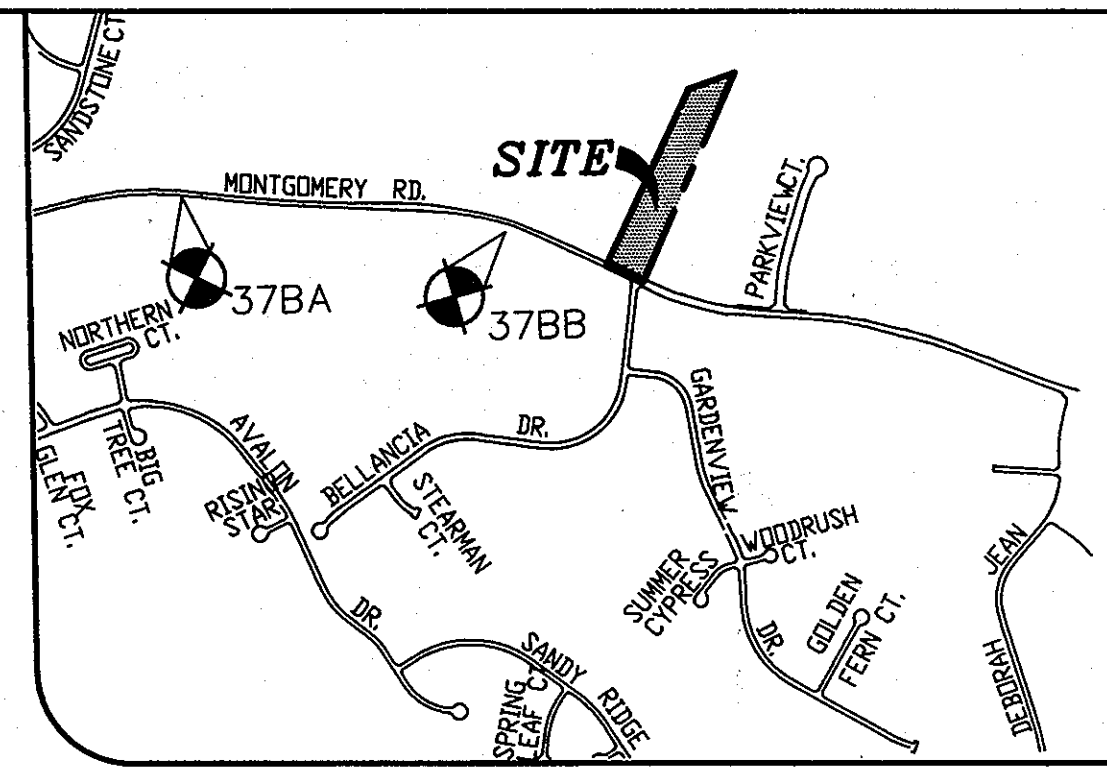
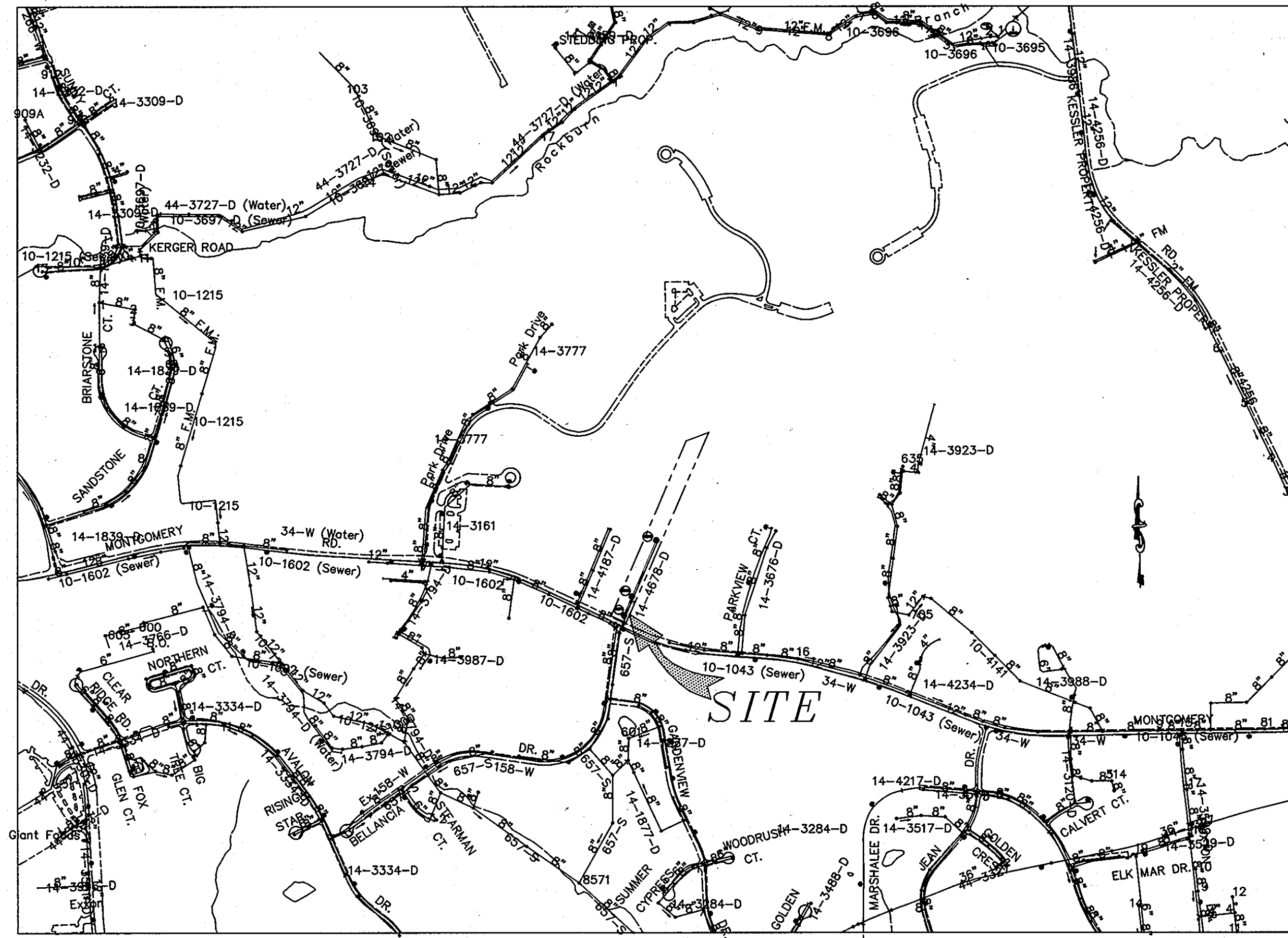


