18. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A FOUNDATION WHICH IS EXISTING OR UNDER CONSTRUCTION. NO STRUCTURES ARE TO BE CONSTRUCTED WITHIN 20 FEET OF AN ACTIVE SEDIMENT TRAP OR BASIN.
19. TEMPORARY SEDIMENT TRAP(S) SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO A POINT ONE HALF (1/2) THE DEPTH BETWEEN THE OUTLET CREST AND THE BOTTOM OF THE TRAP. SEDIMENT BASINS SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO ONE HALF (1/2) THE DEPTH BETWEEN THE DEWATERING ELEVATION AND THE BOTTOM OF THE BASIN.
20. SEDIMENT REMOVED FROM TRAPS (AND BASINS) SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN, WETLAND OR FOREST RETENTION AREA. WHEN PUMPING SEDIMENT LADEN WATER, THE DISCHARGE MUST BE DIRECTED TO A SEDIMENT TRAPPING DEVICE PRIOR TO RELEASE FROM THE SITE. A SUMP PIT MAY BE USED IF SEDIMENT TRAPS THEMSELVES ARE BEING PUMPED OUT.
21. SEDIMENT CONTROL DEVICES PLACED IN INFILTRATION AREAS MUST HAVE BOTTOM ELEVATIONS AT LEAST TWO (2) FEET HIGHER THAN THE FINISHED GRADE ELEVATION OF THE INFILTRATION PRACTICE. WHEN CONVERTING SEDIMENT TRAP TO AN INFILTRATION DEVICE, ALL ACCUMULATED SEDIMENT MUST BE REMOVED AND DISPOSED OF PRIOR TO FINAL GRADING OF INFILTRATION.
22. WHEN A STORM DRAIN SYSTEM OUTFALL IS DIRECTED TO A SEDIMENT TRAP OR SEDIMENT BASIN AND THE SYSTEM IS TO BE USED FOR TEMPORARILY CONVEYING SEDIMENT LADEN WATER, ALL STORM DRAIN INLETS IN NON-SUMP AREAS SHALL HAVE TEMPORARILY ASPHALT BEINGS CONSTRUCTED AT THE TIME OF BASE PAVING TO DIRECT OUTFALL FLOW INTO THE INLETS TO AVOID SURCHARGING AND OVERFLOW OF INLETS IN SUMP AREAS.

ENGINEERS CERTIFICATION

I HEREBY CERTIFY THAT ALL SEDIMENT AND EROSION CONTROL MEASURES SHOWN ON THESE PLANS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE 2011 MD STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL OR CURRENT REVISIONS THEREOF.

Christopher R. Mink 2-11-19
 SIGNATURE: _____ DATE: _____
 CHRISTOPHER R. MINK
 P.E. #28378

Erosion and Sediment Control Plan # _____ Recommended for Approval

 City of Aberdeen

Technical Concurrence

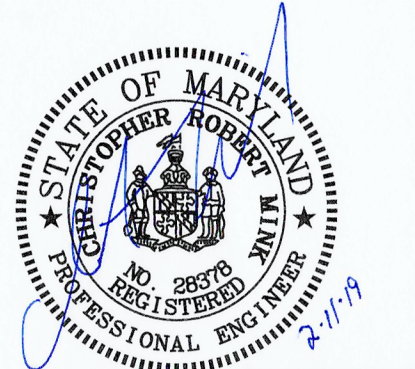
 Harford Soil Conservation District

Approved

 Harford Soil Conservation District

THE PURPOSE OF THIS PLAN IS TO ADDRESS SEDIMENT AND EROSION CONTROL. THE CONTRACTOR/DEVELOPER SHALL REFER TO APPROVED WATER/SEWER, STORMWATER MANAGEMENT, AND SITE CONSTRUCTION DRAWINGS FOR ALL OTHER PHASES OF THE PROJECT.

ALL CONSTRUCTION EQUIPMENT SHALL BE CLEANED/WASHED AT STABILIZED CONSTRUCTION ENTRANCE TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAYS. ALL SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY BY VACUUM SWEEPING, SCRAPING, OR SWEEPING.



CITY OF ABERDEEN
MARYLAND

APPROVED: ABERDEEN DEPT. OF PUBLIC WORKS
 CITY ENGINEER DATE
 DIRECTOR DATE

GRADING PERMIT NO. _____
 STORM WATER MANAGEMENT NO. _____
 PUBLIC WORKS AGREEMENT NO. _____

MIDDLETON ROAD EXTENSION - CONTRACT #19-07
 EROSION AND SEDIMENT CONTROL PLAN
 HARFORD COUNTY, MARYLAND

CNA
 Civil Engineers - Land Surveyors - Landscape Architects
 Planners - Geotechnical Engineers - Environmental Engineers
 1000
 Forest Hill, Maryland 21050
 Phone (443) 852-1111 Fax (443) 858-1811
 E-mail: cna@cnacore-engineers.com

DESIGNED: SPM/RLR
 DRAWN: SPM/RLR
 CHECKED: GRM

SCALE	DATE	REVISION	BY
AS SHOWN	2022	1	SPM/RLR

Professional Certification: I hereby certify that 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. 28378, Expiration Date: 01/01/2021.

NO.	DATE	REVISION	BY
1	2022	1	SPM/RLR

DRAWING COMPLETED: _____

SCALE: AS SHOWN

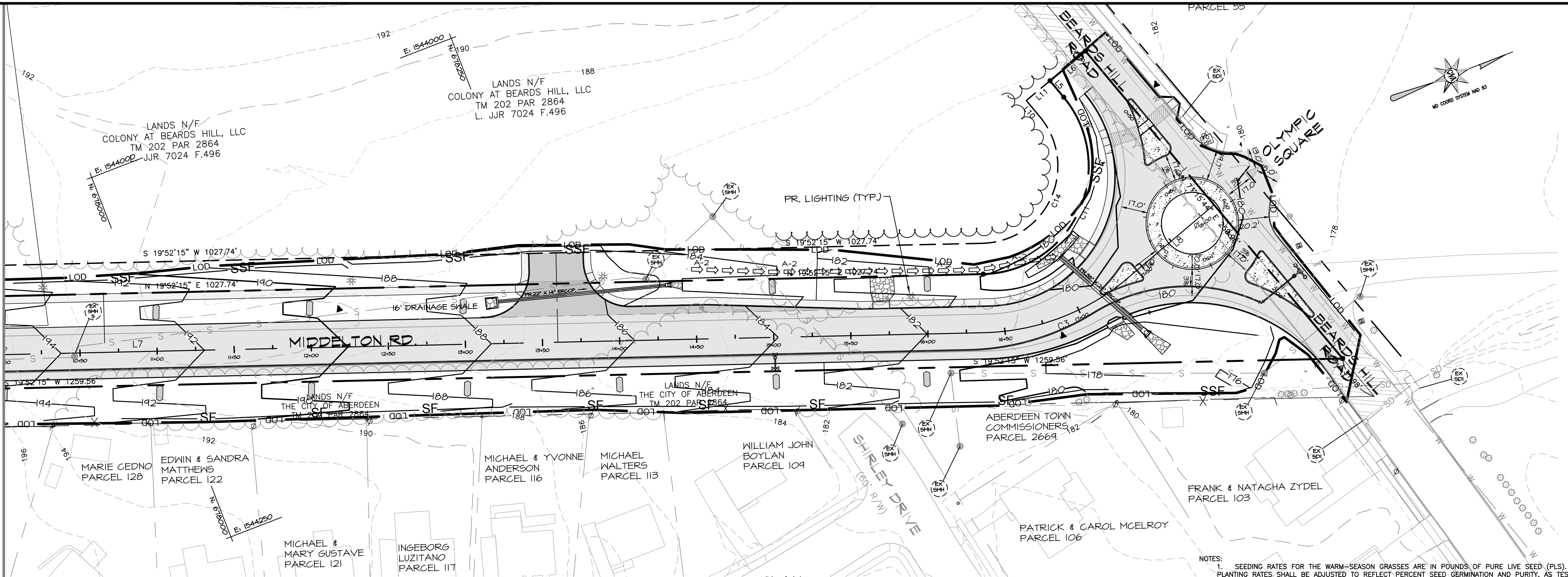
FAX MAP PARCEL 202 2004 600
 A.B.C. MAP NO. 7
 NO. 6RIDS
 XX X-X X-X

SHEET 14 OF 14

DATE: 10/17/2016

C:\Users\jgibson\OneDrive\Documents\2022\1720116_00_Middletown_Road\1720116_00_MIDDLETON_Road_Plan.dwg

MATCH LINE STA. 10+00 (SHEET 7)



PLAN SCALE: 1"=40'

LEGEND

- Parcel Boundary
Existing 2' Contour
Existing 10' Contour
Existing Buildings
Existing Property Lines
Existing Road Left
Existing Road Right
Existing Road Center Line
Existing Treeline
Existing Building
Proposed Road Center Line
Proposed Contour
Limit of Disturbance
Silt Fence
Super Silt Fence
Stabilized Construction Entrance
Earth Dike

NOTES: SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, 'TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND'...

Table with 4 columns: MIX, SPECIES, APPLICATION RATE (lb/acre), SEEDING DATES, SEEDING DEPTHS, and FERTILIZER RATE (lb/acre) for N, P2O5, K2O, and LIME RATE.

PERMANENT SEEDING NOTE: PLANT THIS MIX WITH A SPECIALIZED NATIVE SEED DRILL.

PERMANENT SEEDING NOTES: ALL SPECIES ARE NATIVE TO MARYLAND.

* ADDITIONAL PLANTING DATES DURING WHICH SUPPLEMENTAL WATERING MAY BE NEEDED TO ENSURE PLANT ESTABLISHMENT.

** WARM-SEASON GRASSES NEED A SOIL TEMPERATURE OF AT LEAST 50 DEGREES F IN ORDER TO GERMINATE. IF SOIL TEMPERATURES ARE COLDER THAN 50 DEGREES, OR MOISTURE IS NOT ADEQUATE, THE SEEDS WILL REMAIN DORMANT UNTIL CONDITIONS ARE FAVORABLE...

SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

1. GENERAL SPECIFICATIONS

a. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.

b. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/8 INCH, AT THE TIME OF CUTTING. MECHANICAL CUTTING FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN EDGES WILL NOT BE ACCEPTABLE.

c. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.

d. SOD MUST NOT BE HARVESTED OR TRANSPORTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.

e. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPORTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

2. SOD INSTALLATION

a. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.

b. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.

c. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOIL CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.

d. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.

3. SOD MAINTENANCE

a. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND PROMPTLY AS NECESSARY TO MAINTAIN MOST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.

b. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.

c. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

NOTES: 1. SEEDING RATES FOR THE WARM-SEASON GRASSES ARE IN POUNDS OF PURE LIVE SEED (PLS). ACTUAL PLANTING RATES SHALL BE ADJUSTED TO REFLECT PERCENT SEED GERMINATION AND PURITY, AS TESTED. ADJUSTMENTS ARE USUALLY NOT NEEDED FOR THE COOL-SEASON GRASSES.

SEEDING RATES LISTED ABOVE ARE FOR TEMPORARY SEEDINGS. WHEN PLANTED ALONE, WHEN PLANTED AS A NURSE CROP WITH PERMANENT SEED MIXES, USE 1/3 OF THE SEEDING RATE LISTED ABOVE FOR BARLEY, OATS, AND WHEAT. FOR SMALLER-SEEDED GRASSES (ANNUAL RYEGRASS, PEARL MILLET, FOXTAIL MILLET), DO NOT EXCEED MORE THAN 5% (BY WEIGHT) OF THE OVERALL PERMANENT SEEDING MIX. CEREAL RYE GENERALLY SHOULD NOT BE USED AS A NURSE CROP, UNLESS PLANTING WILL OCCUR IN VERY LATE FALL BEYOND THE SEEDING DATES FOR OTHER TEMPORARY SEEDINGS. CEREAL RYE HAS ALLELOPATHIC PROPERTIES THAT INHIBIT THE GERMINATION AND GROWTH OF OTHER PLANTS. IF IT MUST BE USED AS A NURSE CROP, SEED AT 1/3 OF THE RATE LISTED ABOVE.

OATS ARE THE RECOMMENDED NURSE CROP FOR WARM-SEASON GRASSES.

2. FOR SANDY SOILS, PLANT SEEDS AT TWICE THE DEPTH LISTED ABOVE.

3. THE PLANTING DATES LISTED ARE AVERAGES FOR EACH ZONE AND MAY REQUIRE ADJUSTMENT TO REFLECT LOCAL CONDITIONS, ESPECIALLY NEAR THE BOUNDARIES OF THE ZONE.

