пем	ESTIMATED	A5-BUILT				
ELGFI	LOTHINGEO	QUANTITIES	TYPE	SUPPLIER		
8"W	1,740 L.F.	1,580 LE	C900	J.M. EAGLE		
6"W	70 L.F.	80 LX.	0900	J.M. EAGLE		
8" VALVE	6 EACH	G EACH	GATE VALLE	UVELLER CO.		
6" VALVE	3 EACH	3 EACH	GATE VALVE	MUELLER CO.		
12" X8" TAPPING SLEEVE	2 EACH	2544	9.9.	romac ind		
Ø" TAPPING VALVE	2 EACH	2EACH	R66N	MUELLER CO.		
Ø"XØ" TEE	5 EACH	5EX4+	EPPORT MIT.	STAR PIPE		
Ø"X6" TEE	3 EACH	3EXCH	EPOXY MIT,	STAR PIPE		
1/8 H.8.	2 EACH	2 BACH	RVC	PLAGNIC TRENDS		
1/16 H.B.	9 EACH	9 EACH	PVC	PLASTIC TOENDS		
1/32 H.B.	3 EACH	312CH	MUELLER	MUELLER CO.		
FIRE HYDRANT	3 EACH	3 EAGH	MUELLER	Mueure co.		
Ø PLUG & BUTTRESS	5 EACH	5 EACH	PVC	PLAGITIC TRENDS		
CONTINUITY TEST STATION	3 EACH	3 EACH	BOX SUDE	CAPITAL FOUNDRY		
Ø'5; PVC	595 EACH	308 LF.	50R 35	J.M. EAGLE		
MANHOLE5	11 EACH	11 EACH	PRE CUET	ATLANTIC		
<del></del>	<del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>					
	miledate settinte de la	ALEXANDER (1997)		Final management of the control of t		

#### BENCHMARK INFORMATION

B.M.#1 - HOWARD COUNTY CONTROL STATION #24C2 - HORIZONTAL - NAO '03) (LOCATED IN THE MIDDLE OF MD ROUTE 40; BALTIMORE NATIONAL PIKE, IN THE NORTHEAST SIDE OF THE THE MEDIAN, AT THE INTERSECTION ON ROGERS AVENUE AND MD ROUTE 40)

ELEVATION = 354.017 - VERTICAL - (NAVD '88)

B.M.#2 — HOWARD COUNTY CONTROL STATION #25A2 — HORIZONTAL — (NAD '83)
(LOCATED ALONG ROGERS AVENUE, SOUTH OF OAK WEST DRIVE. APPROX. 6.2' SW OF SANITARY MANHOLE ALONG THE EAST SIDE OF ROAD, APPROX. 67.8' NORTH OF HOUSE NO. 3329)

ELEVATION = 348.145 - VERTICAL - (NAVD '88)

SHEE	T INDEX CHART
SHEET	TITLE
1	TITLE SHEET
2	PLAN SHEET
3	WATER MAIN PROFILES & CHARTS
4	WATER MAIN PROFILES & CHARTS
5	SEWER MAIN PROFILES & CHARTS
6	SED & EROSION CONTROL PLAN, NOTES & DETAILS

## DEVELOPER'S CERTIFICATION

" I/WE 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

# 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

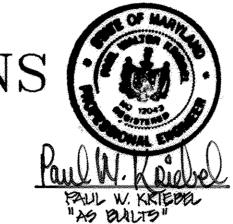
SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 300 OF THE HOWARD COUNTY DESIGN MANUAL - VOLUME IV: STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AND AS SHOWN ON THE SITE DEVELOPMENT PLAN,

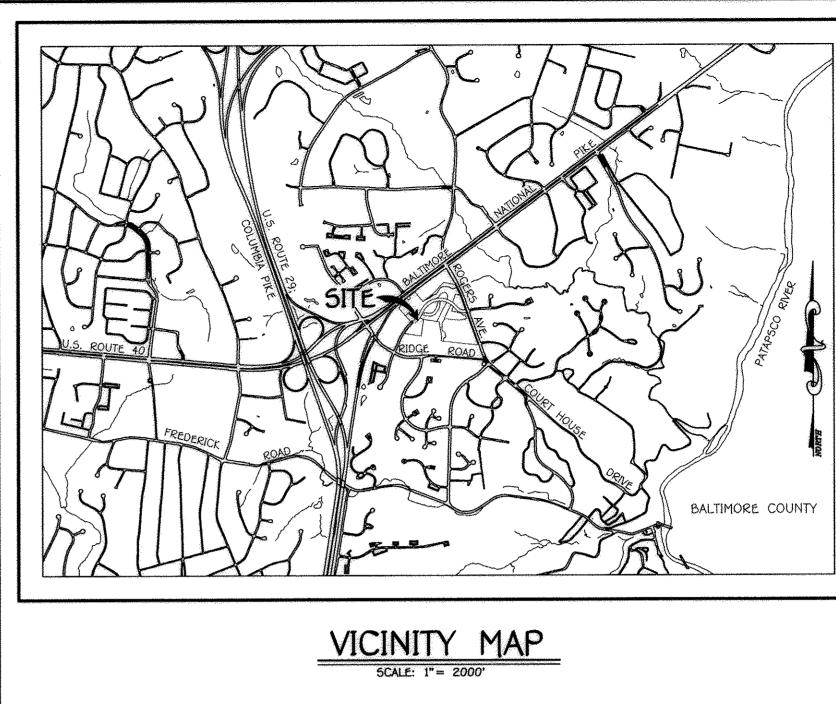
SDR-03-026 & ON THESE PLANS.
FOR
3330 ROGERS AVENUE LLC

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

THIS DRAWING SUPERSEDES THE PREVIOUS DRAWING SIGNED IN APRIL, 2003

WATER & SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND





# GENERAL NOTES

586,10

PLAN REFERENCE NUMBERS:

5DP-03-026

APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NEGESSARY 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 MARCH, 2011 BY FISHER, COLLINS & CARTER, INC. . HORIZONTAL AND VERTICAL SURVEY CONTROLS:

THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '03/91' AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 24C2 & NO. 25A2. ALL VERTICAL CONTROLS ARE BASED ON NAVO '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS. . ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

- 5. CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-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
- 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 • 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:

.410-795-1390 1-800-257-7777 STATE HIGHWAY ADMINISTRATION . . . . . . . . . . . . . . . . 410-531-5533 

- 9 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. 10. 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.
- 11. 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 18.114(a) OF THE HOWARD

## PART B: WATER MAIN GENERAL NOTES

- ALL WATER MAINS SHALL BE AWWA C900 PVC; DR-1B.
   TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
- 3. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES. 4. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- 5. 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.

6. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM 7. TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL D.I.P. AND PVC WATER MAINS IN ACCORDANCE

- 8. FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 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.
- 9. 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 HARNESSES. ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL "TEES" USED WITH PVC MAINS SHALL BE DUCTILE IRON.

