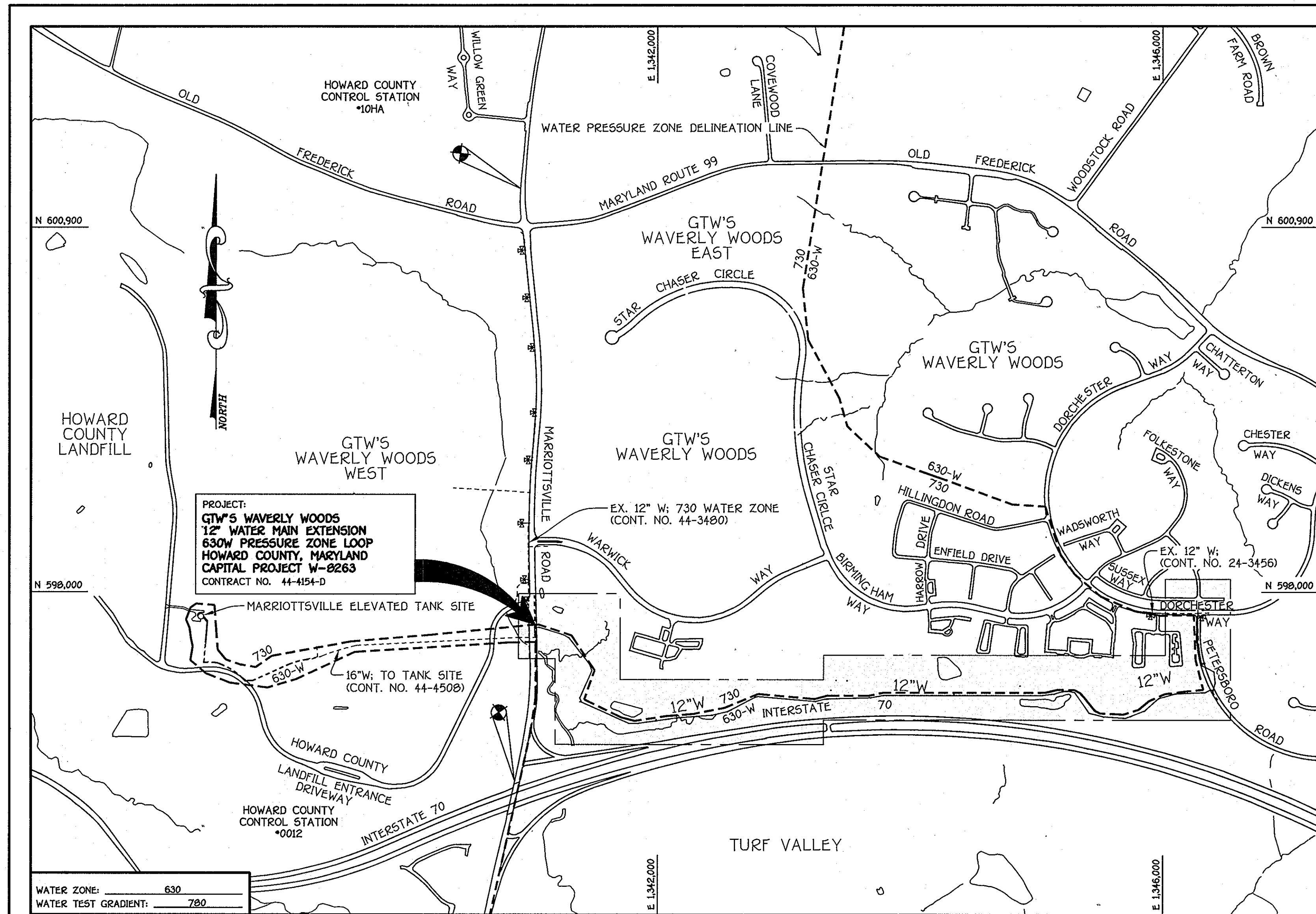


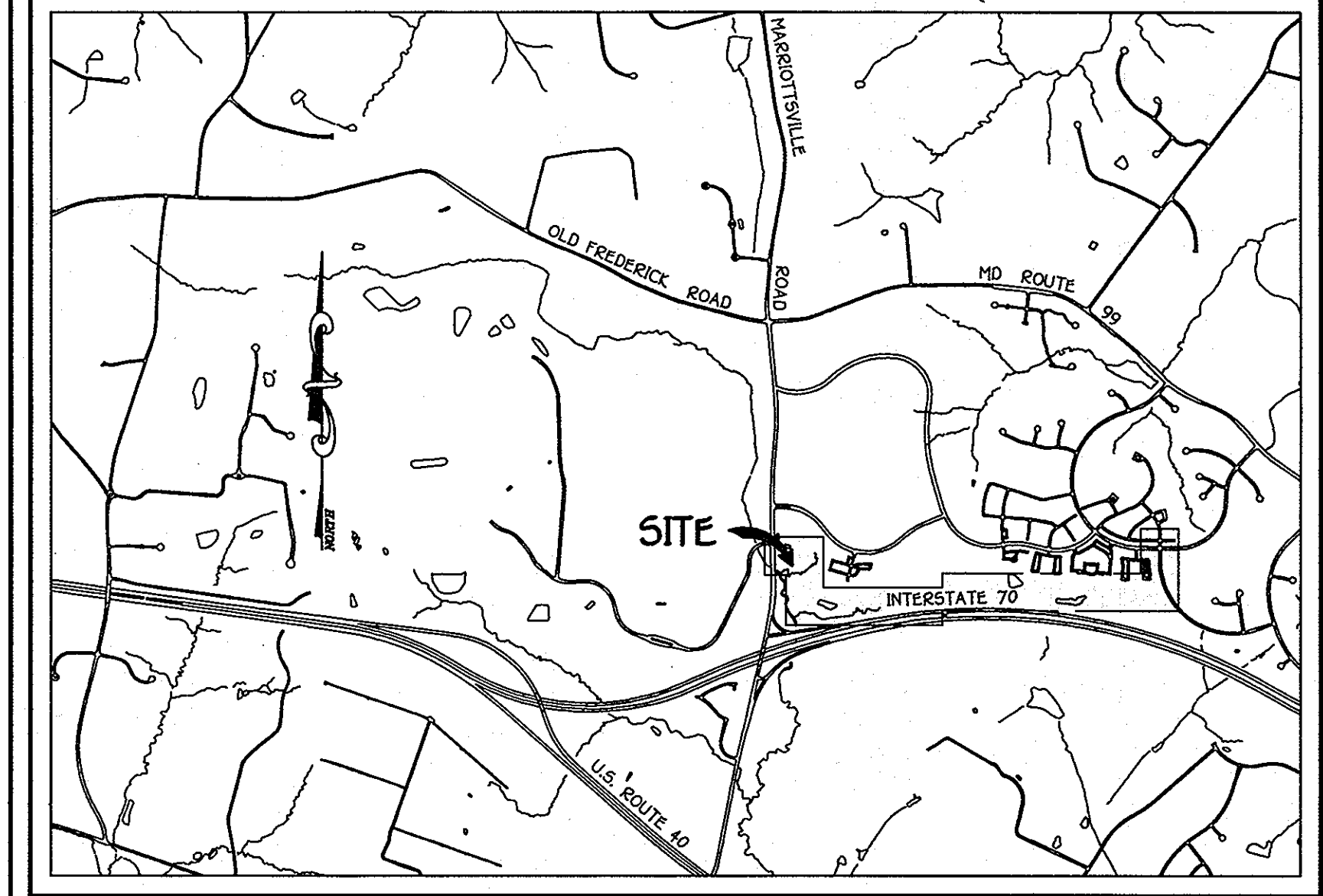
QUANTITIES				
ITEM	ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	SUPPLIER
12" WATER	6,833 L.F.			
4" WATER	30 L.F.			
12"x4" TEE	3 EACH			
12"x8" REDUCER	2 EACH			
1/8 H.B.	8 EACH			
1/16 H.B.	12 EACH			
1/32 H.B.	16 EACH			
4" VALVE	3 EACH			
12" VALVE	7 EACH			
AIR RELEASE MANHOLE	3 EACH			
CONTINUITY TEST STATION	16 EACH			
2" H.B.	1 EACH			
4" H.B.	2 EACH			
BLOW-OFF ASSEMBLY	3 EACH			
NAME OF UTILITY CONTRACTOR:				
SURVEY & DRAFTING DIVISION AS-BUILT DATE:				

BENCHMARK INFORMATION	
B.M.#1 - HOWARD COUNTY CONTROL STATION #0012 (LOCATED ALONG THE WEST SIDE OF MARIOTTSTVILLE ROAD; JUST NORTH OF INTERSTATE 70)	N 596,502.7604 - HORIZONTAL = (NAD '83) E 1,340,864.3654 - HORIZONTAL = (NAD '83) ELEVATION = 488.903 - VERTICAL = (NGVD '29)
B.M.#2 - HOWARD COUNTY CONTROL STATION #101A (LOCATED ALONG THE WEST SIDE OF MARIOTTSTVILLE ROAD; JUST NORTH OF OLD FREDERICK ROAD, APPROX. 21' WEST OF THE CENTERLINE OF ROAD)	N 601,206.59 - HORIZONTAL = (NAD '83) E 1,340,912.325 - HORIZONTAL = (NAD '83) ELEVATION = 483.898 - VERTICAL = (NGVD '29)



TYPE OF BUILDING:	N/A
NUMBER OF UNITS:	N/A
NO. OF WATER HOUSE CONNECTIONS:	N/A
NO. OF SEWER HOUSE CONNECTIONS:	N/A
DRAINAGE AREA:	LITTLE PATUXENT
TREATMENT PLANT:	LITTLE PATUXENT WATER RECLAMATION CENTER, SAVAGE, MD

VICINITY MAP
SCALE: 1" = 600'



LOCATION MAP
SCALE: 1" = 2000'

GENERAL NOTES

- PART A
- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
 - TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON OR ABOUT JULY, 2005 & 2010 BY FISHER, COLLINS & CARTER, INC.
 - HORIZONTAL AND VERTICAL SURVEY CONTROLS: THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/91' AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 101A & NO. 0012.
 - ALL VERTICAL CONTROLS ARE AS INDICATED IN THE BENCHMARK INFORMATION. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
 - CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 9'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF THE ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
 - 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). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE.
 - WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL (S) AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
 - THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

AT&T	1-800-252-1133
BGE (CONSTRUCTION SERVICES)	410-637-8713
BGE (EMERGENCY)	410-685-0123
BUREAU OF UTILITIES	410-315-4900
COLONIAL PIPELINE CO.	410-778-1900
MISS UTILITY	1-800-257-7777
STATE HIGHWAY ADMINISTRATION	410-531-9533
VERIZON	1-800-743-0033
 - TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
 - CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE CONSTRUCTION OF THE MAIN.
 - THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)-313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.10AD OF THE HOWARD COUNTY CODE.

- PART B: WATER MAIN GENERAL NOTES
- ALL WATER MAINS SHALL BE DWP CLASS 51 UNLESS OTHERWISE NOTED.
 - TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-0" OF COVER UNLESS OTHERWISE NOTED.
 - VALVES ADJACENT TO TRES SHALL BE STRAPPED TO TRES.
 - ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
 - FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
 - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
 - FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 51 OF THE AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF THE PIPE SUPPLIED TO THE TEST RECORDS RECEIVED.
 - UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, SEVENTEEN (17) POUND SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HANGES. ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL TEE'S USED WITH PVC MAINS SHALL BE DUCTILE IRON.
 - ALL DWELLING UNITS SHALL HAVE A 1-1/2" WATER HOUSE CONNECTION WITH A 1" OUTSIDE METER SETTING. STD. DET. W-3.2b.

- PART C: SEWER MAIN GENERAL NOTES
- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. AS SPECIFIED ON PLANS.
 - ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
 - FORCE MAINS SHALL BE D.I.P. ONLY.
 - MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
 - MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATER TIGHT FRAME AND COVER. STANDARD DETAIL G5.92
 - WHERE WATER TIGHT HANDLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
 - HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

DEVELOPER'S CERTIFICATION
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE 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 OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

Paul W. Keibel, FOR:
WAVERLY WOODS DEVELOPMENT CORP. 12-03-10
SIGNATURE OF DEVELOPER DATE

ENGINEER'S CERTIFICATION
I HEREBY 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.

Paul W. Keibel 12/03/10
SIGNATURE OF ENGINEER DATE

GP-09-065

SHEET INDEX	
SHEET NO.	TITLE
1	TITLE SHEET
2	WATER MAIN EXTENSION PLAN, PROFILE & CHART
3	WATER MAIN EXTENSION PLAN
4	WATER MAIN EXTENSION PLAN
5	WATER MAIN EXTENSION PROFILE & CHART
6	WATER MAIN EXTENSION PROFILE & CHART
7	WATER MAIN EXTENSION PROFILE & CHART
8	WATER MAIN EXTENSION PROFILE & CHART
9	WATER MAIN EXTENSION PROFILE & CHART
10	WETLAND DELINEATION/WETLAND IMPACT PLAN
11	WETLAND DELINEATION/WETLAND IMPACT PLAN
12	EROSION CONTROL STRIPPIING AREA PLAN
13	EROSION & SEDIMENT CONTROL PLAN
14	EROSION & SEDIMENT CONTROL PLAN
15	EROSION & SEDIMENT CONTROL PLAN
16	EROSION & SEDIMENT NOTES & DETAILS
17	WORK ZONE TRAFFIC CONTROL PLAN
18	WORK ZONE TRAFFIC CONTROL NOTES & DETAILS
19	TRAFFIC CONTROL PLAN

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 309 OF THE HOWARD COUNTY DESIGN MANUAL - VOLUME IV: STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AND AS SHOWN ON THESE PLANS.

Paul W. Keibel FOR: 12/03/10
WAVERLY WOODS DEVELOPMENT CORP. DATE
SIGNATURE OF DEVELOPER

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

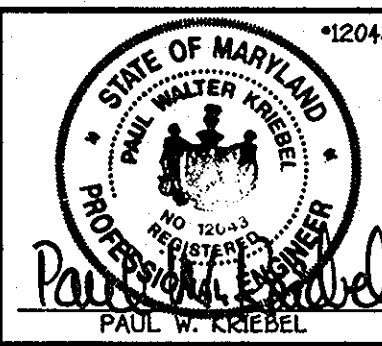
12/17/10
DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

12/17/10
DATE

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. 12043 EXPIRATION DATE IS 7/26/14.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING, CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLCOTT CITY, MARYLAND 21042
(410) 461-2922



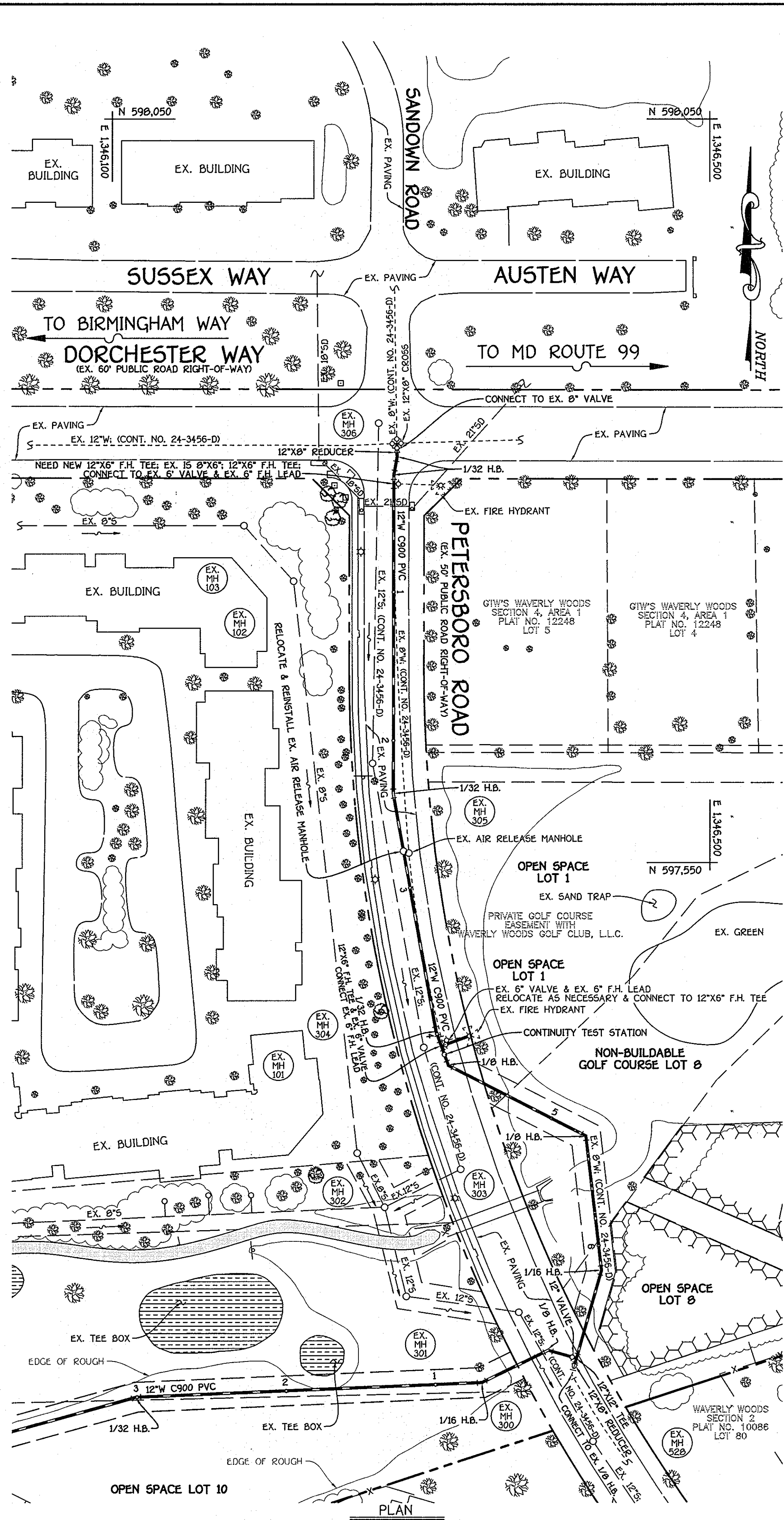
DESIGNED BY:	B.C.R.
DRAWN BY:	B.C.R.
CHECKED BY:	P.W.K.
DATE:	DECEMBER, 2010
BY:	NO.
REVISION:	

WATER MAIN EXTENSION TITLE SHEET	
600' SCALE MAP NO. 16	BLOCK NO. 5
F.C.C. WORK ORDER NO. 542	
FILE NAME:	WATER MAIN EXTENSION TITLE SHEET

DEVELOPER
WAVERLY WOODS DEVELOPMENT CORPORATION
SUITE 102
5300 DORSEY HALL DRIVE
ELLCOTT CITY, MARYLAND 21042
PHONE: 443-367-0422

CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 of 19



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

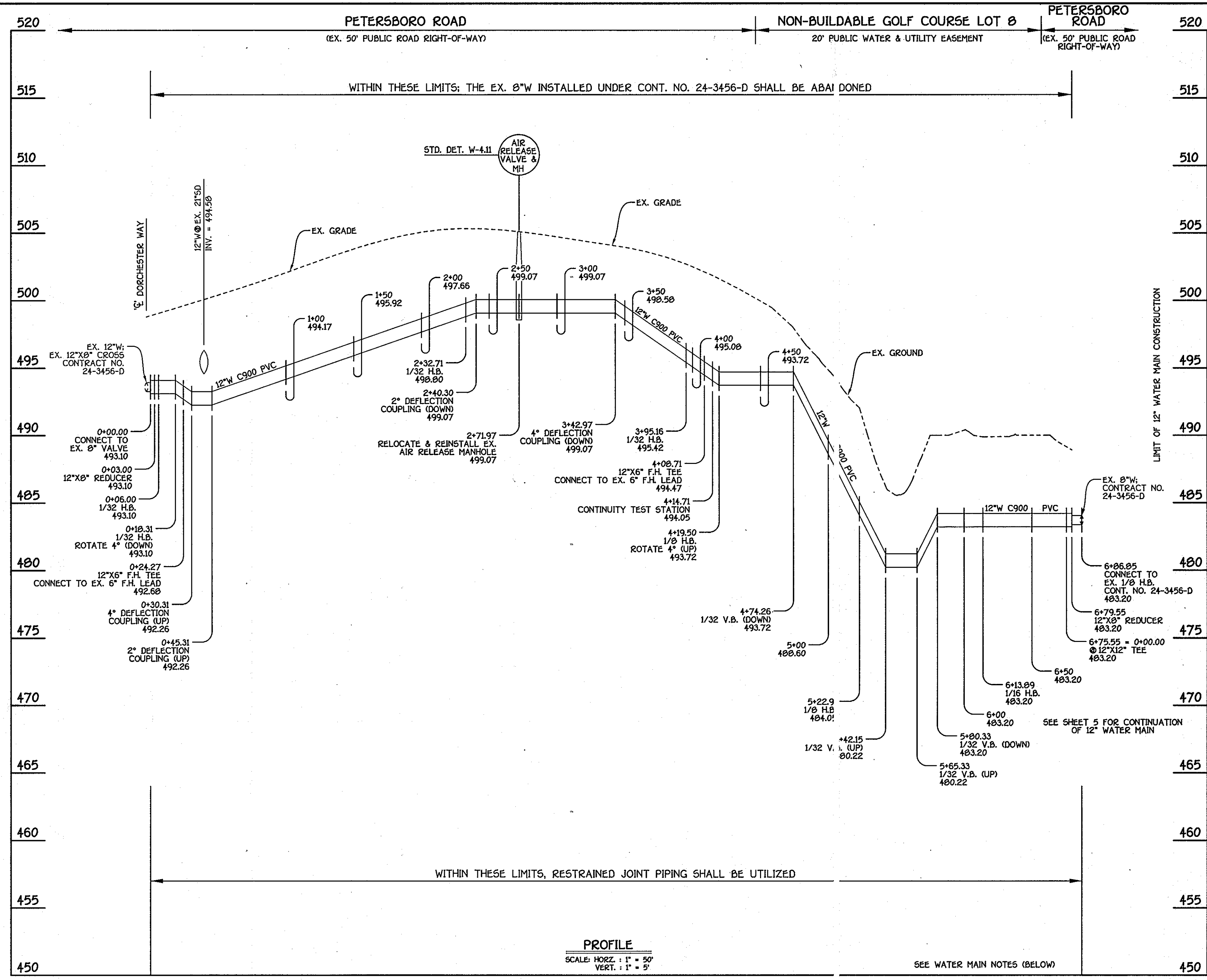
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FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
(410) 461-2225

DATE: 12/17/10

DATE: 12/17/10

NOTE:
SEE SHEETS 17 & 18 FOR WORK ZONE TRAFFIC CONTROL PLAN, NOTES & DETAILS TO PROVIDE FOR A TEMPORARY CLOSURE OF A PORTION OF PETERSBORO ROAD FOR INSTALLATION OF A PUBLIC WATER MAIN.



12" WATER MAIN EXTENSION: PETERSBORO ROAD

WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" WATER MAIN EXTENSION			
0+00.00	CONNECT TO EX. 8" VALVE	597828.93	1346290.61
0+03.00	12"X8" REDUCER	597825.93	1346290.65
0+06.00	1/32 H.B.	597822.93	1346290.69
0+10.31	1/32 H.B.	597810.81	1346288.56
0+24.27	12"X6" F.H. TEE	597804.85	1346288.55
2+32.71	1/32 H.B.	597795.41	1346288.05
2+71.97	AIR RELEASE MANHOLE	597557.76	1346294.97
3+95.16	1/32 H.B.	597436.51	1346316.70
4+08.71	12"X6" F.H. TEE	597426.60	1346320.27
4+14.71	CONTINUITY TEST STATION	597420.98	1346322.31
4+19.50	1/8 H.B.	597413.61	1346324.96
5+22.91	1/8 H.B.	597366.35	1346416.94
6+13.09	1/16 H.B.	597275.97	1346427.33
6+75.55	12"X12" TEE	597216.65	1346410.49
6+79.55	12"X8" REDUCER	597212.80	1346409.40
6+06.85	CONNECT TO EX. 1/8 H.B.	597205.78	1346407.41

WATER MAIN NOTES:

1. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME II - WATER AND SEWER STANDARDS FOR AWWA C900 PVC WATER PIPE INSTALLATION.
2. DEFLECTION COUPLINGS SHALL BE CERTAIN-TEED PVC HIGH DEFLECTION COUPLINGS.
3. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.

CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
HOWARD COUNTY, MARYLAND

DATE: 12/17/10
DATE: 12/17/10

DATE: 12/17/10

DATE: 12/17/10

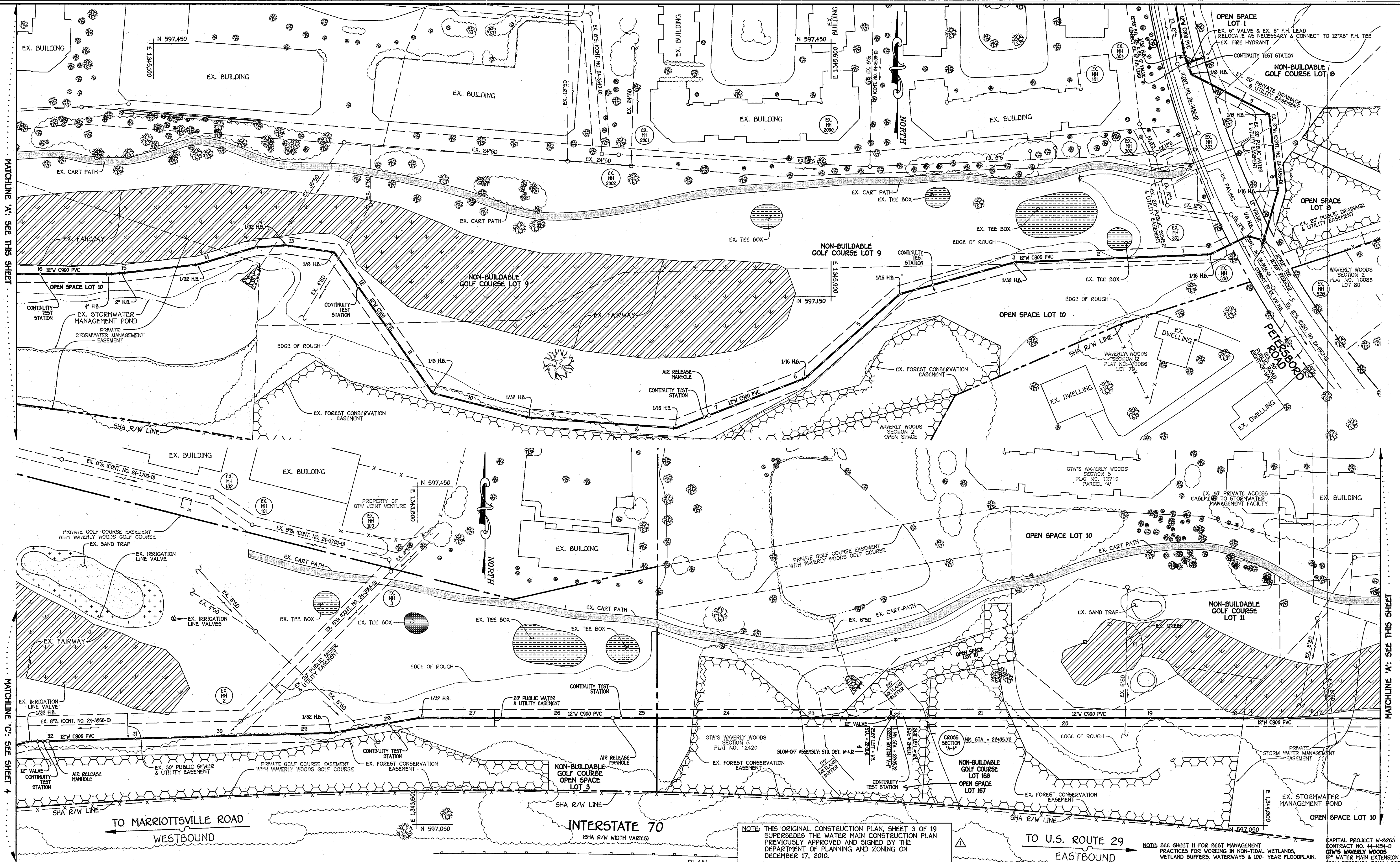
DESIGNED BY: B.C.R.
DRAWN BY: B.C.R.
CHECKED BY: P.W.K.
DATE: DECEMBER, 2010

WATER MAIN EXTENSION
PLAN, PROFILE & CHART

600' SCALE MAP NO. 16 BLOCK NO. 5
F.C.C. WORK ORDER NO. 542
FILE NAME: WATER MAIN EXTENSION TITLE SHEET

GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 2 OF 10



NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 3 OF 19 SUPERSEDES THE WATER MAIN CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING ON DECEMBER 17, 2010.

NOTE: SEE SHEET 11 FOR BEST MANAGEMENT PRACTICES FOR WORKING IN NON-TIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS & 100- YEAR FLOODPLAIN.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John A. ...
CHIEF, BUREAU OF UTILITIES

2/1/15
DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

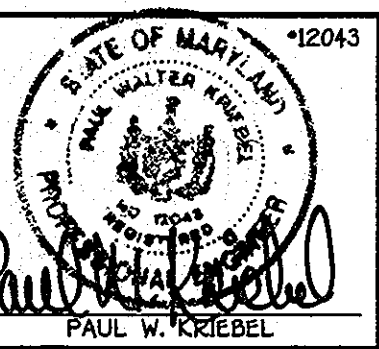
John A. ...
CHIEF, DEVELOPMENT ENGINEERING DIVISION

2/1/15
DATE

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. 12043 EXPIRATION DATE IS 7/6/14.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTONIAL SQUARE OFFICE PARK • 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
410.431.2292

Paul W. Kriebel
PAUL W. KRIEBEL



DESIGNED BY : B.C.R.	DATE : JANUARY, 2013
DRAWN BY : B.C.R.	BY NO.
CHECKED BY : P.W.K.	REVISION
DATE : JANUARY, 2013	REVISION
BY NO.	REVISION
DATE	REVISION

REPLACEMENT SHEET: REVISED TO ADDRESS MDE COMMENTS

WATER MAIN EXTENSION PLAN

600' SCALE MAP NO. 16 BLOCK NO. 5

F.C.C. WORK ORDER NO. 542

FILE NAME : WATER MAIN EXTENSION SHEET

GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

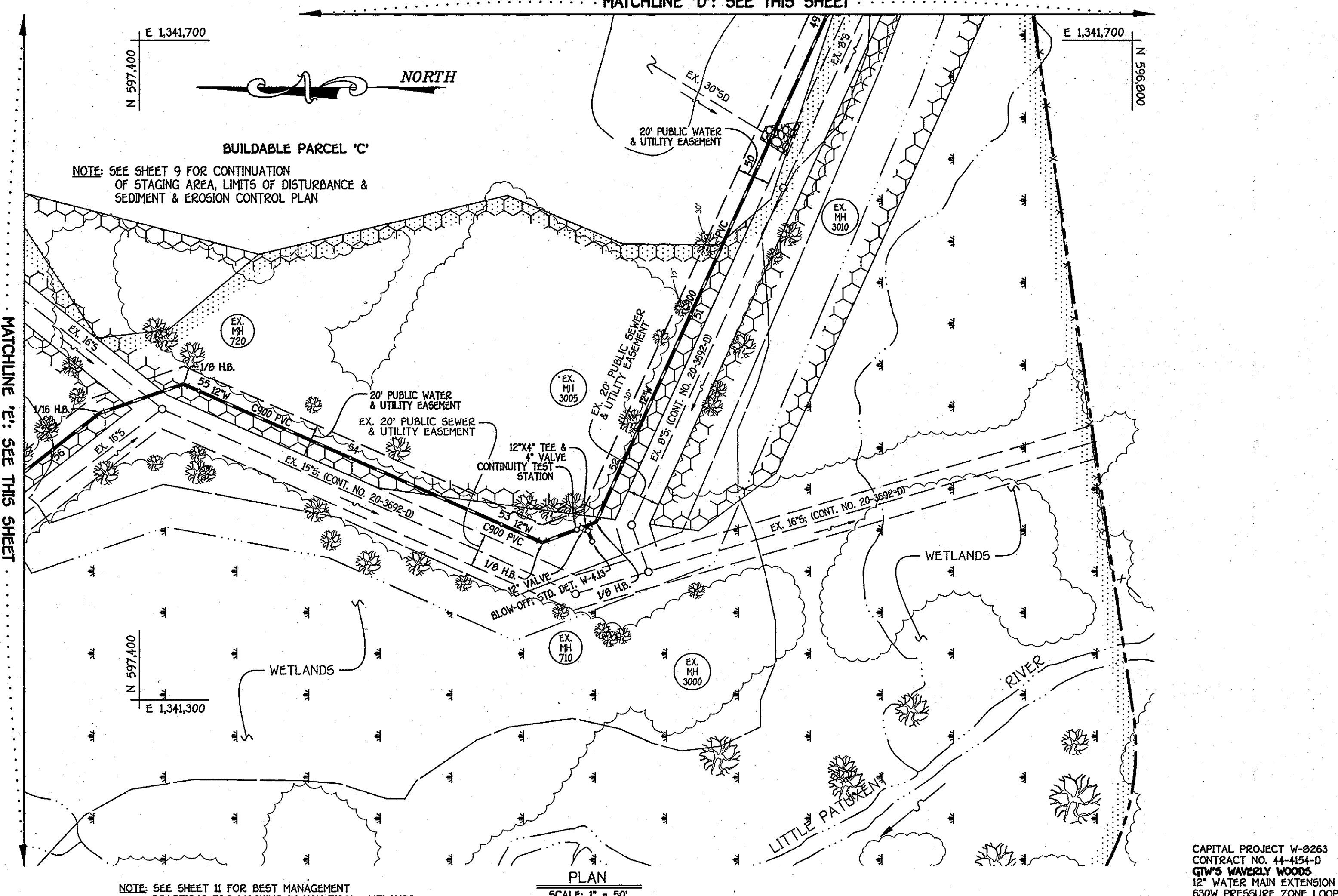
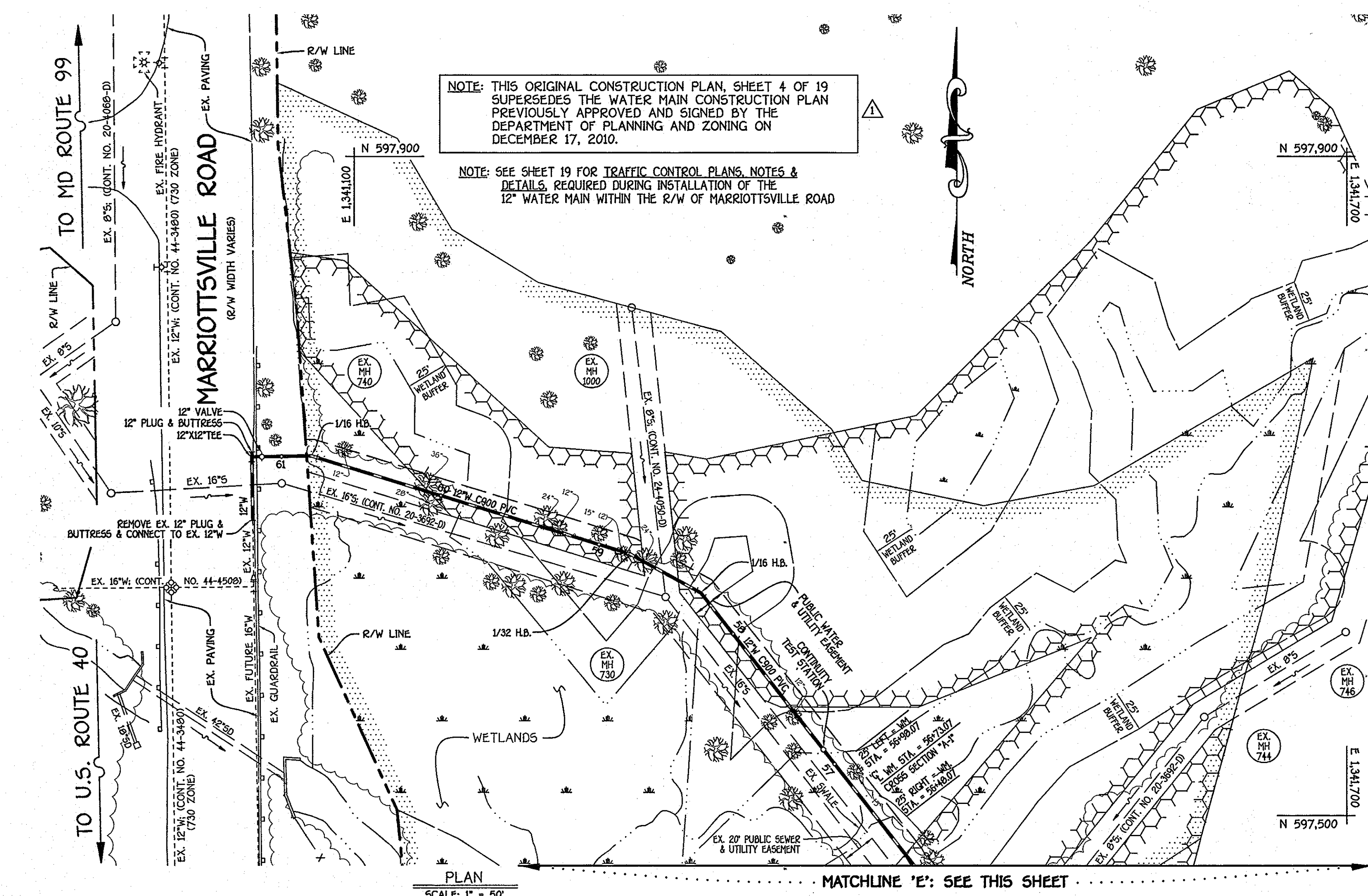
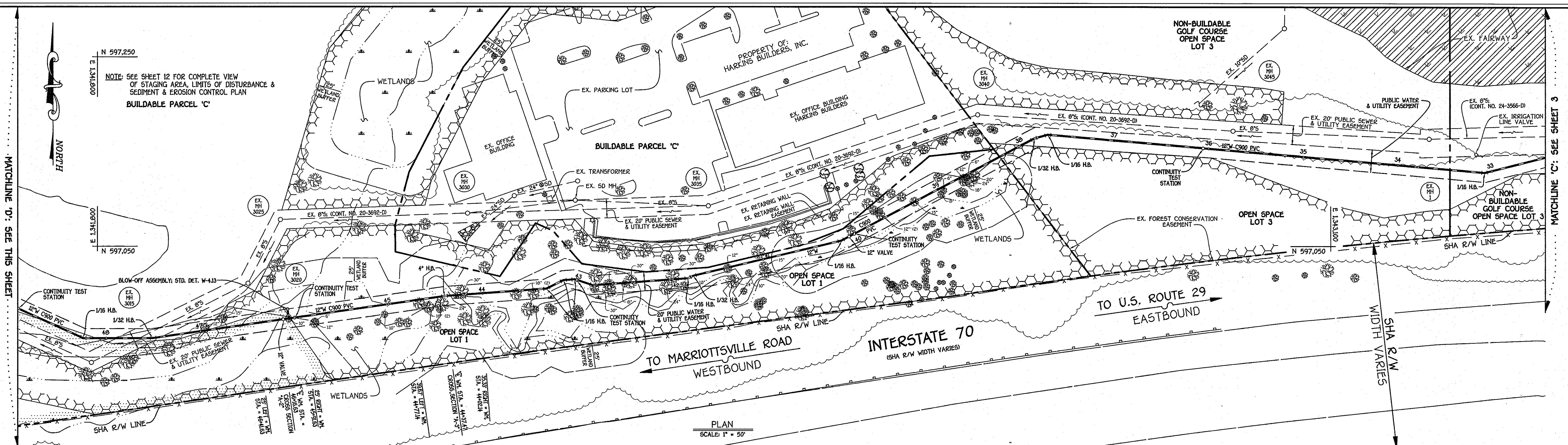
SHEET 3 OF 19

K:\ISSUES\0301542\DWG\CONTRACT.No. 44-4154-D\630W Pressure Zone Loop - 01 - 08 - 13 - 15 (redline 1).dwg (NEW) PLAN SHEET 3, 1/23/2013 3:11:49 PM, 11

MATCHLINE 'A': SEE THIS SHEET

MATCHLINE 'C': SEE SHEET 4

MATCHLINE 'A': SEE THIS SHEET



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

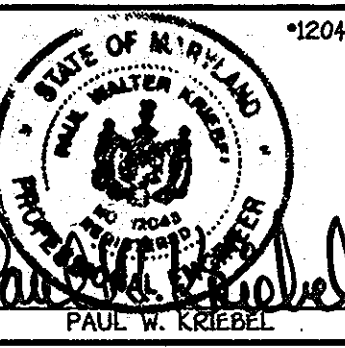
2/1/13
DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

2/1/13
DATE

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. 12043 EXPIRATION DATE IS 7/31/14.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK • 12772 BALTIMORE NATIONAL PIKE
ELLCOTT CITY, MARYLAND 21034
(410) 461-2252



DESIGNED BY:	B.C.R.
DRAWN BY:	B.C.R.
CHECKED BY:	P.W.K.
DATE:	JANUARY, 2013
BY:	NO.

REPLACEMENT SHEET: REVISED TO ADDRESS MDE COMMENTS

REVISION

WATER MAIN EXTENSION PLAN

600' SCALE MAP NO. 16 BLOCK NO. 5

F.C.C. WORK ORDER NO. 542

FILE NAME: WATER MAIN EXTENSION SHEET

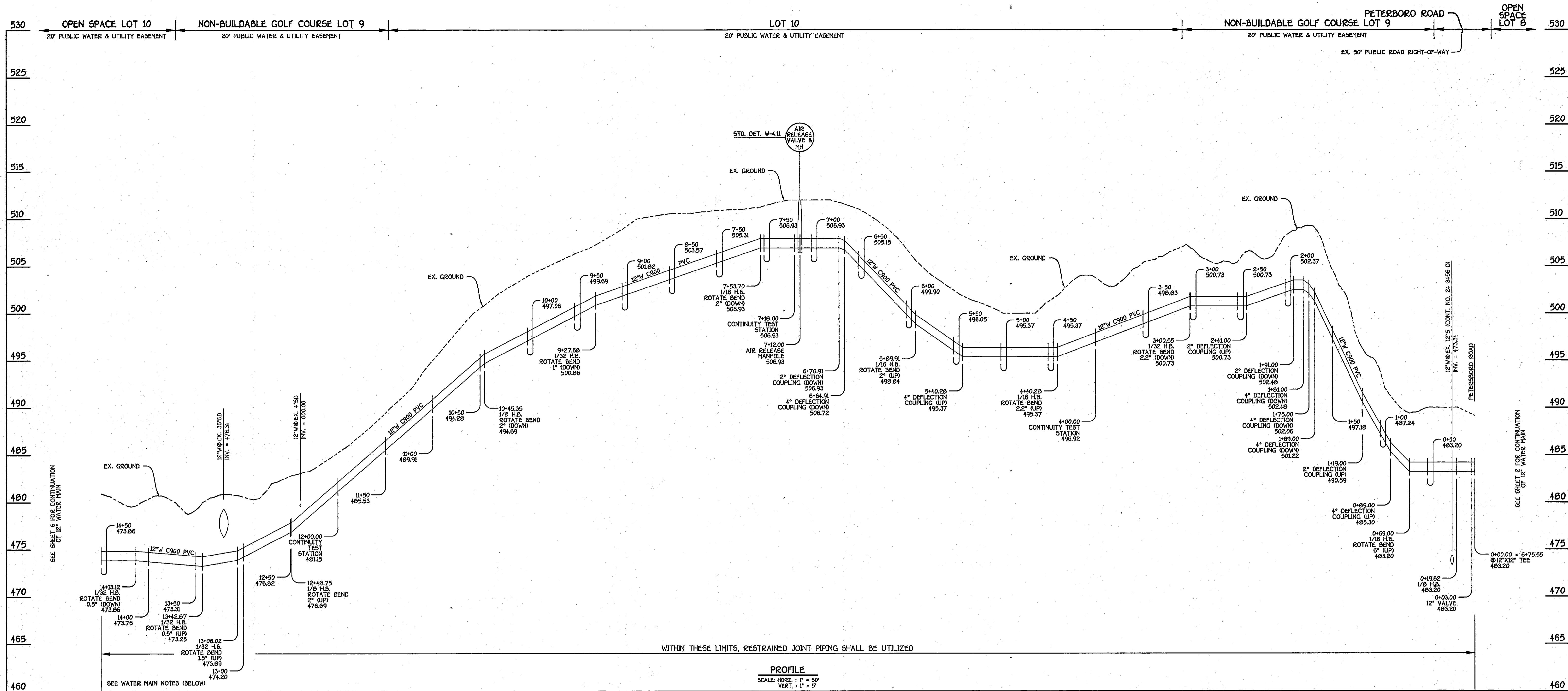
GTW'S WAVERLY WOODS

12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
CAPITAL PROJECT W-0263
CONTRACT NO. 44-4154-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 4 OF 19

K:\SOS\00015\02\dwg\Contract No. 44-4154-D\630W Water Main Loop - 01 - 06 - 13 - 16 (redline 1).dwg (NEW) PLAN SHEET 4, 1/23/2013 3:12:17 PM, 1:1



12" WATER MAIN EXTENSION: PETERSBORO ROAD TO MARRIOTTVILLE ROAD

WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" WATER MAIN EXTENSION			
0+00.00	12"x12" TEE	597216.65	1346410.49
0+03.00	12" VALVE	597217.47	1346407.61
0+19.62	1/8 H.B.	597222.00	1346391.62
0+69.00	1/16 H.B.	597200.38	1346347.22
3+00.55	1/32 H.B.	597190.71	1346115.88
4+00.00	CONTINUITY TEST STATION	597164.10	1346020.05
4+40.28	1/16 H.B.	597153.32	1345981.24
5+89.91	1/16 H.B.	597053.4	1345869.65
7+12.00	AIR RELEASE MANHOLE	597009.45	1345755.84
7+18.00	CONTINUITY TEST STATION	597007.28	1345750.25
7+53.70	1/16 H.B.	596994.36	1345716.96
9+27.68	1/32 H.B.	597006.65	1345543.42
10+45.35	1/8 H.B.	597035.45	1345429.33
12+00.00	CONTINUITY TEST STATION	597162.37	1345340.96
12+48.75	1/8 H.B.	597202.38	1345313.11
13+06.02	1/32 H.B.	597210.70	1345256.45
13+42.87	1/32 H.B.	597208.21	1345219.69
14+13.12	1/32 H.B.	597187.92	1345152.42

NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 5 OF 19 SUPERSEDES THE WATER MAIN CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING ON DECEMBER 17, 2010.

- WATER MAIN NOTES:**
1. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME II - WATER AND SEWER STANDARDS FOR AWWA C900 PVC WATER PIPE INSTALLATION.
 2. DEFLECTION COUPLINGS SHALL BE CERTAIN-TEED PVC HIGH DEFLECTION COUPLINGS.
 3. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Steve Chen
2/1/13
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

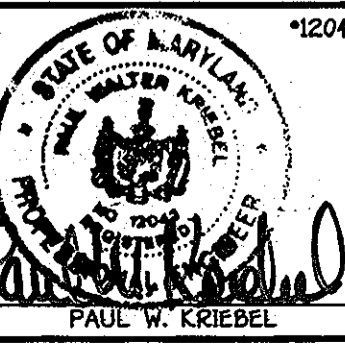
Paul W. Kriebel
2/1/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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. 12043 EXPIRATION DATE 5/7/16.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTENAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21117
(410) 461-2335

Paul W. Kriebel
PAUL W. KRIEBEL



DESIGNED BY: B.C.R.
DRAWN BY: B.C.R.
CHECKED BY: P.W.K.
DATE: JANUARY, 2013

REPLACEMENT SHEET: REVISED TO ADDRESS MDE COMMENTS

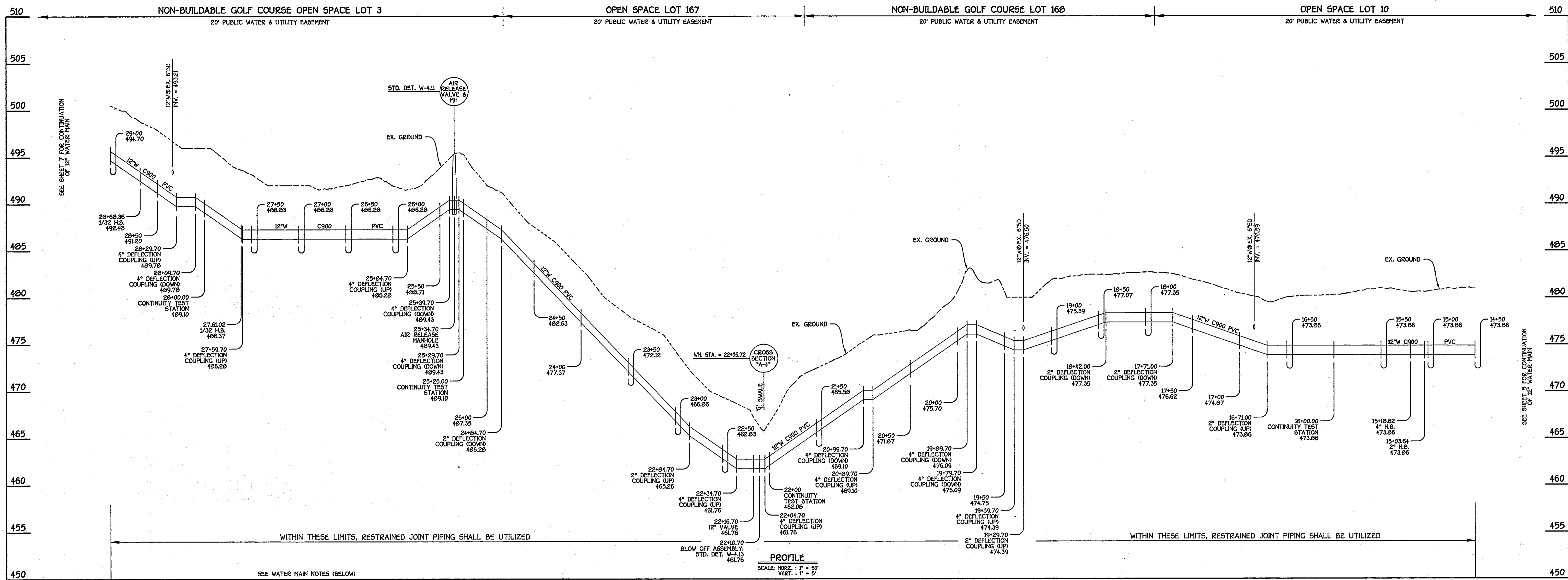
WATER MAIN EXTENSION
PROFILE & CHART

600' SCALE MAP NO. 16 BLOCK NO. 5
F.C.C. WORK ORDER NO. 542
FILE NAME: WATER MAIN EXTENSION SHEET

GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
CAPITAL PROJECT W-0263
CONTRACT NO. 44-4154-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 5 OF 19

CAPITAL PROJECT W-0263
CONTRACT NO. 44-4154-D
GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
HOWARD COUNTY, MARYLAND



12" WATER MAIN EXTENSION: PETERSBORO ROAD TO MARRIOTTVILLE ROAD

- WATER MAIN NOTES:**
1. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME II - WATER AND SEWER STANDARDS FOR AWWA C900 PVC WATER PIPE INSTALLATION.
 2. DEFLECTION COUPLINGS SHALL BE CERTAIN-TIED PVC HIGH DEFLECTION COUPLINGS.
 3. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.

WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" WATER MAIN EXTENSION			
15+03.64	2" H.B.	597177.01	1345062.47
15+18.62	4" H.B.	597176.69	1345047.53
16+00.00	CONTINUITY TEST STATION	597176.69	1344966.15
22+00.00	CONTINUITY TEST STATION	597176.69	1344366.15
22+10.70	BLOW OFF ASSEMBLY	597176.69	1344360.15
22+16.70	12" VALVE	597176.69	1344354.15
25+25.00	CONTINUITY TEST STATION	597176.69	1344041.15
25+34.70	AIR RELEASE MANHOLE	597176.69	1344031.45
27+61.02	1/32 H.B.	597176.69	1343805.13
28+00.00	CABLE TEST STATION	597170.05	1343766.72
28+68.36	1/32 H.B.	597158.42	1343699.36

NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 6 OF 19 SUPERSEDES THE WATER MAIN CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING ON DECEMBER 17, 2010.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John C. Green
2/1/13
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Michael J. ...
2/1/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FREE ELICOTT CITY, MARYLAND 21042
(410) 461-2359

Paul W. Kriebel
PAUL W. KRIEBEL

DESIGNED BY: B.C.R.
DRAWN BY: B.C.R.
CHECKED BY: P.W.K.
DATE: JANUARY, 2013

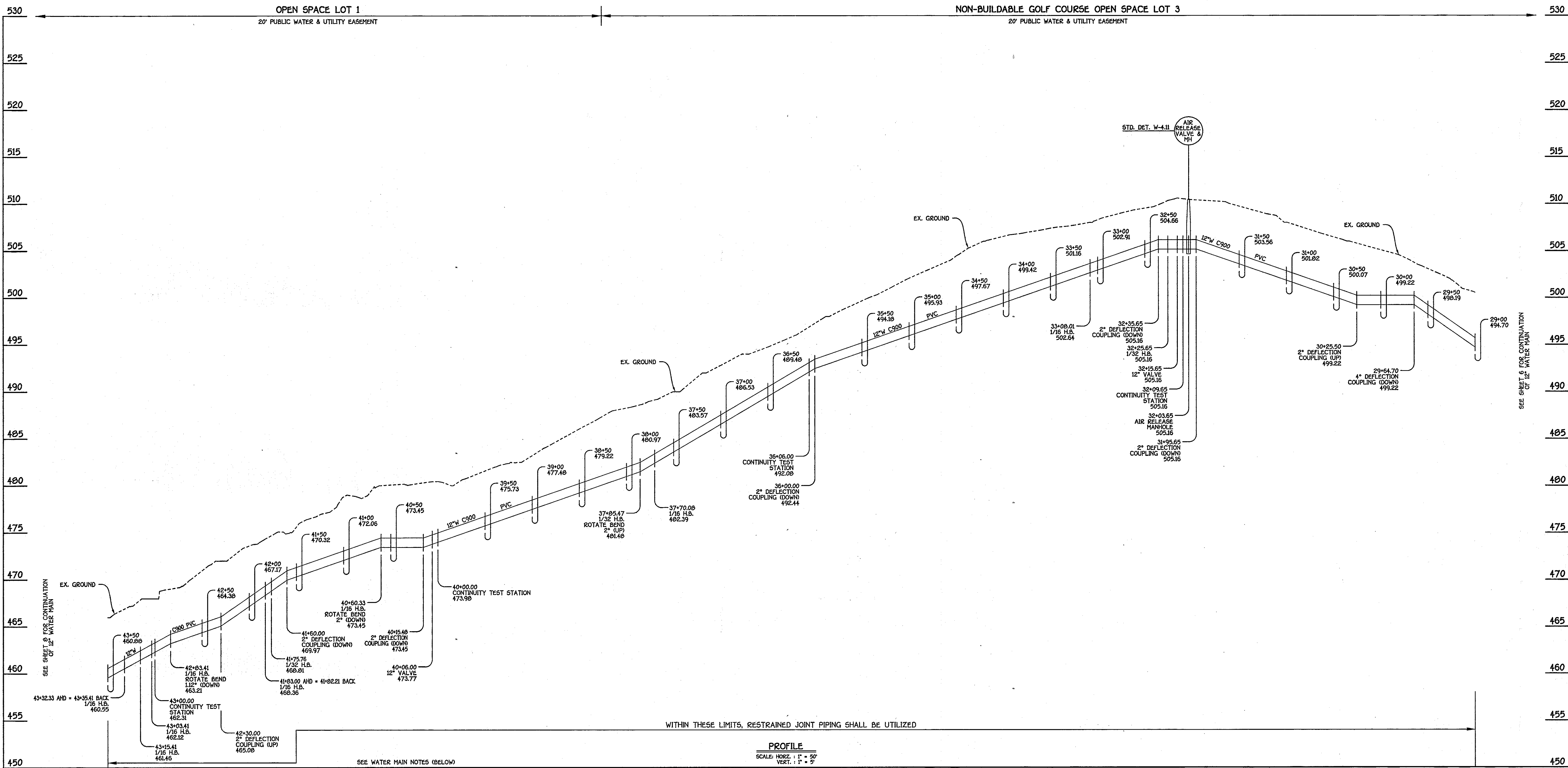
REPLACEMENT SHEET: REVISED TO ADDRESS MDE COMMENTS

WATER MAIN EXTENSION PROFILE & CHART

60' SCALE MAP NO. 16 BLOCK NO. 5
F.C.C. WORK ORDER NO. 542
FILE NAME: WATER MAIN EXTENSION SHEET

GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 6 OF 19



12" WATER MAIN EXTENSION: PETERSBORO ROAD TO MARRIOTTVILLE ROAD

- WATER MAIN NOTES:**
1. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY - DESIGN MANUAL, VOLUME II - WATER AND SEWER STANDARDS FOR AWWA C900 PVC WATER PIPE INSTALLATION.
 2. DEFLECTION COUPLINGS SHALL BE CERTAIN-TEED PVC HIGH DEFLECTION COUPLINGS.
 3. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.

WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" WATER MAIN EXTENSION			
32+03.65	AIR RELEASE MANHOLE	597148.64	1343364.21
32+09.65	CONTINUITY TEST STATION	597148.46	1343358.22
32+15.85	12" VALVE	597148.28	1343352.22
32+25.65	1/32 H.B.	597148.00	1343342.22
33+08.01	1/16 H.B.	597127.84	1343262.36
36+06.00	CONTINUITY TEST STATION	597153.68	1342965.50
37+70.08	1/16 H.B.	597167.92	1342802.03
37+85.47	1/32 H.B.	597163.75	1342787.27
40+00.00	CONTINUITY TEST STATION	597063.16	1342597.74

WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" WATER MAIN EXTENSION			
40+06.00	12" VALVE	597060.35	1342592.44
40+15.48	1/16 H.B.	597055.90	1342584.06
41+75.76	1/32 H.B.	597018.73	1342428.16
41+83.00	1/16 H.B.	597015.98	1342422.32
42+83.41	1/16 H.B.	597008.61	1342322.19
43+00.00	CONTINUITY TEST STATION	597014.10	1342305.69
43+03.41	1/16 H.B.	597014.92	1342303.21
43+15.41	1/16 H.B.	597014.04	1342291.24
43+32.33	1/16 H.B.	597005.01	1342273.40

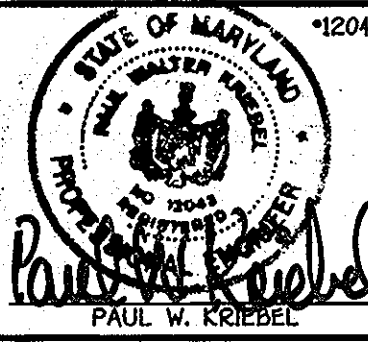
NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 7 OF 19 SUPERSEDES THE WATER MAIN CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING ON DECEMBER 17, 2010.

CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Silvia C. Dean
2/1/13
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
Michael J. ...
2/1/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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. 12043 EXPIRATION DATE IS 7/26/16.
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FREE
ELICOTT CITY, MARYLAND 21117
(410) 461-2855

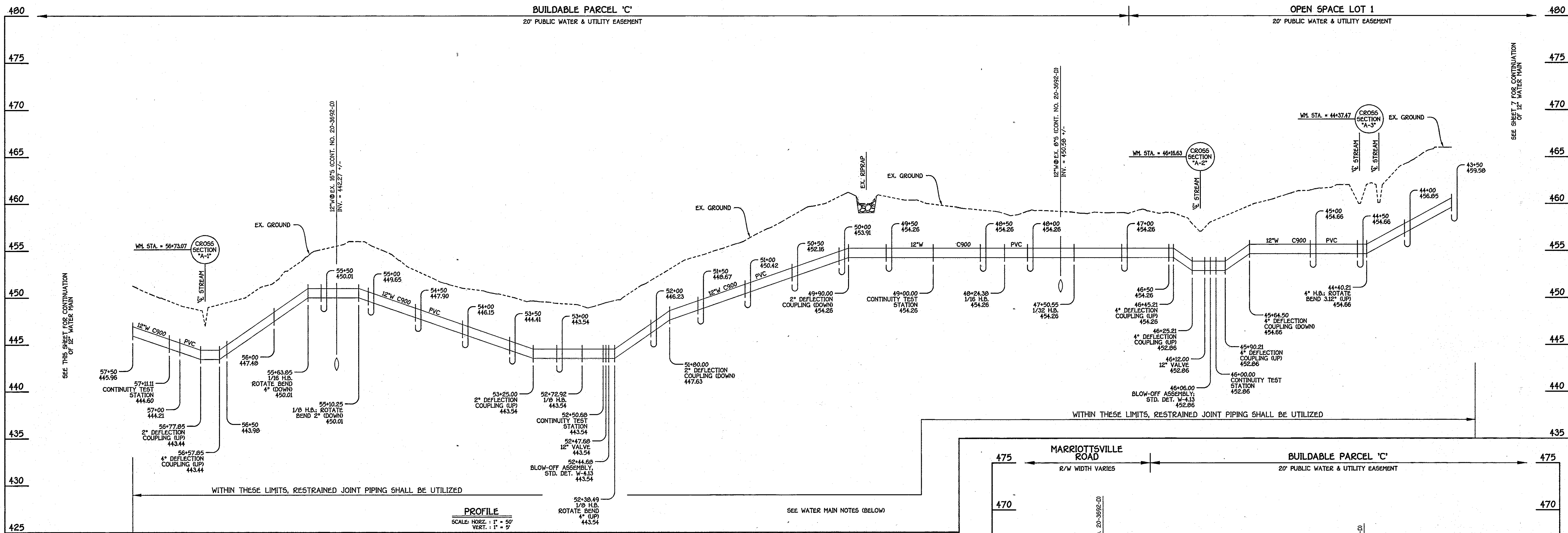


DESIGNED BY: B.C.R.
DRAWN BY: B.C.R.
CHECKED BY: P.W.K.
DATE: JANUARY, 2013
BY NO. _____

WATER MAIN EXTENSION
PROFILE & CHARTS
600' SCALE MAP NO. 16 BLOCK NO. 5
F.C.C. WORK ORDER NO. 542
REVISION _____ DATE _____
FILE NAME: WATER MAIN EXTENSION SHEET

GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 7 OF 19

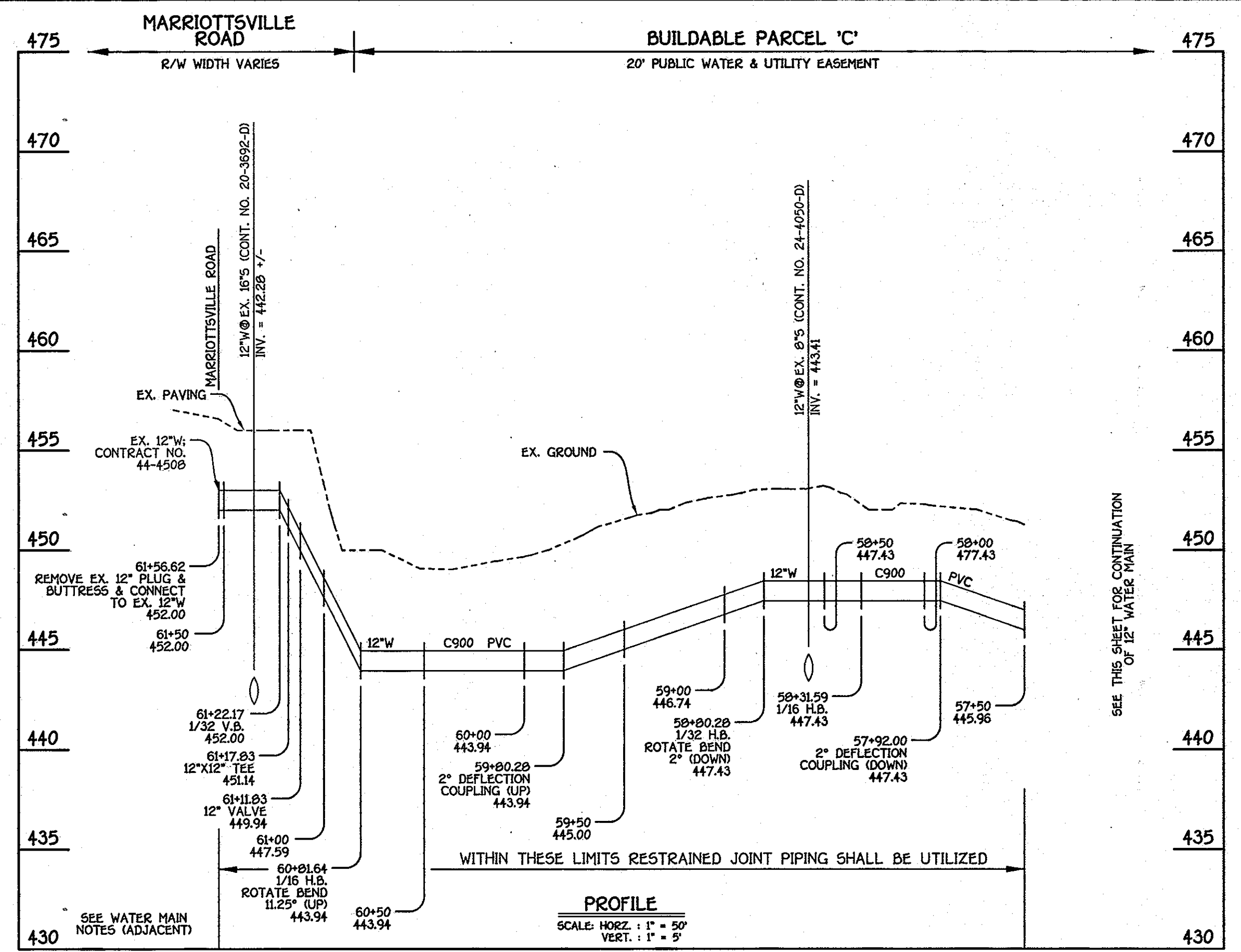


12" WATER MAIN EXTENSION: PETERSBORO ROAD TO MARRIOTTVILLE ROAD

W.M. STA.	APPURTENANCE	NORTHING	EASTING
12" WATER MAIN EXTENSION			
44+02.1	4" H.B.	596997.09	1342165.01
46+00.00	CONTINUITY TEST STATION	596974.33	1342007.65
46+06.00	BLOW-OFF ASSEMBLY	596973.47	1342001.72
46+12.00	12" VALVE	596972.62	1341995.78
47+50.55	1/32 H.B.	596952.00	1341958.64
48+24.38	1/16 H.B.	596952.00	1341784.81
49+00.00	CONTINUITY TEST STATION	596984.15	1341715.96
52+38.49	1/8 H.B.	597124.11	1341407.75
52+44.69	BLOW-OFF ASSEMBLY	597129.90	1341405.56
52+47.69	12" VALVE	597132.70	1341404.50
52+50.69	CONTINUITY TEST STATION	597135.51	1341403.43
52+72.92	1/8 H.B.	597156.31	1341395.54
55+10.25	1/8 H.B.	597373.36	1341491.52
55+63.95	1/16 H.B.	597424.00	1341473.97
57+11.11	CONTINUITY TEST STATION	597540.16	1341383.46
58+31.59	1/16 H.B.	597635.19	1341309.40
58+80.28	1/32 H.B.	597658.82	1341266.71
60+81.64	1/16 H.B.	597718.20	1341074.37
61+11.83	12" VALVE	597717.75	1341044.18
61+17.83	12"X12" TEE	597717.66	1341038.18
61+56.62	EX. 12" PLUG & BUTTRESS	597678.88	1341038.75

NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 8 OF 19 SUPERSEDES THE WATER MAIN CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING ON DECEMBER 17, 2010.

- WATER MAIN NOTES:**
1. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME II - WATER AND SEWER STANDARDS FOR AWWA C900 PVC WATER PIPE INSTALLATION.
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12" WATER MAIN EXTENSION: PETERSBORO ROAD TO MARRIOTTVILLE ROAD

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Silvia Chen
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Paul W. Kriebel
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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. 12043 EXPIRATION DATE IS 7/31/14.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FREE
ELICOTT CITY, MARYLAND 21042
(410) 481-2855

Paul W. Kriebel
PAUL W. KRIEBEL

DESIGNED BY: B.C.R.
DRAWN BY: B.C.R.
CHECKED BY: P.W.K.
DATE: JANUARY, 2013

REPLACEMENT SHEET: REVISED TO ADDRESS MDE COMMENTS

WATER MAIN EXTENSION PROFILES & CHART

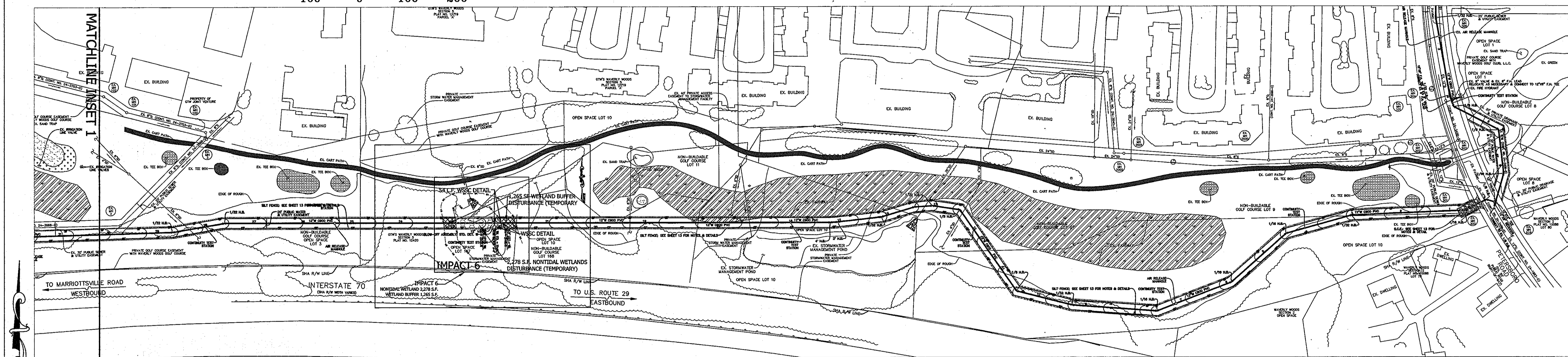
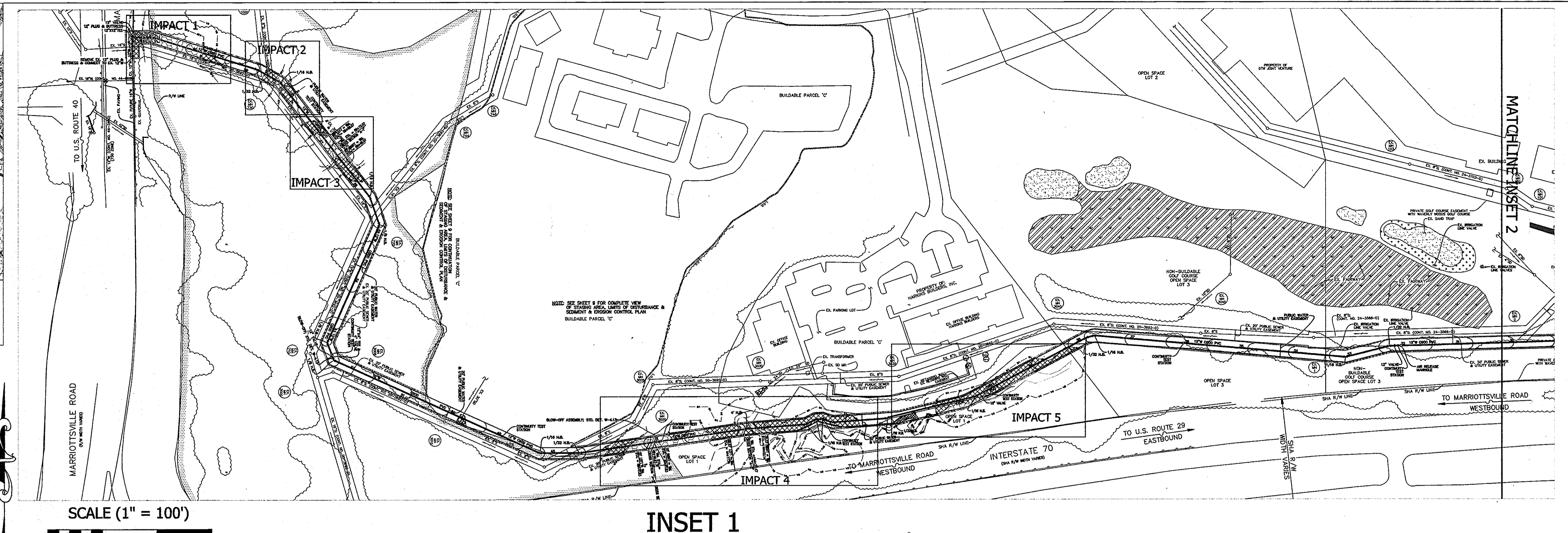
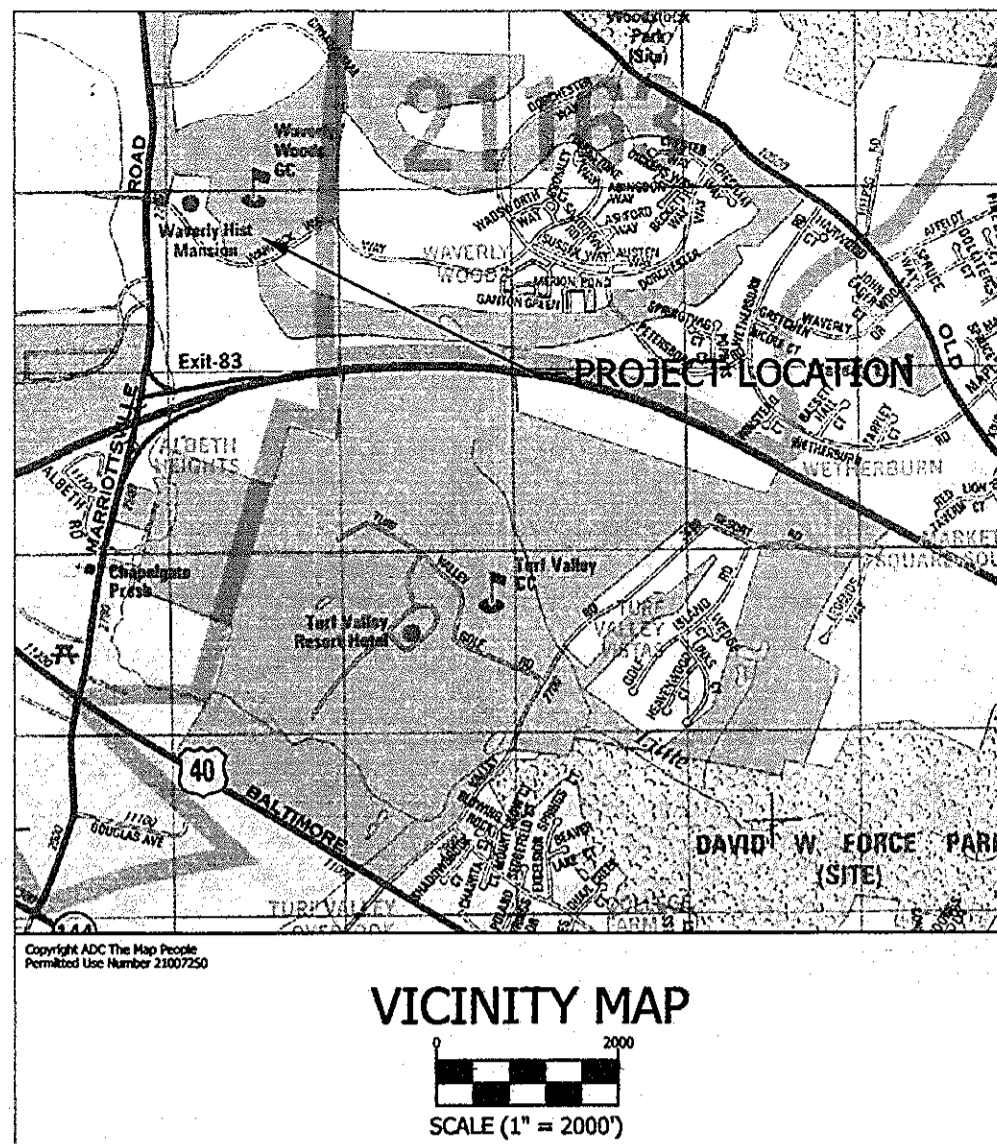
600' SCALE MAP NO. 15 BLOCK NO. 5
F.C.C. WORK ORDER NO. 542

FILE NAME: WATER MAIN EXTENSION SHEET

GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 8 OF 19

CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
HOWARD COUNTY, MARYLAND



LEGEND

	WATERS OF THE U.S. IMPACT		WATERS OF THE U.S.
	NONTIDAL WETLAND IMPACT		NONTIDAL WETLAND
	25' WETLAND BUFFER IMPACT		25' WETLAND BUFFER

IMPACTS SUMMARY TABLE

	NONTIDAL WETLAND	WETLAND BUFFER	WATERS OF THE U.S.
IMPACT 1	2,717 S.F.	1,731 S.F.	0 L.F./ 0 S.F.
IMPACT 2	401 S.F.	1,302 S.F.	0 L.F./ 0 S.F.
IMPACT 3	1,159 S.F.	1,955 S.F.	36 L.F./ 180 S.F.
IMPACT 4	3,912 S.F.	6,273 S.F.	89 L.F./ 504 S.F.
IMPACT 5	754 S.F.	5,001 S.F.	44 L.F./ 445 S.F.
IMPACT 6	2,278 S.F.	1,265 S.F.	0 L.F./ 0 S.F.
TOTAL	11,221 S.F.	17,527 S.F.	169 L.F./ 1,129 S.F.