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

CONDITIONS WHERE PRACTICE APPLIES: EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE. CRITERIA:

A. SEED MIXTURES

1. GENERAL USE

a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.

b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 242 - CRITICAL AREA PLANTING.

c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.

d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

2. TURFGRASS MIXTURE

a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.

b. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.

i. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

ii. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

iii. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM SHADE. MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS AS TO 100 PERCENT CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.

iv. WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDNESS ZONES: 5B, 6A) CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONE: 6B) SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONES: 7A, 7B)

d. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES. LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1 1/2 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.

e. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

CONDITIONS WHERE PRACTICE APPLIES: EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME PERMANENT STABILIZATION PRACTICES ARE REQUIRED. CRITERIA:

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES, AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.

2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TEST ARE NOT REQUIRED FOR TEMPORARY SEEDING.

3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.b AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

Table with 4 columns: NO., SPECIES, APPLICATION RATE (lb/acre), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (10-20-20), and LIME RATE.

VEGETATIVE SPECIFICATIONS

B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

A. SOIL PREPARATION

1. TEMPORARY STABILIZATION

a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPER MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.

b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.

c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

2. PERMANENT STABILIZATION

a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

i. SOIL pH BETWEEN 6.0 AND 7.0

ii. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM)

iii. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY WOULD BE ACCEPTABLE)

iv. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.

v. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.

c. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.

d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.

e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE. REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

B. TOPSOILING

1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW pH, MATERIALS TOXIC TO PLANTS, AND /OR UNACCEPTABLE SOIL GRADATION.

2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.

3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:

a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.

b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.

c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.

d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.

5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:

a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY A SOIL SCIENTIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF SANDS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2 INCHES IN DIAMETER.

b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERBERIS GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

c. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

6. TOPSOIL APPLICATION

a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.

b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SOODING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOIL OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

c. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY BE OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

d. TOPSOIL MUST BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY BE OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

e. TOPSOIL MUST BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY BE OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

f. TOPSOIL MUST BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY BE OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

7. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSIS.

2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.

3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WITH HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.

4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRES (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

B-4-3 STANDARDS AND SPECIFICATION FOR SEEDING AND MULCHING

A. SEEDING

1. SPECIFICATIONS

a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.

b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.

c. INCULCANTS: THE INCULCANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INCULCANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INCULCANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INCULCANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INCULCANT LESS EFFECTIVE.

d. SOD OR SEED MUST BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

2. APPLICATION

a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.

i. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.

ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.

b. DRILL OR CULTEPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.

i. CULTEPACKER SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.

ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).

i. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P2O5 (PHOSPHOROUS), 200 POUNDS PER ACRE; K2O (POTASSIUM), 200 POUNDS PER ACRE.

ii. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.