## PART C: SEWER MAIN GENERAL NOTES

- 1. ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
  2. ALL MANHOLES SHALL BE 4'-O' INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- 3. FORCE MAINS SHALL BE D.I.P. ONLY.
- 4. MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY. 5. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS
- OTHERWISE NOTED ON THE DRAWINGS. 6. HOUSE(5) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED

OWNER5						
HOWARD COUNTY MD 430 COURTHOUSE DRIVE	3330 ROGERS AVENU					
LLICOTT CITY, MD 21042 410-313-4400	5300 DORSEY HALL ELLICOTT CITY, MD					

3330 ROGERS AVENUE LLC CAPITAL PROJECT J-4225 SUITE 102 5300 DORSEY HALL DRIVE ELLICOTT CITY, MD 21042 443-367-0422 CONTRACT NO. 14-4074 ELLICOIT CENTER DEVE WATER & SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

EP-12-033

MDE PERMIT AND TRACKING NO.: 200266336

N 590,100

COUR

1.5. ROUTE 40;

WATER ZONE: \_\_\_\_

NUMBER OF PARCELS:

WATER TEST GRADIENT: 700

TYPE OF BUILDING: FUTURE OFFICE BUILDING

TREATMENT PLANT: PATAPSCO WASTEWATER TREATMENT PLANT

CITY OF BALTIMORE

NO. OF WATER HOUSE CONNECTIONS:

NO. OF SEWER HOUSE CONNECTIONS:

SEWER SHED: PATAPSCO

N 586,100

UPTON

BALTIMORE

NATIONAL PIKE

CHEVROLET

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A LAWS OF THE STATE OF MARYLAND. LICENSE NO. 12043 EXPIRATION DATE IS 7/16/12. FISHER, COLLINS & CARTER, INC ENGINEERING CONSULTANTS & LAND SURVEYOR ELLICOTT CITY, MARYLAND 21042



TOWN & COUNTRY BLVD

SONIA TRAIL

BULICOTT CENTER DRIVE

CAPITAL PROJECT J-4225

CONTRACT NO. 14-4074

HOWARD COUNTY, MARYLAND

water & sewer main extensions

HOWARD COUNTY CONTROL STATION #24C2

RIDGE ROAD

EX. 85; CONT.

ADC MAPS 4815 & 4816

BLOCKS J2 & A5

LOCATION MAP

CAPITAL PROJECT J-4225

CONTRACT NO. 14-4074

ELLICOTT CENTER DRIVE

B.C.R. DRAWN BY B.C.R. CHECKED BY P.W.K. 1\ ADD "AG-BUILT" INFORMATION APRIL, 2012

HOWARD COUNTY CONTROL STATION #25A2

> WATER & SEWER MAIN EXTENSIONS TITLE SHEET 600' SCALE MAP NO. 24/25 BLOCK NO. 6/1

> > F.C.C. WORK ORDER NO. \_\_\_\_10040

FILE NAME : WATER & SEWER MAIN EXTENSION TITLE SHEET

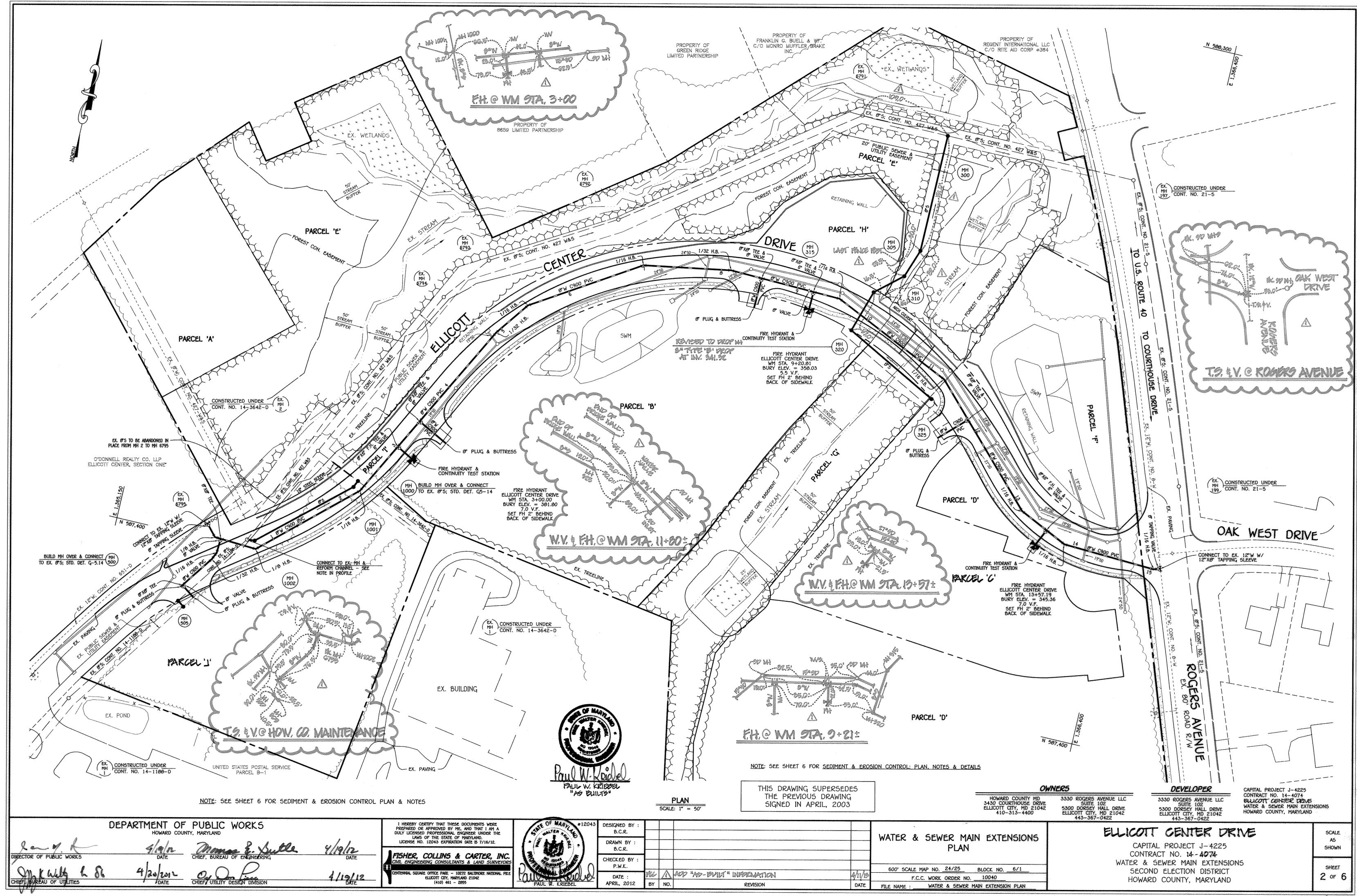
ELLICOTT CENTER DRIVE CAPITAL PROJECT J-4225

DEVELOPER

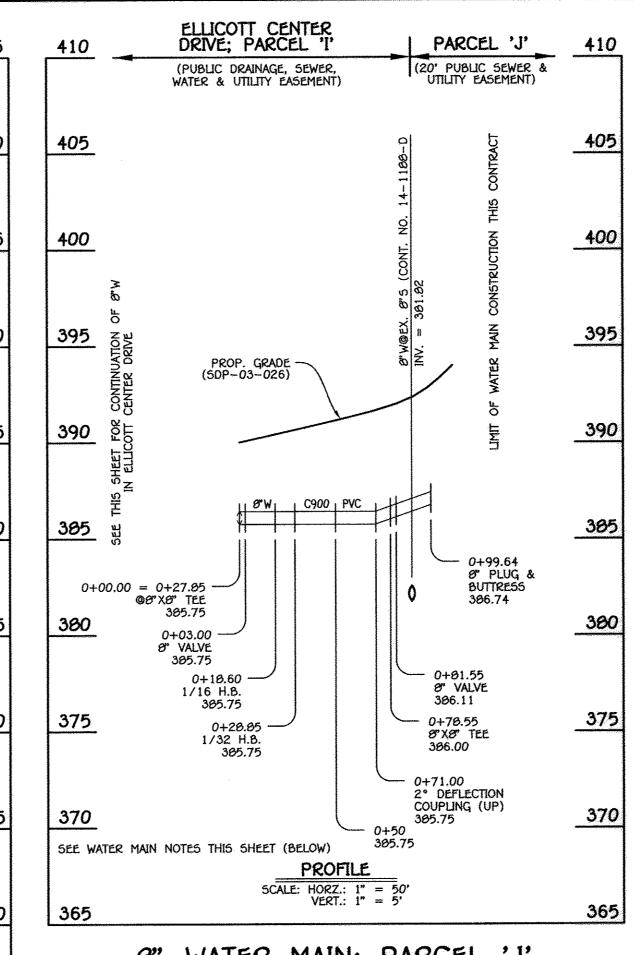
CONTRACT NO. 14-4074 WATER & SEWER MAIN EXTENSIONS SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHOWN SHEET 1 or 6