ITEMS	QUANTITIES ESTIMATED	QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
STANDARD MH (HO. CO. STD.G-5.12)	3 EACH	3.0 EA.	PRE-CAST CONCRETE	ATLANTIC CONCRETE PRODUCTS INC.
8" SEWER MAIN	112.309 L.F.	110.0 L.F.	SDR-35	JM EAGLE 1/2 WATER SERVICES INC.
8" SEWER MAIN (PVC) C-900	518.80 L.F.	580 L.F.	C-900	JM EAGLE 1/2 WATER SERVICES INC.
4" SHC	20.6 L.F.	95 L.F.	SDR-35	JM EAGLE 1/2 WATER SERVICES INC.
8" WATER MAIN (PVC C 900, DR-18)	649 L.F.	650.0 L.F.	C-900	JM EAGLE 1/2 WATER SERVICES INC.
1 1/2" WATER HOUSE CONNECTION	259 L.F.	30.0	1/2-CORNER	1/2 WATER SERVICES INC.
# 1 1/2" WHC	8 EACH	5 EA.		A.Y. McDONALD 1/2 WATER SERVICES INC.
8"x12" T.S. & V	1 EACH	1.0 EA.	FIELD	AMERICAN FIELD CONTROL
1/16 H.B. (8")	2 EACH	2.0	D.I.P.	TIGER PIPE 1/2 WATER SERVICES INC.
8"x6" F.H.T. & V.	1 EACH	1.0 EA.		AMERICAN FIELD CONTROL
FIRE HYDRANT	1 EACH		B-64-B	AMERICAN FIELD CONTROL
8" CAP & BUTTRESS	1 EACH	1	D.I.P.	TIGER PIPE 1/2 WATER SERVICES INC.
TWIN WHC	1 EACH	1		A.Y. McDONALD 1/2 WATER SERVICES INC.
# 4" SHC	1 EACH	8	SDR-35	JM EAGLE 1/2 WATER SERVICES INC.
NAME OF UTILITY CONTRACTOR: CCS				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE				



- GENERAL NOTES**
SCALE: 1"=1000'
- 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.
 - TOPOGRAPHY SHOWN HEREON IS BASED ON A FIELD RUN SURVEY PERFORMED ON OR ABOUT SEPTEMBER 2003 BY MILDENBERG, BOENDER ASSOCIATES.
 - HORIZONTAL AND VERTICAL SURVEY CONTROLS: THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/90 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 291E AND NO. 291F. ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE HO. CO. GEODETIC CONTROL STA. 42R1 AND 42R2.
 - 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 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 THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF 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 DRAWING, 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.
 - 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 MADE 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:

APPURTENANCE	NORTHING	EASTING
MH 1	N 563368.9218	E 1378749.6280
MH 2	N 563416.4877	E 1378750.8297
MH 3	N 563399.2139	E 1378750.3719
TS & V	N 563296.7115	E 1378741.4314
1/16 H.B.	N 563316.8773	E 1378751.2930
1/16 H.B.	N 563354.8681	E 1378753.4216
8" CAP AND BUTTRESS	N 563396.2272	E 1378755.0792
8"x6" Tee	N 563457.482	E 1378756.424
PH	N 563451.000	E 1378750.935

LOCATION MAP
SCALE: 1" = 600'
ADC MAP: 4936 H6

- LEGEND**
- 8" S --- EXISTING SEWER MAIN AND MANHOLE
 - 8" W --- EXISTING WATER MAIN AND VALVE
 - EXISTING FIRE HYDRANT
 - PROPOSED SEWER MAIN
 - PROPOSED SEWER HOUSE CONNECTION
 - EX. WHC EXISTING WATER HOUSE CONNECTION
 - EX. SHC EXISTING SEWER HOUSE CONNECTION