iii. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

CITY OF ABERDEEN MARYLAND

APPROVED: ABERDEEN DEPT. OF PUBLIC WORKS
CITY ENGINEER
DIRECTOR

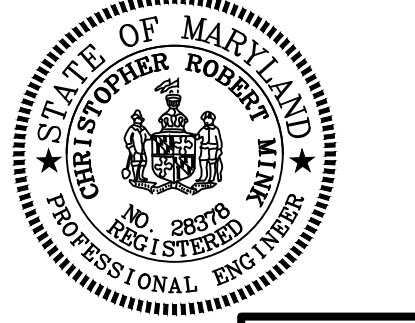
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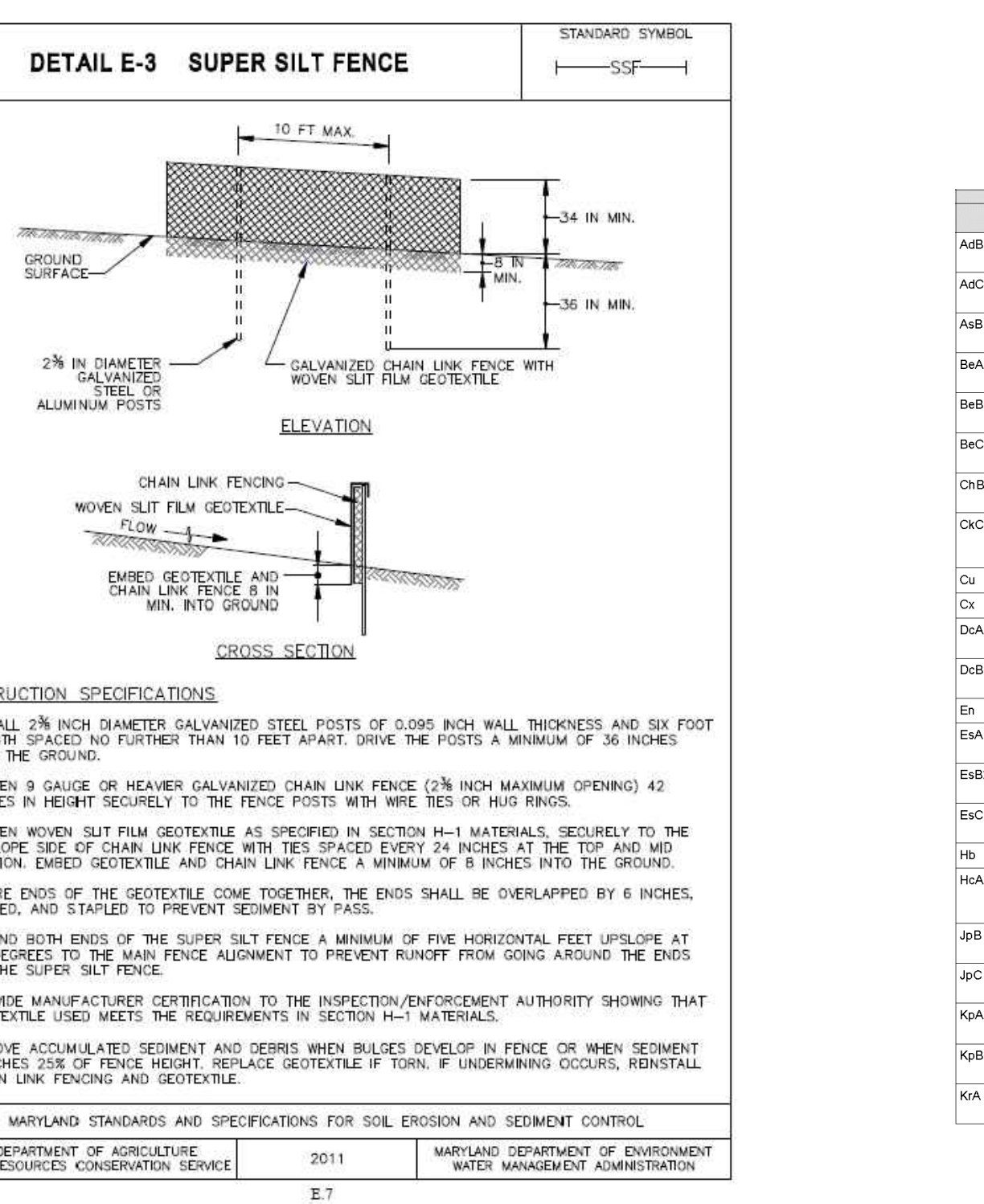
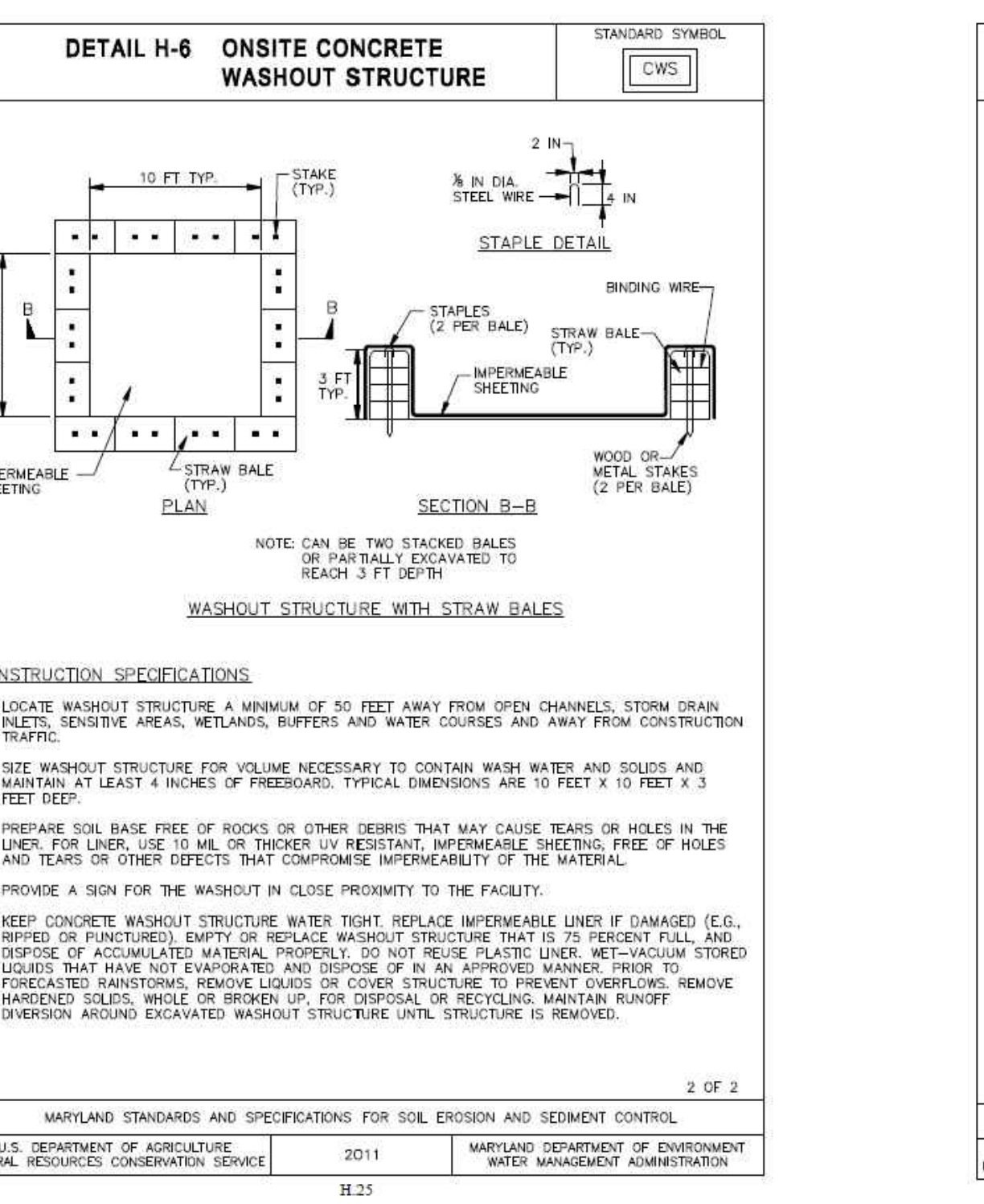
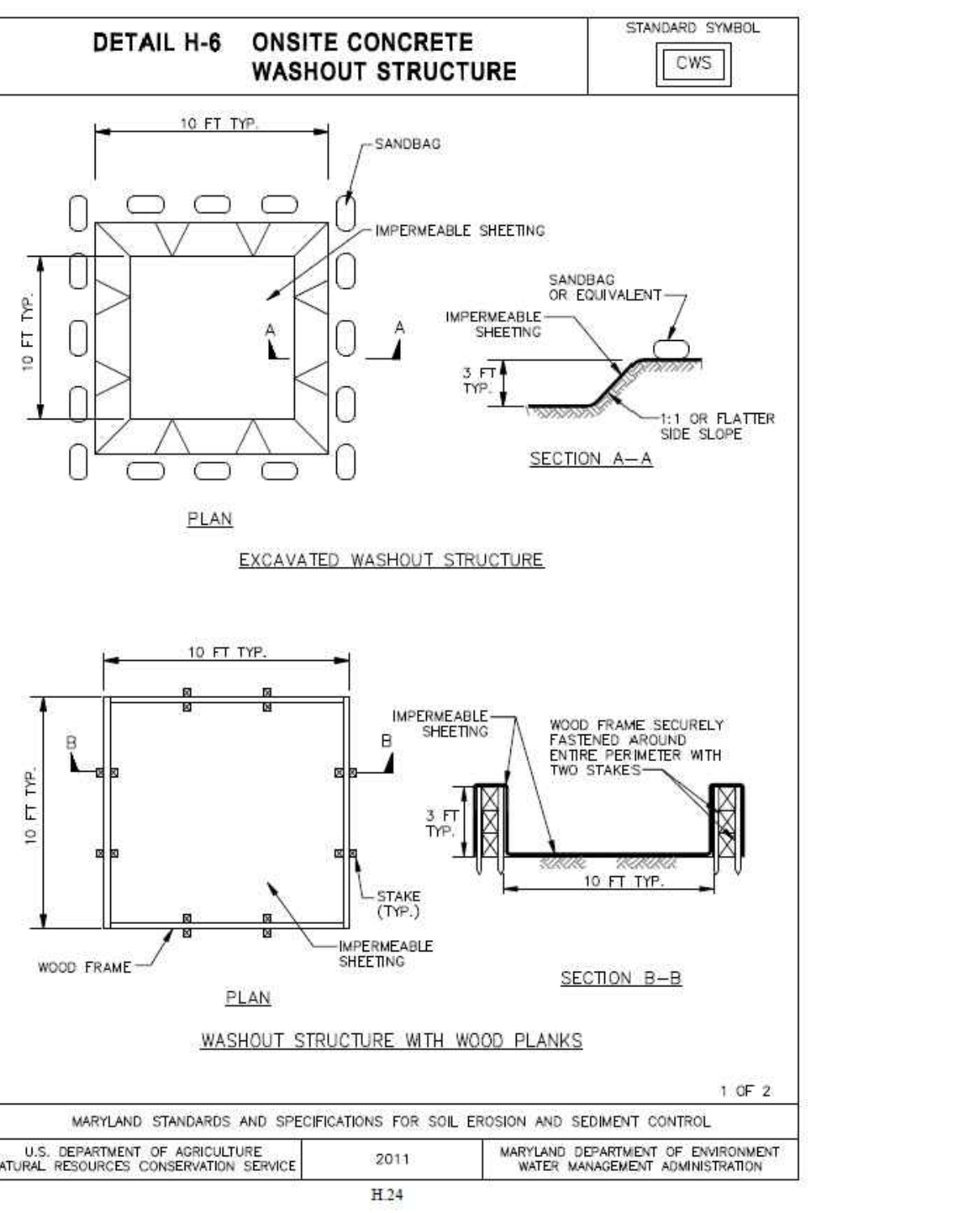
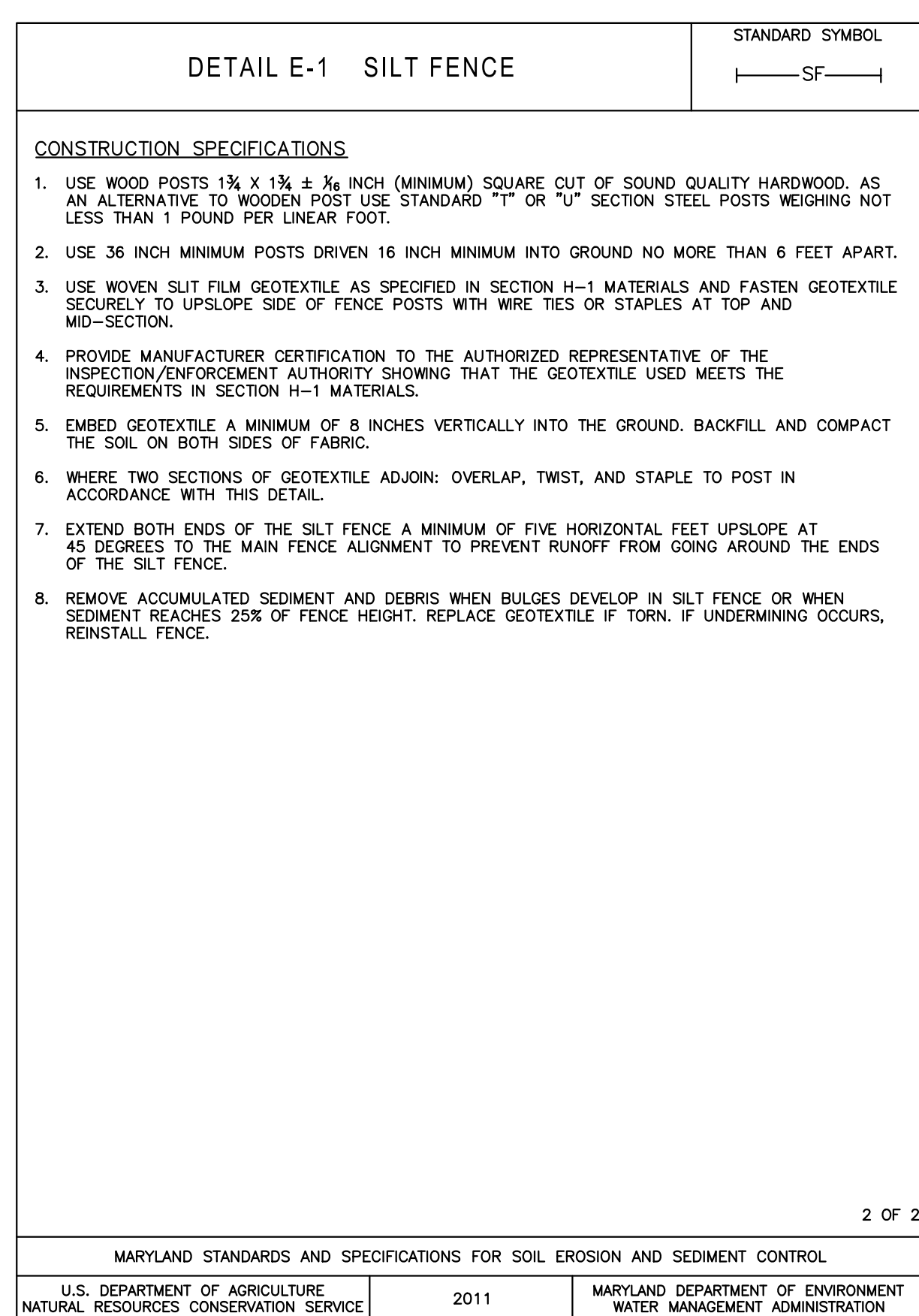
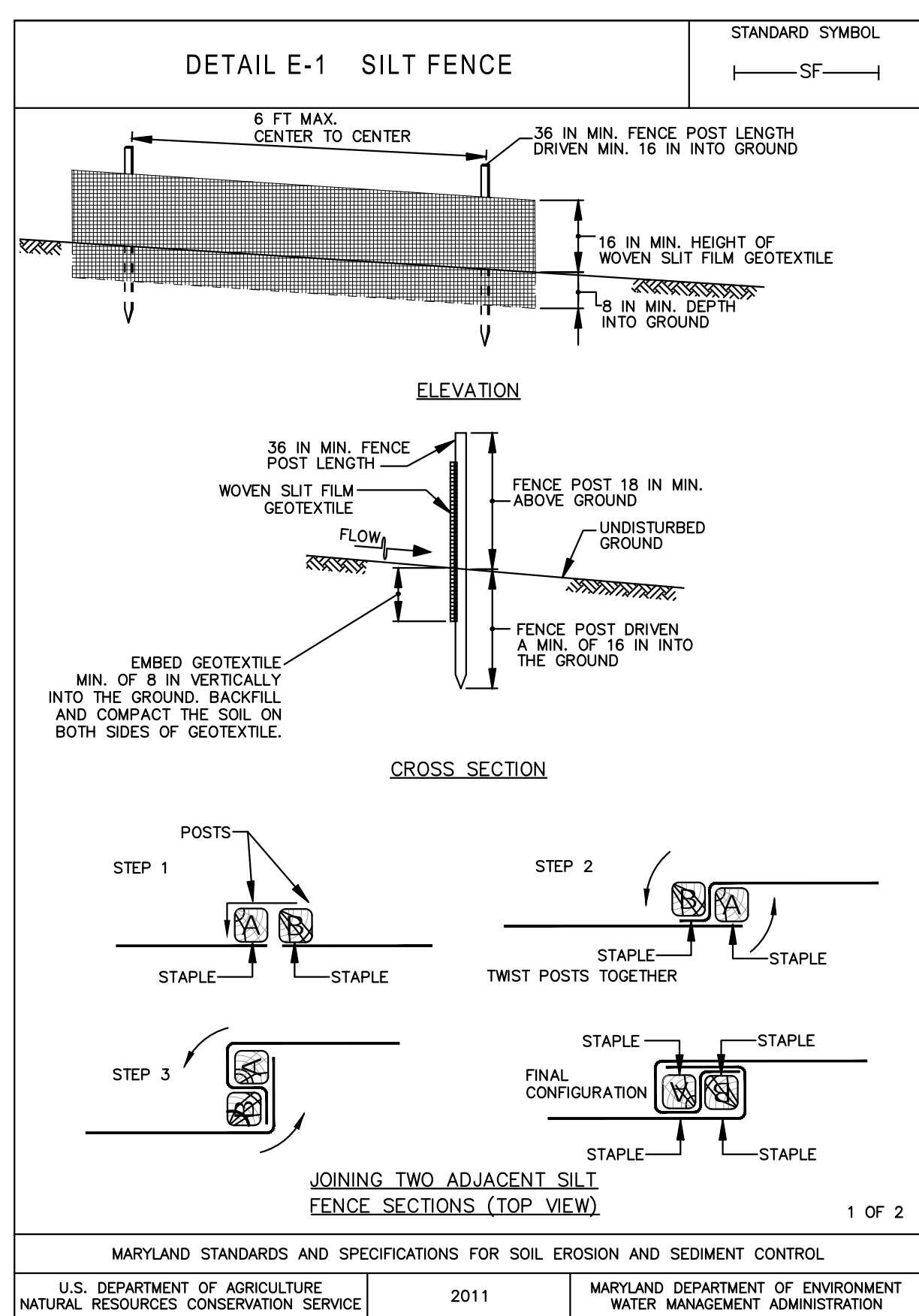
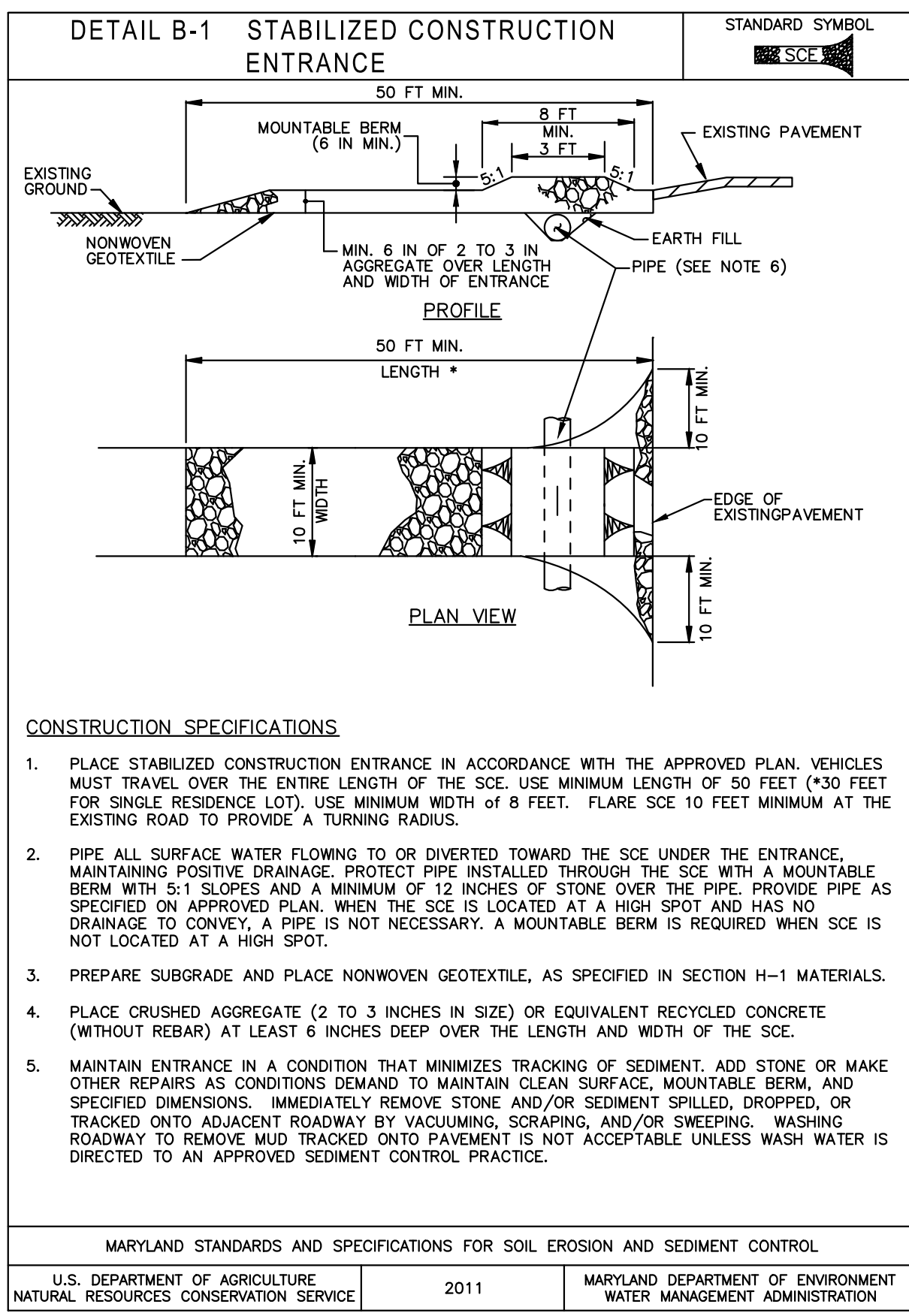
MIDDELTON ROAD EXTENSION - CONTRACT #19-07
EROSION AND SEDIMENT CONTROL PLAN
HARFORD COUNTY, MARYLAND