AS BUILTS: 04/13

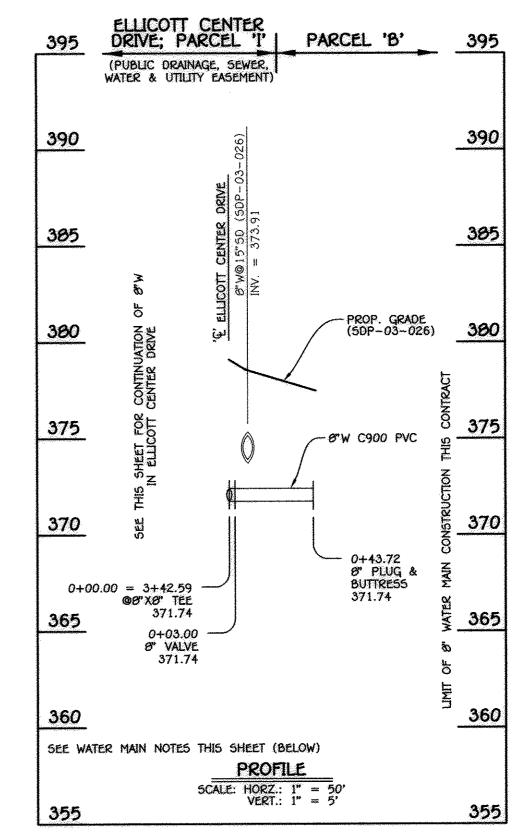


AS BUILTS: 04/13



# 8" WATER MAIN: PARCEL 'J'

WA	TER MAIN TABU	LATION CI	IAKI
W.M. 5TA.	APPURTENANCE	NORTHING	EASTING
	8" WATER MAIN: P	'ARCEL 'J'	
0+00.00	8" X8" TEE	587404.23	1365264.97
0+03.00	8" VALVE.	587401.24	1365204.01
0+10.60	1/16 H.B.	507305.66	1365284.00
0+28.85	1/32 H.B.	507376.33	1365279.77
0+78.55	8"X8" TEE	587335.72	1365251.11
0+81.55	8" VALVE	587333.99	1365253.56
0+99.64	Ø" PLUG & BUTTRE55	587323.55	1365266.34

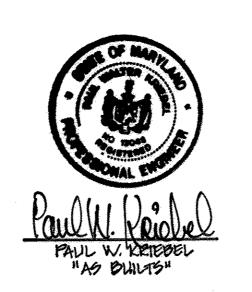


8" WATER MAIN: PARCEL 'B' (W)

WATER MAIN TABULATION CHART							
W.M. STA.	APPURTENANCE.	NORTHING	EASTING				
	0" WATER MAIN: PA	RCEL 'B' (W)					
0+00.00	Ø'XØ' TEE	507607.53	1365497.28				
0+03.00	8" VALVE	587606.18	1365499.97				
0+43.72	& PLUG & BUTTRESS	587587.90	1365536.35				

WA	TER MAIN TABU	LATION CH	IART
W.M. 5TA.	APPURTENANCE	NORTHING	EASTING
	8" WATER MAIN; ELLICOT	T CENTER DRIVE	
0+00.00	12"X8" TAPPING SLEEVE	587419.62	1365263.05
0+03.00	8" TAPPING VALVE	587417.38	1365265.85
0+20.06	1/8 H.B.	507404.63	1365277.19
0+27.85	8"X8" TEE	507404.23	1365284.97
0+74.23	1/8 H.B.	587401.84	1365331.29
2+26.37	1/16 H.B.	587504.44	1365443.63
3+00.00	9"X6" F.H. TEE	587569.75	1365477.62
3+42.59	Ø"XØ" TEE	587607.53	1365497.28
4+91.14	1/32 H.B.	587739.30	1365565.07
5+44.80	1/16 H.B.	587782.54	1365597.63
7+00.56	1/16 H.B.	587866.05	1365729.12

- 2. TRACER WIRE AND CONTINUITY TEST STATONS SHALL BE IN ACCORDANCE WITH SECTION 1002 AND THE STANDARD DETAILS OF THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV - WATER AND SEWER STANDARDS FOR AWWA
- C900 PVC WATER PIPE INSTALLATION. 3. DEFLECTION COUPLINGS SHALL BE CERTAIN-TEED PVC HIGH DEFLECTION COUPLINGS.
- 4. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.



THIS DRAWING SUPERSEDES THE PREVIOUS DRAWING SIGNED IN APRIL, 2003

CAPITAL PROJECT J-4225
CONTRACT NO. 14-4074
ELLICOTT CENTER DRIVE
WATER & SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS 4/19/12 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 7/16/12. FISHER, COLLINS & CARTER, INC CIVIL ENGINEERING CONSULTANTS & LAND SURVEYOR QUARE OFFICE PARK - 10272 BALTIMORE NATIONAL F ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2055

2043	DESIGNED BY : B.C.R.		-		<del>, , , , , , , , , , , , , , , , , , , </del>		
	DRAWN BY : B.C.R.				**************************************		
	CHECKED BY : P.W.K.					-	600
处	DATE :	W		AND "AN-BUILT INFORMATION"		4/11/19	
	APRIL, 2012	ВY	NO.	REVISION		DATE	FILE N

WATER MAIN EXTENSIONS PROFILES & CHARTS 00' SCALE MAP NO. 24/25 BLOCK NO. 6/1 F.C.C. WORK ORDER NO. 10040 WATER MAIN EXTENSION PROFILES

ELLICOTT CENTER DRIVE CAPITAL PROJECT J-4225

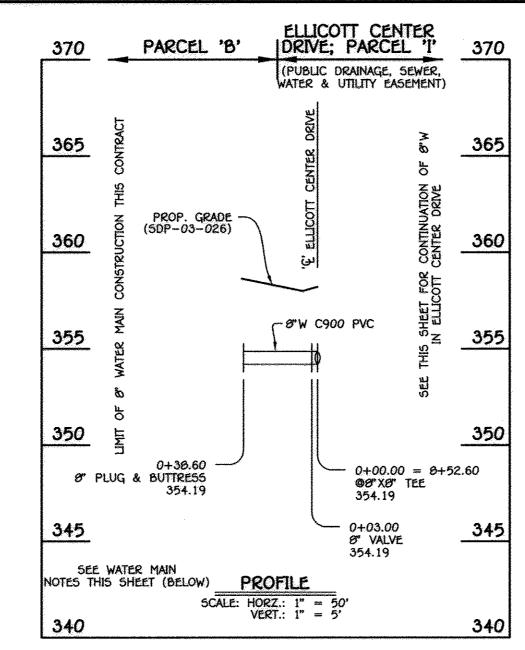
CONTRACT NO. 14-4074 WATER & SEWER MAIN EXTENSIONS SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE SHOWN SHEET 3 of 6