TYPE OF BUILDING	RESIDENTIAL
No. OF UNITS	11
No. OF WATER HOUSE CONNECTION	19
No. OF SEWER HOUSE CONNECTIONS	11
DRAINAGE AREA	LITTLE PATUXENT
TREATMENT PLANT	LITTLE PATUXENT

- FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE ANNA STANDARD SPEC 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.
- FIRE SPRINKLER SYSTEMS FOR ALL SINGLE FAMILY DWELLINGS SHALL HAVE A MINIMUM OF A 1-1/2" CONNECTION WITH A 1" OUTSIDE METER SETTINGS.
- FIRE HYDRANTS ARE D.I.P. ONLY. VALVES ARE TO BE ATTACHED WITH IRON FITTINGS AND CONCRETE ANCHORS. THE DIMENSION RATIO FOR PVC MAIN SHALL BE 1B. EPDM COATED D.I.P. OR PVC FITTINGS.

EROSION AND SEDIMENT CONTROL FOR THIS CONTRACT IS PROVIDED UNDER : F-10-107

FOR REDLINE REVISIONS

CONTRACT NO.: 14-4678-D
MARBUCK ESTATES
LOTS 1 THRU 8 AND OPEN SPACE LOT 9
WATER AND SEWER MAIN EXTENSION
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS

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

Ronald B. Wildman 10/6/10
DEVELOPER'S SIGNATURE 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.: 17942, EXPIRATION DATE: 9/3/12.

R. Jacob Hkmat 10/6/10
ENGINEER'S SIGNATURE DATE

PLAN REFERENCE NUMBERS:
F-10-107, SP-05-007

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

John K. Roberts 11/2/10
FORWARD SCD DATE

- SEWER**
- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
 - 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 WATERTIGHT FRAME AND COVER, STANDARD DETAIL 05-52. WHERE WATERTIGHT MANHOLE 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." INDICATED THAT THE CELLAR CANNOT BE SERVED.

- WATER**
- ALL WATER MAINS SHALL BE PVC-C-900(DR-18) UNLESS OTHERWISE NOTED.
 - TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3' - 6" OF COVER UNLESS OTHERWISE NOTED.
 - VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
 - 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.
 - 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 HARNESSSES. 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.
 - ALL SINGLE WATER HOUSE CONNECTIONS ARE TO BE 1 1/2" WITH 1" OUTSIDE METER SETTINGS.

INDEX OF DRAWINGS

NO.	DESCRIPTION
1	TITLE SHEET
2	WATER AND SEWER PLAN
3	WATER AND SEWER PROFILES

OWNER
RONALD B. WILDMAN
4747 BONNIE BRANCH ROAD
ELLCOTT CITY, MD. 21043
410-869-9999

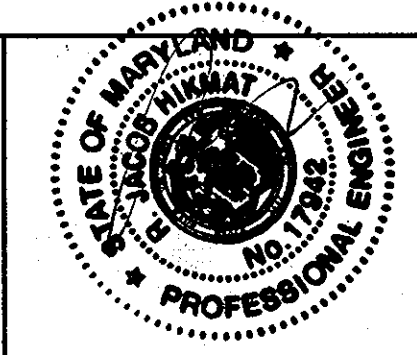
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

John C. Ginn 10/13/10
CHIEF, BUREAU OF UTILITIES DATE

Mr. [Signature] 11/15/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
6800 Deerpath Road, Suite 150, Ellicott City, Maryland 21075
(410) 997-0286 Fax: (410) 997-0288 Fax



engineering MMT	illustration MMT	approval RJH	project 09-005	date	BY	NO.	REVISION	DATE
							REVISED QUANTITY TABLE & TABULATION CHART	11-21-10
							AS SHOWN	7-28-11
							REV. QTY TABLE & GEN. NOTES	9/1/11
							REVISED QUANTITY TABLE & TABULATION CHART	9-21-11