CNA
Civil Engineers - Land Surveyors - Landscape Architects
Planners - Geotechnical Engineers - Environmental Engineers

DESIGNED: SPM/RLR
DRAWN: SPM/RLR
CHECKED: RLR

SCALE: AS SHOWN
DATE COMPLETED: 2021
REVISION:
BY:
SHEET: 2 OF 4
PROJECT: MIDDLETON ROAD EXTENSION





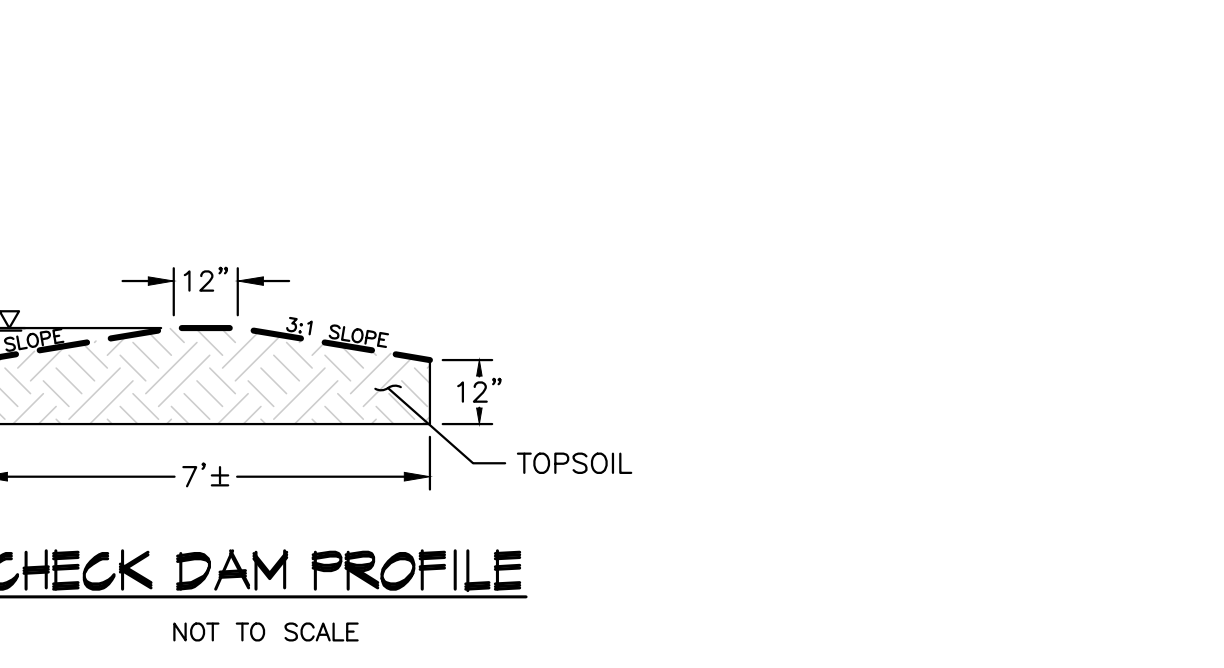
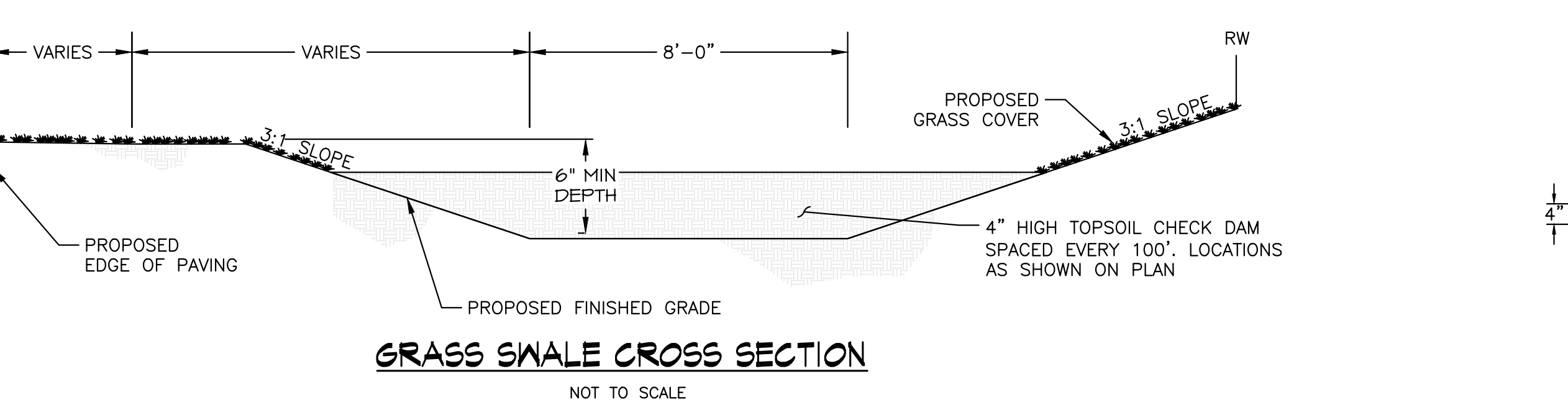
Custom Soil Resource Report

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AdB	Aldino silt loam, 3 to 8 percent slopes	11.5	1.7%
AeC	Aldino silt loam, 8 to 15 percent slopes	0.2	0.0%
AsB	Aldino very stony silt loam, 0 to 3 percent slopes	7.1	1.0%
BaA	Beltville silt loam, 0 to 2 percent slopes	2.2	0.3%
BaB	Beltville silt loam, 2 to 5 percent slopes	41.4	6.0%
BaC	Beltville silt loam, 5 to 10 percent slopes	2.3	0.3%
ChB2	Chillum silt loam, 2 to 5 percent slopes, moderately eroded	25.9	3.9%
CkC2	Chillum heavy sandy silt loam, 5 to 10 percent slopes, moderately eroded	2.3	0.3%
Cu	Codorus silt loam	7.2	1.1%
Cx	Cut and fill land	51.2	7.5%
DcA	Delanco silt loam, 0 to 3 percent slopes	3.7	0.5%
DcB	Delanco silt loam, 3 to 8 percent slopes	84.7	12.4%
En	Elton silt loam	20.7	3.0%
EA	Elaboro silt loam, 0 to 2 percent slopes	0.3	0.0%
EB2	Elaboro silt loam, 2 to 5 percent slopes, moderately eroded	15.0	2.2%
EcC2	Elaboro silt loam, 5 to 10 percent slopes, moderately eroded	7.1	1.0%
Hb	Halterso silt loam	22.4	3.3%
HcA	Halterso-Codorus complex, 0 to 3 percent slopes, frequently flooded	26.5	3.9%
JpB	Joppa gravity sandy loam, 2 to 5 percent slopes	23.3	3.4%
JpC	Joppa gravity sandy loam, 5 to 10 percent slopes	26.5	3.9%
KpA	Keypoint silt loam, 0 to 2 percent slopes	10.4	1.5%
KpB	Keypoint silt loam, 2 to 5 percent slopes	33.6	4.9%
KpA	Kinkora silt loam, 0 to 3 percent slopes	6.9	1.0%

Custom Soil Resource Report

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KpB	Kinkora silt loam, 3 to 8 percent slopes	12.8	1.9%
LfC	Lodge very stony silt loam, 0 to 15 percent slopes	3.8	0.6%
LpC3	Lodge silt clay loam, 8 to 15 percent slopes, severely eroded	0.8	0.1%
MbA	Matapoke silt loam, 0 to 2 percent slopes	5.9	0.9%
MbB	Matapoke silt loam, 2 to 5 percent slopes	23.8	3.5%
MbC	Matapoke silt loam, 5 to 10 percent slopes, northern coastal plain	5.0	0.7%
MbA	Montalto silt loam, 0 to 3 percent slopes	0.4	0.1%
MbB	Montalto silt loam, 3 to 8 percent slopes, moderately eroded	17.3	2.5%
MbC	Montalto silt loam, 8 to 15 percent slopes, moderately eroded	4.0	0.6%
NcC	Neamy and Montalto very stony silt loam, 0 to 15 percent slopes	4.2	0.6%
NdD	Neamy and Montalto very stony silt loam, 15 to 25 percent slopes	0.8	0.1%
Sa	Sand and gravel pits	100.3	14.6%
ShB	Sassafras sandy loam, 2 to 5 percent slopes, Northern Coastal Plain	22.0	3.2%
ShC	Sassafras sandy loam, 5 to 10 percent slopes, Northern Coastal Plain	27.0	3.9%
SbB	Sassafras loam, 2 to 5 percent slopes	5.0	0.7%
SbC	Sassafras loam, 5 to 10 percent slopes, moderately eroded	8.4	1.2%
SdD	Sassafras and Joppa soils, 10 to 15 percent slopes	1.5	0.2%
W	Water	5.8	0.8%
WbA	Washing silt loam, 0 to 3 percent slopes	0.8	0.1%
WbB	Washing silt loam, 3 to 8 percent slopes	2.1	0.3%
Totals for Area of Interest		685.5	100.0%



CITY OF ABERDEEN MARYLAND
APPROVED: ABERDEEN DEPT. OF PUBLIC WORKS
CITY ENGINEER DATE
DIRECTOR DATE

GRADING PERMIT NO. _____
STORM WATER MANAGEMENT NO. _____
PUBLIC WORKS AGREEMENT NO. _____
CITY OF ABERDEEN

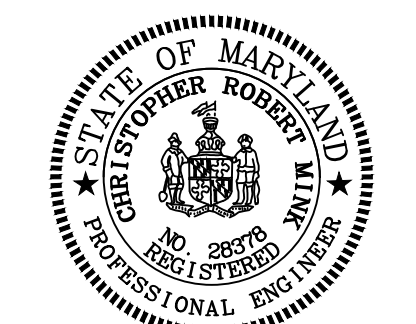
MIDDELTON ROAD EXTENSION - CONTRACT #19-07
EROSION AND SEDIMENT CONTROL PLAN DETAILS
HARFORD COUNTY, MARYLAND

CNA
Civil Engineers - Land Surveyors - Landscape Architects
Planners - Geotechnical Engineers - Environmental Engineers
1600 Robin Drive
Frost, MD, Maryland 21050
Phone (443) 862-8141 Fax (410) 838-1811
E-mail: cna@md-cna-engineers.com