46 BUILTS: 04/13

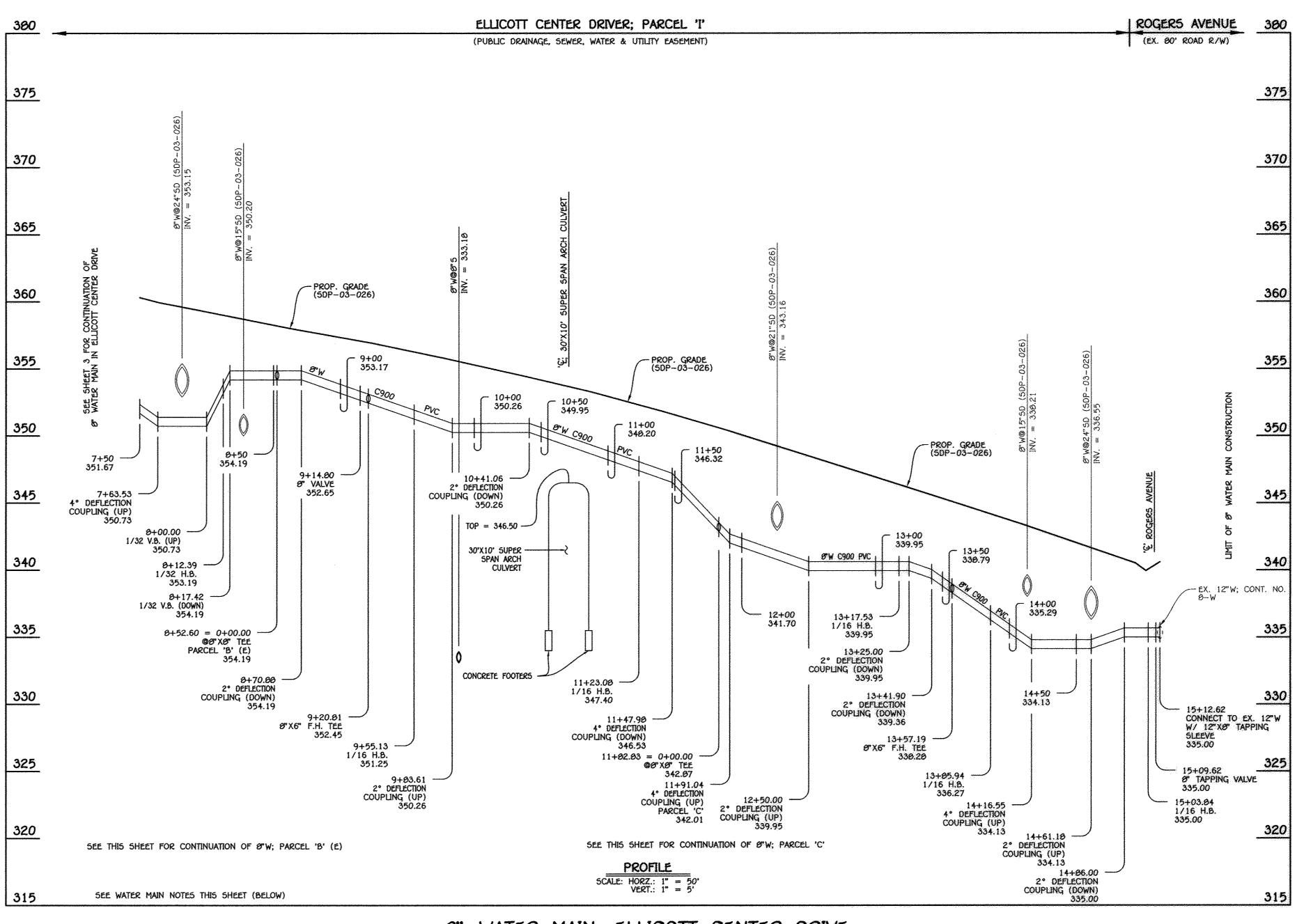
## 8" WATER MAIN: PARCEL 'C'

WA	TER MAIN TABL	LATION CH	IART
W.M. STA.	APPURTENANCE	TENANCE NORTHING	
	8" WATER MAIN: F	PARCEL 'C'	
0+00.00	Ø"XØ" TEE	587770.06	1366176.56
0+03.00	8" VALVE	587767.98	1366174.41
0+45.26	& PLUG & BUTTRESS	587738.60	1366144.02



# 8" WATER MAIN: PARCEL 'B' (E)

WA	TER MAIN TABU	LATION CH	IART
W.M. STA.	APPURTENANCE	NORTHING	EASTING
	8" WATER MAIN: PAR	CEL '8' (E)	
	011 V 011 Total	587884.54	1365079.43
0+00.00	8"X8" TEE	201004.24	1002017.10
0+00.00 0+03.00	8' VALVE	587861.56	1365079.36



- WATER MAIN NOTES:

  1. ALL WATER MAINS SHALL BE AWWA C900 PVC DR-14 PIPE.

  2. TRACER WIRE AND CONTINUITY TEST STATONS SHALL BE IN ACCORDANCE WITH SECTION 1002 AND THE STANDARD DETAILS OF THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV - WATER AND SEWER STANDARDS FOR AWWA
  - C900 PVC WATER PIPE INSTALLATION. 3. DEFLECTION COUPLINGS SHALL BE CERTAIN-TEED PVC
  - HIGH DEFLECTION COUPLINGS. 4. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.

# 8" WATER MAIN: ELLICOTT CENTER DRIVE

WATER MAIN TABULATION CHART						
W.M. STA.	APPURTENANCE	NORTHING	EASTING			
	8" WATER MAIN; ELLICOT	T CENTER DRIVE				
Ø+12.39	1/32 H.B.	587885.53	1365039.24			
8+52.60	Ø"XØ" TEE	507004.56	1365079.43			
9+14.80	8" VALVE	587883.07	1365941.63			
9+20.81	Ø"X6" F.H. TEE	587882.93	1365947.63			
9+55.13	1/16 H.B.	587882.10	1365981.94			
11+23.00	1/16 H.B.	587813.02	1366135.03			
11+82.83	Ø"XØ" TEE	587770.06	1366176,56			
13+17.53	1/16 H.B.	587673.23	1366270.20			
13+57.19	Ø"X6" F.H. TEE	587656.54	1366306.17			
13+05.94	1/16 H.B.	587644.43	1366332,24			
15+03.04	1/16 H.B.	507639.40	1366450.04			
15+09.62	8" TAPPING VALVE	587641.38	1366455.50			
15+12.62	12"X8" TAPPING SLEEVE	507642.37	1366450.33			



THIS DRAWING SUPERSEDES THE PREVIOUS DRAWING SIGNED IN APRIL, 2003

CAPITAL PROJECT J-4225 CONTRACT NO. 14-4074 BLAICOTT CENTER DRIVE WATER & SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

CHIEF, UTILITY DESIGN 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 7/16/12. FISHER, COLLINS & CARTER, INC. quare office park — 10272 Baltimore National Pii Ellicott city, maryland 21042 (410) 461 — 2855