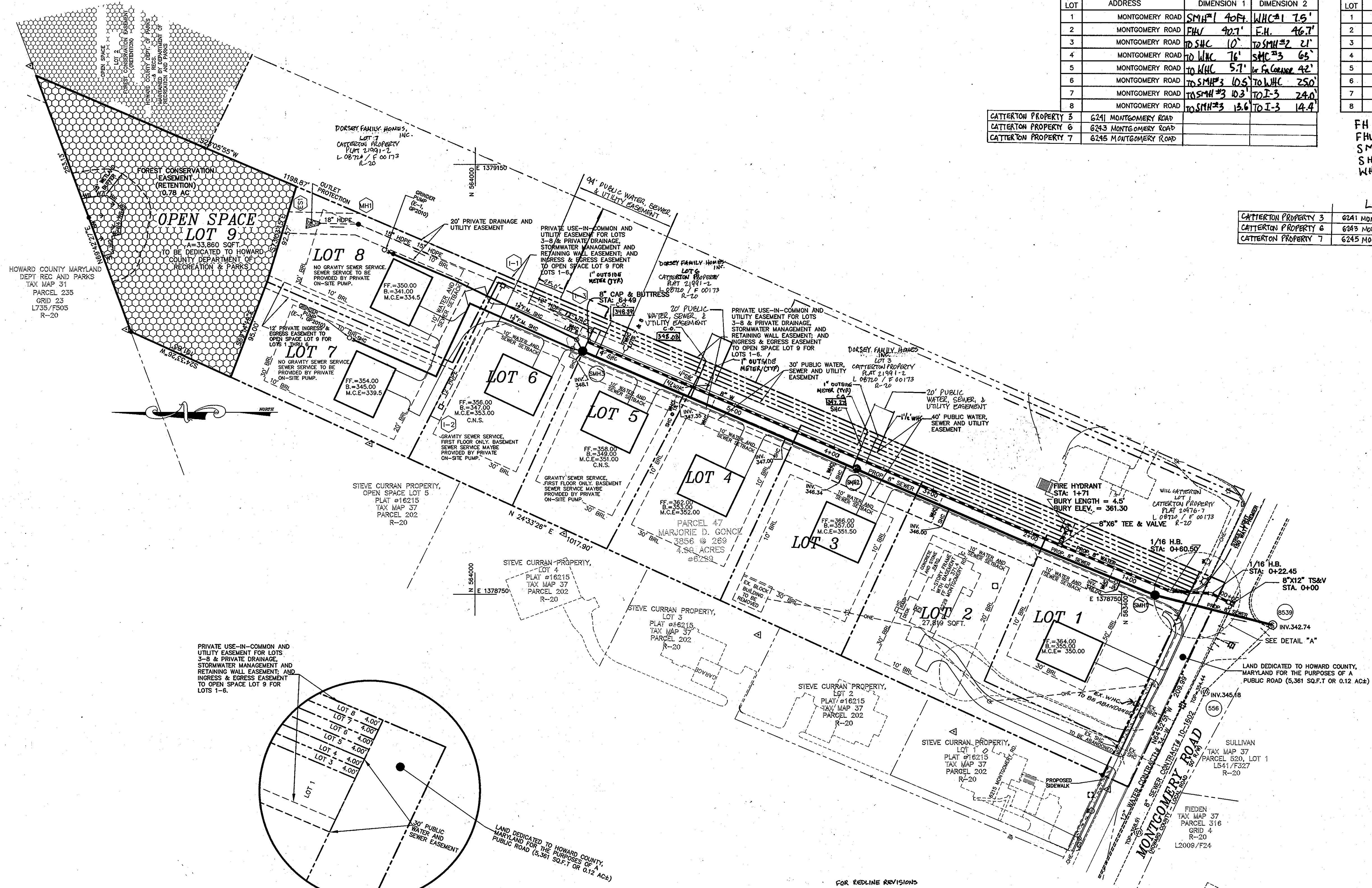
TITLE SHEET

600' SCALE MAP NO. 37 BLOCK NO. 5

MARBUCK ESTATES
LOTS 1 THRU 8 AND OPEN SPACE LOT 9
CONTRACT NO.: 14-4678-D
FIRST ELECTION DISTRICT
HOWARD COUNTY

scale AS SHOWN
1 OF 3

FH: 09-005 MARBUCK ESTATES.DWG 09-005-FINAL.DWG



SEWER HOUSE CONNECTION AS-BUILT LOCATION TABLE

LOT	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
1	MONTGOMERY ROAD	SMH#1 40.7'	WHC#1 7.5'
2	MONTGOMERY ROAD	FH#1 40.7'	F.H. 46.7'
3	MONTGOMERY ROAD	TO SHC 10'	TO SMH#2 21'
4	MONTGOMERY ROAD	TO WHC 7.6'	SMH#3 6.5'
5	MONTGOMERY ROAD	TO WHC 5.7'	TO SHC 42'
6	MONTGOMERY ROAD	TO SMH#3 10.5'	TO WHC 25.0'
7	MONTGOMERY ROAD	TO SMH#3 10.3'	TO I-3 24.0'
8	MONTGOMERY ROAD	TO SMH#3 13.6'	TO I-3 14.4'
CATTERTON PROPERTY 3	6241 MONTGOMERY ROAD		
CATTERTON PROPERTY 6	6243 MONTGOMERY ROAD		
CATTERTON PROPERTY 7	6245 MONTGOMERY ROAD		

WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE

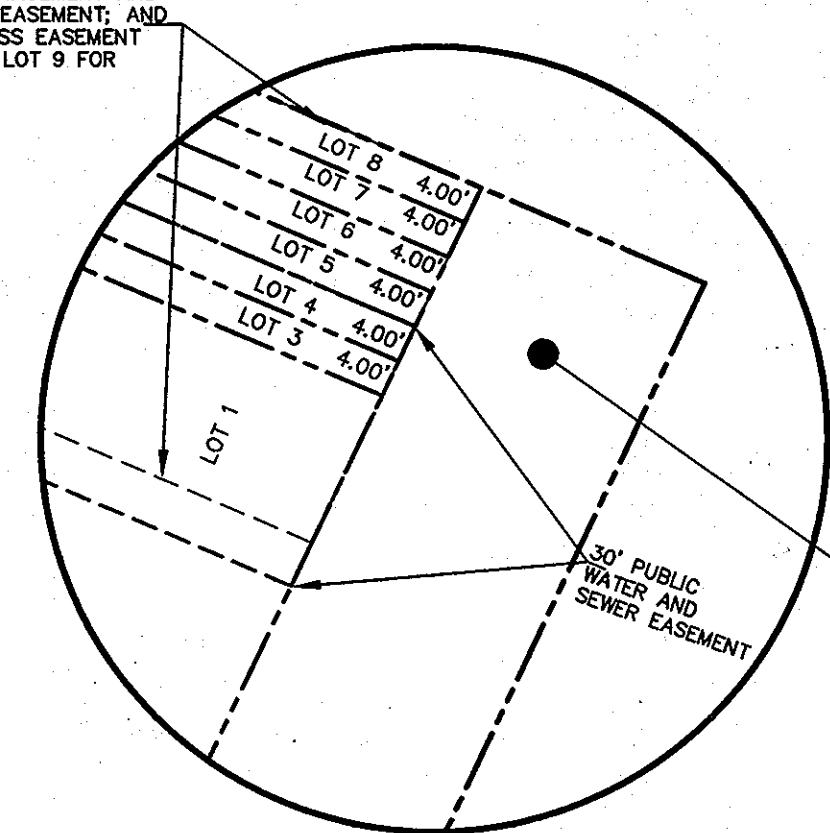
LOT	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
1	MONTGOMERY ROAD	F.H. 62'	SMH#1 46'
2	MONTGOMERY ROAD	WHL#3 91.3'	SMH#2 84'
3	MONTGOMERY ROAD	SMH#2 25'	SHC 10'
4	MONTGOMERY ROAD	WHL#3 36.7'	SHC LOTS 31'
5	MONTGOMERY ROAD	SHC 5.7'	FL. GR. CONN. 34.7'
6	MONTGOMERY ROAD	I-3 11.9'	SMH#3 17.2'
7	MONTGOMERY ROAD	SMH#3 40.5'	WHC#6 46.0'
8	MONTGOMERY ROAD	SMH#3 40.5'	WHC#6 46.0'

FH = FIRE HYDRANT VALVE
 FHV = FIRE HYDRANT VALVE
 SMH = SANITARY MANHOLE
 SHC = SANITARY HOUSE CONNECTION
 WHC = WATER HOUSE CONNECTION

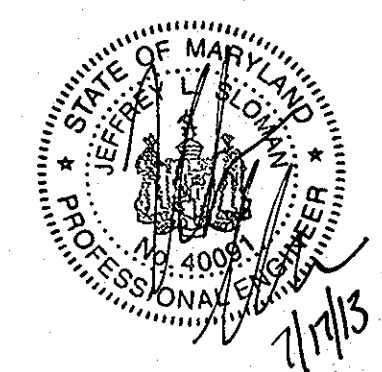
FIRE HYDRANT TO FHV = 7.3'
 FHV TO SMH#1 = 10.30'
 TS2V TO SMH#1 = 26.7'
 TS2V TO EX. SMH = 19.2'

LOTS #7 & 8 CONNECTIONS IN FRONT OF LOTS #5

CATTERTON PROPERTY 3	6241 MONTGOMERY ROAD
CATTERTON PROPERTY 6	6243 MONTGOMERY ROAD
CATTERTON PROPERTY 7	6245 MONTGOMERY ROAD



FRONTAGE DETAIL "A"
SCALE 1" = 20'



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. 40091, Exp Date 2/13/15

OWNER/DEVELOPER
 RONALD B. WILDMAN
 4747 BONNIE BRANCH ROAD
 ELLICOTT CITY, MD. 21043
 410-869-9999

REPLACEMENT SHEET

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

4/1/11
 CHIEF, BUREAU OF UTILITIES

4/7/11
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 6800 Deeprock Road, Suite 150, Elbridge, Maryland 21076
 (410) 997-0296 Fax (410) 997-0298 Fax