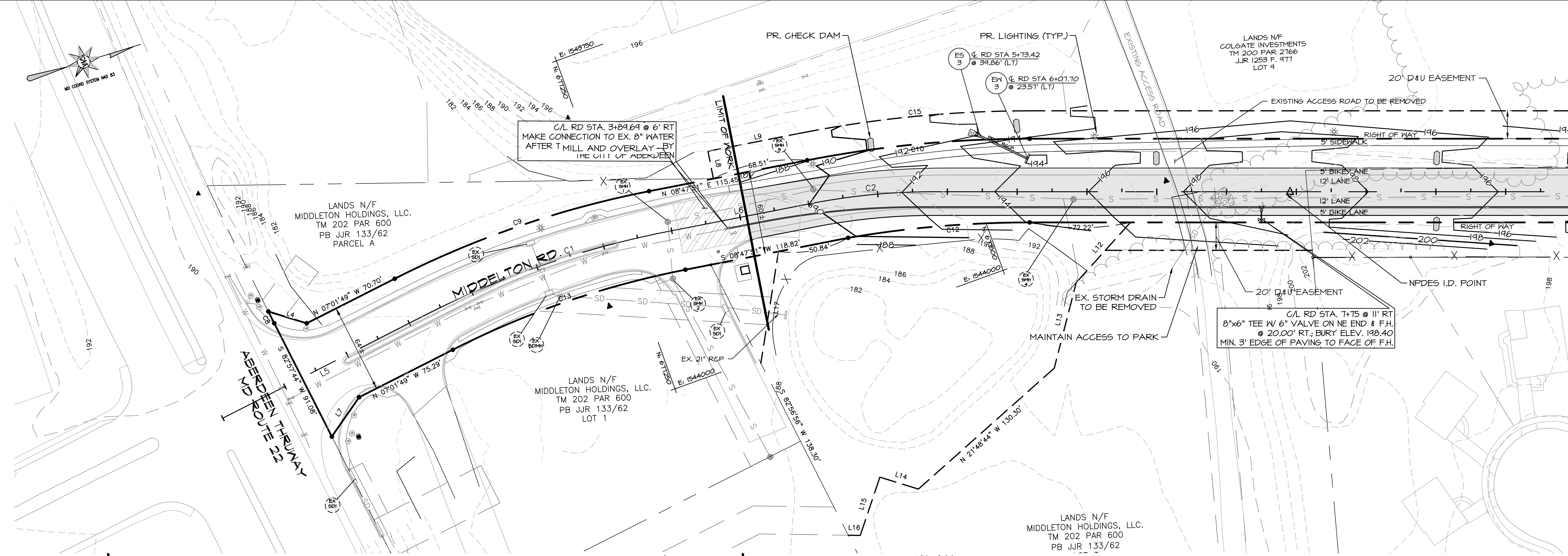
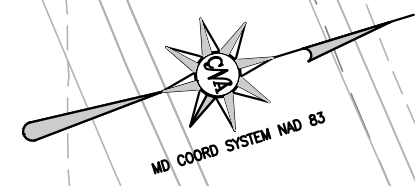
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DRAWN: SPM/RLR
CHECKED: RLR

SCALE: AS SHOWN
DATE COMPLETED: 2021
REVISION: 1
BY: J. J. J.

ES-3
DATE COMPLETED: 2021
REVISION: 1
BY: J. J. J.



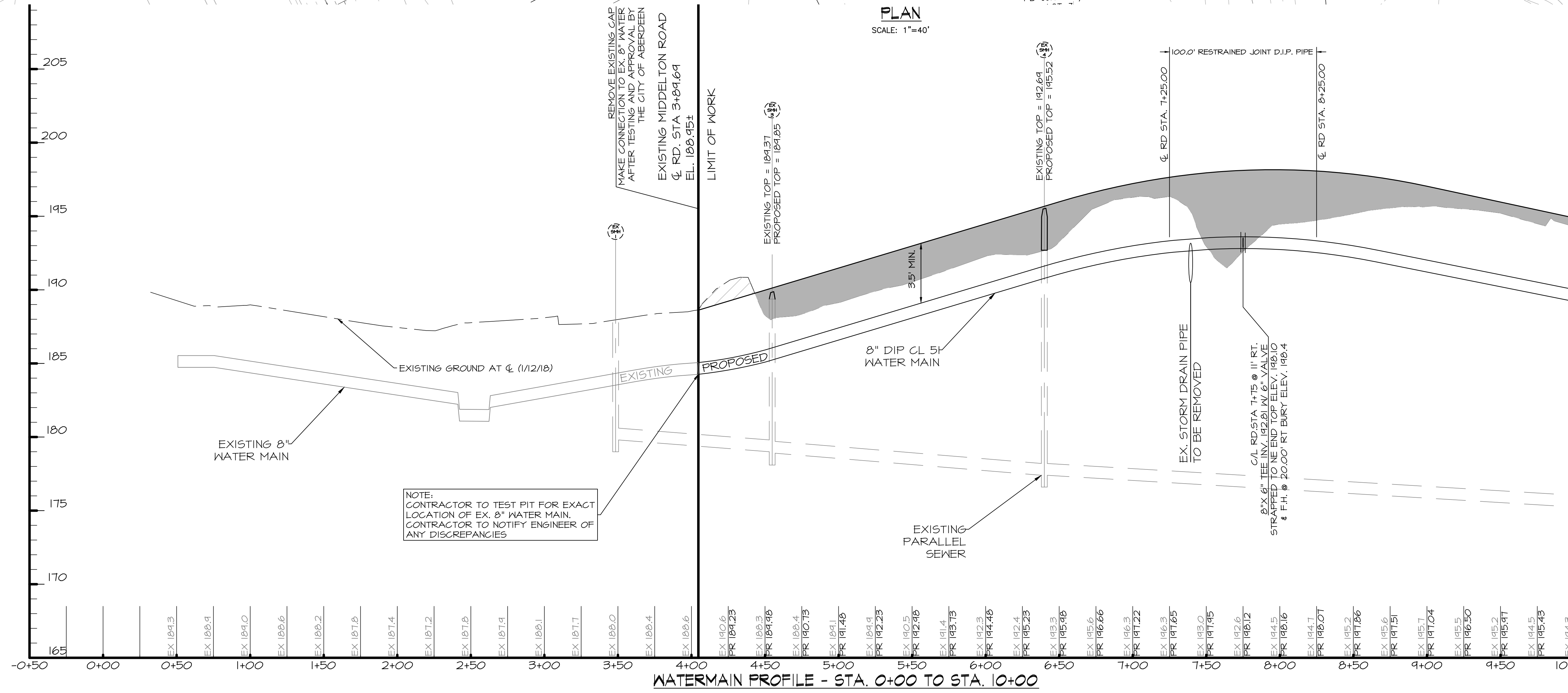
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MATCH LINE STA. 10+00 (SHEET 12)

MATCH LINE STA. 10+00 (SHEET 12)

PLAN
SCALE: 1"=40'



WATERMAIN PROFILE - STA. 0+00 TO STA. 10+00
SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL

NOTE:
CONTRACTOR TO TEST PIT FOR EXACT
LOCATION OF EX. 8" WATER MAIN.
CONTRACTOR TO NOTIFY ENGINEER OF
ANY DISCREPANCIES

REMOVE EXISTING CAP
MAKE CONNECTION TO EX. 8" WATER
AFTER TESTING AND APPROVAL BY
THE CITY OF ABERDEEN

EXISTING MIDDLETON ROAD
C/L RD STA. 3+89.69
EL. 188.95

LIMIT OF WORK

EXISTING TOP = 189.37
PROPOSED TOP = 189.85

EXISTING TOP = 192.69
PROPOSED TOP = 195.52

EX. STORM DRAIN PIPE
TO BE REMOVED

C/L RD STA 7+75 @ 11' RT.
8" X 6" TEE W/ 6" VALVE
STRAPPED TO NE END TOP ELEV. 198.10
& F.H. @ 20.00' RT BURY ELEV. 198.4



DATE	REVISION	BY

CITY OF ABERDEEN
MARYLAND

APPROVED: ABERDEEN DEPT. OF PUBLIC WORKS
CITY ENGINEER
DIRECTOR

GRADING PERMIT NO. _____
STORM WATER MANAGEMENT NO. _____
PUBLIC WORKS AGREEMENT NO. _____

MIDDLETON ROAD EXTENSION
WATER PLAN AND PROFILE
HARFORD COUNTY, MARYLAND

CNA
Civil Engineers - Land Surveyors - Landscape Architects
Planners - Geotechnical Engineers - Environmental Engineers
1800 North Gate
Ft. Belvoir, Maryland 21050
Phone (443) 862-8141 Fax (410) 835-1811
E-mail: cna@cnacorp-engineers.com

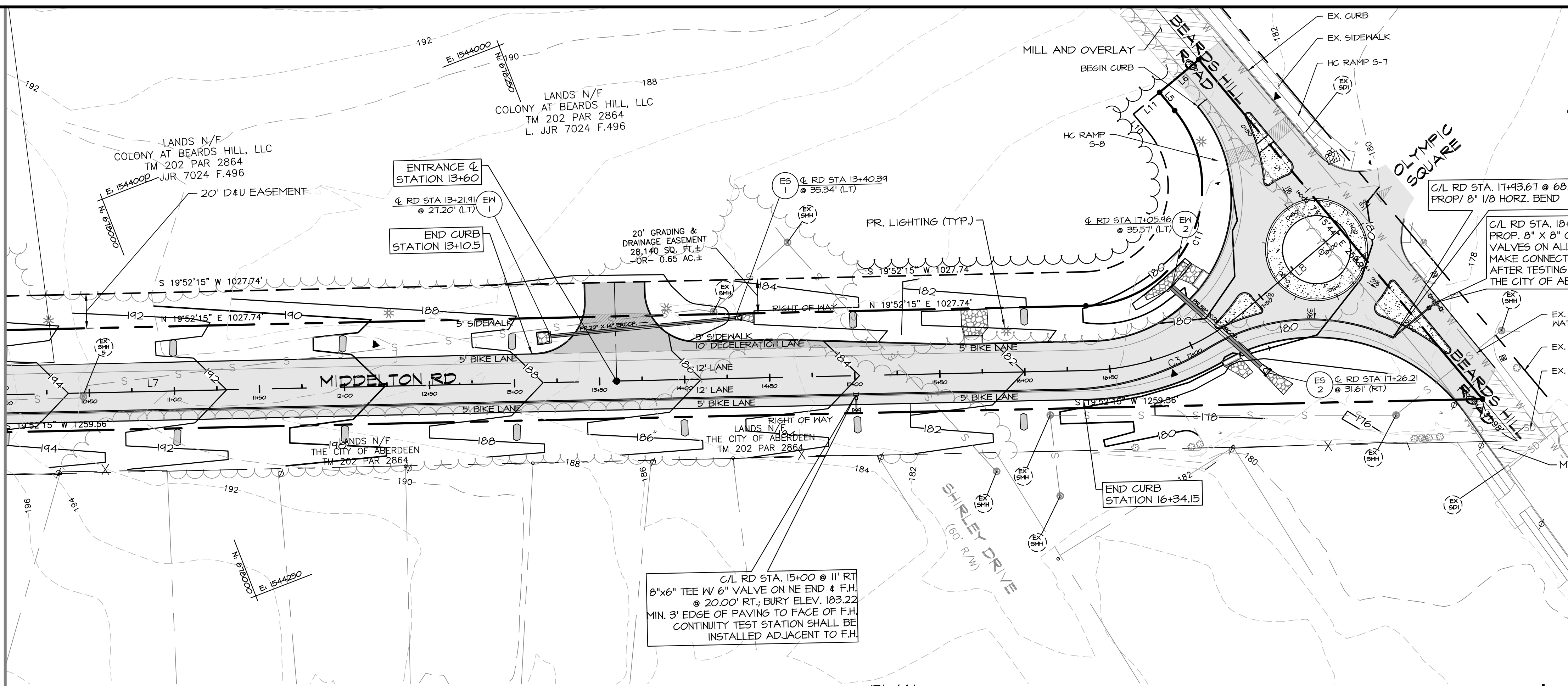
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SCALE: AS SHOWN
SHEET: 11 OF 14
NO. 11
FILES: 14
DATE: 10/20/16