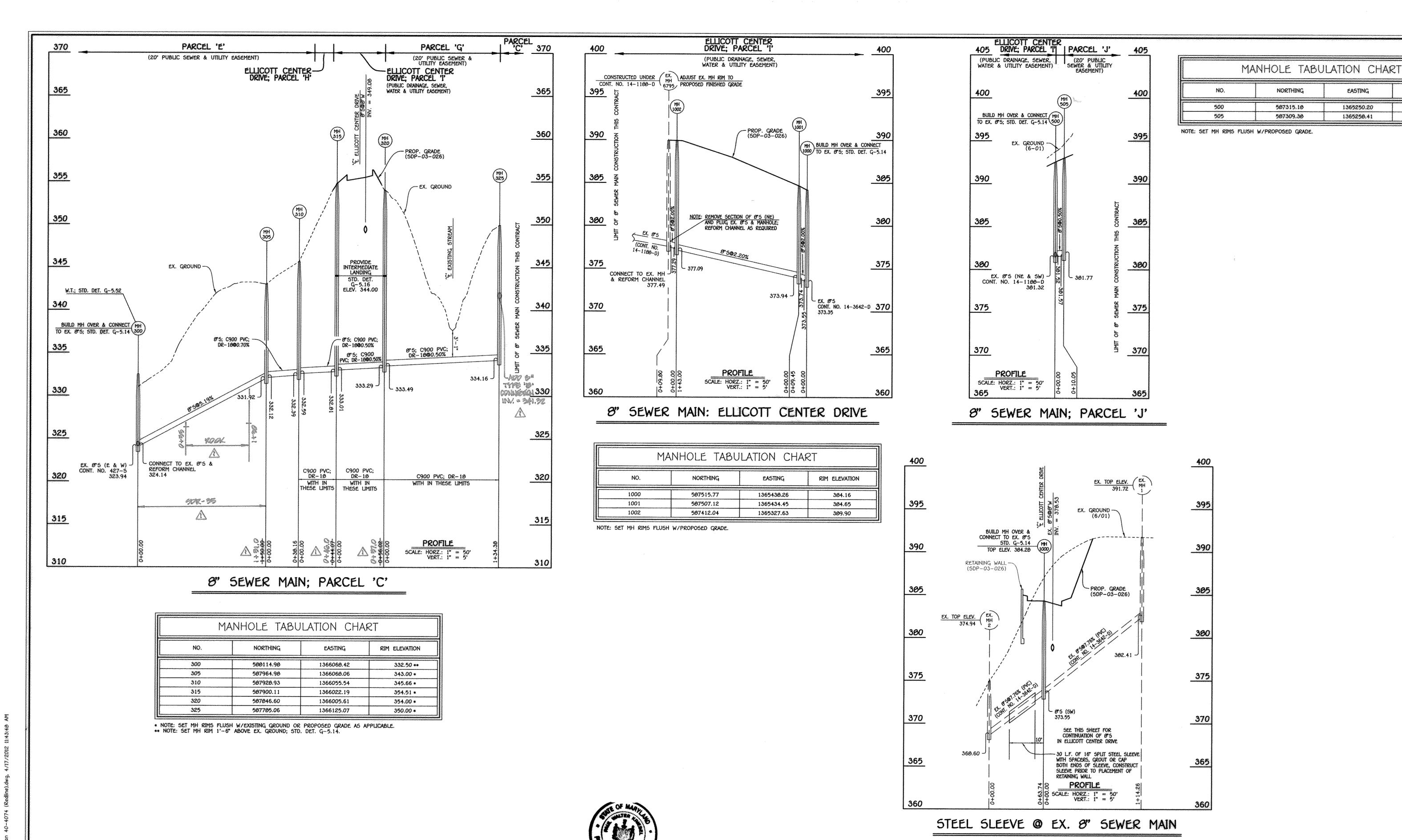
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043	DESIGNED BY : B.C.R.						
	DRAWN BY : B.C.R.					WATER MAIN EXTENSIONS PROFILES & CHARTS	· · · · · · · · · · · · · · · · · · ·
Λ	CHECKED BY : P.W.K.					600' SCALE MAP NO. 24/25 BLOCK NO. 6/1	A Common Annual
	DATE :					F.C.C. WORK ORDER NO. 10040	Ė
	APRIL, 2012	BY	NO.	revision	DATE	FILE NAME : WATER MAIN EXTENSION PROFILES	e E

ELLICOTT CENTER DRIVE

CAPITAL PROJECT J-4225 CONTRACT NO. 14-4074 WATER & SEWER MAIN EXTENSIONS SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**SCALE** SHOWN SHEET 4 of 6



THIS DRAWING SUPERSEDES THE PREVIOUS DRAWING SIGNED IN APRIL, 2003

CAPITAL PROJECT J-4225 CONTRACT NO. 14-4074 ELLICOTT CENTER DRIVE WATER & SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND

EASTING

1365250.20

1365258.41

RIM ELEVATION

392.50

393.00

DEPARTMENT OF PUBLIC WORKS

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 7/16/12. FISHER, COLLINS & CARTER, INC. ELLICOTT CTTY, MARYLAND 21042 (410) 461 - 2055

		#120
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	STE OF MARINE	<b>E</b>
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25	13 484	a
	UNG INCOME	<b>7/\</b>
	CHOX CONTRACTOR	
	PACEMAGE	L

043	DESIGNED BY : B.C.R.					CELEO MAIN EVENICIONE
	DRAWN BY : B.C.R.					SEWER MAIN EXTENSIONS PROFILES & CHARTS
	CHECKED BY : P.W.K.					600' SCALE MAP NO. 24/25 BLOCK NO. 6/1
_	DATE :	14	A A	d "Ab-built" information	4h\mathred (n)	F.C.C. WORK ORDER NO. 10040
	APRIL, 2012	BY	NO.	REVISION	DATE	file name : Sewer main extension profiles

ELLICOTT CENTER DRIVE CAPITAL PROJECT J-4225

CONTRACT NO. 14-4074 WATER & SEWER MAIN EXTENSIONS SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHOWN 5 of 6

SCALE

CONDITIONS WHERE PRACTICE APPLIES THIS PRACTICE SHALL BE USED ON DENUDED AREAS AS SPECIFIED ON THE PLANS AND MAY BE USED ON HIGHLY ERODIBLE OR CRITICALLY ERODING AREAS. THIS SPECIFICATION IS DIVIDED INTO TEMPORARY SEEDING, TO QUICKLY ESTABLISH VEGETATIVE COVER FOR SHORT DURATION (UP TO ONE YEAR), AND PERMANENT SEEDING, FOR LONG TERM VEGETATIVE COVER. EXAMPLES OF APPLICABLE AREAS FOR TEMPORARY SEEDING ARE TEMPORARY SOIL STOCKPILES, CLEARED AREAS BEING LEFT IDLE BETWEEN CONSTRUCTION PHASES, EARTH DIKES, ETC. AND FOR PERMANENT SEEDING ARE LAWNS,

DAMS. CUT AND FILL SLOPES AND OTHER AREAS AT FINAL GRADE, FORMER STOCKPILE AND STAGING AREAS, ETC. EFFECTS ON WATER QUALITY AND QUANTITY

PLANTING VEGETATION IN DISTURBED AREAS WILL HAVE AN EFFECT ON THE WATER BUDGET, ESPECIALLY ON VOLUMES AND RATES OF RUNOFF, INFILTRATION EVAPORATION, TRANSPIRATION, PERCOLATION, AND GROUNDWATER RECHARGE. VEGETATION, OVER TIME, WILL INCREASE ORGANIC MATTER CONTENT AND IMPROVE THE WATER HOLDING CAPACITY OF THE SOIL AND SUBSEQUENT PLANT GROWTH. VEGETATION WILL HELP REDUCE THE MOVEMENT OF SEDIMENT, NUTRIENTS, AND OTHER CHEMICALS CARRIED BY RUNOFF TO RECEIVING WATERS. PLANTS WILL ALSO HELP PROTECT GROUNDWATER SUPPLIES BY ASSIMILATING THOSE SUBSTANCES PRESENT WITH THE ROOT ZONE. SEDIMENT CONTROL DEVICES MUST REMAIN IN PLACE DURING GRADING, SEEDBED PREPARATION, SEEDING, MULCHING AND VEGETATIVE ESTABLISHMENT TO PREVENT LARGE QUANTITIES OF SEDIMENT AND ASSOCIATED CHEMICALS AND NUTRIENTS FROM WASHING INTO SURFACE WATERS

SITE PREPARATION

INSTALL EROSION AND SEDIMENT CONTROL STRUCTURES (EITHER TEMPORARY OF PERMANENT) SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, WATERWAYS, OR SEDIMENT CONTROL BASINS. PERFORM ALL GRADING OPERATIONS AT RIGHT ANGLES TO THE SLOPE. FINAL GRADING AND SHAPING IS NOT USUALLY

NECESSARY FOR TEMPORARY SEEDING. SCHEDULE REQUIRED SOIL TESTS TO DETERMINE SOIL AMENDMENT COMPOSITION AND APPLICATION RATES FOR SITES HAVING DISTURBED AREA OVER 5 ACRES.

SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS) SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OVER 5 ACRES. SOIL ANALYSIS MAY BE PERFORMED BY THE UNIVERSITY OF MARYLAND OR A RECOGNIZED COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES. FERTILIZERS SHALL BE UNIFORM IN COMPOSITION. FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROVED EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS SHALL ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE STATE FERTILIZER LAWS AND SHALL BEAR THE NAME, TRADEMARK AND WARRANTEE

OF THE PRODUCER. III. LIME MATERIALS SHALL BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED) WHICH CONTAINS AT LEAST 50% TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT AT LEAST 50% WILL PASS THROUGH A \*100 MESH SIEVE AND 90-100% WILL PASS THROUGH A \*20 MESH SIEVE. iv. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3-5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS. SEEDBED PREPARATION

TEMPORARY SEEDING a. SEEDBED PREPARATION SHALL CONSIST OF LOOSENING SOIL TO A DEPTH OF 3" TO 5" BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED IT SHOULD NOT BE ROLLED OR DRAGGED SMOOTH, BUT LEFT IN THE ROUGHENED CONDITION. SLOPED AREAS (GREATER THAN 3:1) SHOULD BE TRACKED LEAVING THE SURFACE IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.

APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3-5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

PERMANENT SEEDING a. MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT:

SOIL PH SHALL BE BETWEEN 6.0 AND 7.0. SOLUBLE SALTS SHALL BE LESS THAN 500 PARTS PER MILLION (PPM).

THE SOIL SHALL CONTAIN LESS THAN 40CLAY, BUT ENOUGH FINE GRAINED MATERIAL (>30% SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION IS IF LOVEGRASS OR SERECIA LESPEDEZAS IS TO BE PLANTED, THEN A SANDY SOIL (<30% SILT PLUS CLAY) WOULD BE acceptable. SOIL SHALL CONTAIN 1.5% MINIMUM ORGANIC MATTER BY WEIGHT.

SOIL MUST CONTAIN SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION. IF THESE CONDITIONS CANNOT BE MET BY SOILS ON SITE, ADDING TOPSOIL IS REQUIRED

IN ACCORDANCE WITH SECTION 21 STANDARD AND SPECIFICATION FOR TOPSOIL. AREAS PREVIOUSLY GRADED IN CONFORMANCE WITH THE DRAWINGS SHALL BE MAINTAINED IN A TRUE AND EVEN GRADE. THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3-5" TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREA AND TO CREATE HORIZONTAL EROSION CHECK SLOTS TO PREVENT TOPSOIL FROM SLIDING

APPLY SOIL AMENDMENTS AS PER SOIL TESTS OR AS INCLUDED ON THE PLANS. MIX SOIL AMENDMENTS INTO THE TOP 3-5" OF TOPSOIL BY DISKING OR OTHER SUITABLE MEANS. LAWN AREAS SHOULD BE RAKED TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED AND APPLICATION. WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED. PREPARATION, LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE. STEEP SLOPES (STEEPER THAN 3:1) SHOULD BE TRACKED BY A DOZER LEAVING THE SOIL IN AN IDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. THE TOP 1-3" OF SOIL SHOULD BE LOOSE AND FRIABLE. SEEDBED LOOSENING MAY NOT BE NECESSARY ON NEWLY DISTURBED AREAS. SEED SPECIFICATIONS

ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED SHALL BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED SHALL HAVE BEEN TESTED WITHIN THE 6 MONTHS MMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON THIS JOB.

NOTE: SEED TAGS SHALL BE MADE AVAILABLE TO THE INSPECTOR TO VERIFY TYPE AND RATE OF SEED USED. INOCULATION - THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES SHALL BE A PURE CULTURE OF NITROGEN-FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS SHALL NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANT AS DIRECTED ON PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75°-80° F. CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE. METHODS OF SEEDING

HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER). BROADCAST OR DROP SEEDED, OR A CULTIPACKER SEDER.

a. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES AMOUNTS WILL NOT EXCEED THE FOLLOWING: NITROGEN; MAXIMUM OF 100 LBS. PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS); 200 LB5/AC; K20 (POTA55IUM): 200 LB5/AC.

b. 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.

c. SEED AND FERTILIZER SHALL BE MIXED ON SITE AND SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT

DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS a. SEED SPREAD DRY SHALL BE INCORPORATED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON THE TEMPORARY OR PERMANENT SEEDING SUMMARIES OR TABLES 265 OR 266. THE SEEDED AREA SHALL THEN BE

ROLLED WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT. WHERE PRACTICAL, SEED SHOULD BE APPLIED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL. CULTIPACKING 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.

WHERE PRACTICAL, SEED SHOULD BE APPLIED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. MULCH SPECIFICATIONS (IN ORDER OF PREFERENCE)

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 (WCFM) a. WCFM SHALL CONSIST OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.

WCFM SHALL BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE

color to facilitate visual inspection of the uniformly spread slurry. WCFM, INCLUDING DYE, SHALL CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS. WCFM 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. THE MULCH MATERIAL SHALL FORM BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND SHALL COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.

e. WCFM MATERIAL SHALL CONTAIN NO ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTOL-TOXIC.

WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH TO APPROXIMATELY 10 MM.. DIAMETER APPROXIMATELY 1 MM., PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6% MAXIMUM AND WATER HOLDING

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. IF GRADING IS COMPLETED 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. II. WHEN STRAW MULCH IS USED, IT SHALL BE SPREAD OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS/ACRE. MULCH

SHALL BE APPLIED TO A UNIFORM LOOSE DEPTH OF BETWEEN 1" AND 2". MULCH APPLIED SHALL ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. IF A MULCH ANCHORING TOOL IS TO BE USED. THE RATE SHOULD BE INCREASED TO 2.5 TONS/ACRE. WOOD CELLULOSE FIBER USED AS A MULCH SHALL BE APPLIED AT A NET DRY WEIGHT OF 1,500 LBS. PER ACRE. THE

WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER, AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LBS. OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER. SECURING STRAW MULCH (MULCH ANCHORING): MULCH ANCHORING SHALL BE PERFORMED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY

PREFERENCE), DEPENDING UPON SIZE OF AREA AND EROSION HAZARD: A MULCH ANCHORING TOOL IS AS TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF TWO (2) INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO

FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD BE USED ON THE CONTOUR IF POSSIBLE. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. THE FIBER BINDER SHALL BE APPLIED AT A NET DRY

WEIGHT OF 750 POUNDS/ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER. APPLICATION OF LIQUID BINDERS SHOULD BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND CREST OF BANKS. THE REMAINDER OF AREA SHOULD BE APPEAR UNIFORM AFTER BINDER APPLICATION. SYNTHETIC

BINDERS-SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70 PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4' TO 15' FEET WIDE AND 300 TO 3,000 FEET LONG.