FLOOD PLAIN IMPACTS - 29,047 S.F.
ALL IMPACTS ARE TEMPORARY IN NATURE WITH GRADES RESTORED TO PRE-EXISTING CONDITIONS.



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WAVERLY WOODS
WATER MAIN EXTENSION
LETTER OF AUTHORIZATION NO. 11-NT-0037 / 2011-60127
HOWARD COUNTY, MARYLAND

WETLAND DELINEATION / WETLAND IMPACT PLAN

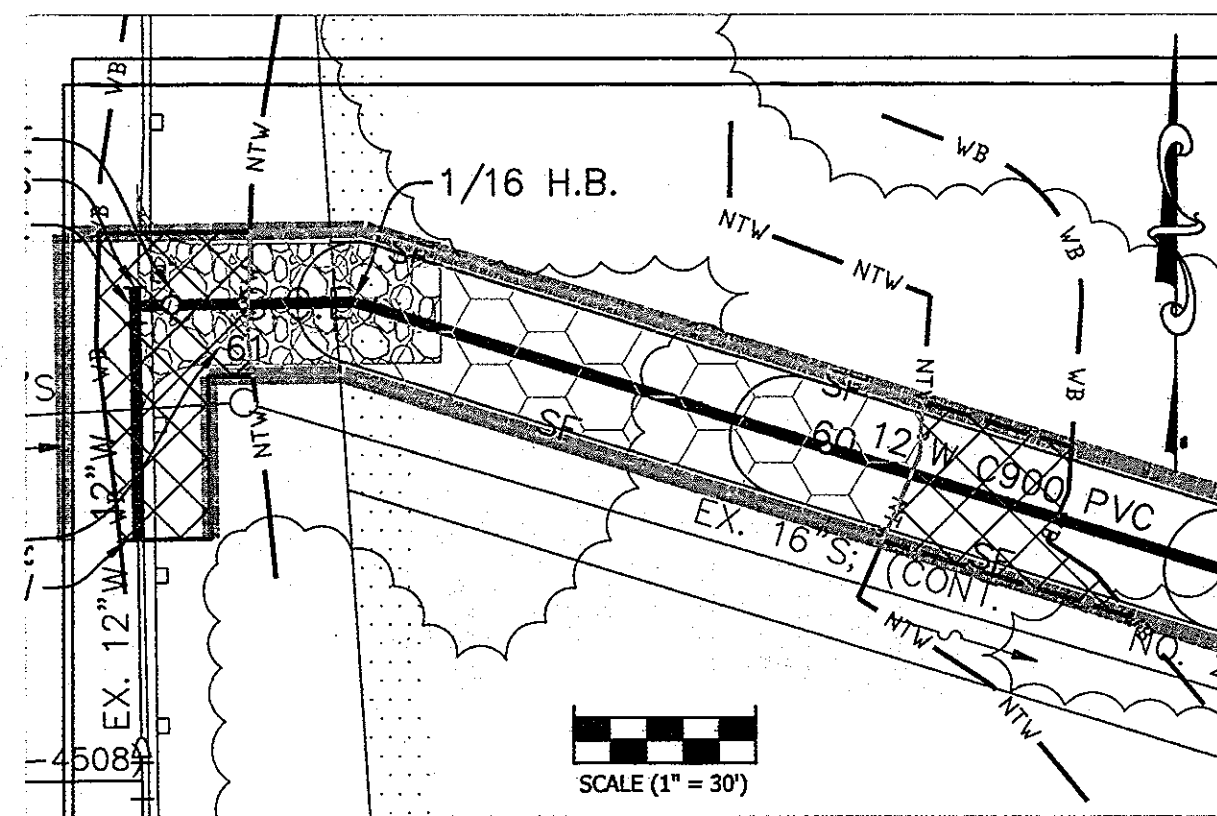
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Steve Cean
2/1/13
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
Michael...
2/1/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 12043 EXPIRATION DATE IS 7/31/14.
[Signature]
PAUL W. HAZEL
#12043

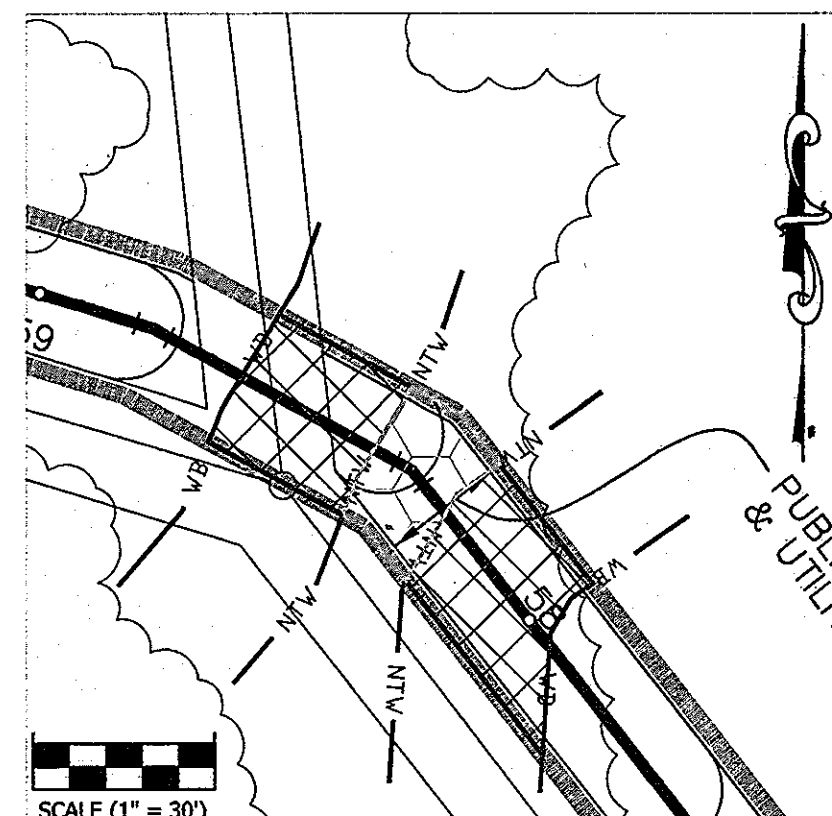
NEW SHEET: ADDED TO ADDRESS MDE COMMENTS

PROJECT #	DRAWN BY:	DATE	Sheet 9 of 19
1142	TAH	JANUARY 2013	



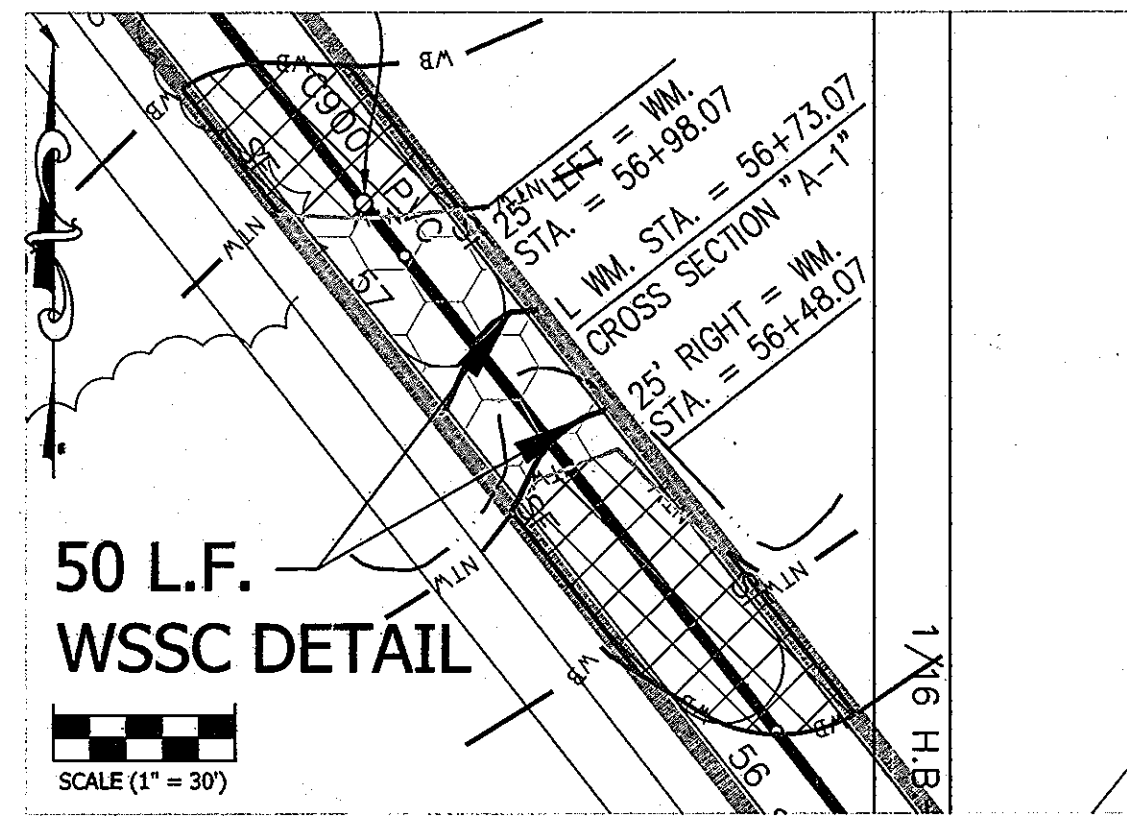
IMPACT 1

NONTIDAL WETLAND (TEMPORARY) 2,717 S.F.
WETLAND BUFFER (TEMPORARY) 1,731 S.F.



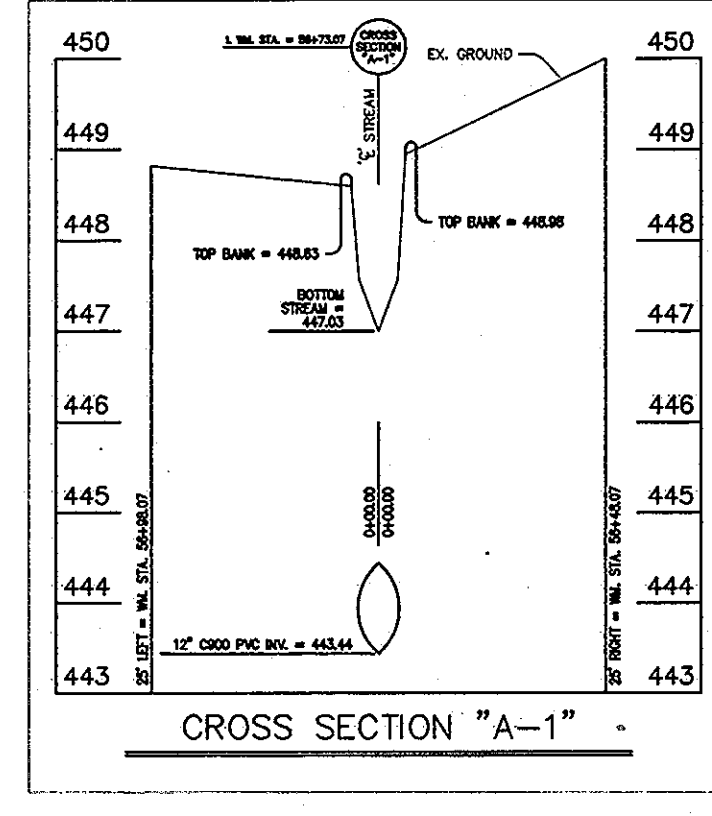
IMPACT 2

NONTIDAL WETLAND (TEMPORARY) 401 S.F.
WETLAND BUFFER (TEMPORARY) 1,302 S.F.



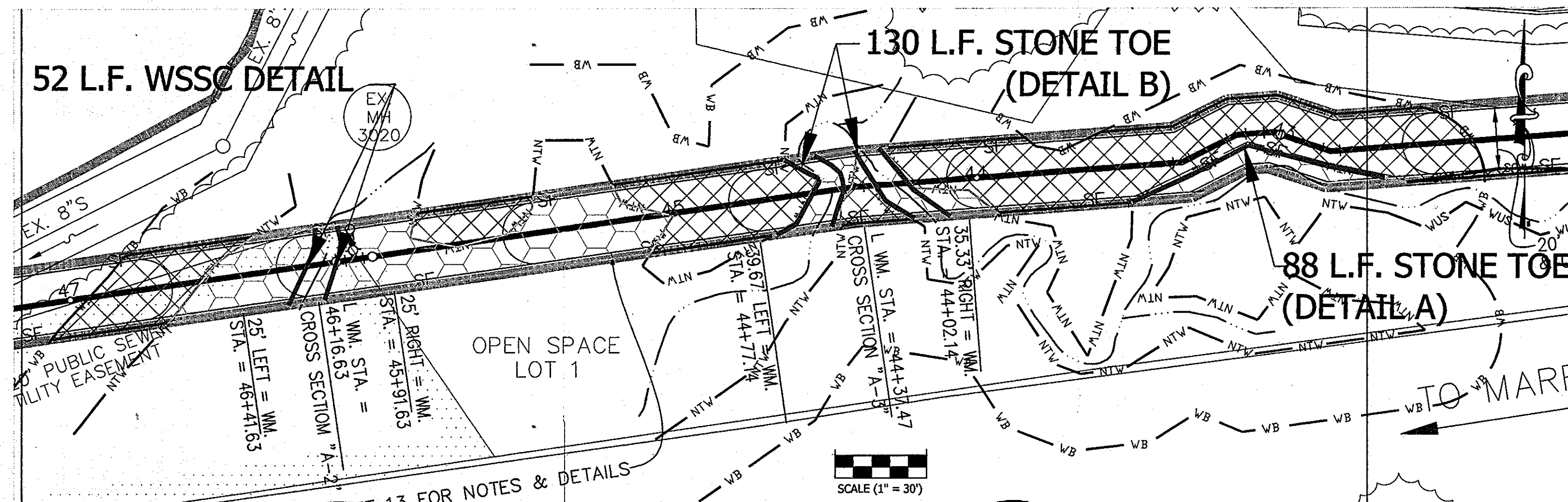
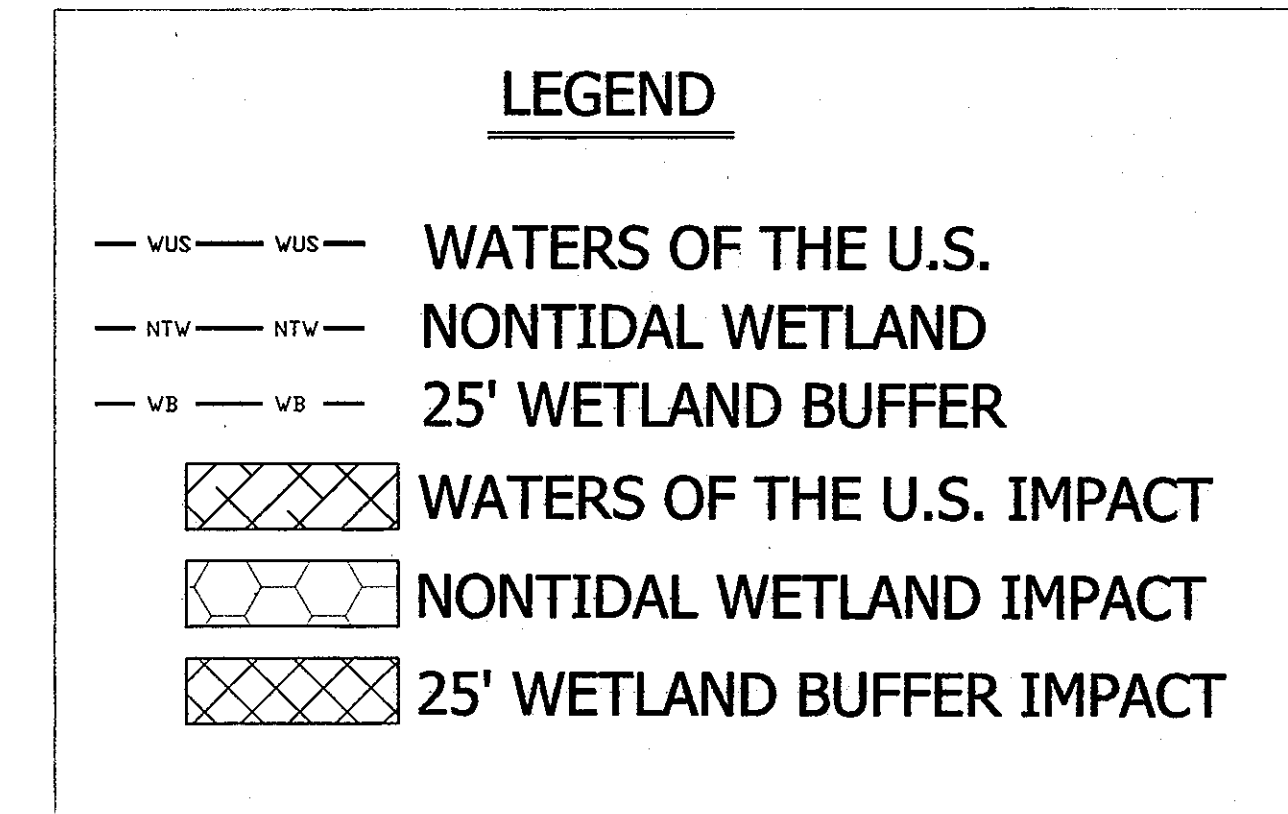
IMPACT 3

NONTIDAL WETLAND (TEMPORARY) 1,159 S.F.
WETLAND BUFFER (TEMPORARY) 1,955 S.F.
WATERS OF THE U.S. (TEMPORARY) 180 S.F./ 36 L.F.



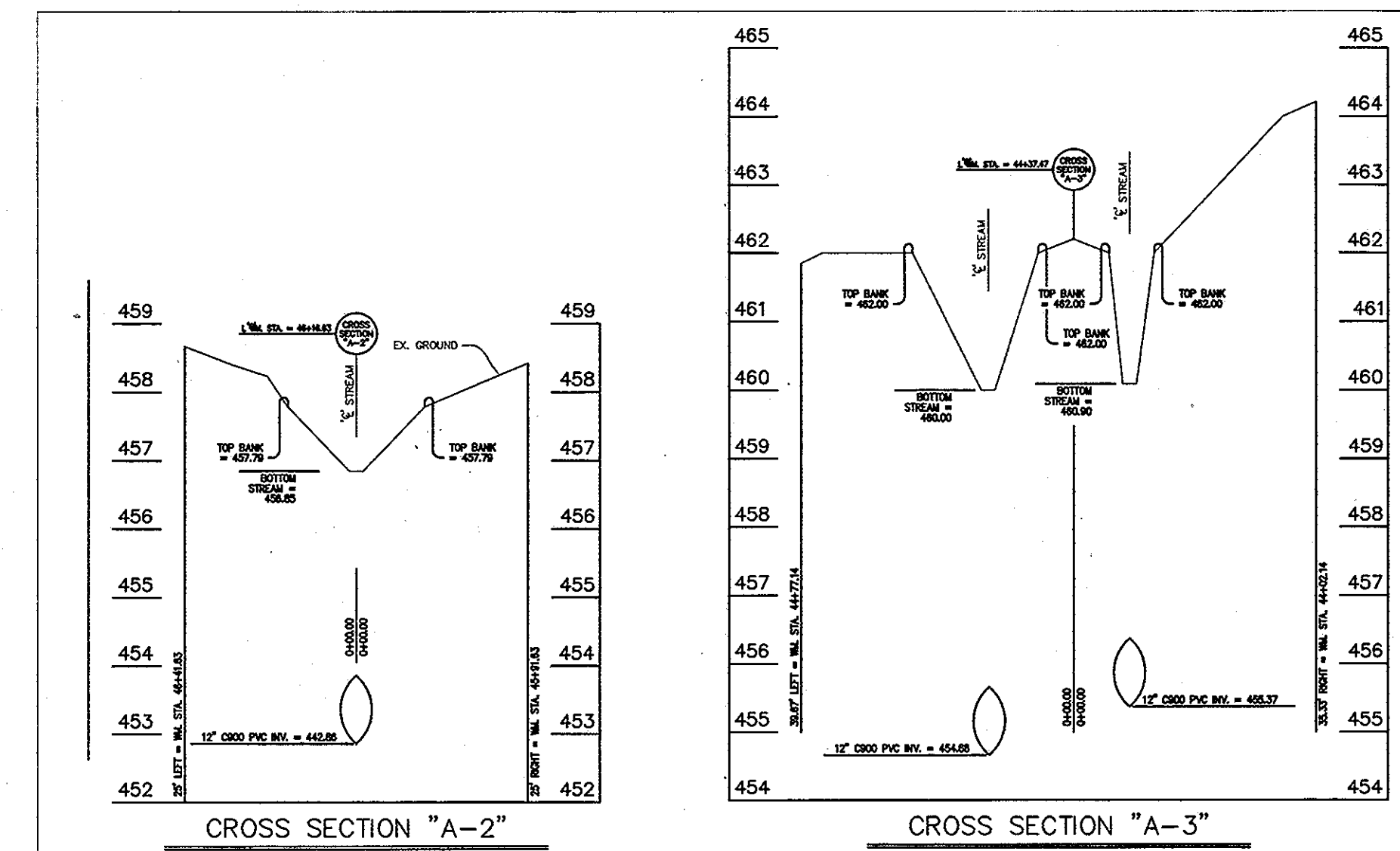
IMPACT 3 CROSS SECTION

VERTICAL SCALE: 1" = 2'
HORIZONTAL SCALE: 1" = 5'



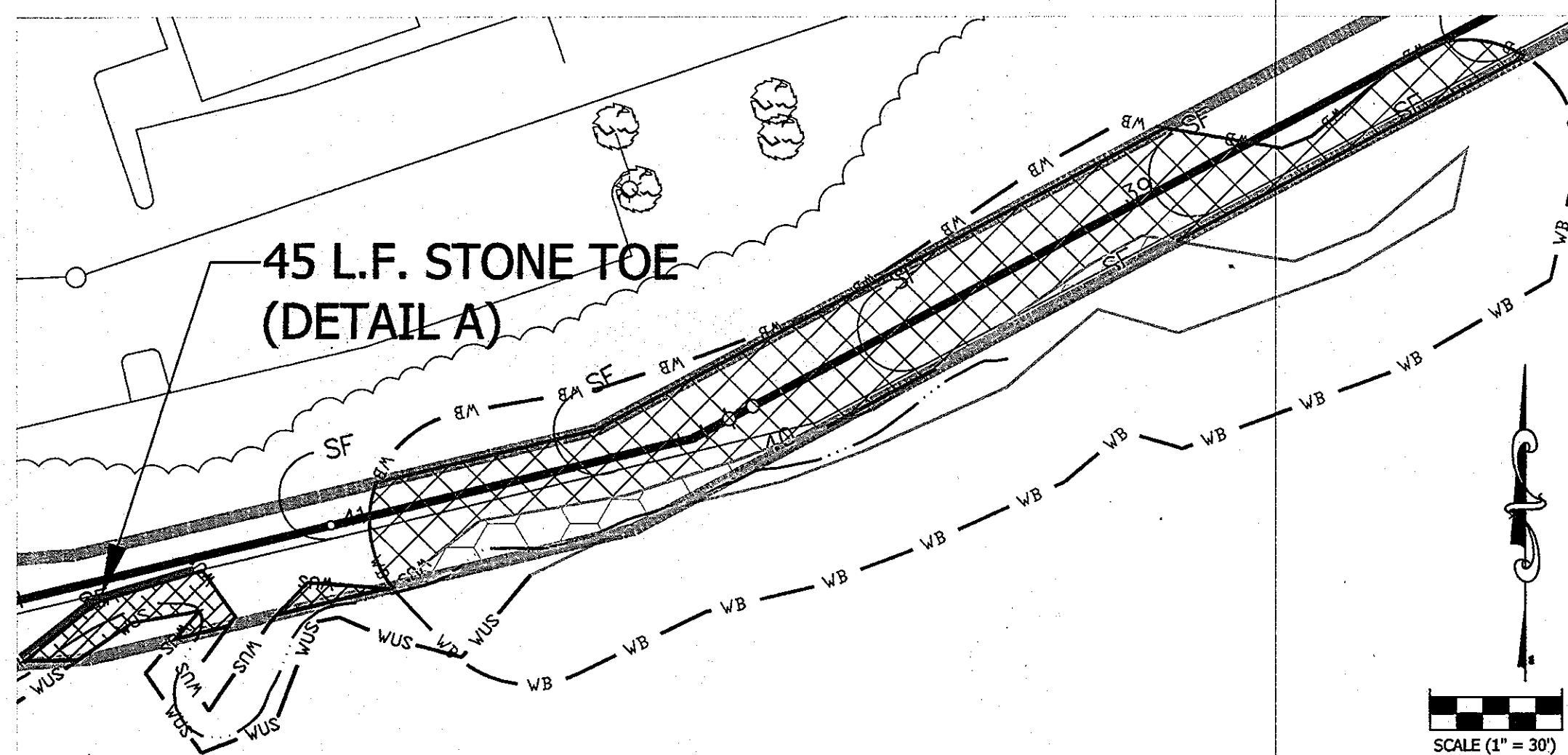
IMPACT 4

NONTIDAL WETLAND (TEMPORARY) 3,912 S.F.
WETLAND BUFFER (TEMPORARY) 6,273 S.F.
WATERS OF THE U.S. (TEMPORARY) 504 S.F./ 89 L.F.