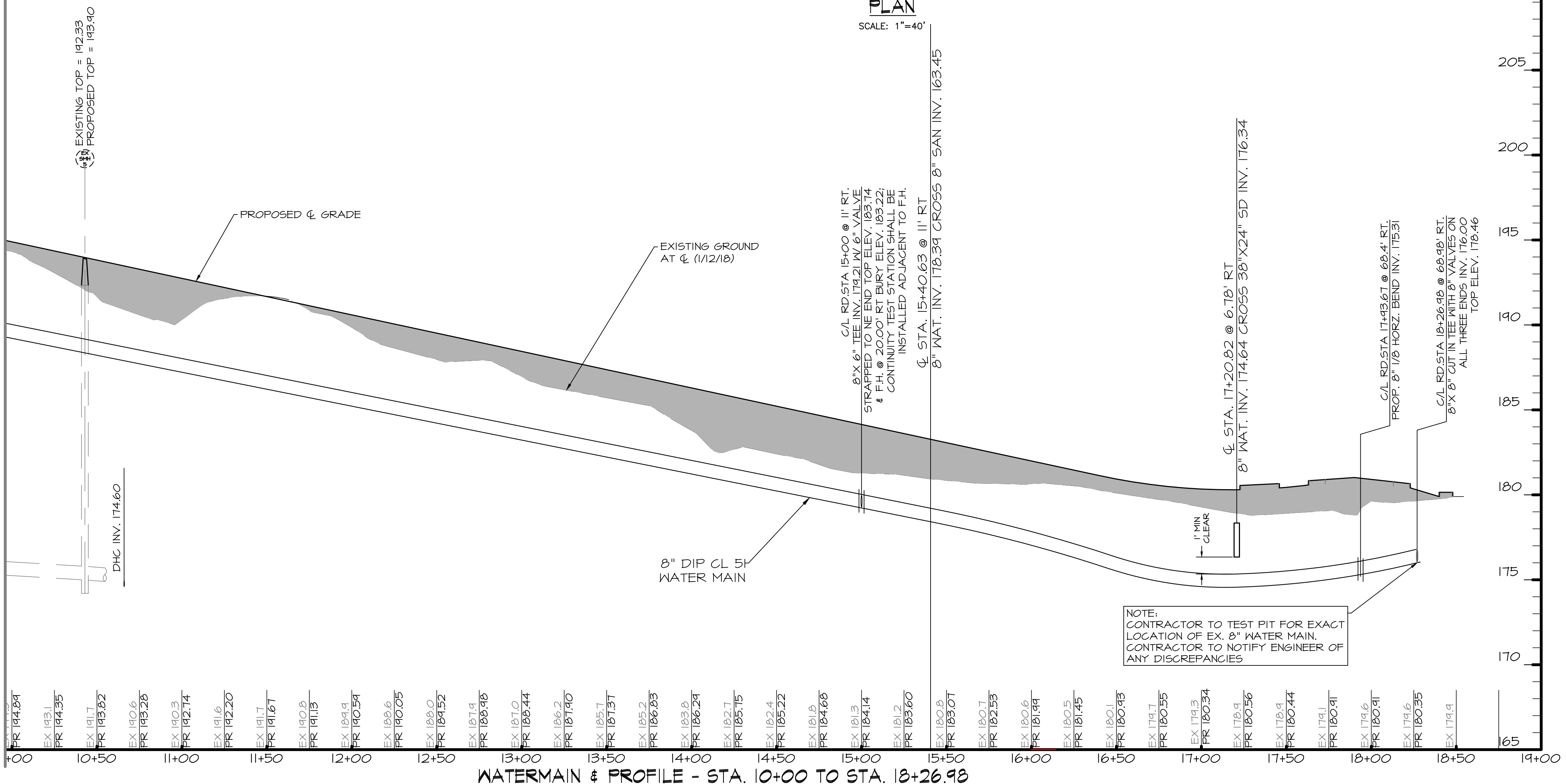
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MATCH LINE STA. 10+00 (SHEET II)

MATCH LINE STA. 10+00 (SHEET II)



PLAN
SCALE: 1"=40'



WATERMAIN & PROFILE - STA. 10+00 TO STA. 18+26.98
SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL

NOTE: CONTRACTOR TO TEST PIT FOR EXACT LOCATION OF EX. 8" WATER MAIN. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES.

GENERAL NOTES

- CONTRACTOR SHALL NOTIFY THE CITY OF ABERDEEN INSPECTOR AT (410) 272-1600 OF UPCOMING CONSTRUCTION ACTIVITIES AT LEAST ONE (1) WEEK PRIOR TO CONSTRUCTION.
- CONSTRUCTION OF THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS AND DETAIL FOR WATER MAINS AND SANITARY SEWERS OF THE HARFORD COUNTY DEPARTMENT OF PUBLIC WORKS AND WITH THE CONTRACT PLANS AND SPECIFICATIONS. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE MARYLAND OCCUPATIONAL SAFETY LAWS. ALL MATERIALS USED ON THIS PROJECT SHALL BE LISTED IN THE HARFORD COUNTY APPROVED MATERIALS LIST AS IDENTIFIED IN THE RULES AND REGULATIONS OF THE DIVISION OF WATER AND SEWER AND AS AMENDED BY THE CITY OF ABERDEEN.
- ALL WORK WITHIN THE CITY OF ABERDEEN RIGHT-OF-WAYS SHALL BE PERFORMED IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS AND THE CURRENT EDITION OF THE HARFORD COUNTY ROAD CODE REQUIREMENTS AND AS AMENDED BY THE CITY OF ABERDEEN.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES BY CONTACTING "MISS UTILITY" (1-800-251-7777) 72 HOURS PRIOR TO THE START OF CONSTRUCTION. ALL LOCATION MARKINGS FOR WATER AND SEWER LINES WILL BE PROVIDED THROUGH A REQUEST TO MISS UTILITY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REFERENCE AND MAINTAIN THE LOCATION AND MARKINGS DURING CONSTRUCTION OF THE PROJECT. IN THE EVENT THAT A UTILITY LOCATION NEEDS TO BE RE-ESTABLISHED BY CITY OF ABERDEEN THE COST TO PROVIDE THIS SHALL BE BORNE BY THE CONTRACTOR.
- EXISTING UTILITIES ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR AND THE COMPLETENESS OR ACCURACY OF THE SAME IS NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE THE LOCATION AND ELEVATION OF THE EXISTING UTILITIES BEFORE TRENCH EXCAVATION BEGINS. HE SHALL PROTECT SERVICE CONNECTIONS AND MAINTAIN THEIR UNINTERRUPTED SERVICE. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED IMMEDIATELY. THE COST OF SUCH REPAIRS SHALL BE BORNE BY THE CONTRACTOR. THE CONTRACTOR SHALL, AT A MINIMUM, TEST PIT WATER AND SEWER FACILITIES AT THE FOLLOWING LOCATIONS TO DETERMINE THE HORIZONTAL AND VERTICAL LOCATION OF THE EXISTING UTILITIES (TEST PIT SHALL EXTEND A MINIMUM ONE (1) FOOT BELOW PROPOSED UTILITY INVERT ELEVATION. UTILITIES (INCLUDING SERVICES) CROSSING WATER MAINS AND SEWERS WITHIN PAVED SECTION OF ROADWAY, UTILITIES (INCLUDING SERVICES) CROSSING ALL WATER AND SEWER FACILITIES OUTSIDE OF THE PAVED SECTION OF ROADWAY.
- COORDINATES SHOWN ON THIS DRAWING REFER TO THE MARYLAND COORDINATE SYSTEM (NAD'83) AND ARE BASED ON GNA TRAVELING POINTS: 51 N:15439428.23 E:61712254.91 POINTS: 56 N:1544412.68 E:6178665.60 ELEVATIONS SHOWN HEREON ARE REFERRED TO NAVD 1988.
- ALL STAKING, RESTAKING, AND CUT SHEETS SHALL BE PERFORMED BY A REGISTERED LAND SURVEYOR OR PROFESSIONAL ENGINEER AT THE CONTRACTOR'S OR OWNERS EXPENSE, INCLUDING HOUSE SERVICES.
- ALL PIPE ELEVATIONS ARE TO INVERT OF PIPE, UNLESS OTHERWISE SPECIFIED.
- WATER AND SEWER MAINS
 - ALL WATER MAINS SHALL BE STANDARD SLIP JOINT OR RESTRAINED JOINT CLASS 51 DUCTILE IRON PIPE AS NOTED.
 - ALL SEWER MAINS SHALL BE (PVCSP) SDR-35 UNLESS DEPTHS EXCEED 20' THEN SEWER MAIN SHALL BE CLASS 51 DUCTILE IRON PIPE.
- A TRAFFIC CONTROL PLAN MAY BE REQUIRED, AND IF REQUIRED MUST BE APPROVED FOR THIS PROJECT PRIOR TO CONSTRUCTION. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- EX. WATER VALVES AND FIRE HYDRANTS TO BE OPERATED BY CITY OF ABERDEEN EMPLOYEES ONLY.
- CUT SHEETS SHALL BE PROVIDED TO THE CITY PRIOR TO ANY CONSTRUCTION.
- WATER AND SEWER CONSTRUCTION APPROVALS ARE VALID FOR ONE YEAR FROM THE LAST SIGNATURE DATE. IF NO INSTALLATION OF UTILITIES OCCURS WITHIN THIS TIME FRAME, THE CITY OF ABERDEEN REQUIRES THAT THE CONTRACT DRAWINGS BE RE-SUBMITTED FOR REVIEW AND APPROVAL.
- EXISTING MANHOLES, TO WHICH CONNECTIONS ARE BEING PROPOSED, SHALL BE REHABILITATED AS REQUIRED SO THAT THEY CONFORM TO CURRENT WATER AND SEWER STANDARDS. AT A MINIMUM, EXISTING MANHOLES, WHICH ARE MODIFIED BY NEW CONNECTIONS, SHALL BE WATER-TIGHT AND STRUCTURALLY SOUND. CORING METHOD AND PROPOSED GASKETING SHALL BE NOTED ON THE CONSTRUCTION DRAWINGS.
- GENERALLY, PLANTING OF TREES WITHIN TWENTY FEET OF WATER AND SEWER FACILITIES SHALL NOT BE ALLOWED WITHIN RIGHT-OF-WAYS AND DRAINAGE AND UTILITY EASEMENTS WHICH CONTAIN WATER AND SEWER UTILITIES. ORNAMENTAL SHRUBS MAY BE APPROVED WITHIN THE ABOVE RESTRICTIONS AS DETERMINED BY THE CITY OF ABERDEEN.
- MANHOLES
 - MANHOLE DETAILS ARE SHOWN IN THE STANDARD DETAILS. THE DESIGNER SHALL USE THESE STANDARDS AS REQUIRED TO MEET THE DESIGN SITUATION AND SHALL DESIGNATE THE TYPE ON THE CONTRACT DRAWINGS.
 - A SAMPLING MANHOLE SHALL BE PROVIDED FOR ALL LOTS ZONED C1, LI AND G1 AT THE TIME OF UTILITY CONSTRUCTION FOR THE SUBDIVISION, PREVIOUSLY DEVELOPED OR SUBDIVIDED LOTS WHICH DO NOT ALREADY HAVE SAMPLING MANHOLES, SHALL HAVE SAMPLING MANHOLES INSTALLED AT THE TIME OF DEVELOPMENT OR REDEVELOPMENT.
 - MAXIMUM MANHOLE SPACING SHALL BE 400 FEET.
 - MANHOLES LOCATED WITHIN THE 100 YEAR FLOOD PLAIN SHALL EXTEND THREE (3) FEET ABOVE EXISTING GRADE AND SHALL BE CONSTRUCTED WITH WATER-TIGHT FRAME AND COVERS.
 - A STAINLESS STEEL INSERT DISH SHALL BE INSTALLED WITHIN ALL MANHOLES IN WHICH THE EDGE OF COVER IS FIVE (5) FEET OR LESS TO THE FACE OF CURB OR CENTER OF GUTTER FLOW LINE. THE CONSTRUCTION DRAWINGS SHALL INDICATE THOSE MANHOLES WHICH SHALL RECEIVE THE STAINLESS STEEL DISHES.
 - A STAINLESS STEEL INSERT DISH SHALL BE INSTALLED IN ALL MANHOLES WITHIN THE VERTICAL SUMP OF ROADWAYS, SHALES, DITCHES, AND BETWEEN SIDE LOT LINES. THE CONSTRUCTION DRAWINGS SHALL INDICATE THOSE MANHOLES WHICH SHALL RECEIVE THE STAINLESS STEEL DISHES. A STAINLESS STEEL INSERT DISH SHALL BE INSTALLED WITHIN ALL MANHOLES WITHIN THE VERTICAL SUMP OF ROADWAYS, SHALES, DITCHES, ETC. REGARDLESS OF THE LATERAL LOCATION. THE CONSTRUCTION DRAWINGS SHALL INDICATE THOSE MANHOLES WHICH SHALL RECEIVE THE STAINLESS STEEL DISHES. A STAINLESS STEEL INSERT DISH MAY BE ALSO REQUIRED AT OTHER LOCATIONS WHICH MAY BE DETERMINED AS NECESSARY BY THE DIVISION ON A CASE BY CASE BASIS. IF A DISH IS PROPOSED, THEN A WATER-TIGHT FRAME AND COVER IS NOT REQUIRED.
 - THE EDGE OF MANHOLE FRAMES AND COVERS SHALL BE LOCATED A MINIMUM OF SIX (6") INCHES FROM THE GUTTER PAN. USUALLY, MANHOLES LOCATED WITHIN PAVED AND MOWED AREAS SHALL BE CONSTRUCTED TO PROPOSED FINISH GRADE. GENERALLY, MANHOLES LOCATED WITHIN OPEN SPACE AREAS SHALL BE A MAXIMUM OF THREE AND ONE-HALF (3.5) FEET AND A MINIMUM OF TWO AND A HALF (2.5) FEET ABOVE EXISTING GRADE.
 - MANHOLES LOCATED WITHIN AN OPEN SPACE AREA SHALL BE CONSTRUCTED WITH A LOCKING FRAME AND COVER.
 - ALL TRENCH COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 02250, D.2 A OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PROFILES, OR APPROVED BY THE CITY OF ABERDEEN D.P.W.
 - EXISTING SANITARY SEWER STRUCTURES TO WHICH CONNECTIONS ARE BEING PROPOSED AND SEWER PIPES WHICH WILL BE UTILIZED SHALL BE REHABILITATED/REPLACED AS REQUIRED SO THAT THEY CONFORM TO CURRENT STANDARDS OF THE CITY OF ABERDEEN. AT A MINIMUM, EXISTING STRUCTURES WHICH ARE MODIFIED BY NEW CONNECTIONS SHALL BE WATER-TIGHT AND STRUCTURALLY SOUND. CORING METHOD AND PROPOSED GASKETING SHALL BE AS NOTED ON THE CONSTRUCTION DRAWINGS AND BE PERFORMED IN THE PRESENCE OF THE CITY OF ABERDEEN INSPECTOR.