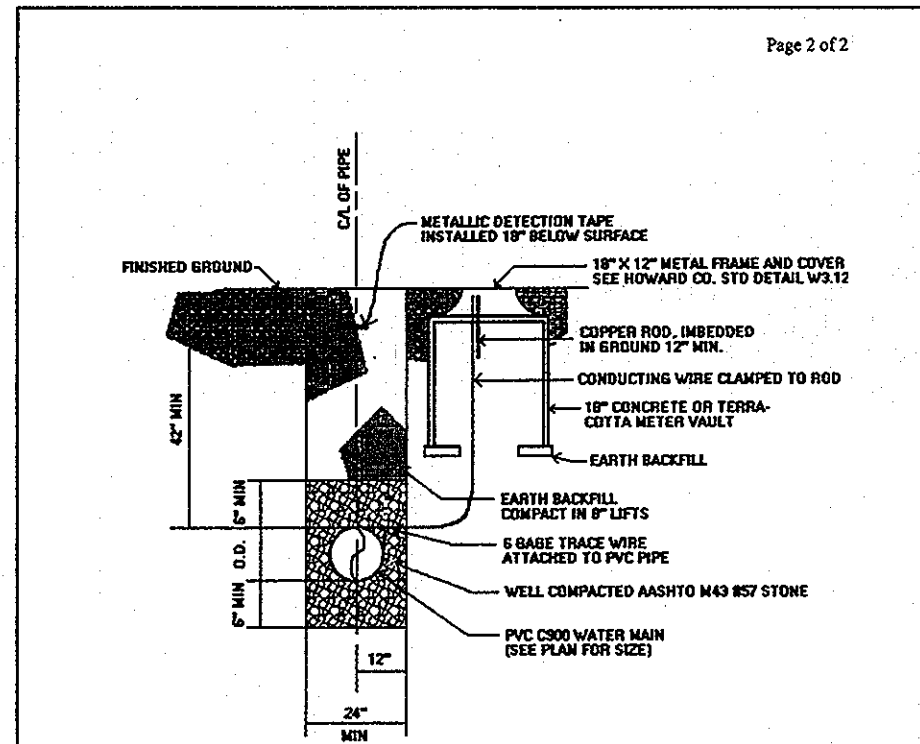
DATE	BY	NO.	REVISION	DATE
11-21-13	MBA	6	ADD WHC AND SHC FOR CATTERTON LOTS 3, 6, 7	11-21-13
7-29-13	KCE	5	AS BUILT	7-29-13
7/1/13	MBA	4	Added connections to utility sewer easement	7/1/13
2/28/13	MBA	3	Added additional length of public water, sewer & utility easement per MARBUCK EST. REVISION PART TO ALLOW UTIL. CONN. FROM LOTS 3-5 OF CATTERTON PROP.	2/28/13
9-11	MBA	2	RELAPSED SMH#	9-11
3-15-11	MBA	1	EXTENDED WATER & SEWER MAIN TO ACCOMMODATE THE RECONFIGURATION OF LOTS 5 & 6.	3-15-11
MAR. 2010				

WATER AND SEWER PLAN

600' SCALE MAP NO. 37 BLOCK NO. 5

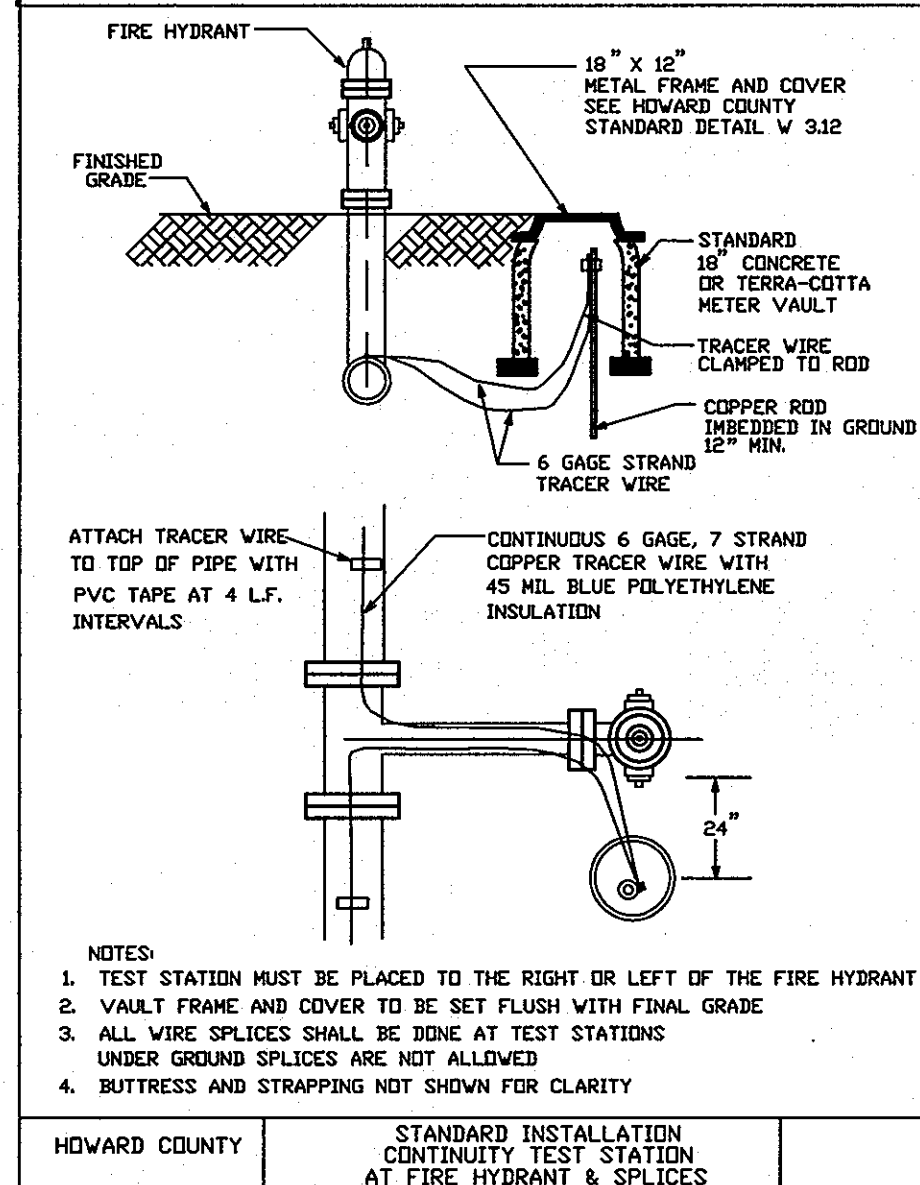
MARBUCK ESTATES
 LOTS 1 THRU 8 AND OPEN SPACE LOT 9
 CONTRACT NO.: 14-4678-D
 FIRST ELECTION DISTRICT
 HOWARD COUNTY