INCREMENTAL STABILIZATION - CUT SLOPES ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 15'.

CONSTRUCTION SEQUENCE (REFER TO FIGURE 3 BELOW) EXCAVATE AND STABILIZE ALL TEMPORARY SWALES. SIDE DITCHES, OR BERMS THAT WILL BE USED TO CONVEY

PUNDER FROM THE EXCAVATION PERFORM PHASE I EXCAVATION, DRESS, AND STABILIZE.

PERFORM PHASE 2 EXCAVATION, DRESS, AND STABILIZE. OVERSEED PHASE 1 AREAS AS NECESSARY. PERFORM FINAL PHASE EXCAVATION, DRESS, AND STABILIZE, OVERSEED PREVIOUSLY SEEDED AREAS NECESSARY. NOTE: ONCE EXCAVATION HAS BEGUN THE OPERATION SHOULD FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OF COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY

STABILIZATION. INCREMENTAL STABILIZATION OF EMBANKMENTS - FILL SLOPES

EMBANKMENTS SHALL BE CONSTRUCTED IN LIFTS AS PRESCRIBED ON THE PLANS. SLOPES SHALL BE STABILIZED IMMEDIATELY WHEN THE VERTICAL HEIGHT OF THE MULTIPLE LIFTS REACHES 15", OR WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS.

AT THE END OF EACH DAY, TEMPORARY BERMS AND PIPE SLOPE DRAINS SHOULD BE CONSTRUCTED ALONG THE TOP EDGE OF THE EMBANKMENT TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER TO A SEDIMENT TRAPPING DEVICE.

CONSTRUCTION SEQUENCE: REFER TO FIGURE 4 (BELOW): a. EXCAVATE AND STABILIZE ALL TEMPORARY SWALES, SIDE DITCHES, OR BERMS THAT WILL BE USED TO DIVERT RUNOFF AROUND THE FILL. CONSTRUCT SLOPE SILT FENCE ON LOW SIDE OF FILL AS SHOWN IN FIGURE 5. UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA.

PLACE PHASE I EMBANKMENT, DRESS, AND STABILIZE. PLACE PHASE 2 EMBANKMENT, DRESS, AND STABILIZE.

PLACE FINAL PHASE EMBANKMENT, DRESS, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECCESSARY. ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF AND PLACEMENT OF TOPSOIL (IF REQUIRED) GRADING AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION UOT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

SECTION 2 - TEMPORARY SEEDING

vegetation — annual grass or grain 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 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. IF THIS SUMMARY IS NOT PUT ON THE

PLANS AND COMPLETED, THEN TABLE 26 MUST BE PUT ON THE PLANS. FOR SITES HAVING SOIL TESTS PERFORMED, THE RATES SHOWN ON THE TABLE SHALL BE DELETED AND THE RATES RECOMMENDED BY THE TESTING AGENCY SHALL BE WRITTEN IN. SOIL TESTS ARE NOT REQUIRED FOR

5EI	ED MIXTURE (HAS	RDINESS ZONE 6b 1 TABLE 26	FERTILIZER RATE	LIME RATE		
NO.	SPECIES	APPLICATION RATE (Ib/ac)	SEEDING DATES	SEEDING DEPTHS	(10-10-10)	The rest of the second
1	BARLEY OATS RYE	122 96 140	3/1 - 5/15. 8/15 - 10/15	1" - 2" 1" - 2" 1" - 2"	600 lb/ac (15 lb/1000sf)	2 tons/dc (100 lb/1000sf

SECTION 3 - PERMANENT SEEDING

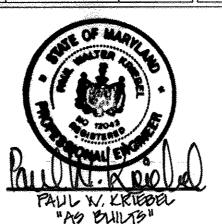
SEEDING GRASS AND LEGUMES TO ESTABLISH GROUND COVER FOR A MINIMUM OF ONE YEAR ON DISTURBED AREAS GENERALLY

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. Seeding depths can be estimated using table 26. If this summary is not put ON THE CONSTRUCTION PLANS AND COMPLETED, THEN TABLE 25 MUST BE PUT ON THE PLANS. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SUCH AS SHORELINES, STREAMBANKS, OR DUNES OR SPECIAL PURPOSES SUCH AS wildlife or aesthetic treatment may be found in USDA-SCS technical field office guide, section

342 – Critical area planting. For special lawn maintenance areas, see sections IV sod V Turfgrass FOR SITES HAVING DISTURBED AREA OVER 5 AREAS, THE RATES SHOWN ON THIS TABLE SHALL BE DELETED AND THE rates recommended by the soil testing agency shall be written in.

FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREAFORM FERTILIZER (46-0-0) AT 3 1/2 LB5/1000 SQ. FT. (LBS./AC.), IN ADDITION TO THE ABOVE SOIL AMENDMENTS SHOWN IN THE TABLE BELOW, TO BE PERFORMED AT THE TIME OF SEEDING.

SEED MIXTURE (HARDINESS ZONE <u>6b</u> ) FROM TABLE 25						FERTILIZER RATE (10–20–20)		
NO.	SPECIES	APPLICATION RATE (16/ac)	SEEDING DATES	SEEDING DEPTHS	N	P205	K20	RATE
3	TALL FESCUE (05%) PERENNIAL RYE GRASS (10%) KENTUCKY BLUEGRASS (5%)	125 15 10	3/1 - 5/15, 8/15 - 10/15	1" - 2"	90 lb/ac (2.0 lb/	175  b/ac (4  b/		2 tons/ac (100 lb/
10	TALL FESCUE (80%) HARD FESCUE (20%)	120 30	3/1 - 5/15, 8/15 - 10/15	1" - 2"	1000sf)	1000sf)		1000sf)



#### SECTION 3 - PERMANENT SEEDING

SEEDING GRASS AND LEGUMES TO ESTABLISH GROUND COVER FOR A MINIMUM OF ONE YEAR ON DISTURBED AREAS GENERALLY

A. SEED MIXTURES - PERMANENT SEEDING 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. Seeding depths can be estimated using table 26. If this summary is not put ON THE CONSTRUCTION PLANS AND COMPLETED, THEN TABLE 25 MUST BE PUT ON THE PLANS. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SUCH AS SHORELINES, STREAMBANKS, OR DUNES OR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-SCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING. FOR SPECIAL LAWN MAINTENANCE AREAS, SEE SECTIONS IV SOD V TURFGRASS

FOR SITES HAVING DISTURBED AREA OVER 5 AREAS, THE RATES SHOWN ON THIS TABLE SHALL BE DELETED AND THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY SHALL BE WRITTEN IN. III. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREAFORM FERTILIZER (46-0-0) AT 3 1/2 LB5/1000 SQ. FT.

(LBS./AC.), IN ADDITION TO THE ABOVE SOIL AMENDMENTS SHOWN IN THE TABLE BELOW. TO BE PERFORMED AT THE

	SEED MIXTURE (HARDINESS FROM TABLE		FERTILIZER RATE (10-20-20)			LIME RATE			
NO.	5PECIES	APPLICATION RATE (Ib/ac)	SEEDING DATES	SEEDING DEPTHS	Z	P205	K20		
3	TALL FESCUE (05%) PERENNIAL RYE GRASS (10%) KENTUCKY BLUEGRASS (5%)	125 15 10	3/1 - 5/15, 8/15 - 10/15	1" - 2"	90 lb/ac (2.0 lb/ 1000sf)	175  b/ac (4  b/ 1000sf)	175  b/ac (4  b/ 1000sf)	2 tons/ac (100 lb/ 1000sf)	
10	TALL FESCUE (00%) HARD FESCUE (20%)	120 30	3/1 - 5/15, 8/15 - 10/15	1" - 2"					

## 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 (313-1855).

2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR

SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.

ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50). AND MULCHING (SEC. 52), TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.

ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL

7) SITE ANALYSIS: AREA TO BE VEGETATIVELY STABILIZED . . . . . . . . 0.1330 ACRES TOTAL CUT > N/A

OFFSITE WASTE/BORROW AREA LOCATION 8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR CONSTRUCTION OF THE WASTEWATER PUMPING STATION, ACCESS DRIVEWAY &

LITILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES. APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS. 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 THE INSPECTION ACENCY IS MADE

11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THE THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

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 LOAM, OR LOAMY SAND.

B.TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING SUBSOILS. C.TOPSOIL SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1.5" IN DIAMETER.

4) APPLICATION: A.TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 8" LAYER AND LIGHTLY

COMPACTED TO A MINIMUM THICKNESS OF 4"; AVOID SURFACE IRREGULARITIES B.PLACE TOPSOIL AND APPLY SOIL AMENDMENTS AS SPECIFIED IN "STANDARDS AN SPECIFICATIONS FOR VEGETATIVE STABILIZATION". C.TOPSOIL SHALL NOT BE PLACED DURING FROZEN, MUDDY, OR EXCESSIVELY WET

#### SEQUENCE OF CONSTRUCTION OBTAIN THE REQUIRED GRADING PERMIT.

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)313-1870). INSTALL THE REQUIRED SEDIMENT AND EROSION CONTROL DEVICES AS INDICATED ON THIS SHEET

BACKFILLED AND STABILIZED WITHIN ONE (1) WORKING DAY, WHICHEVER IS

CLEAR AND GRUB AS NECESSARY, ONLY AS REQUIRED FOR CONSTRUCTION OF THE WATER & SEWER MAINS. NOTE: THE LENGTH OF OPEN UTILITY TRENCH SHALL BE LIMITED TO THREE (3) PIPE LENGTHS OR THAT WHICH WILL BE

SHORTER CONSTRUCT THE WATER & SEWER MAINS. STABILIZE SEED AND MULCH ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS SHEET.

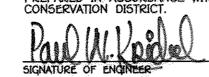
FOLLOWING SUCCESSFUL STABILIZATION OF ALL DISTURBED AREAS, AND AFTER PERMISSION HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES.

DEVELOPER'S CERTIFICATION I/WE 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. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS

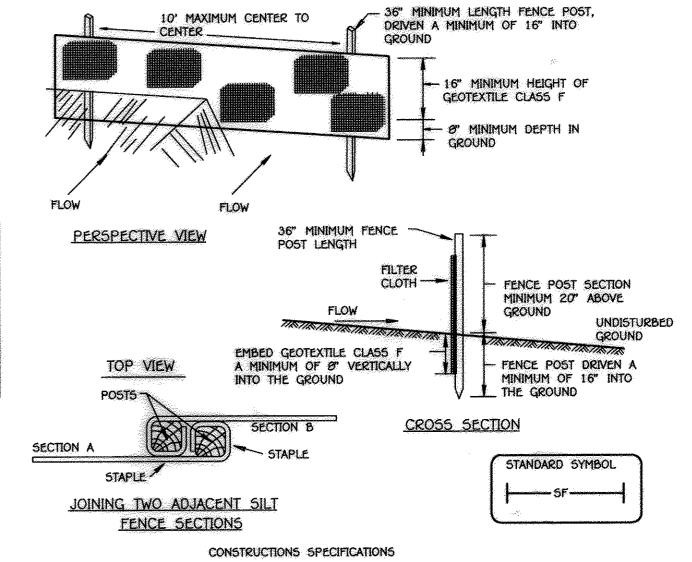
Paul W. Kaulel; FOR: 3300 ROGER'S AVENUE LLC

ENGINEER'S CERTIFICATION

I HERBY 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



REVISION



1. FENCE POSTS SHALL BE A MINIMUM OF 36" LONG DRIVEN 16" MINIMUM INTO THE GROUND. WOOD POSTS SHALL BE 11/2" X 11/2" SQUARE (MINIMUM) CUT, OR 13/4" DIAMETER (MINIMUM) ROUND AND SHALL BE OF SOUND QUALITY HARDWOOD. STEEL POSTS WILL BE STANDARD 'T' OR 'U' SECTION WEIGHTING NOT LESS THAN 1.00 POUND PER LINEAR FOOT.

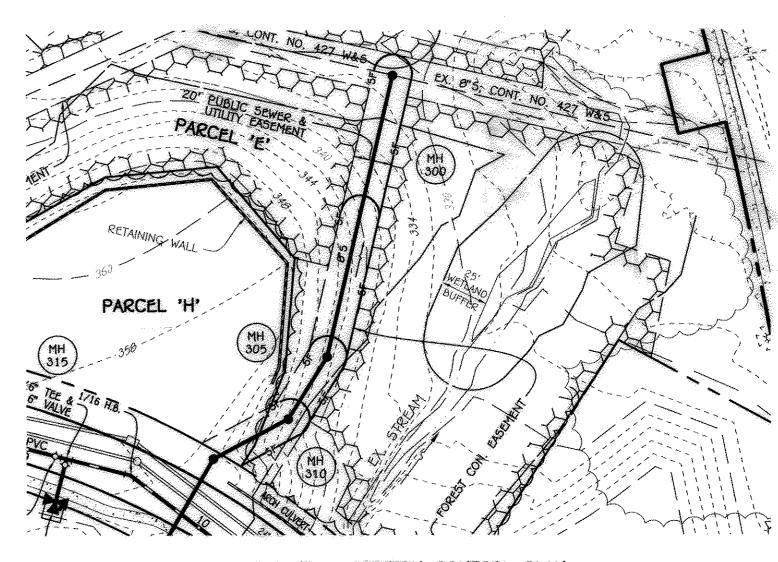
2. GEOTEXTILE SHALL FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP OR MID-SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS 'F':

TEST: MSMT 509 TENSILE STRENGTH 50 LB5/IN (MIN.) TEST: MSMT 509 TENSILE MODULUS 20 LB5/IN (MIN.) TEST: MSMT 322 0.3 GAL FT. / MINUTE (MAX.) FLOW RATE TEST: M5MT 322 FILTERING EFFICIENCY 75% (MIN.)

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.

**SILT FENCE** 



SEDIMENT & EROSION CONTROL PLAN

THIS DRAWING SUPERSEDES THE PREVIOUS DRAWING SIGNED IN APRIL, 2003

CAPITAL PROJECT J-4225 CONTRACT NO. 14-4074 ELLICOTT CENTER DRIVE WATER & SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS 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 LICENSE NO. 12043 EXPIRATION DATE IS 7/16/12. FISHER, COLLINS & CARTER, INC

IVIL ENGINEERING CONSULTANTS & LAND SURVEYO

ELLICOTT CITY, MARYLAND 21042

quare office park — 10272 baltimore national

#12043

DESIGNED BY B.C.R. DRAWN BY B.C.R. CHECKED BY P.W.K. DATE : **APRIL**, 2012 SEDIMENT & EROSION CONTROL PLAN, NOTES & DETAILS

600' SCALE MAP NO. 24/25 BLOCK NO. 6/1 F.C.C. WORK ORDER NO. \_\_\_\_10040 FILE NAME : WATER & SEWER MAIN EXTENSION SED SHEET ELLICOTT CENTER DRIVE

CAPITAL PROJECT J-4225 CONTRACT NO. 14-4074 WATER & SEWER MAIN EXTENSIONS SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHEET 6 of 6

**SCALE** 

SHOWN

45 BUILTS: 04/13