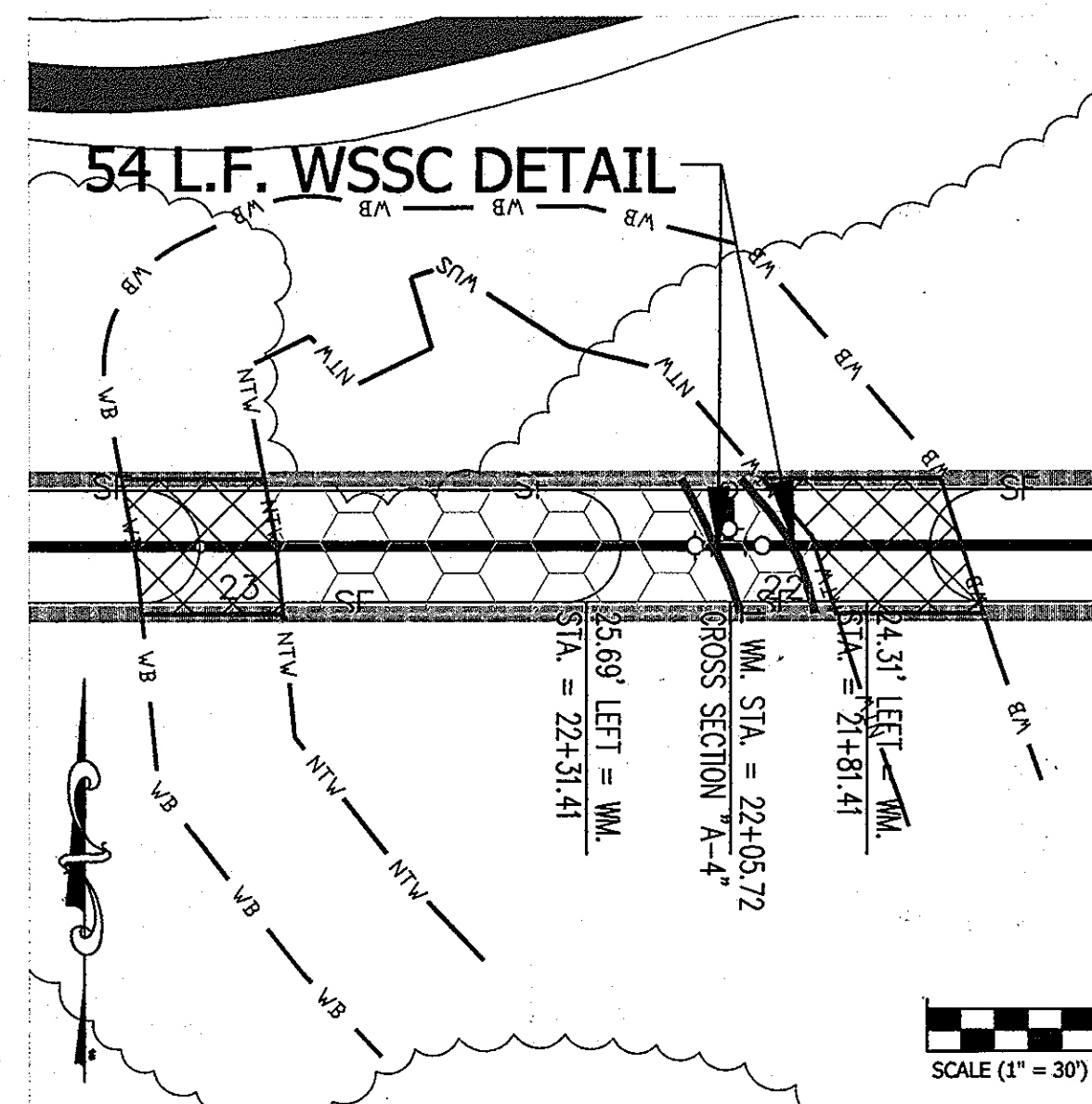
IMPACT 4 CROSS SECTIONS

VERTICAL SCALE: 1" = 2'
HORIZONTAL SCALE: 1" = 5'



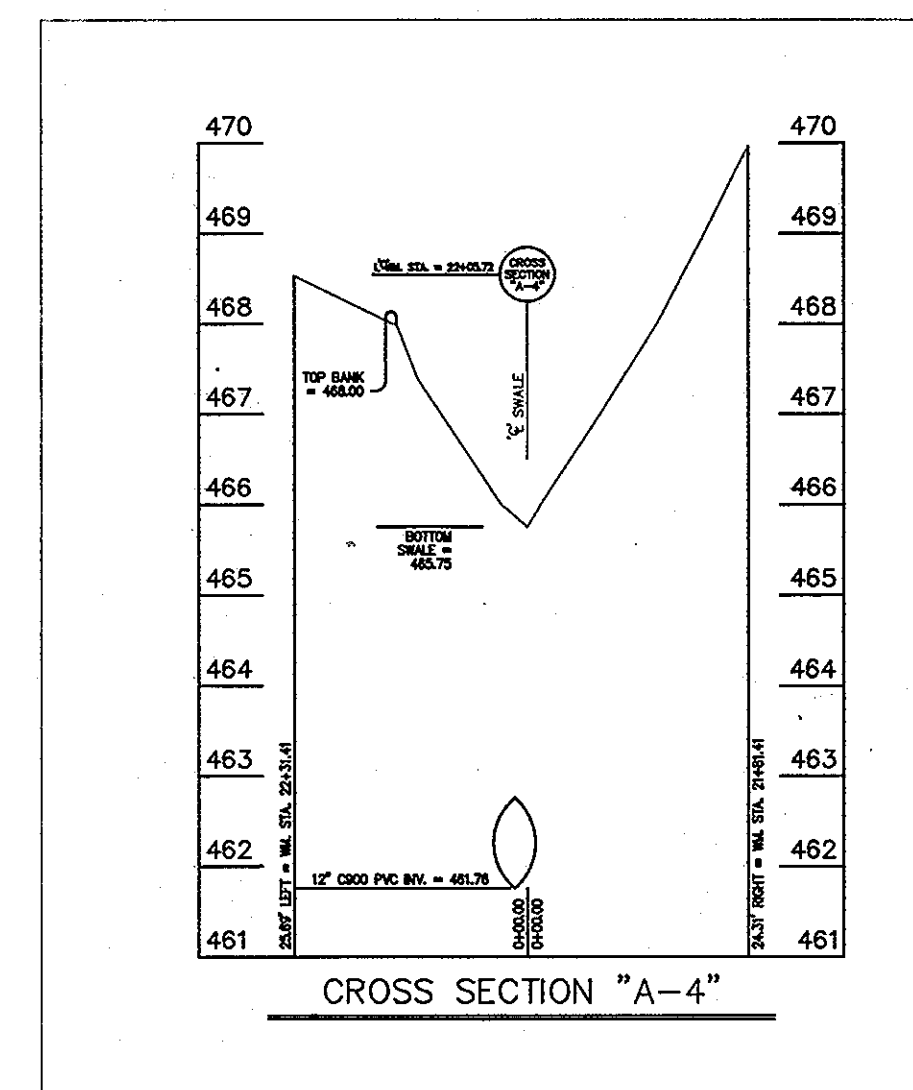
IMPACT 5

NONTIDAL WETLAND (TEMPORARY) 754 S.F.
WETLAND BUFFER (TEMPORARY) 5,001 S.F.
WATERS OF THE U.S. (TEMPORARY) 445 S.F./ 44 L.F.



IMPACT 6

NONTIDAL WETLAND (TEMPORARY) 2,278 S.F.
WETLAND BUFFER (TEMPORARY) 1,265 S.F.



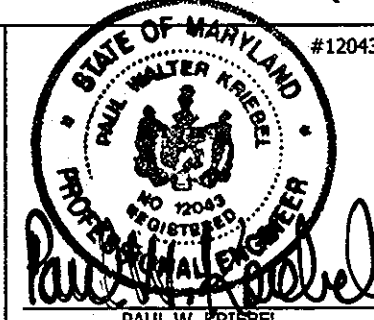
IMPACT 6 CROSS SECTION

VERTICAL SCALE: 1" = 2'
HORIZONTAL SCALE: 1" = 5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

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Chief, Bureau of Utilities
2/1/13
DATE

Chief, Development Engineering Division
2/1/13
DATE

NEW SHEET: ADDED TO ADDRESS MDE COMMENTS

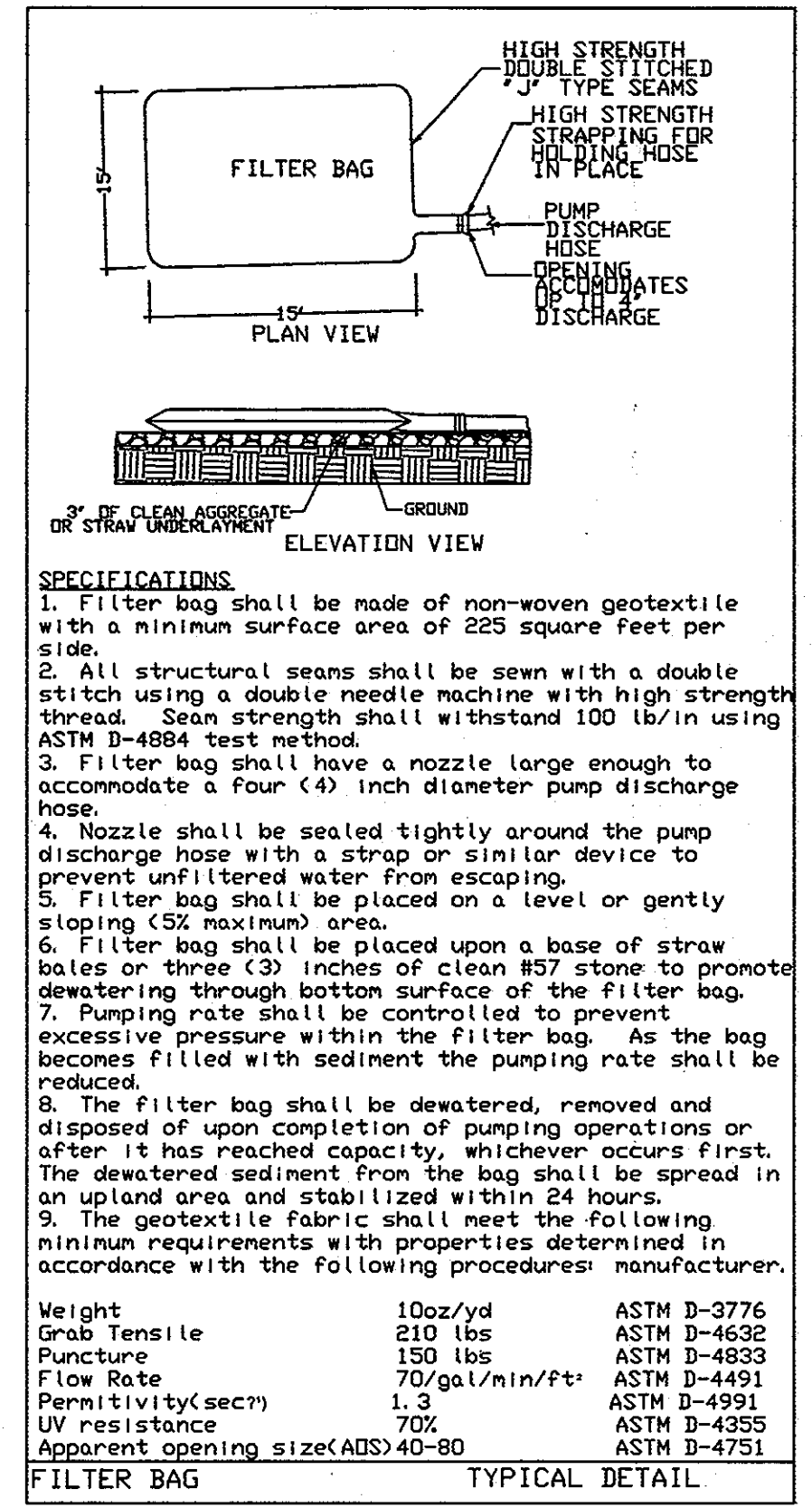
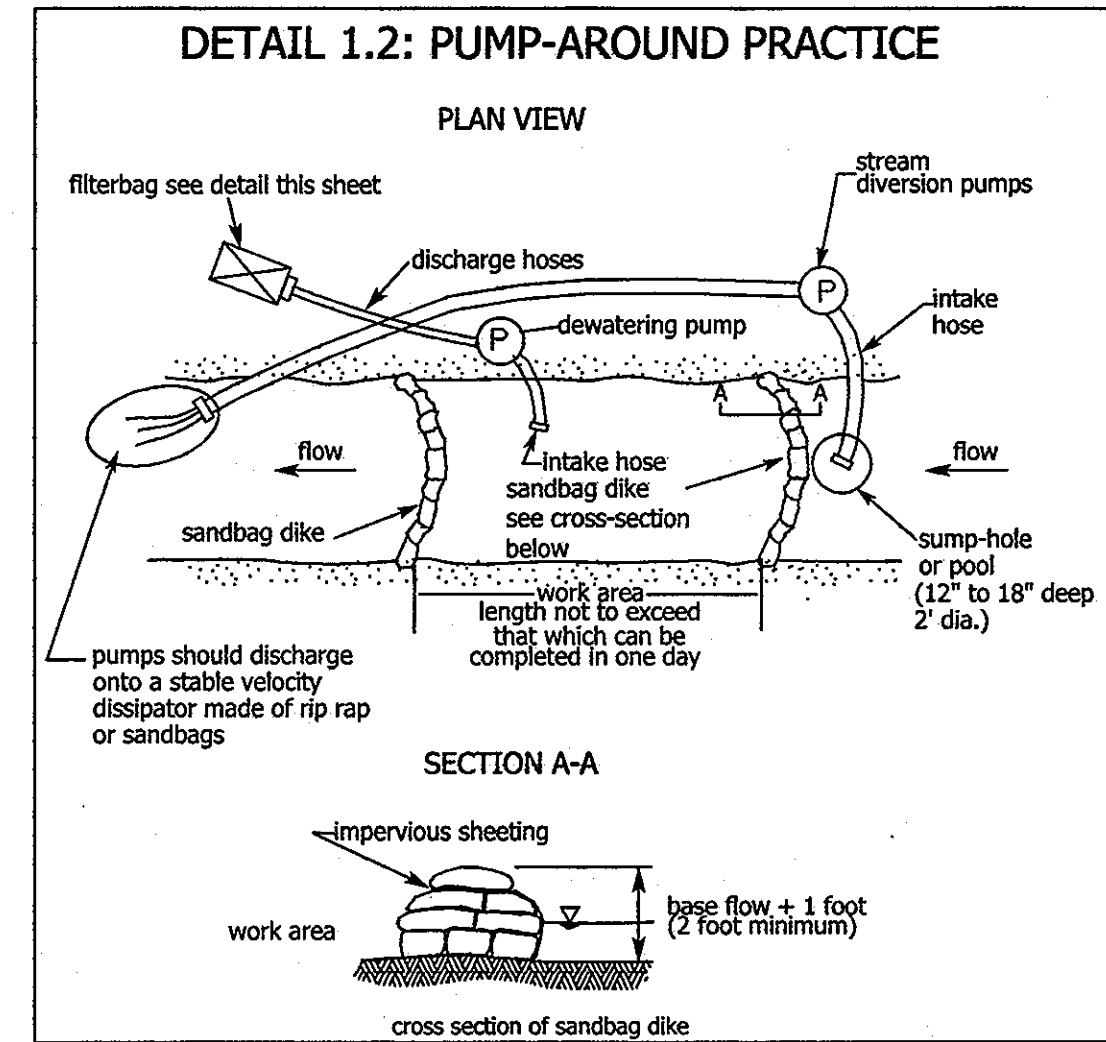
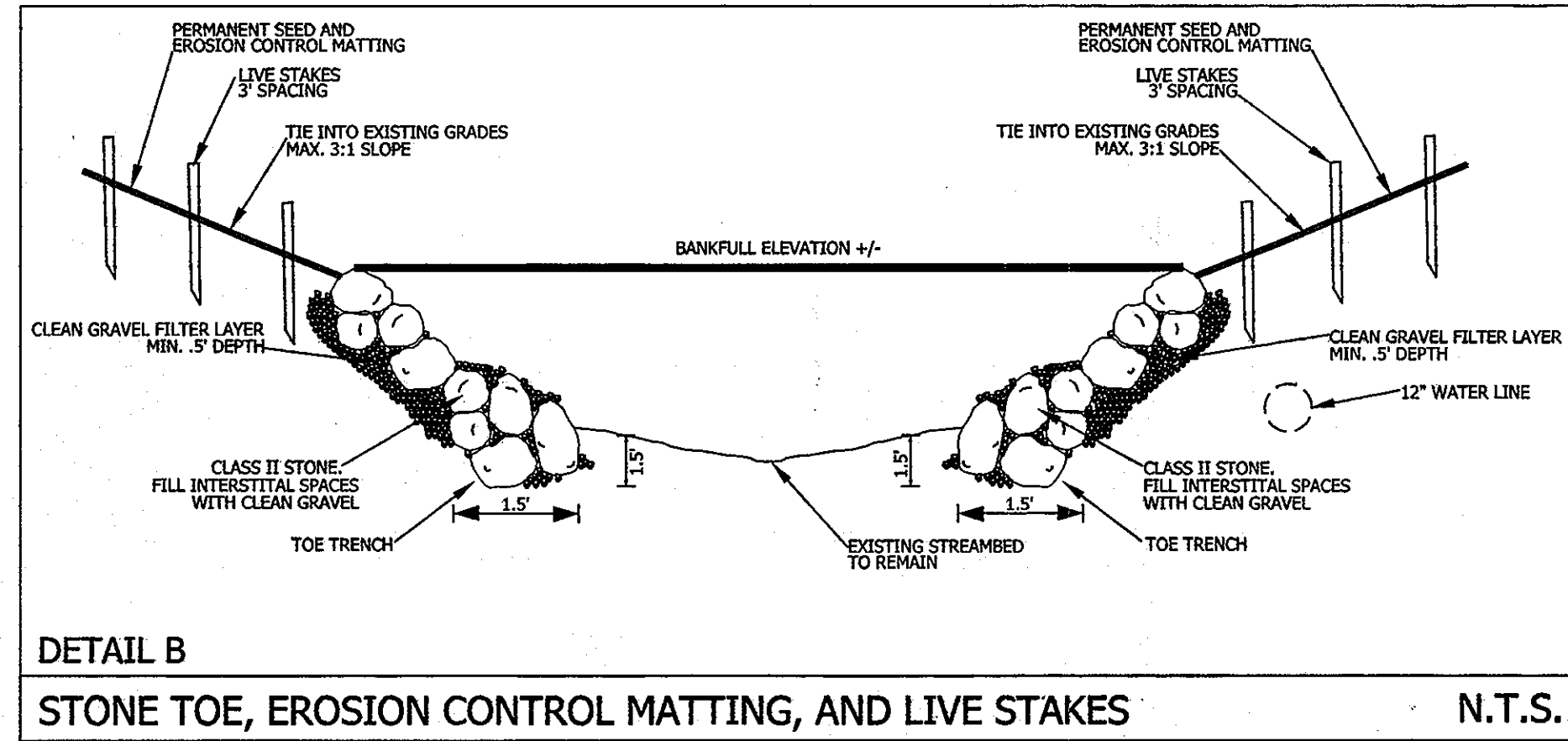
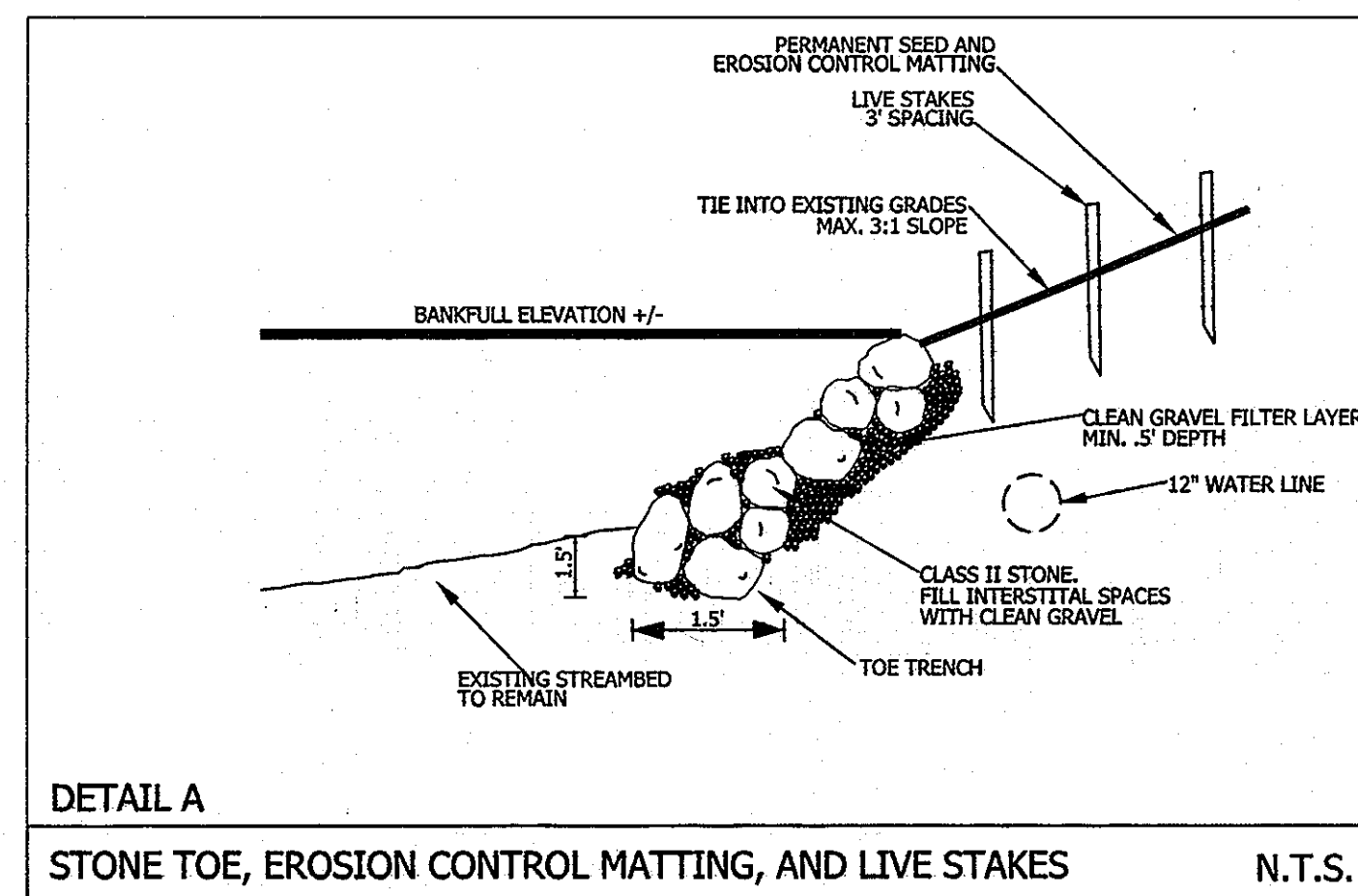


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(410) 420 2600 • FAX (410) 420 6983 • WWW.ECOTONEINC.COM

WAVERLY WOODS
WATER MAIN EXTENSION
LETTER OF AUTHORIZATION NO. 11-NT-0037 / 2011-60127
HOWARD COUNTY, MARYLAND

WETLAND DELINEATION / WETLAND IMPACT PLAN

PROJECT # 1142	DRAWN BY: TAH	DATE JANUARY 2013	Sheet 10 of 19
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STONE TOE, EROSION CONTROL MATTING, AND LIVE STAKE INSTALLATION

1. DESCRIPTION
 1. This work shall consist of placing toe protection, harvesting, transporting, installing and maintaining live stake materials, and the installation of erosion control matting to the grades specified on the grading plan.
 2. Harvesting, transporting, and installation shall take place when plants are dormant (December 1 through April 1).

2. MATERIALS
Stone Toe
 1. Stone shall be Class II in size and of appropriate color (e.g., green, gray, brown/gray, dark gray, and/or dark brown in color) obtained from an approved source. Stone shall be obtained from a commercial quarry operation.

Live Stakes
 1. Live stakes shall be between one 1/2 inch and 2 inches in diameter.
 2. Stakes shall be 3 to 5 feet in length and all side branches shall be clipped flush with stem.
 3. Live stakes shall consist of the species and quantity per the "Live Stake Plant List" table found on this sheet.