ITEM	QUANTITY	AS-BUILT QUANTITY	MANUFACTURER
WATER			
8" MAIN - D.I.P. CL 51	1367 LF		
8" MAIN - RESTRAINED JOINT D.I.P. WATER PIPE	100 LF		
8" 1/8 BEND	1 EA		
8"x6" TEE	2 EA		
8"x8" TEE	1 EA		
8" VALVE	3 EA		
6" VALVE	2 EA		
FIRE HYDRANT	2 EA		



CITY OF ABERDEEN
MARYLAND

APPROVED: ABERDEEN DEPT. OF PUBLIC WORKS

CITY ENGINEER _____ DATE _____

DIRECTOR _____ DATE _____

GRADING PERMIT NO. _____

STORM WATER MANAGEMENT NO. _____

PUBLIC WORKS AGREEMENT NO. _____

CITY OF ABERDEEN

MIDDELTON ROAD EXTENSION
WATER PLAN & PROFILE
HARFORD COUNTY, MARYLAND

CNA
Civil Engineers - Land Surveyors - Landscape Architects
Planners - Geotechnical Engineers - Environmental Engineers
1800 North Gate
Rt. 100, Maryland 21000
Phone (443) 862-8141 Fax (410) 538-1811
E-mail: cna@md-cna-engineers.com

DESIGNED	SPM/RLR	SCALE	AS SHOWN	FAX MAP PARCEL 200-4 600	SHEET	12	DATE	10/20/16
DRAWN	SPM/RLR	NO. GRIDS	XX	NO. OF	14	FILES		
CHECKED	RLR							

NOTE: TRENCH TO BE COMPACTED AS PER SPECIFICATIONS.

DETECTOR TAPE, PLACE 1'-6" ABOVE TOP OF PIPE.

TRACER WIRE SEE NOTE 2.

SECTION
NO SCALE

NOTES:

- UNLESS NOTED OTHERWISE, ALL ROAD REPAIR SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISION OF THE HARFORD COUNTY OR MARYLAND STATE ROAD CODE.
- PROVIDE TRACER WIRE FOR ALL NON-METALLIC WATER MAINS, SEWER FORCE MAINS, AND SERVICES SEE DETAILS W-2, W-3 AND G-14.
- PVC PIPE SHALL RECEIVE AASHTO M3, NO. 57 AGGREGATE OR COMPACTED SAND THAT MEETS THE MARYLAND SHA REQUIREMENTS FOR FINE AGGREGATE.
- D.I.P. PIPE SHALL BE BEDDED IN LOOSE SOIL (4" MIN.) AND HAVE APPROVED COMPACTED BACKFILL MATERIAL CONSOLIDATED TO TOP OF PIPE.
- ALL PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PIPE MANUFACTURER AND COUNTY APPROVAL.
- PROVIDE CONTINUOUS BEARING FOR FULL LENGTH OF PIPE.

HARFORD COUNTY, MD DEPARTMENT OF PUBLIC WORKS
Willie B. ...

STANDARD WATER DETAILS
 PIPE BEDDING
 PLATE W-1

ISSUED 7/98
 REVISED 3/12/01
 REVISED 11/26/03

INSTALLATION IN EXISTING STREETS W/ SIDEWALK ADJACENT TO CURB

INSTALLATION IN NEW DEVELOPMENT WITH CURB AND GUTTER

INSTALLATION IN STREETS WITHOUT CURB AND GUTTER

STANDARD WATER DETAILS
 TYPICAL FIRE HYDRANT SETTINGS
 PLATE W-3

NOTES:

- FOR PRESSURES ABOVE 150 PSI A SPECIAL DESIGN SHALL BE SUBMITTED & APPROVED.
- CATHODIC PROTECTIVE CAP MUST BE PLACED ON THE TEE RISER WHICH SHALL BE SUBMITTED & APPROVED.
- AFTER ASSEMBLY, PAINT ALL EXPOSED UNDERGROUND STEEL WITH AN APPROVED BITUMINOUS COATING.
- RETAINING GLAND OR STRAPPING REQUIRED ON ALL JOINTS FROM MAIN TO HYDRANT.
- PROVIDE 3'-4" MIN. COVER OVER WATER MAIN AND FIRE HYDRANT LEAD.
- LARGEST OUTLET SHALL FACE PAVED AREA.

HARFORD COUNTY, MD DEPARTMENT OF PUBLIC WORKS
Paul P. ...

STANDARD WATER DETAILS
 TYPICAL FIRE HYDRANT SETTINGS
 PLATE W-3

ISSUED 7/98
 REVISED 11/26/03

PLAN

SECTION A-A

NOTES:

- ALL CONCRETE TO BE MIX NO. 2.
- BUTTRESS DIMENSIONS SHOWN ARE BASED UPON SOIL BEARING PRESSURE OF 3000 PSF AND STATIC WATER PRESSURE OF 150 PSI. WHERE WATER MAIN PRESSURE EXCEEDS 150 PSI OR WHERE SOIL BEARING PRESSURE IS LESS THAN 3000 PSF SPECIAL BUTTRESS DESIGN IS REQUIRED.
- MINOR VARIATIONS IN BUTTRESS SHAPE WILL BE PERMITTED, PROVIDED THE MINIMUM BEARING AGAINST SOLID GROUND IS MAINTAINED.

BUTTRESS FOR TEES									
SIZE OF BRANCH (D)									
D	6"	8"	10"	12"	16"	20"	24"	30"	36"
H	8"	9"	10"	1'-0"	1'-0"	1'-4"	1'-6"	1'-9"	2'-0"
J	8"	10"	1'-0"	1'-3"	1'-8"	2'-1"	2'-6"	3'-1"	3'-9"
K	6"	8"	8"	8"	10"	1'-2"	1'-4"	1'-6"	1'-10"

HARFORD COUNTY, MD DEPARTMENT OF PUBLIC WORKS
Willie B. ...

STANDARD WATER DETAILS
 BUTTRESS FOR TEES
 PLATE W-6

ISSUED 7/98
 REVISED 11/26/03

SECTION D-D
 BUTTRESSES FOR VERTICAL BENDS

SECTION E-E
 ANCHORAGE FOR VERTICAL BENDS

BEND	SIZE									
	6"	8"	10"	12"	16"	20"	24"	30"	36"	
1/8" (19 5/8")	A					1'-8"	2'-0"	2'-6"	3'-0"	
	B					10"	1'-0"	1'-3"	1'-6"	
	C					10"	1'-0"	1'-1"	1'-2"	
1/32 (11 1/4")	A	6"	8"	10"	10"	1'-4"	1'-8"	2'-0"	2'-6"	
	B	7"	8"	9"	10"	1'-0"	1'-2"	1'-4"	1'-7"	
	C	7"	7"	8"	8"	9"	10"	1'-0"	1'-10"	
1/16 (22 1/2")	A	9"	1'-0"	1'-6"	1'-9"	2'-3"	3'-0"	3'-6"	4'-2"	
	B	7"	7"	8"	10"	1'-0"	1'-2"	1'-4"	1'-7"	
	C	7"	7"	8"	8"	9"	10"	1'-0"	1'-10"	
1/8 (45")	A	1'-3"	1'-8"	2'-1"	2'-6"	3'-4"	4'-2"	5'-0"	5'-6"	
	B	7"	8"	9"	11"	1'-3"	1'-6"	1'-9"	2'-3"	
	C	7"	8"	10"	11"	1'-3"	1'-6"	1'-9"	2'-8"	

REINFORCING BARS

SIZE	6"	8"	10"	12"
3/8"	3-#4	3-#4	3-#4	3-#4
1/2"	3-#4	3-#4	3-#4	3-#4
5/8"	3-#4	3-#4	3-#4	3-#5

ANCHORAGES FOR VERTICAL BENDS

BEND	6"	8"	10"	12"
1/8"	A	1'-6"	1'-6"	1'-5"
	B	1'-3"	1'-9"	1'-3"
	C	2'-0"	2'-6"	2'-9"
1/32"	A	2'-0"	3'-4"	3'-10"
	B	1'-9"	2'-3"	2'-6"
	C	2'-6"	2'-8"	3'-10"
1/16"	A	2'-6"	3'-0"	4'-0"
	B	2'-6"	2'-9"	3'-0"
	C	3'-0"	4'-0"	4'-9"

EMBED BARS 30 DIAMETERS. PAINT EXPOSED BARS WITH AN APPROVED BITUMINOUS COATING.

HARFORD COUNTY, MD DEPARTMENT OF PUBLIC WORKS
Willie B. ...

STANDARD WATER DETAILS
 BUTTRESSES AND ANCHORAGES FOR VERTICAL BENDS
 PLATE W-8

ISSUED 7/98
 REVISED 11/26/03

ELEVATION

DETAIL FOR NON-TRAFFIC AREA ONLY

NOTES:

- 6" LATERAL AND FITTINGS WITHIN CONCRETE BLOCK SHALL BE SDR 35 P.V.C., D.I.P., OR C.I. SOIL PIPE. ALL JOINTS TO BE PUSH-ON RUBBER GASKET JOINTS.
- CLEAN-OUTS ARE SUBJECT TO AIR TESTS. CONTRACTOR SHALL INSTALL APPROVED TEMPORARY AIR-TIGHT CAP OR PLUG.
- ON LOTS WITH EXISTING HOMES, CONTRACTOR SHALL INSTALL APPROVED HUBS AND CAPS FLUSH WITH FINISHED GRADE.
- CLEAN-OUTS SHALL NOT BE PLACED IN SIDEWALKS, STEPS OR DRIVENAYS.

HARFORD COUNTY, MD DEPARTMENT OF PUBLIC WORKS
Paul P. ...