H:\09-005-MARBUCK ESTATES\DWG\09-005-FINAL.DWG

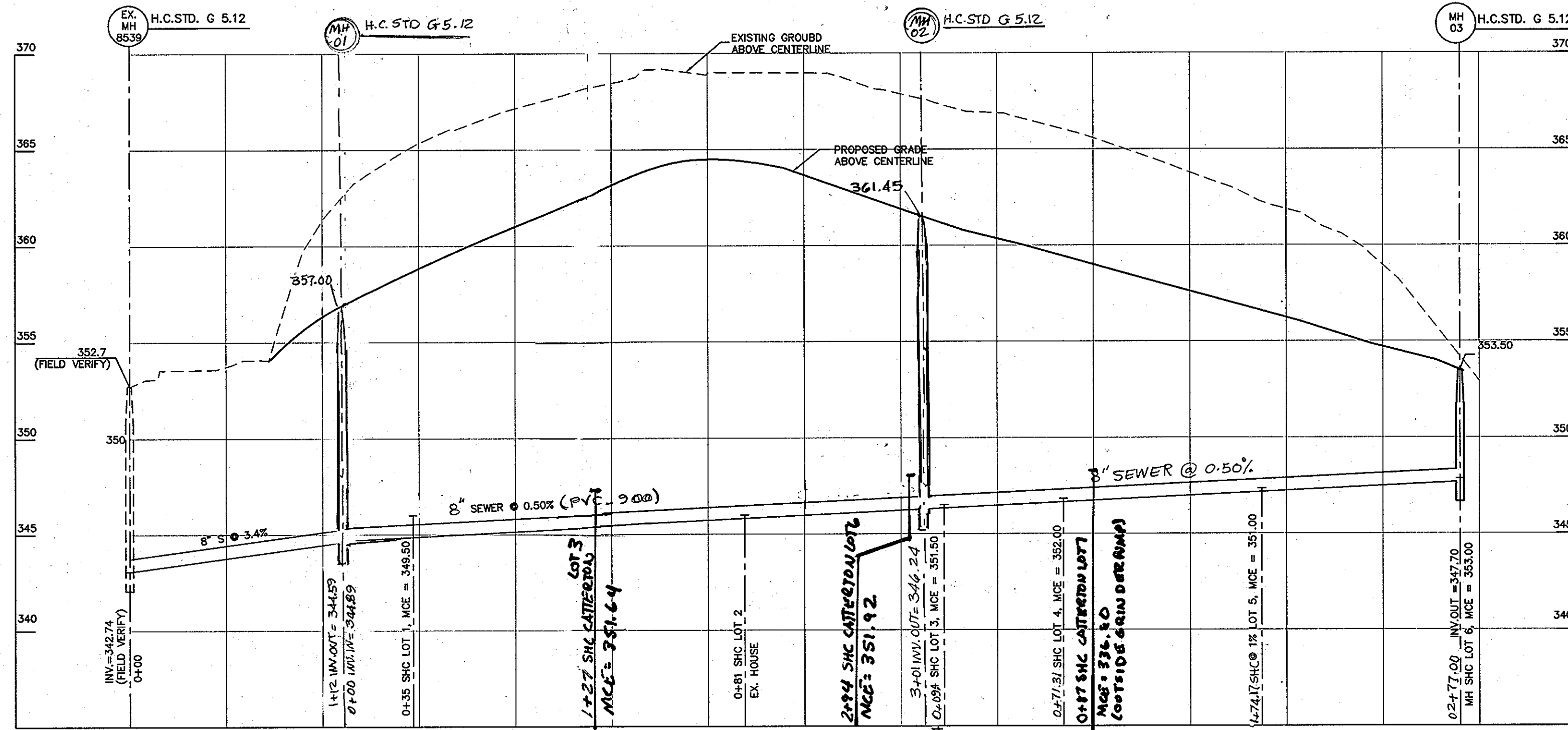


TRENCH FOR PVC PIPE AND CONTINUITY TEST STATION DETAIL

Thursday, June 24, 2004 America Online: MLDNBR0

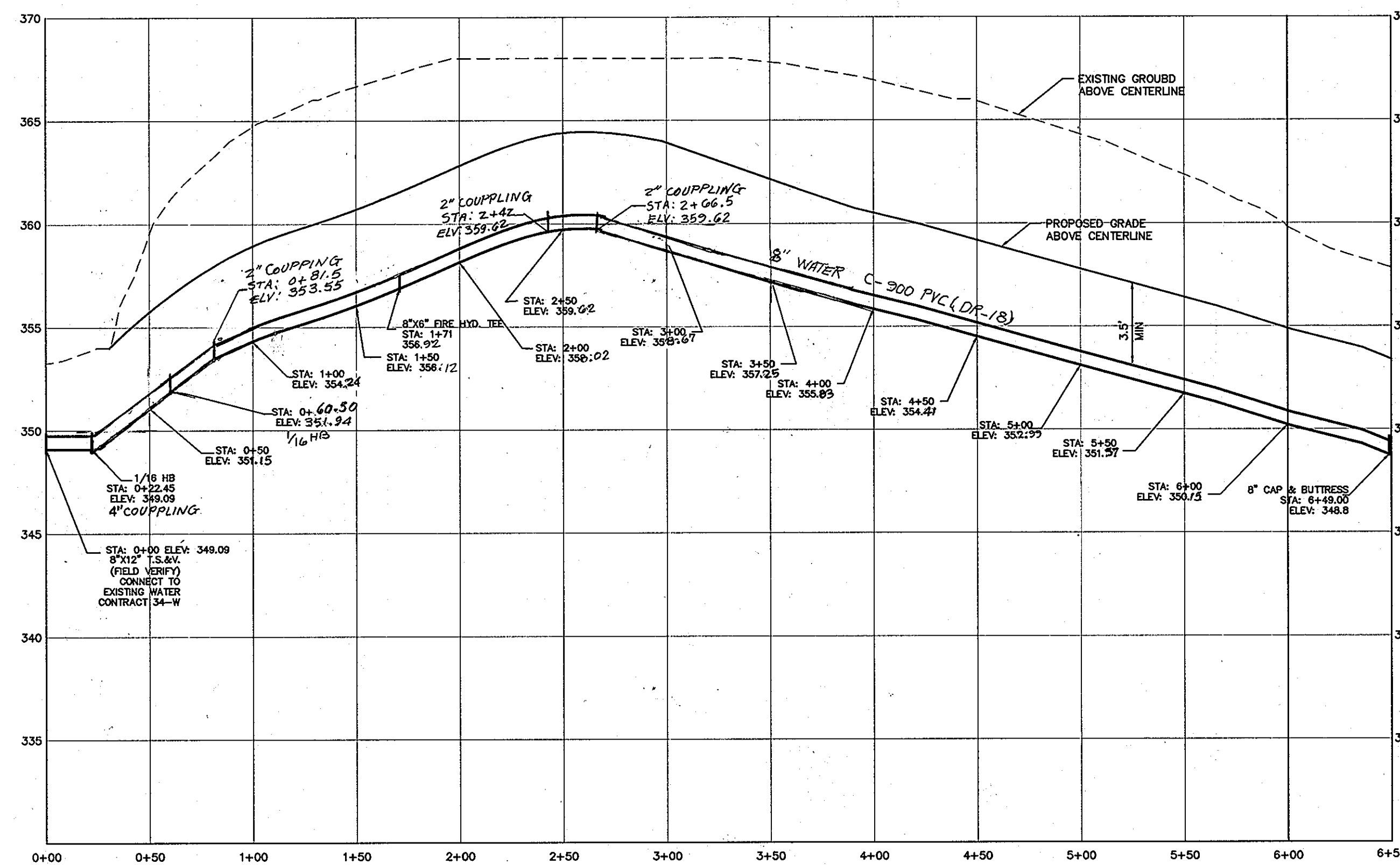


HOWARD COUNTY STANDARD INSTALLATION CONTINUITY TEST STATION AT FIRE HYDRANT & SPLICES



SEWER PROFILE

SCALE: HOR. 1"=50'
VER. 1"=5'



WATER PROFILE

SCALE: HOR. 1"=50'
VER. 1"=5'

OWNER/DEVELOPER

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4747 BONNIE BRANCH ROAD
ELLCOTT CITY, MD. 21043
410-869-9999

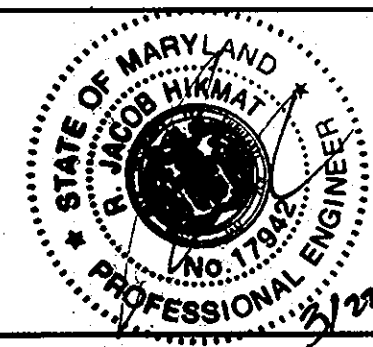
REPLACEMENT SHEET

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

MILDENBERG,
BOENDER & ASSOC., INC.
Engineers Planners Surveyors

6800 Deerpath Road, Suite 150, Ellicott City, Maryland 21075
(410) 897-0286 Cell. (410) 897-0288 Fax.



engineering	MMT				
illustration	MMT				
approved	RJH	N&A	3	ADD WHC AND SHL FOR CITY REVIEW LOTS 3 & 7	11/2/13
project	09-005	M&A	2	REVISED WATER MAIN PROF. CHANGED SEWER MAIN FROM 8" TO 10" 10-18-11	
date	MAR 2010		1	EXTENDED WATER & SEWER MAIN TO ACCOMMODATE THE RECONFIGURATION OF LOTS 5 & 6.	3-15-11
BY	NO.				
REVISION					
DATE					

WATER AND SEWER
PROFILES

MARBUCK ESTATES
LOTS 1 THRU 8 AND OPEN SPACE LOT 9
CONTRACT NO.: 14-4678-D
FIRST ELECTION DISTRICT
HOWARD COUNTY

scale
AS SHOWN
3 OF 3

FH: 09-005 MARBUCK ESTATES.DWG:09-005-FINAL.DWG

Steve C. Green
CHIEF, BUREAU OF UTILITIES

DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

600' SCALE MAP NO. 37 BLOCK NO. 5