Soil Stabilization Matting
 1. Matting shall be woven machine spun bristle coir twine made of coir fiber obtained from fresh water cured coconut husks.
 2. Soil stabilization matting shall conform to the following specifications:
 Weight: 29 oz/sy (ASTM D 3776)
 Thickness: 0.35 in. (ASTM D 1777)
 Dry Tensile Strength: Machine Direction - 2024 lbs/sf
 Cross Direction - 1160 lbs/sf (ASTM D 4595)
 Wet Tensile Strength: Machine Direction - 1776 lbs/sf
 Cross Direction - 936 lbs/sf (ASTM D 4595)
 Open Area: 38%

3. CONSTRUCTION
Stone Toe:
 1. Excavate trench at channel edge on outside bend of pool/meander such that the bottom of the stone toe protection is set at a minimum two foot below the channel invert elevation.
 2. Install class II stone with long axis oriented parallel with the stream profile and the short axis aligned vertically.
 3. Install a second row of stone on top of and slightly behind bottom boulders, ensuring that joints between the stone are staggered. Continue to bankfull elevation.
 4. Backfill stone with native material to fill interstitial spaces.

Soil Stabilization Matting:
 1. Seed streambank areas with permanent seed mix.
 2. Matting shall be placed within 48 hours after seeding operations have been completed. Matting shall be laid smoothly and firmly upon the seeded bed in the direction of the water flow with downslope edge keyed a minimum of 0.5 feet behind stone toe.
 3. Where more than one width of matting is required, the ends and edges of each strip shall overlap at least 1 foot for both vertical and horizontal overlaps. Overlapping shall be done with the up-slope matting overlapping the down-slope matting and the upstream matting overlapping the downstream matting.
 4. Matting shall be firmly fastened in place with staples driven vertically into the soil and flush with the surface. Staples shall be placed on 2-foot centers throughout the matting and along the edges of the matting.
 5. The contractor shall excavate a shallow trench along the up-slope, down-slope, and vertical edges of the matting at the upstream edges of the matting. The matting shall be keyed into the trench a minimum of 6 inches. Following the installation of the staples, the key trenches shall be backfilled with soil and tamped firmly.

Live Staking:
 1. Cuttings shall be installed two (2) feet apart using random, triangular spacing. The density of the spacing will range from two (2) to four (4) cuttings per square yard. Site variations may require spacing adjustments.
 2. The basal end of the cutting shall be cleanly cut at an angle immediately before insertion into the soil. The top of the cutting shall be cut square for tamping.
 3. Install the cuttings top side up, with any buds pointing upward. The cuttings shall be tamped into the ground for approximately four-fifths (4/5) of their length. The cuttings shall be tamped into the ground at vertical angle of ninety (90) degrees to the slope and at a horizontal angle of forty-five (45) degrees downstream. A three-eighths (3/8) of an inch iron bar can be used to make a pilot hole in compacted or rocky soils, or between imbricated rip rap boulders.
 4. Foot compact around each cutting after it has been installed. Any cuttings that split during tamping shall be pulled out and replaced.
 5. The top of the cutting shall be cut square again after installation, to remove the damaged mushroom top.
 6. See "Live Stake Plant List", this sheet for species and quantity specifications.

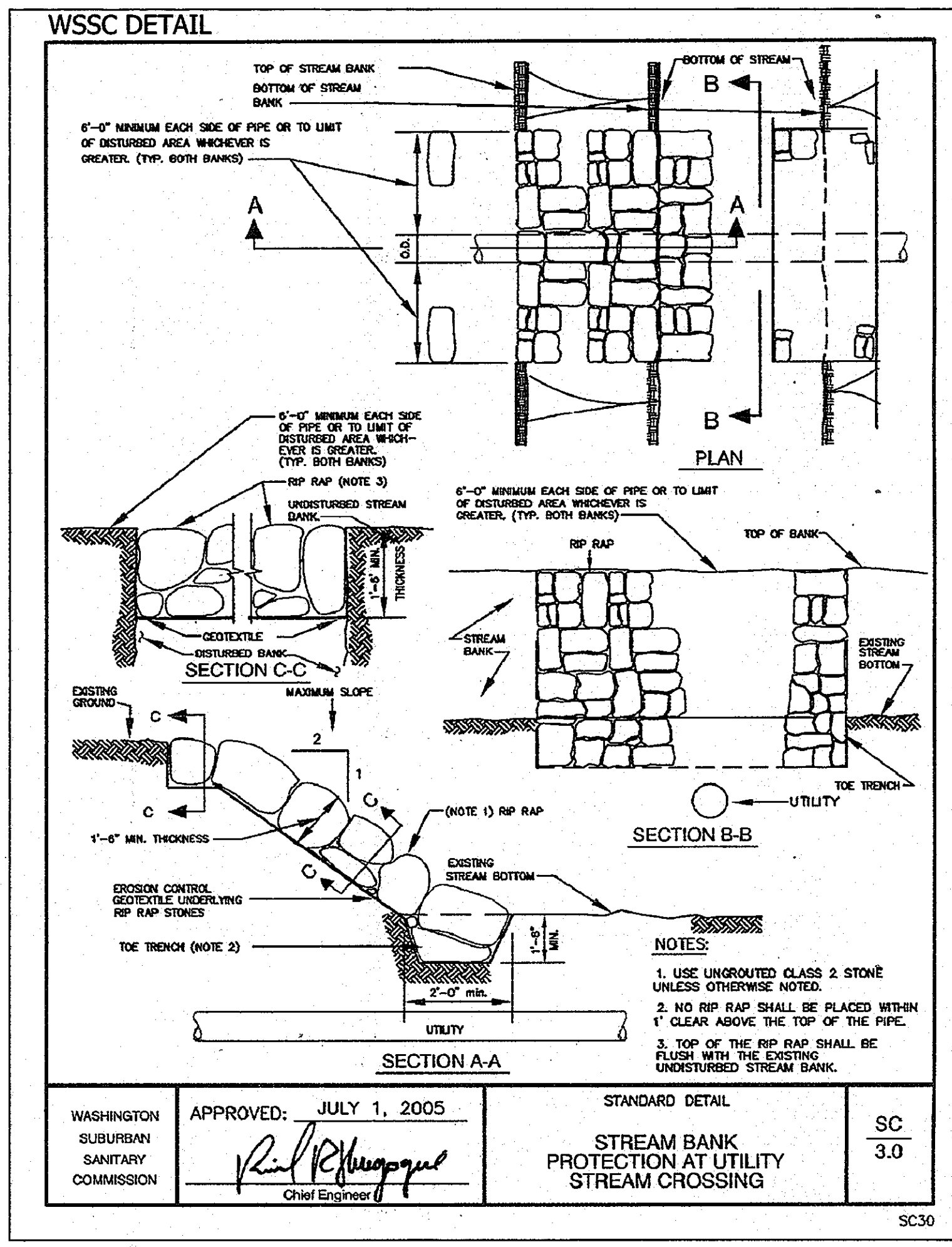
STONE SPECIFICATIONS FOR STONE TOE PROTECTION

Stone shall consist of angular flat rock with a blocky shape so that it is easily stacked, and of appropriate color (e.g., green, gray, brown/gray, dark gray, and/or dark brown in color) obtained from an approved source. Stone shall be obtained from a commercial quarry operation. All stone shall be free from laminations, weak cleavages and will not disintegrate from the action of air, salt water and in handling and placing. Granular sedimentary stone will generally be unacceptable. Concrete will not be considered as an alternative for stone. White stone is not acceptable.

1. For Step Pool and Stone Toe structures, the dimensions of all the rock will be a minimum of 3 feet and maximum of 3 feet along the long (a) axis, a minimum of 1.5 feet and maximum of 2.5 feet along the median (b) axis, a minimum of 0.75 foot and a maximum of 1.5 feet along the short (c) axis. Rock shall have a minimum density of 150 lbs/cu.ft.

2. The Contractor will locate potential sources for the rocks. The Contractor will not be granted an extension of time or extra compensation due to delay caused by sampling, testing, approval or disapproval of stone protection material under the requirements of these specifications. The Contractor shall obtain from the quarry and submit to the OWNER or its agent a certificate verifying the following:

- a. Stone Classification.
- b. Weight of Stone Being Supplied.
- c. Stone quality shall meet all of the above specifications.



BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS

- No excess fill, construction material, or debris shall be stockpiled or stored in nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
 - Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
 - Do not use the excavated material as backfill if it contains waste metal products, unsightly debris, toxic material, or any other deleterious substance. If additional backfill is required, use clean material free of waste metal products, unsightly debris, toxic material, or any other deleterious substance.
 - Place heavy equipment on mats or suitably operate the equipment to prevent damage to nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
 - Repair and maintain any serviceable structure or fill so there is no permanent loss of nontidal wetlands, nontidal wetland buffers, or waterways, or permanent modification of the 100-year floodplain in excess of that lost under the originally authorized structure or fill.
 - Rectify any nontidal wetlands, wetland buffers, waterways, or 100-year floodplain temporarily impacted by any construction.
 - All stabilization in the nontidal wetland and nontidal wetland buffer shall consist of the following species: Annual Ryegrass (*Lolium multiflorum*), Millet (*Setaria italica*), Barley (*Hordeum* sp.), Oats (*Avena* sp.), and/or Rye (*Scaevola cereale*). These species will allow for the stabilization of the site while also allowing for the voluntary revegetation of natural wetland species. Other non-persistent vegetation may be acceptable, but must be approved by the Nontidal Wetlands and Waterways Division. Kentucky 31 fescue shall not be utilized in wetland or buffer areas. The area should be seeded and mulched to reduce erosion after construction activities have been completed.
 - After installation has been completed, make post-construction grades and elevations the same as the original grades and elevations in temporarily impacted areas.
 - To protect aquatic species, in-stream work is prohibited as determined by the classification of the stream:
- Use I waters: In-stream work shall not be conducted during the period March 1 through June 15, inclusive, during any year.
 Use III waters: In-stream work shall not be conducted during the period October 1 through April 30, inclusive, during any year.
 Use IV waters: In-stream work shall not be conducted during the period March 1 through May 31, inclusive, during any year.
- Stormwater runoff from impervious surfaces shall be controlled to prevent the washing of debris into the waterway.
 - Culverts shall be constructed and any riprap placed so as not to obstruct the movement of aquatic species, unless the purpose of the activity is to impound water.
 - A dewatering pump will be utilized in conjunction with a dirt bag (see detail this sheet) to remove standing water in the project area during construction. The dirt bag will be placed on a vegetated area a sufficient distance from subject reach so that any sediment leaving the dirt bag has time/distance to settle out before reaching the waterway.

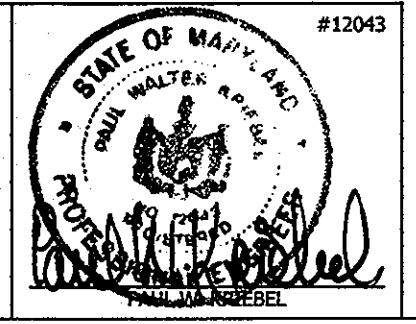
LIVE STAKE PLANT LIST

Botanical Name	Common Name	Spacing	Quantity
<i>Salix interior</i>	Sandbar Willow	2' triangular	47
<i>Cornus sericea</i>	Red Osier Dogwood	2' triangular	47
<i>Cornus amomum</i>	Silky Dogwood	2' triangular	46

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Chief, Bureau of Utilities
 2/1/13

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND
 Chief, Development Engineering Division
 2/1/13

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. 12043 EXPIRATION DATE IS 7/31/14.



NEW SHEET: ADDED TO ADDRESS MDE COMMENTS

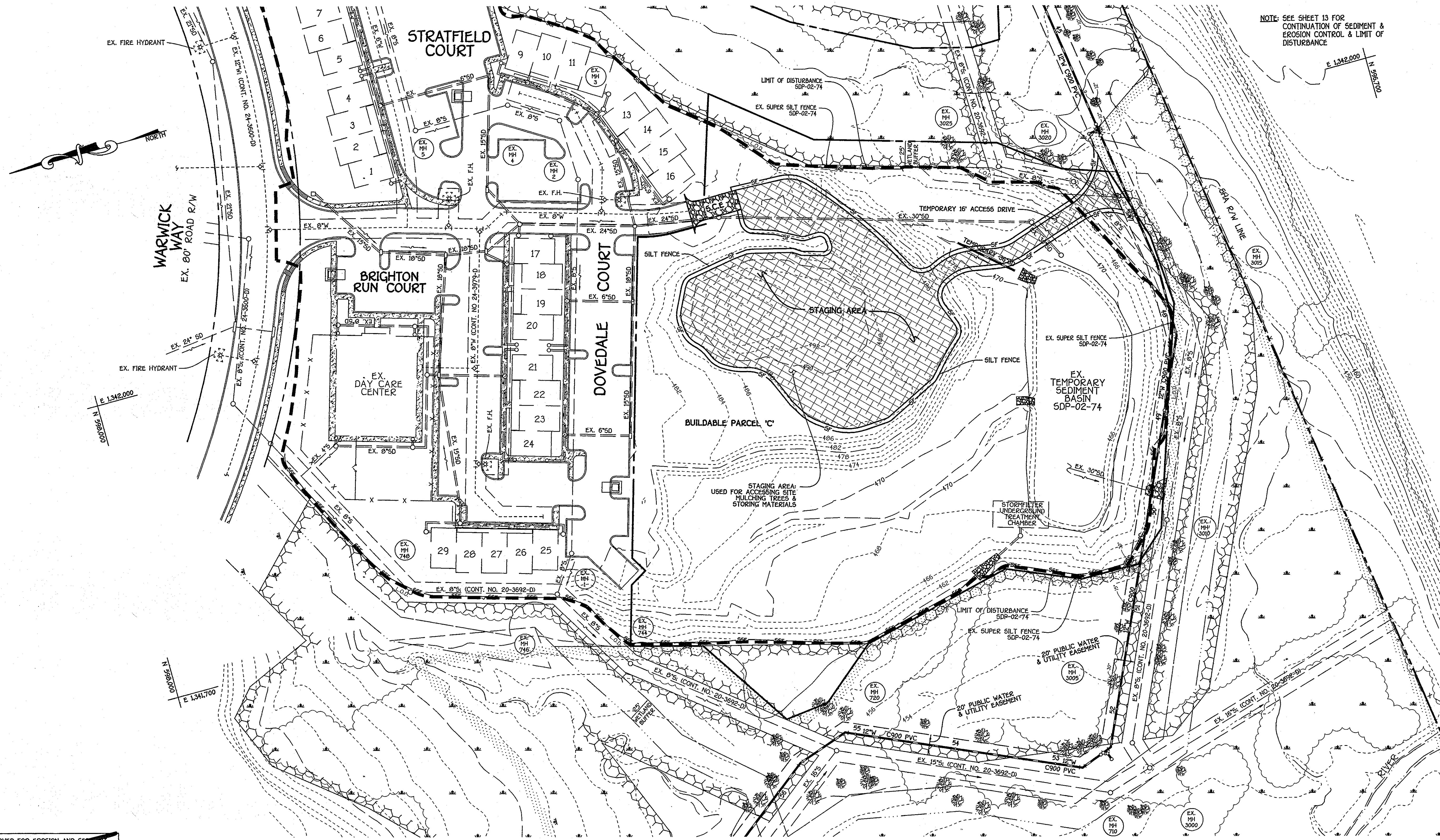


2120 HIGH POINT ROAD • FOREST HILL, MARYLAND 21050
 (410) 420 2600 • FAX (410) 420 6983 • WWW.ECOTONEINC.COM

WAVERLY WOODS
 WATER MAIN EXTENSION
 LETTER OF AUTHORIZATION NO. 11-NT-0037 / 2011-60127
 HOWARD COUNTY, MARYLAND

DETAILS AND SPECIFICATIONS

PROJECT #	DRAWN BY:	DATE	Sheet 11 of 19
1142	TAH	JANUARY 2013	



NOTE: SEE SHEET 13 FOR CONTINUATION OF SEDIMENT & EROSION CONTROL & LIMIT OF DISTURBANCE

~~THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT APPROVED:~~
 HOWARD SOIL CONSERVATION DISTRICT

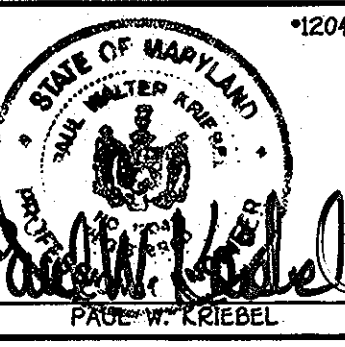
PLAN
 SCALE: 1" = 50'

CAPITAL PROJECT W-0263
 CONTRACT NO. 44-4154-D
 GTW'S WAVERLY WOODS
 12" WATER MAIN EXTENSION
 630W PRESSURE ZONE LOOP
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
Steve Chern
 CHIEF, BUREAU OF UTILITIES
 DATE: 2/1/13

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND
Paul W. Kriebel
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 2/1/13

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. 12043 EXPIRATION DATE 5/7/14.
FISHER, COLLINS & CARTER, INC.
 CIVIL, ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 12272 BALTIMORE NATIONAL FREE
 ELICOTT CITY, MARYLAND 21117
 (410) 481-2225
 PAUL W. KRIEBEL



DESIGNED BY:	B.C.R.
DRAWN BY:	B.C.R.
CHECKED BY:	P.W.K.
DATE:	JANUARY, 2013
BY:	NO.
REVISION:	
DATE:	

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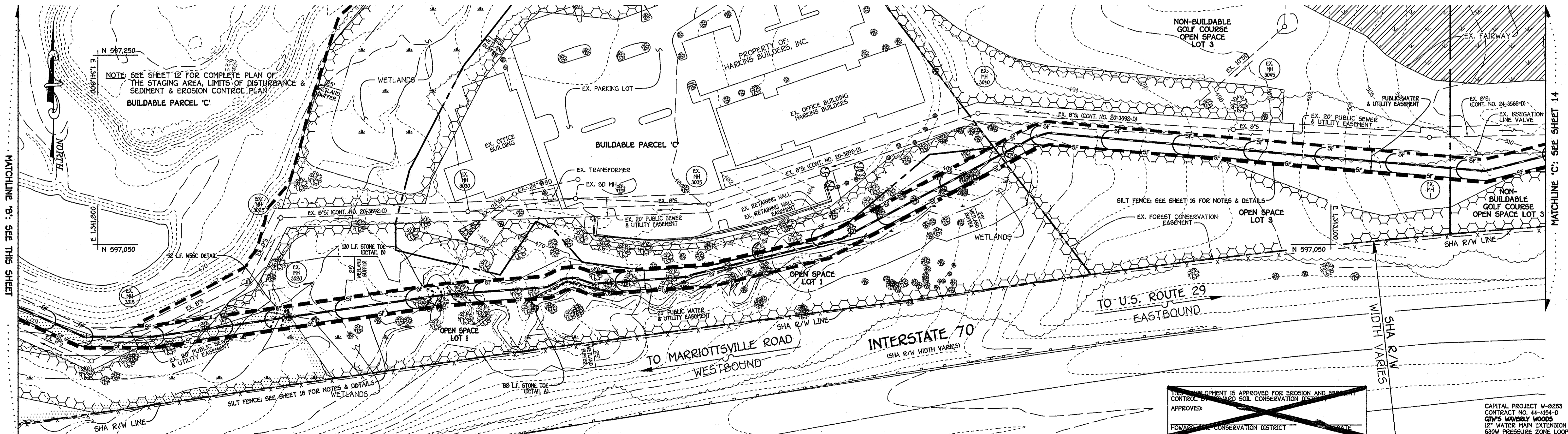
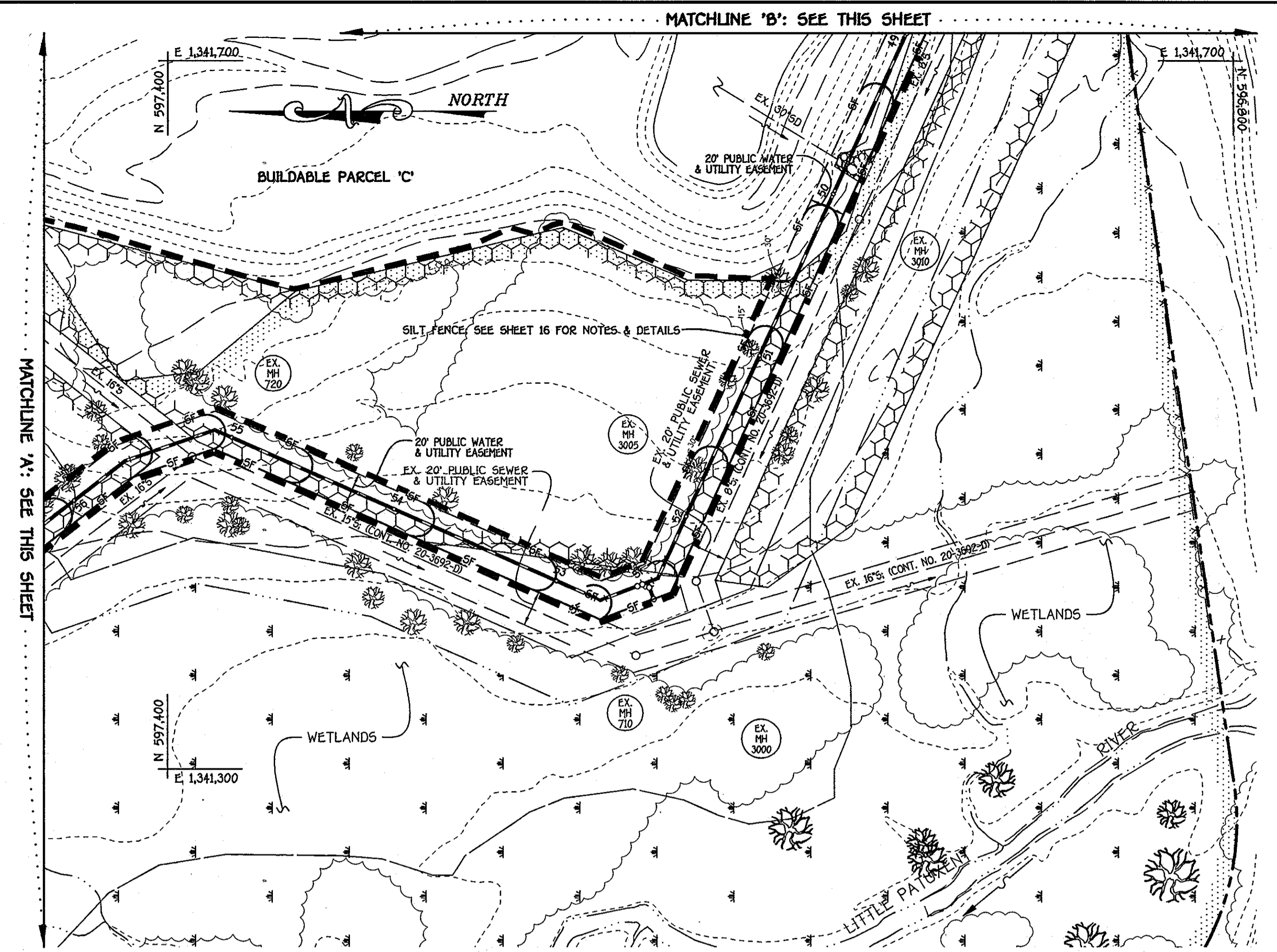
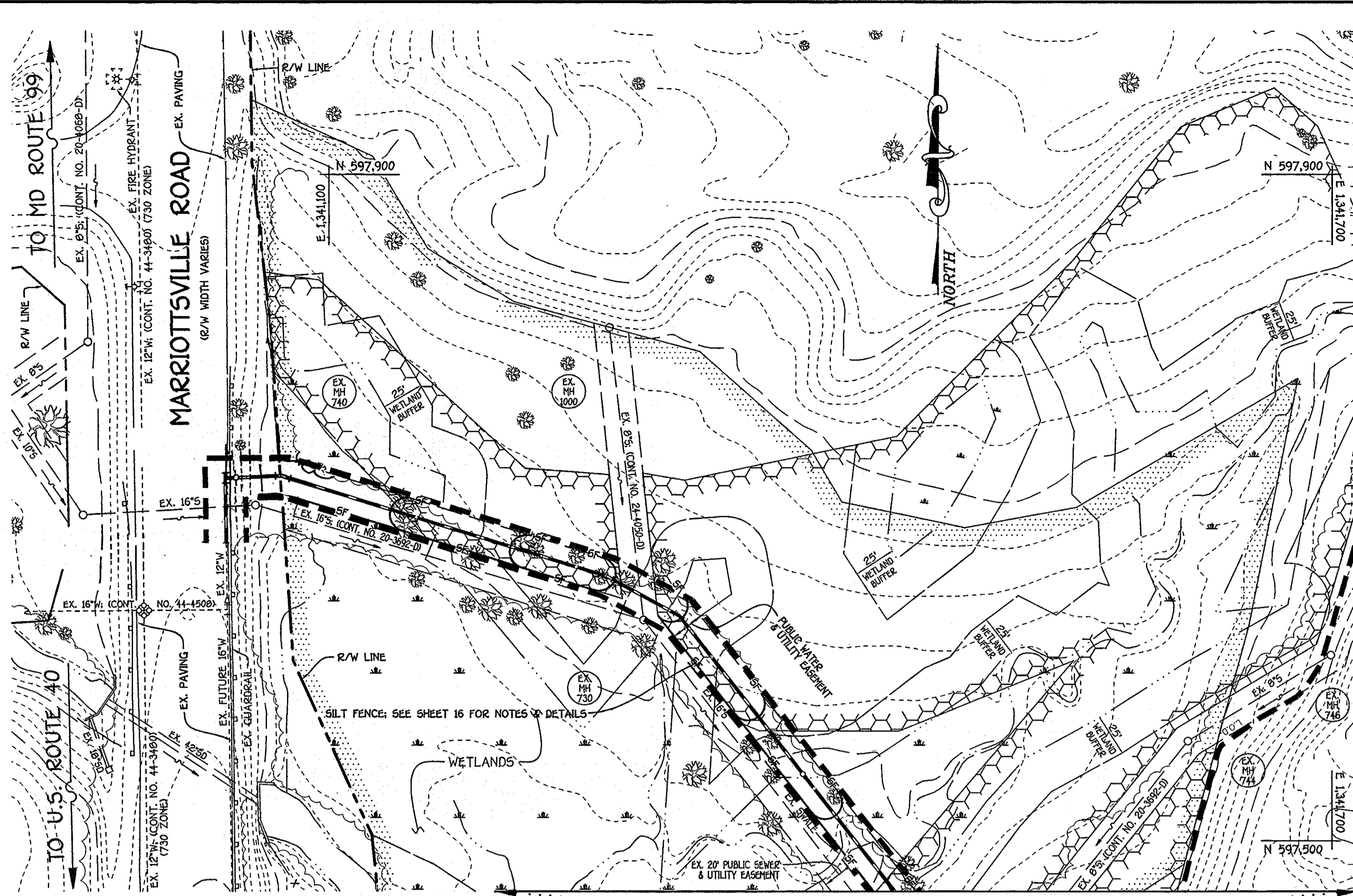
EROSION & SEDIMENT CONTROL
 STAGING AREA PLAN