STANDARD SEWER DETAILS
 HOUSE SERVICE CONNECTION CLEAN-OUT
 PLATE S-22

ISSUED 7/98
 REVISED 4/31/01
 REVISED 11/26/03
 REVISED 11/26/03

STANDARD WATER DETAILS
 WATER MAIN CROSSING STORM DRAIN
 PLATE W-34

ISSUED 7/98
 REVISED 11/26/03

CITY OF ABERDEEN
 MARYLAND

APPROVED: ABERDEEN DEPT. OF PUBLIC WORKS

CITY ENGINEER DATE

DIRECTOR DATE

GRADING PERMIT NO. _____

STORM WATER MANAGEMENT NO. _____

PUBLIC WORKS AGREEMENT NO. _____

CITY OF ABERDEEN

MIDDELTON ROAD EXTENSION
 WATER DETAILS

HARFORD COUNTY, MARYLAND

CNA
 Civil Engineers - Land Surveyors & Landscape Architects
 Planners - Geotechnical Engineers - Environmental Engineers
 1800 Robin Cross
 P.O. Box 11000
 Hunt Valley, Maryland 21086
 Phone (443) 852-8141 Fax (410) 858-1811
 E-mail: cna@md-cna-engineers.com

DESIGNED SPM/RLR
 DRAWN SPM/RLR
 CHECKED GRM

SCALE AS SHOWN

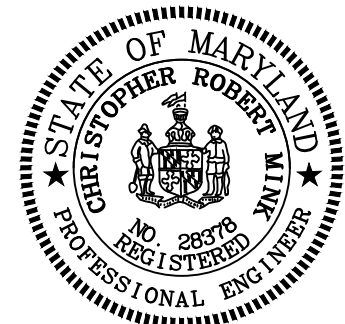
FAX MAP PARCEL 202 600
 ADZ. MAP NO. 13
 GRIDS XX X-X X-X
 SHEET 14 OF 14

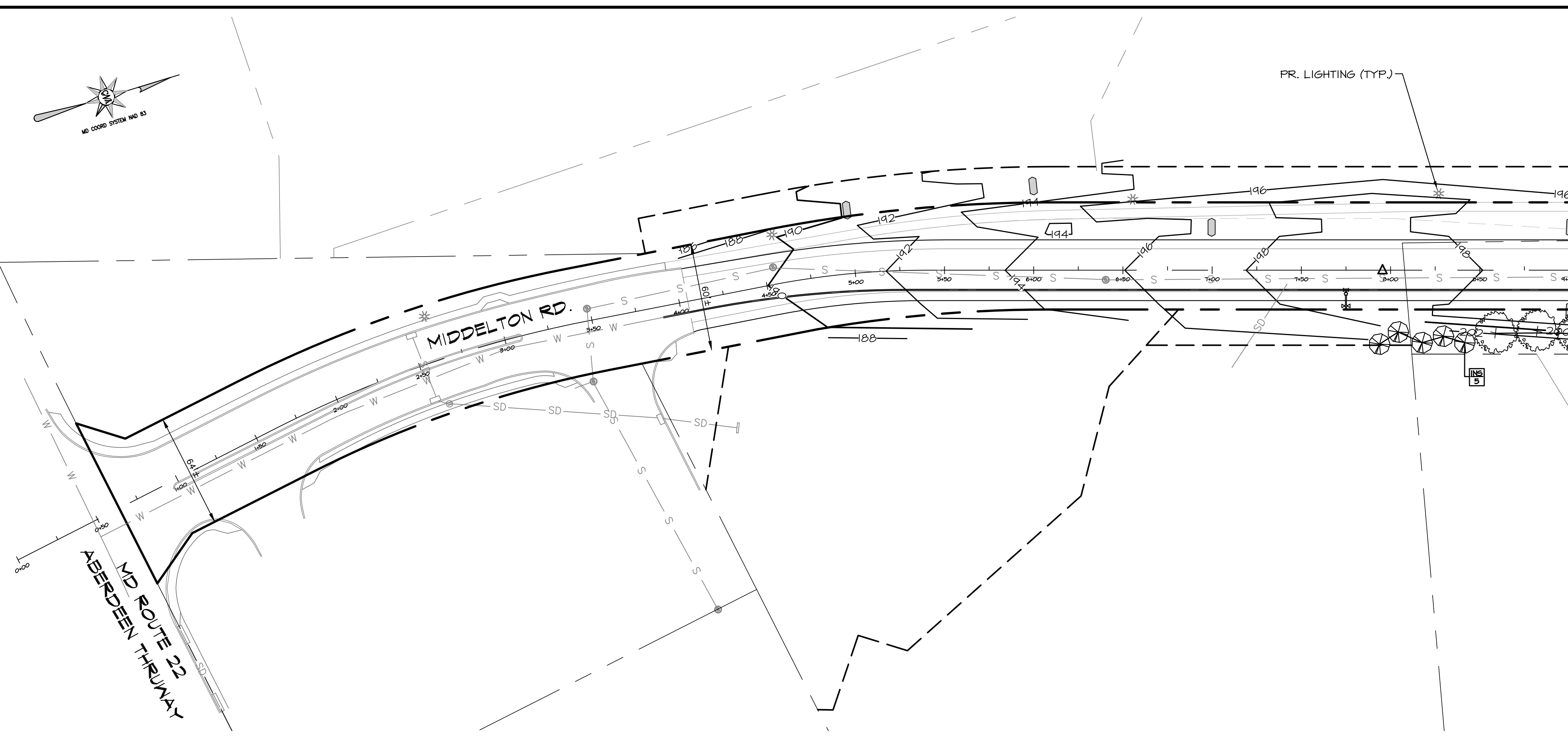
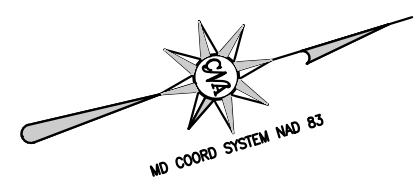
DATE COMPLETED _____

REVISION _____

BY _____

FILE NO. J01720116.00





PLAN
SCALE: 1"=40'

MATCH LINE STA. 9+00 (THIS SHEET)

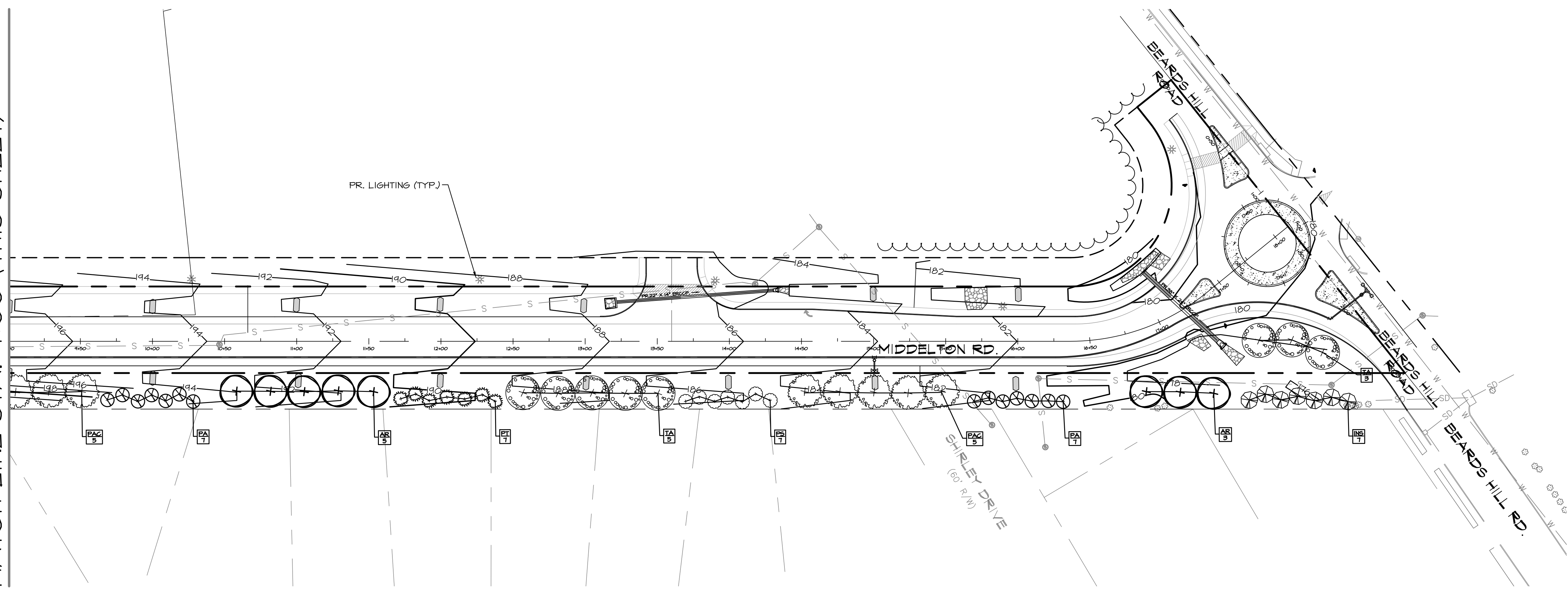
PLANTING SCHEDULE

SYM.	KEY	QUA.	BOTANICAL / COMMON NAME	SIZE	NOTES
SHADE TREES (MAJOR DECIDUOUS)					
(+)	AR	8	ACER RUBRUM RED MAPLE 'OCTOBER GLORY'	2-2 1/2" CAL B&B	SPACE AS SHOWN
(+)	PAC	10	PLATANUS ACEROLIA LONDON PLANE TREE	2-2 1/2" CAL B&B	SPACE AS SHOWN
(+)	TA	8	TILIA AMERICANA 'REDMOND' AMERICAN BASSWOOD	2-2 1/2" CAL B&B	SPACE AS SHOWN
EVERGREEN TREES					
(*)	INS	12	ILEX X 'NELLIE STEVENS' NELLIE STEVENS HOLLY	5-6' HEIGHT	SPACE AS SHOWN
(*)	PA	14	PICEA ABIES NORWAY SPRUCE	5-6' HEIGHT	SPACE AS SHOWN
(+)	PS	7	PINUS STROBUS WHITE PINE	5-6' HEIGHT	SPACE AS SHOWN
(*)	PT	7	PINUS TAEDA LOBLOLLY PINE	5-6' HEIGHT	SPACE AS SHOWN

CITY STREET LIGHT SCHEDULE

LOCATION	CHECK ONE		CHECK ONE		FIXTURE TYPE/SIZE/COLOR	POLE TYPE/SIZE/COLOR	STATION OR POLE #
	INSTALL	REMOVE	RELOCATE	CUSTOMER OWNED			
MIDDELTON ROAD	X			X	COLONIAL POST TOP/150 WATT-SV/BLACK	FIBERGLASS/14'/BLACK	CL STA 2+57 @ 28' LT
MIDDELTON ROAD	X			X	COLONIAL POST TOP/150 WATT-SV/BLACK	FIBERGLASS/14'/BLACK	CL STA 4+58 @ 28' LT
MIDDELTON ROAD	X			X	COLONIAL POST TOP/100 WATT-SV/BLACK	FIBERGLASS/14'/BLACK	CL STA 6+56 @ 40' LT
MIDDELTON ROAD	X			X	COLONIAL POST TOP/150 WATT-SV/BLACK	FIBERGLASS/14'/BLACK	CL STA 8+27 @ 43' LT
MIDDELTON ROAD	X			X	COLONIAL POST TOP/150 WATT-SV/BLACK	FIBERGLASS/14'/BLACK	CL STA 10+27 @ 43' LT
MIDDELTON ROAD	X			X	COLONIAL POST TOP/150 WATT-SV/BLACK	FIBERGLASS/14'/BLACK	CL STA 12+27 @ 43' LT
MIDDELTON ROAD	X			X	COLONIAL POST TOP/150 WATT-SV/BLACK	FIBERGLASS/14'/BLACK	CL STA 13+90 @ 42' LT
MIDDELTON ROAD	X			X	COLONIAL POST TOP/150 WATT-SV/BLACK	FIBERGLASS/14'/BLACK	CL STA 15+90 @ 24' LT
BEARDS HILL ROAD	X			X	COLONIAL POST TOP/150 WATT-SV/BLACK	FIBERGLASS/14'/BLACK	CL STA 0+38 @ 30' LT

MATCH LINE STA. 9+00 (THIS SHEET)



PLAN
SCALE: 1"=40'



DATE	REVISION	BY

CITY OF ABERDEEN
MARYLAND

APPROVED: ABERDEEN DEPT. OF PUBLIC WORKS	GRADING PERMIT NO. _____
CITY ENGINEER _____ DATE _____	STORM WATER MANAGEMENT NO. _____
DIRECTOR _____ DATE _____	PUBLIC WORKS AGREEMENT NO. _____

CITY OF ABERDEEN

**MIDDELTON ROAD EXTENSION
LANDSCAPE AND STREET LIGHT PLAN**

HARFORD COUNTY, MARYLAND

CNA
engineers, surveyors & landscape architects
Civil Engineers • Land Surveyors • Landscape Architects
Planners • Geotechnical Engineers • Environmental Engineers
1800 Robin Cross
Ft. Meade, Maryland 21050
Phone (443) 682-6141 • Fax (410) 836-1811
E-mail: cna@cna-engineers.com

DESIGNED: WRK	CHECKED: GRM
DRAWN: SPM/RRL	

SCALE: AS SHOWN	PARCEL NO. 202	SHEET NO. 14	DATE: 10/20/16
	AD.2. MAP NO. XX	GRIDS: X-X X-X	FILES: _____

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