60" SCALE MAP NO. 16	BLOCK NO. 5
F.C.C. WORK ORDER NO. 542	
FILE NAME:	WATER & SEWER MAIN EXTENSION PLAN

GTW'S WAVERLY WOODS
 12" WATER MAIN EXTENSION
 630W PRESSURE ZONE LOOP
 CAPITAL PROJECT W-0263
 CONTRACT NO. 44-4154-D
 THIRD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 12 OF 19

K:\3156R2013152\dwg\Contract No. 44-4154-01630 Water Main Loop - 12 - Staging Area Plan.dwg, Plan Sheet 12, 1/25/2013 8:27:14 AM, 1:1



NOTE: SEE SHEET 12 FOR COMPLETE PLAN OF THE STAGING AREA, LIMITS OF DISTURBANCE & SEDIMENT & EROSION CONTROL PLAN BUILDABLE PARCEL 'C'

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

CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

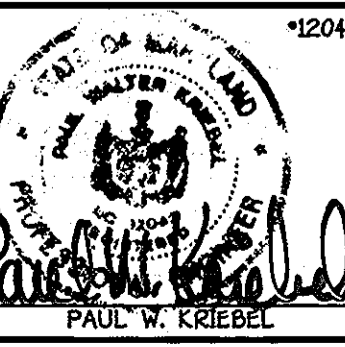
[Signature]
2/1/13
DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[Signature]
2/1/13
DATE

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FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FREE
ELICOTT CITY, MARYLAND 21041
(410) 481-2222



DESIGNED BY: B.C.R.
DRAWN BY: B.C.R.
CHECKED BY: P.W.K.
DATE: JANUARY, 2013

NEW SHEET: TO ADDRESS MDE COMMENTS

REVISION

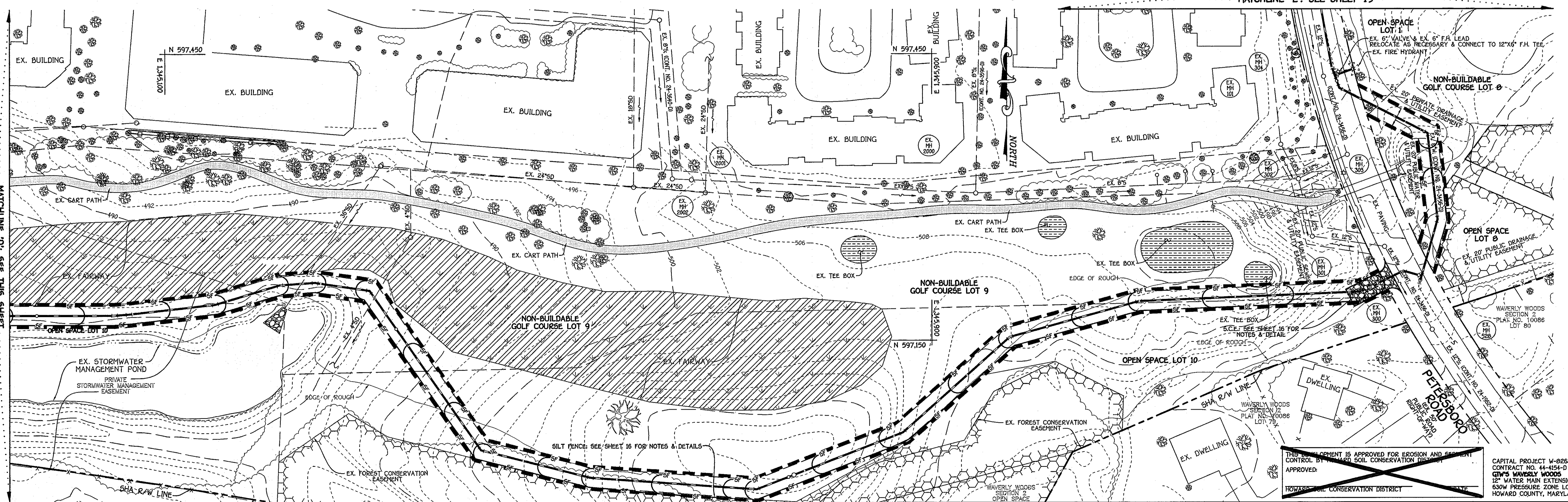
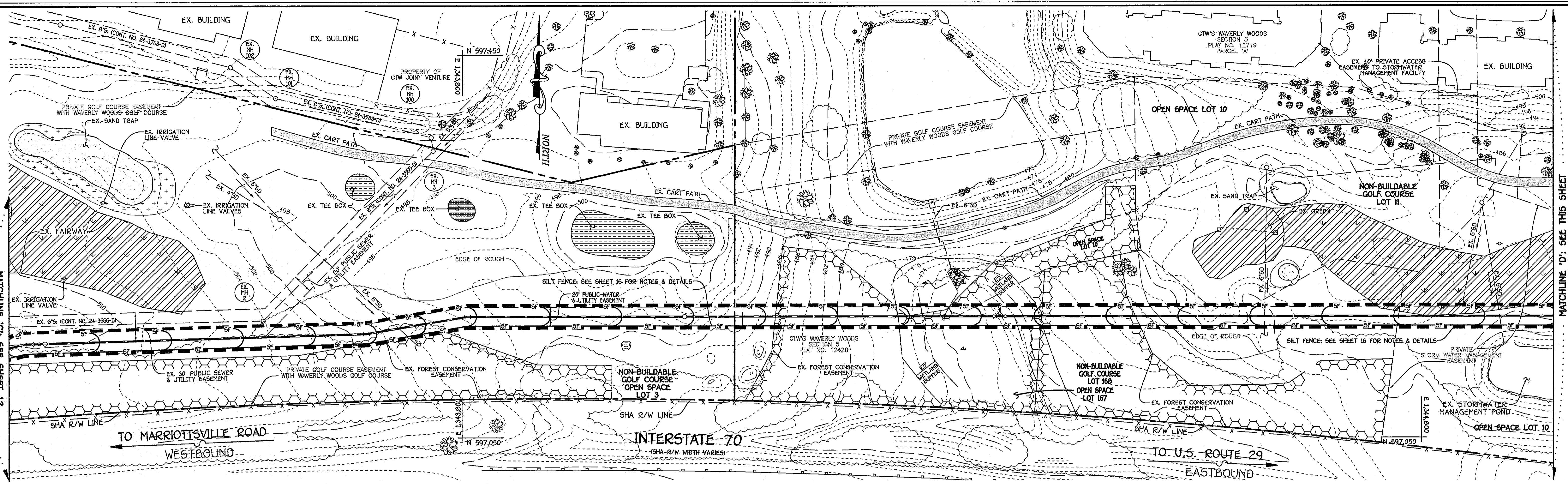
EROSION & SEDIMENT CONTROL PLAN

600' SCALE MAP NO. 16 BLOCK NO. 5
F.C.C. WORK ORDER NO. 542
FILE NAME: WATER MAIN EXTENSION SHEET

GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

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AS SHOWN

SHEET
13 of 19



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Shirley Cleam
CHIEF, BUREAU OF UTILITIES

2/1/13
DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Paul W. Kriebel
CHIEF, DEVELOPMENT ENGINEERING DIVISION

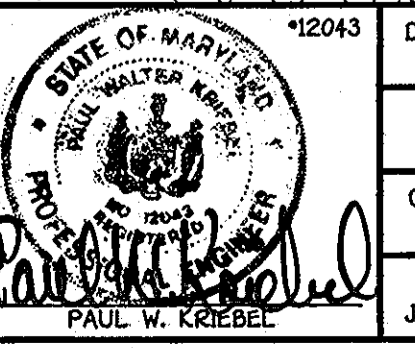
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FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FREE BLVD. SUITE 100, ELICOTT CITY, MARYLAND 21041
(410) 461-2255

Paul W. Kriebel
PAUL W. KRIEBEL



DESIGNED BY: B.C.R.
DRAWN BY: B.C.R.
CHECKED BY: P.W.K.
DATE: JANUARY, 2013

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BY NO. REVISION DATE

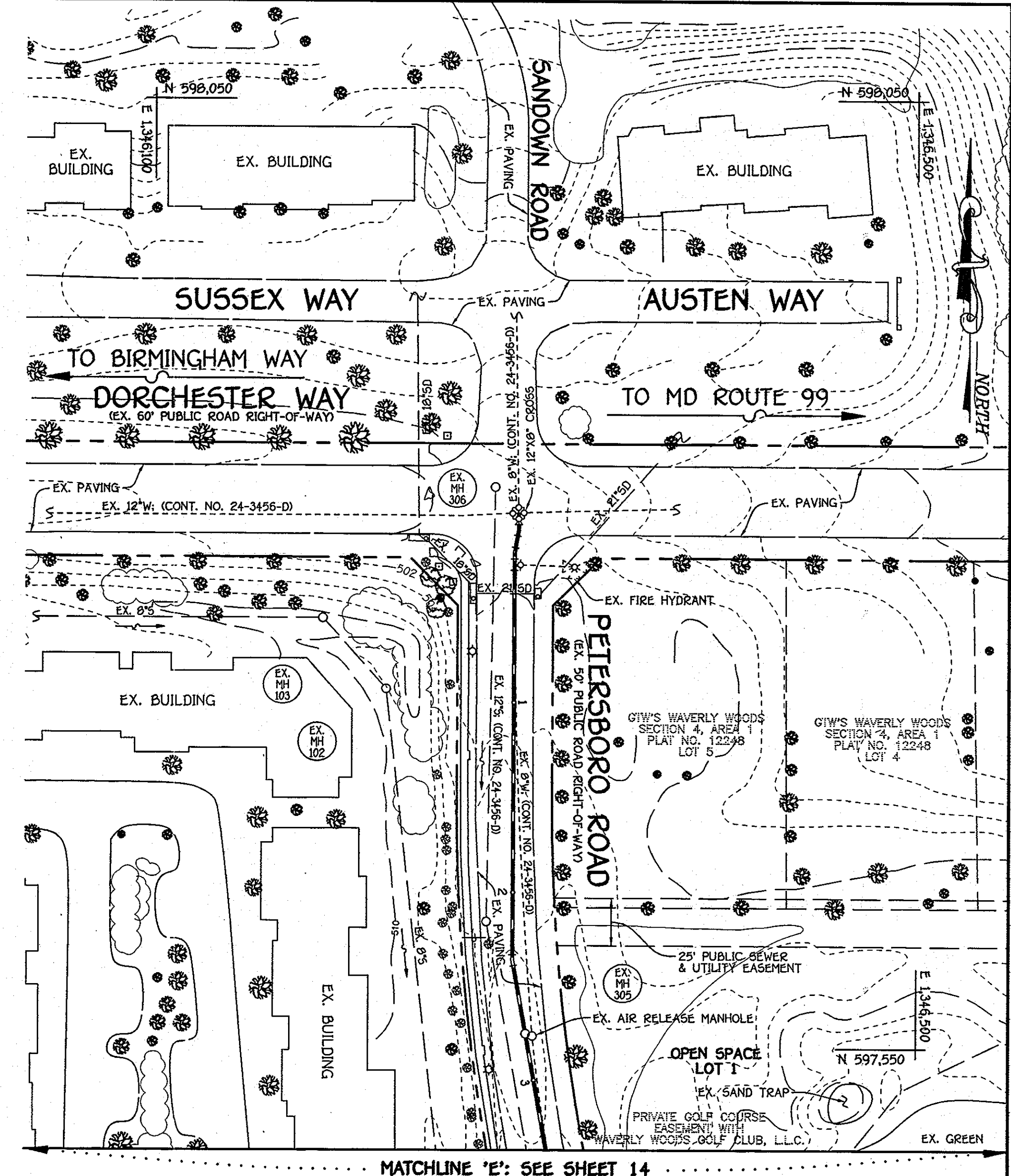
EROSION & SEDIMENT CONTROL PLAN

600' SCALE MAP NO. 16 BLOCK NO. 5
F.C.C. WORK ORDER NO. 542
FILE NAME: WATER MAIN EXTENSION SHEET

GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 14 OF 19

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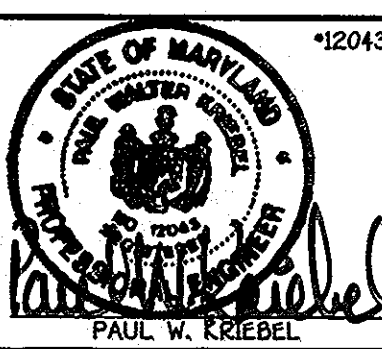


~~THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.~~
 APPROVED:
 HOWARD SOIL CONSERVATION DISTRICT

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
Steve Chen
 CHIEF, BUREAU OF UTILITIES
 DATE: 2/1/13

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND
Michael...
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 2/1/13

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 LICENSE NO. 12043 EXPIRATION DATE IS 7/18/14.
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 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21114
 4107 661 - 2922



DESIGNED BY:	B.C.E.		
DRAWN BY:	B.C.E.		
CHECKED BY:	P.W.K.		
DATE:	JANUARY, 2013		
BY:	NO.		
REVISION:			
DATE:			

EROSION & SEDIMENT CONTROL PLAN

600' SCALE MAP NO. 16 BLOCK NO. 5
 F.C.C. WORK ORDER NO. 542
 FILE NAME: WATER MAIN EXTENSION SHEET

GTW'S WAVERLY WOODS
 12" WATER MAIN EXTENSION
 630W PRESSURE ZONE LOOP
 CAPITAL PROJECT W-8263
 CONTRACT NO. 44-4154-D
 THIRD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE
 AS
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 15 of 19

CAPITAL PROJECT W-8263
 CONTRACT NO. 44-4154-D
 GTW'S WAVERLY WOODS
 12" WATER MAIN EXTENSION
 630W PRESSURE ZONE LOOP
 HOWARD COUNTY, MARYLAND

K:\SPSR00\520.dwg Contract No. 44-4154-d630 Water Main Loop - 01 - 08, 13 - 16 (Redline 1).dwg (NEW) SED SHEET 15, 1/22/2013 9:53:37 PM, 11

SECTION 20 : STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION USING VEGETATION AS COVER FOR BARREN SOIL TO PROTECT IT FROM FORCES THAT CAUSE EROSION. PURPOSE VEGETATIVE STABILIZATION SPECIFICATIONS ARE USED TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. SITE PREPARATION 1. INSTALL EROSION AND SEDIMENT CONTROL STRUCTURES EITHER TEMPORARY OR PERMANENT SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, WATERWAYS, OR SEDIMENT CONTROL BASINS.

II. INCULCATION - THE INCULCANT FOR TREATING LEAGUE SEED IN THE SEED MIXTURES SHALL BE A PURE CULTURE OF NITROGEN-FIXING BACTERIA SPECIALLY PREPARED FOR THE SPECIES. INCULCANTS SHALL NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER.

E. METHODS OF SEEDING 1. HYDROSEEDING APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER). BROADCAST OR DROP SEEDING, OR A CULTIPACKER SEEDER.

F. MULCH SPECIFICATIONS 1. STRAW SHALL CONSIST OF THOROUGHLY THRESHED WHEAT, RYE OR OAT STRAW, REASONABLE BRIGHT IN COLOR, AND SHALL NOT BE MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY AND SHALL BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW.

WOOD CELLULOSE FIBER MULCH (WCMF) 1. WCMF SHALL CONSIST OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE. 2. WCMF SHALL BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL SPREAD SELECTION.

2. WCMF INCLUDING DYE, SHALL CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS. 3. WCMF MATERIALS SHALL BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY.

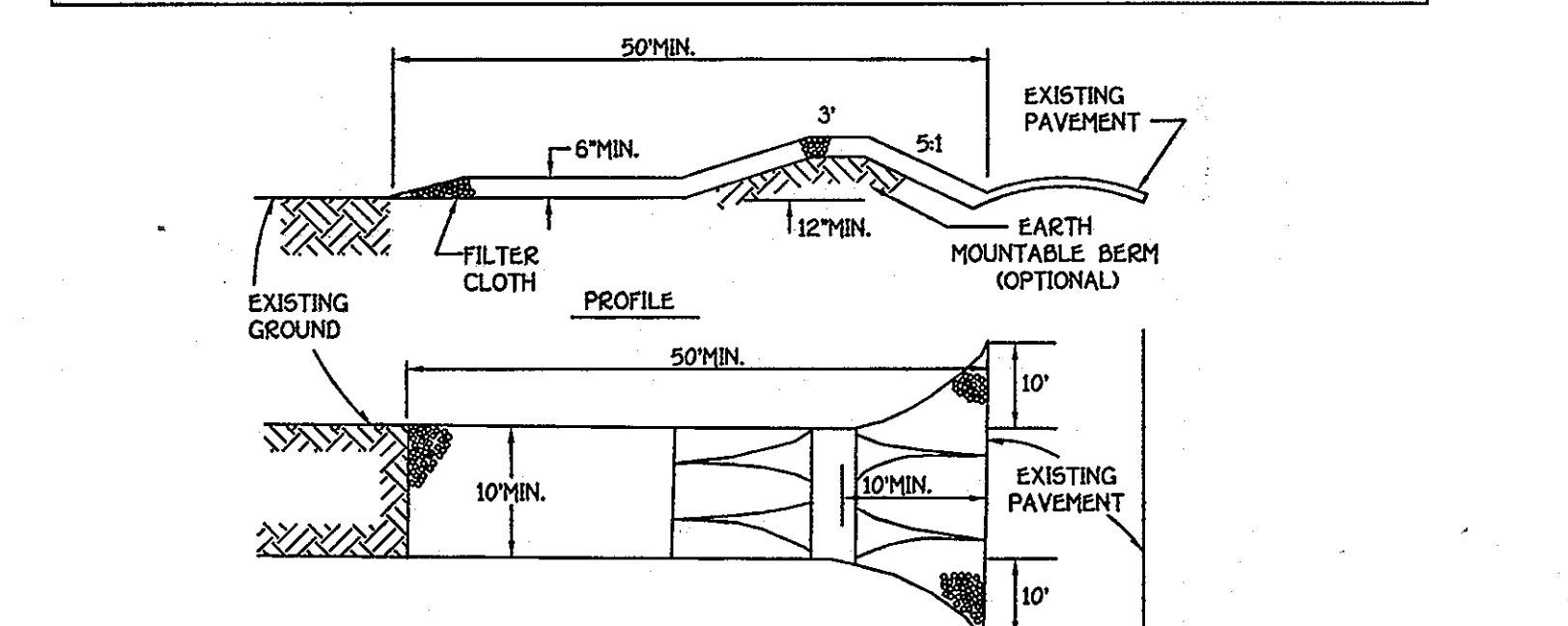
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND. DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER...

NOTE: ONLY STERILE STRAW MULCH SHOULD BE USED IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED. MULCHING SEEDED AREAS - MULCH SHALL BE APPLIED TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING. 1. IF GRADING IS COMPLETE OUTSIDE OF THE SEEDING SEASON, MULCH ALONE SHALL BE APPLIED AS PRESCRIBED IN THIS SECTION AND MAINTAINED UNTIL THE SEEDING SEASON RETURNS AND SEEDING CAN BE PERFORMED IN ACCORDANCE WITH THESE SPECIFICATIONS.

SECTION 2 - TEMPORARY SEEDING

VEGETATION - ANNUAL GRASS OR GRAM USED TO PROVIDE COVER ON THE DISTURBED AREAS FOR UP TO 12 MONTHS. FOR LONGER DURATION OF VEGETATIVE COVER, PERMANENT SEEDING IS REQUIRED. A. SEED MIXTURES - TEMPORARY SEEDING 1. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 26 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 5) AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW, ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS.

Table with columns: SEED MIXTURE (HARDINESS ZONE 6b), FERTILIZER RATE (0-10-10), LIME RATE. Includes rows for Barley, Oats, and Rye.



- 1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT. 2. LENGTH - AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).

STABILIZED CONSTRUCTION ENTRANCE - 2 NOT TO SCALE

SECTION 3 - PERMANENT SEEDING

SEEDING GRASS AND LEGUMES TO ESTABLISH GROUND COVER FOR A MINIMUM OF ONE YEAR ON DISTURBED AREAS GENERALLY RECEIVING LOW MAINTENANCE. A. SEED MIXTURES - PERMANENT SEEDING 1. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 25 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 5) AND ENTER THEM IN THE PERMANENT SEEDING SUMMARY BELOW, ALONG WITH APPLICATION RATES AND SEEDING DATES.

Table with columns: SEED MIXTURE (HARDINESS ZONE 6b), FERTILIZER RATE (10-20-20), LIME RATE. Includes rows for Tall Fescue, Perennial Ryegrass, and Kentucky Bluegrass.

SEDIMENT CONTROL NOTES

- 1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1025).

SECTION 21 : STANDARD AND SPECIFICATIONS FOR TOPSOIL

1. DEFINITION: PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. 2. PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. 3. SPECIFICATIONS: A. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY.

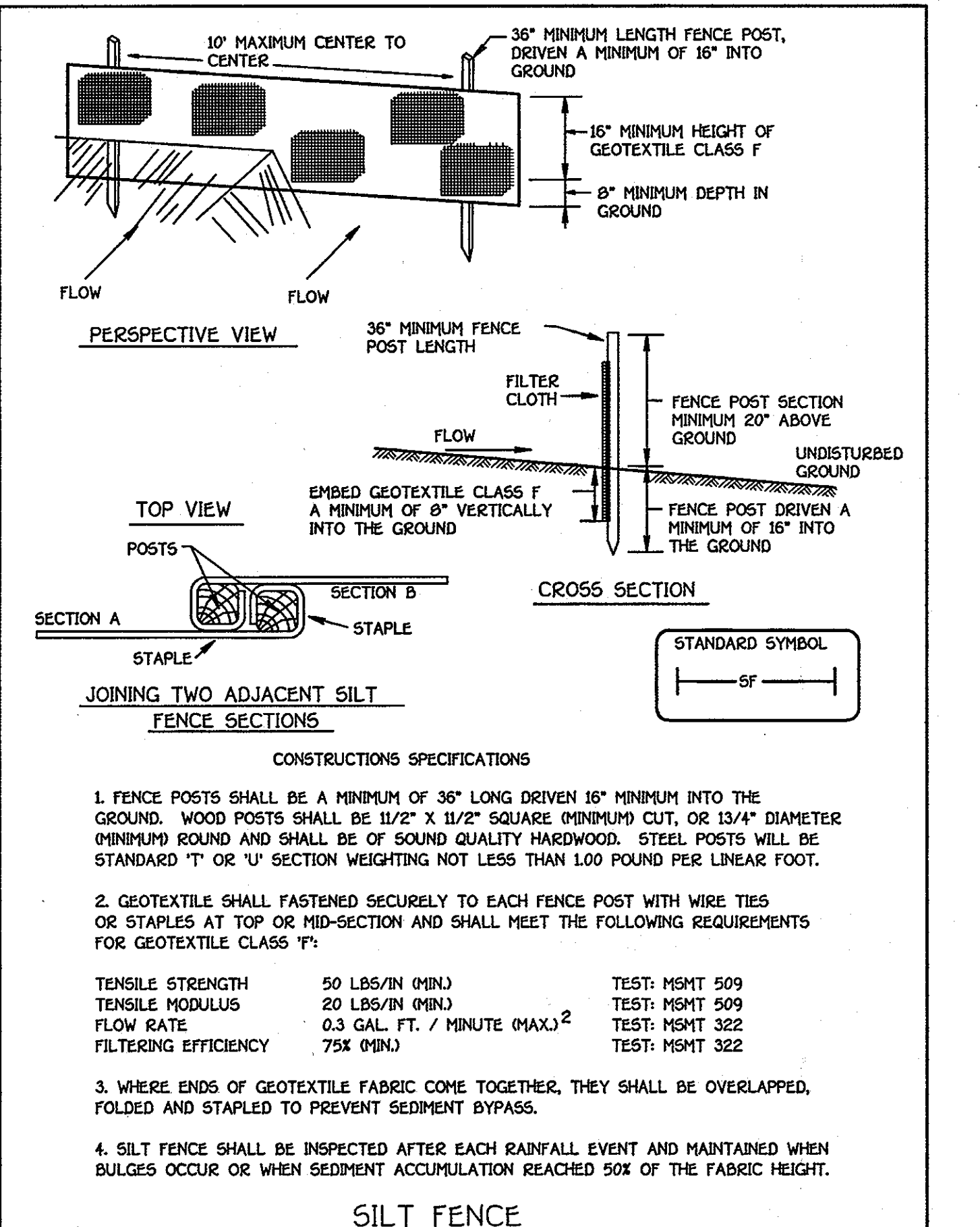
4. APPLICATION: A. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 6" LAYER AND LIGHTLY COMPACTED TO A MINIMUM OF 90% RELATIVE COMPACTION. B. A SURFACE IRREGULARITIES, REPLACE TOPSOIL AND APPLY SOIL AMENDMENTS AS SPECIFIED IN STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION.

5. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OF OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

6. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

SEE SHEETS 12, 13, 14 & 15 FOR EROSION & SEDIMENT CONTROL PLAN

EROSION & SEDIMENT CONTROL NOTES & DETAILS. 60' SCALE MAP NO. 16, BLOCK NO. 5. F.C.C. WORK ORDER NO. 542. FILE NAME: WATER MAIN EXTENSION SHEET



CONSTRUCTIONS SPECIFICATIONS 1. FENCE POSTS SHALL BE A MINIMUM OF 36" LONG DRIVEN 15" MINIMUM INTO THE GROUND. WOOD POSTS SHALL BE 1 1/2" X 1 1/2" SQUARE (MINIMUM CUT, OR 1 3/4" DIAMETER MINIMUM ROUND) AND SHALL BE OF SOUND QUALITY HARDWOOD.

2. GEOTEXTILE SHALL FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP OR MID-SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS 'F': TENSILE STRENGTH 50 LBS/IN (MIN) TEST: MSMT 509

3. WHERE ENDS OF GEOTEXTILE FABRIC COME TOGETHER, THEY SHALL BE OVERLAPPED, FOLDED AND STAPLED TO PREVENT SEDIMENT BYPASS. 4. SILT FENCE SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND MAINTAINED WHEN BULGES OCCUR OR WHEN SEDIMENT ACCUMULATION REACHED 50% OF THE FABRIC HEIGHT.

SEQUENCE OF CONSTRUCTION

- 1. OBTAIN THE REQUIRED GRADING PERMIT. 2. NOTIFY MISS UTILITY 48 HOURS BEFORE ANY WORK (1-800-257-7777). NOTIFY HOWARD COUNTY CONSTRUCTION/INSPECTION DIVISION 24 HOURS BEFORE STARTING ANY WORK (410)331-1870.

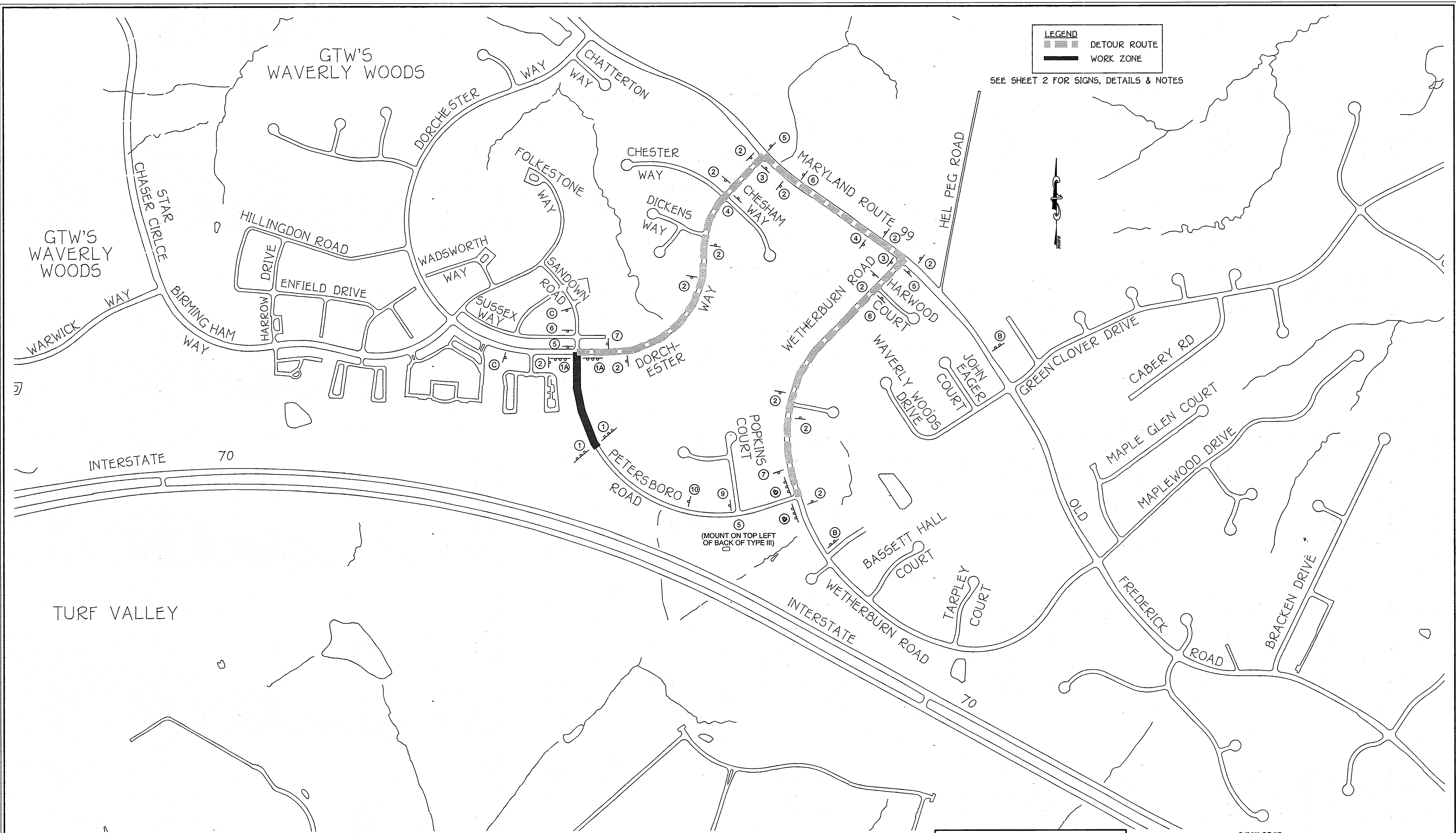
DEVELOPER'S CERTIFICATION

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL 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.

ENGINEER'S CERTIFICATION

I HEREBY 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.

CAPITAL PROJECT W-8263 CONTRACT NO. 44-4154-D GW'S WAVERLY WOODS 12" WATER MAIN EXTENSION 630W PRESSURE ZONE LOOP HOWARD COUNTY, MARYLAND



LEGEND
 [Dashed Line] DETOUR ROUTE
 [Thick Black Line] WORK ZONE

SEE SHEET 2 FOR SIGNS, DETAILS & NOTES

PLAN
 SCALE: 1" = 300'

TEMPORARY CLOSURE OF A PORTION OF
 PETERSBORO ROAD
 FOR
 INSTALLATION OF A PUBLIC WATER MAIN

WORK ZONE TRAFFIC CONTROL
 PLAN

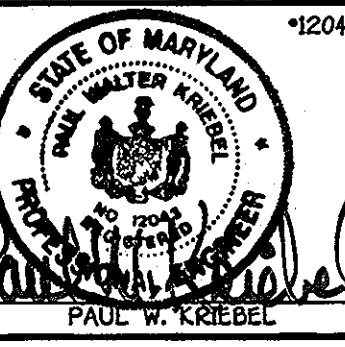
DEVELOPER
 WAVERLY WOODS DEVELOPMENT CORPORATION
 SUITE 102
 5300 DORSEY HALL DRIVE
 ELLICOTT CITY, MARYLAND 21042
 PHONE: 443-87-0422

CAPITAL PROJECT W-8263
 CONTRACT NO. 44-4154-D
 GTW'S WAVERLY WOODS
 12" WATER MAIN EXTENSION
 630W PRESSURE ZONE LOOP
 630W PRESSURE ZONE LOOP
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 [Signature] 2/1/13
 CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND
 [Signature] 2/1/13
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

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. 12043 EXPIRATION DATE IS 7/26/14.
FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21042
 (410) 461-2025



DESIGNED BY :	B.C.R.
DRAWN BY :	B.C.R.
CHECKED BY :	P.W.K.
DATE :	JANUARY, 2013
BY NO.	
REVISION	
DATE	

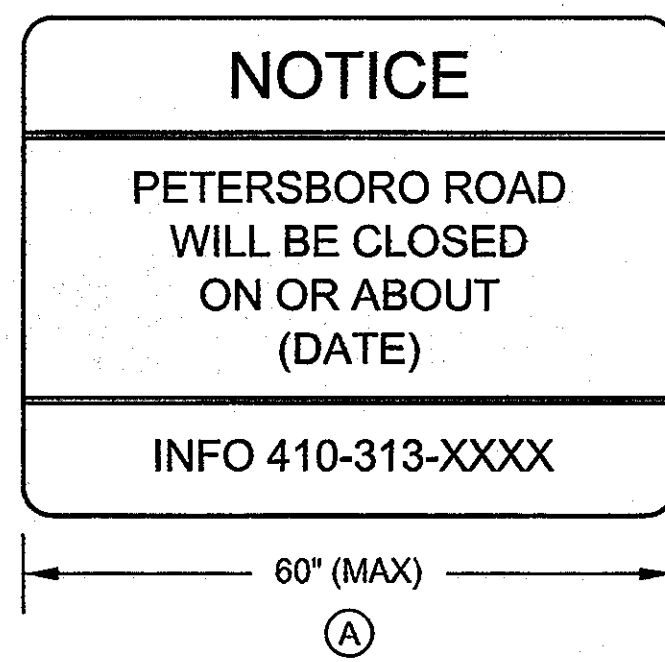
NEW SHEET ADDED FOR TEMP CLOSURE PART OF PETERSBORO RD

600' SCALE MAP NO. 16 BLOCK NO. 5
 F.C.C. WORK ORDER NO. 542
 FILE NAME : WATER MAIN TRAFFIC DETOUR PLAN

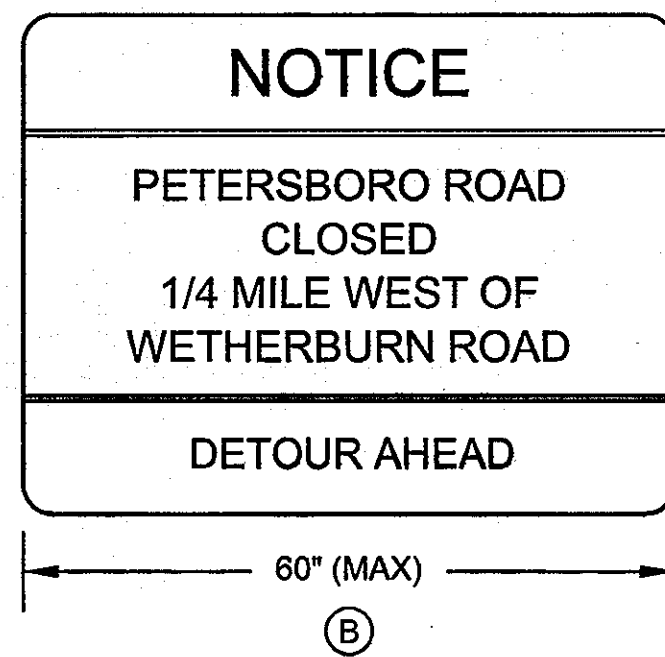
GTW'S WAVERLY WOODS
 12" WATER MAIN EXTENSION
 630W PRESSURE ZONE LOOP
 CAPITAL PROJECT W-8263
 CONTRACT NO. 44-4154-D
 THIRD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE
 AS
 SHOWN
 SHEET
 17 of 19

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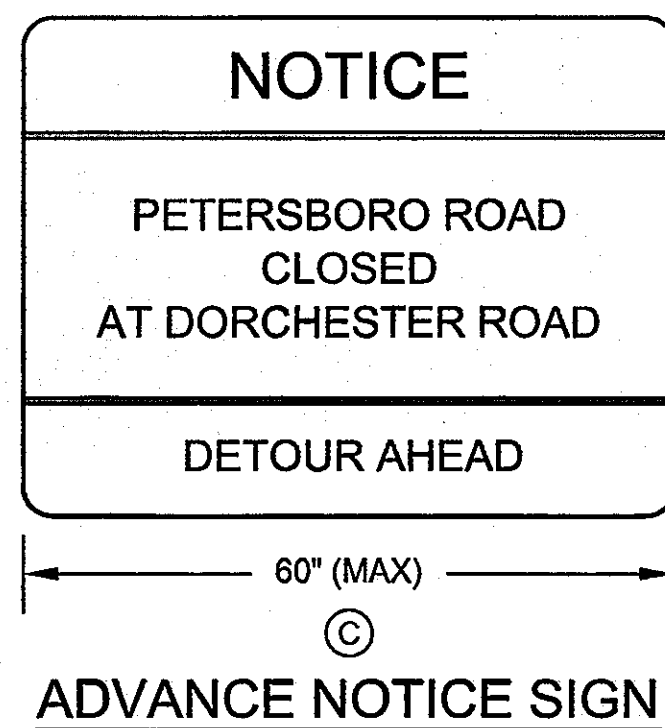
BK / YELLOW



BK / YELLOW

BK / WHITE

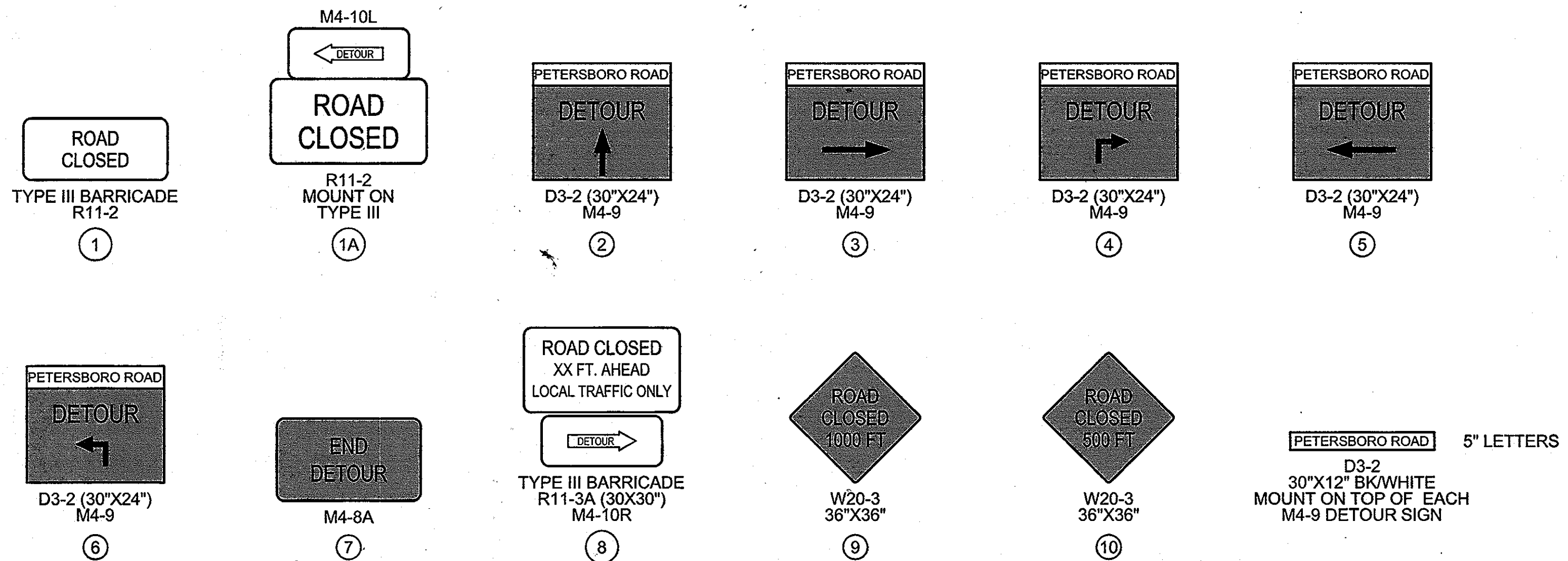
BK / ORANGE



BK / YELLOW

BK / WHITE

BK / ORANGE



NO SCALE

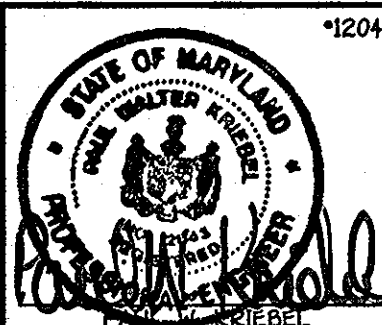
NOTES

1. CONTACT TRAFFIC ENGINEER (410-313-5752) PRIOR TO FABRICATING SIGNS.
2. ALL SIGN LOCATIONS SHALL BE APPROVED BY THE TRAFFIC DIVISION PRIOR TO INSTALLATION OF ANY SIGNS.
3. ALL DETOUR SIGNS SHALL BE COVERED WITH OPAQUE MATERIAL UNTIL DAY ROAD IS CLOSED.
4. EITHER STATIC SIGNS OR VARIABLE MESSAGE SIGNS SHALL BE PLACED 14 DAYS PRIOR TO CLOSING ROAD. MESSAGE ON EITHER SHALL BE APPROVED BY TRAFFIC ENGINEER.
5. ALL SIGN LOCATIONS SHOWN ON THE PLAN ARE APPROXIMATE, EXACT LOCATIONS TO BE DETERMINED IN THE FIELD.
6. TEN (10) TO TWELVE (12) PLASTIC DRUMS SHALL BE PROVIDED. LOCATIONS TO BE DETERMINED BY THE TRAFFIC ENGINEER IN THE FIELD.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

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. 12043 EXPIRATION DATE IS 7/26/14.



DESIGNED BY :	B.C.R.
DRAWN BY :	B.C.R.
CHECKED BY :	P.W.K.
DATE :	JANUARY, 2013
BY :	NO.
REVISION :	
DATE :	

TEMPORARY CLOSURE OF A PORTION OF PETERSBORO ROAD FOR INSTALLATION OF A PUBLIC WATER MAIN

WORK ZONE TRAFFIC CONTROL NOTES AND DETAILS

600' SCALE MAP NO. 16 BLOCK NO. 5

F.C.C. WORK ORDER NO. 542

FILE NAME : WATER MAIN TRAFFIC DETOUR PLAN

DEVELOPER

WAVERLY WOODS DEVELOPMENT CORPORATION
SUITE 102
5300 DORSEY HALL DRIVE
ELLCOTT CITY, MARYLAND 21042
PHONE: 443-367-0422

CAPITAL PROJECT W-8263
CONTRACT NO. 44-4154-D
GTW'S WAVERLY WOODS
12" WATER MAIN EXTENSION
630W PRESSURE ZONE LOOP
CONTRACT NO. 44-4154-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE A5 SHOWN

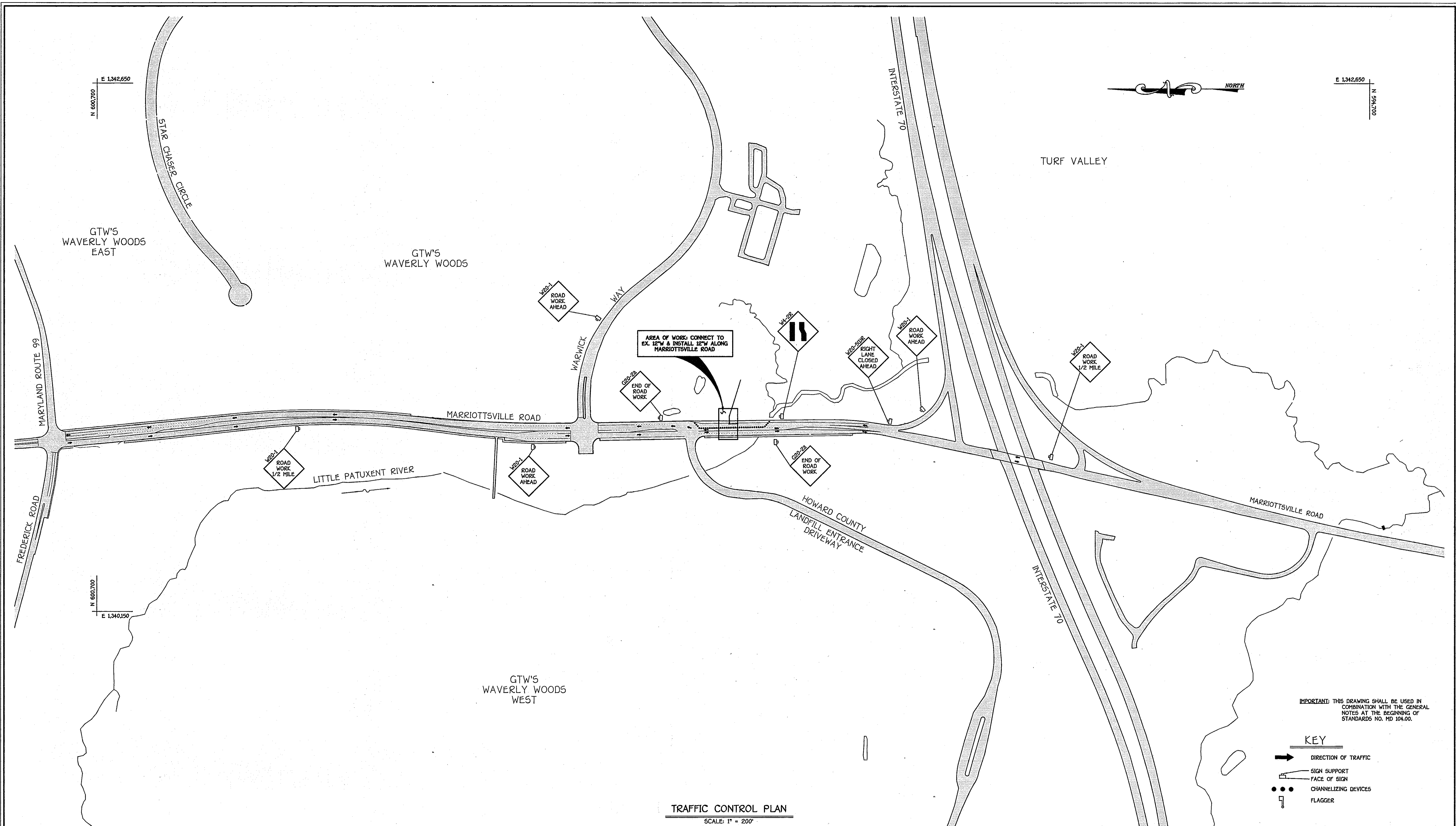
SHEET 18 OF 19

Silva Clemon 2/1/13
CHIEF, BUREAU OF UTILITIES DATE

Mark R. ... 2/1/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

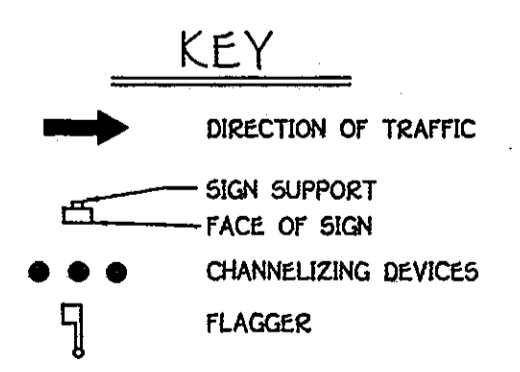
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLCOTT CITY, MARYLAND 21042
(410) 463-2225

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TRAFFIC CONTROL PLAN
SCALE: 1" = 200'

IMPORTANT: THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES AT THE BEGINNING OF STANDARDS NO. MD 104.00.



DEVELOPER
 WAVERLY WOODS DEVELOPMENT CORPORATION
 SUITE 102
 5300 DORSEY HALL DRIVE
 ELLICOTT CITY, MARYLAND 21042
 PHONE: 443-357-0422

CAPITAL PROJECT W-8263
 CONTRACT NO. 44-4154-D
 GTW'S WAVERLY WOODS
 12" WATER MAIN EXTENSION
 630W PRESSURE ZONE LOOP
 HOWARD COUNTY, MARYLAND

MARIOTTVILLE ROAD:
 INSTALLATION OF A PUBLIC WATER MAIN

TRAFFIC CONTROL PLAN
 NOTES AND DETAILS

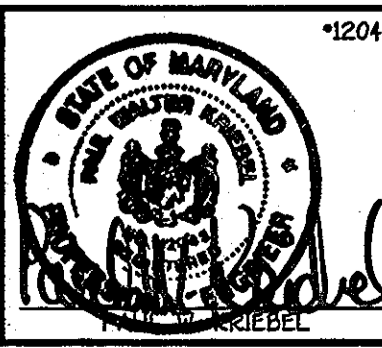
600' SCALE MAP NO. 16 BLOCK NO. 5
 F.C.C. WORK ORDER NO. 542
 FILE NAME: WATER MAIN TRAFFIC DETOUR PLAN

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Chief, Bureau of Utilities
 Date: 2/1/13

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND
 Chief, Development Engineering Division
 Date: 2/1/13

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. 12043 EXPIRATION DATE IS 7/16/14.

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21042
 (410) 481-2222



DESIGNED BY:	B.C.R.	DATE:	JANUARY, 2013
DRAWN BY:	B.C.R.	BY:	NO.
CHECKED BY:	P.W.K.	REVISION:	
NEW SHEET: APPROVED FOR INSTALLATION OF WATER MAIN MARIOTTVILLE RD			

GTW'S WAVERLY WOODS
 12" WATER MAIN EXTENSION
 630W PRESSURE ZONE LOOP
 CAPITAL PROJECT W-8263
 CONTRACT NO. 44-4154-D
 THIRD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 19 OF 19

K:\ISSUES\PROJ\13\1301\1301.dwg Contract No. 44-4154-D 630 Water Main Loop - 17 - 19 Traffic Detour Plan.dwg, Plan Sheet 19, 1/23/2013 4:22:58 PM, L1