

SHEET INDEX MAP
SCALE: 1"=200'

— SHEET LIMITS
- - - PHASING LIMITS

SEQUENCE OF CONSTRUCTION

1. THE CONTRACTOR SHALL SUBMIT COMPLETE WORKING SCHEDULE TO THE ENGINEER FOR APPROVAL.
2. THE TOPOGRAPHIC INFORMATION AND THE LOCATION OF THE EXISTING WATER MAIN WERE GENERATED BASED ON THE EXISTING CONTRACT AS-BUILTS. THE CONTRACTOR SHALL CONTACT HOWARD COUNTY UTILITIES FOR FIELD LOCATING EXISTING WATER MAINS.
3. THE WATER MAINS WITHIN THE LIMITS OF PHASES I - III ARE FOR SAME TRENCH REPLACEMENT AND SHALL BE INSTALLED AND IN SERVICE BETWEEN MARCH 15 TO OCTOBER 15 BY PROVIDING TEMPORARY WATER SERVICES.
4. PROVIDE TRAFFIC CONTROL DURING THE CONSTRUCTION.
5. IF THE EXISTING VALVES ARE NOT STRAPPED TO TEE. STRAP THE EXISTING VALVES TO TEE BEFORE CLOSING THE VALVES.
6. DURING THE CONSTRUCTION ON DUCKETTS LANE, THE CONTRACTOR SHALL MAINTAIN EXISTING FIRE HYDRANT SERVICES BEFORE NEW FIRE HYDRANTS ARE ACTIVE
7. PHASES I, II AND III MUST EACH BE INDIVIDUALLY COMPLETE(100%) PRIOR TO THE START OF ANOTHER PHASE
8. PHASE I CONSTRUCTION:
 - (1). PROVIDE TEMPORARY WATER IN ACCORDANCE WITH SHEETS 19 & 20 AND TEMPORARY WATER CONNECTION DETAILS.
 - (2). CLOSE EX. VALVE "A".
 - (3). THE EXISTING WATER MAIN AND APPURTENANCES SHALL BE REPLACED AND DISPOSED OF. INSTALL 8" PVC WATER MAIN WITHIN PHASE I LIMITS, ENCLOSED BY EX. VALVE "A" AND VALVE "1".
 - (4). PERFORM PRESSURE TESTING AND DISINFECT THE 8" WATER MAIN.
 - (5). REPLACE AND RECONNECT EXISTING WHCS.
 - (6). OPEN EX. VALVE "A" AND VALVE "12". VALVE "1" REMAINS CLOSED. THE SERVICES WITHIN PHASE I LIMITS ARE SERVED BY THE NEWLY INSTALLED 8" WATER MAIN.
 - (7). REMOVE TEMPORARY WATER.
9. PHASE II CONSTRUCTION:
 - (1). PROVIDE TEMPORARY WATER IN ACCORDANCE WITH SHEET 20 AND TEMPORARY WATER CONNECTION DETAILS.
 - (2). CLOSE EX. VALVE "B".
 - (3). THE EXISTING WATER MAIN AND APPURTENANCES SHALL BE REPLACED AND DISPOSED OF. INSTALL 8" PVC WATER MAIN WITHIN PHASE II LIMITS, ENCLOSED BY EX. VALVE "B", VALVE "1", AND VALVE "2".
 - (4). PERFORM PRESSURE TESTING AND DISINFECT 8" WATER MAIN.
 - (5). REPLACE AND RECONNECT EXISTING WHCS.
 - (6). OPEN EX. VALVE "B", VALVE "10", AND VALVE "1". VALVE "2" REMAINS CLOSED. THE SERVICES WITHIN PHASE II LIMITS ARE SERVED BY THE NEWLY INSTALLED 8" WATER MAIN.
 - (7). REMOVE TEMPORARY WATER.
10. PHASE III CONSTRUCTION:
 - (1). PROVIDE TEMPORARY WATER IN ACCORDANCE WITH SHEET 20 AND TEMPORARY WATER CONNECTION DETAILS.
 - (2). CLOSE EX. VALVE "C" AND EX. VALVE "D".
 - (3). THE EXISTING WATER MAIN AND APPURTENANCES SHALL BE REPLACED AND DISPOSED OF. INSTALL 8" PVC WATER MAIN WITHIN PHASE III LIMITS, ENCLOSED BY EX. VALVE "C", EX. VALVE "D", AND VALVE "2".
 - (4). PERFORM PRESSURE TESTING AND DISINFECT 8" WATER MAIN.
 - (5). REPLACE AND RECONNECT EXISTING WHCS.
 - (6). OPEN EX. VALVE "C", EX. VALVE "D", VALVE "4", VALVE "6" AND VALVE "2". THE SERVICES WITHIN PHASE III LIMITS ARE SERVED BY THE NEWLY INSTALLED 8" WATER MAIN.
 - (7). REMOVE TEMPORARY WATER.
11. PHASE IV CONSTRUCTION:
 - (1). INSTALL 12" TAPPING SLEEVE AND VALVE AT STA. 0+00. INSTALL 12" WATER MAIN TO VALVE "3".
 - (2). PERFORM PRESSURE TESTING AND DISINFECT 12" WATER MAIN. CLOSE VALVE "3".
 - (3). CONNECT TO 12" TAPPING VALVE AND OPEN TAPPING VALVE.
 - (4). REPLACE AND RECONNECT WATER HOUSE SERVICES.
 - (5). CLOSE EX. VALVE "D" AND VALVE "4". MAKE CONNECTION TO 8" WATER MAIN. PROVIDE 2" TAP FOR CONNECTION AS SHOWN IN DETAIL D.
 - (6). OPEN VALVE "3" AND VALVE "4". VALVE "5" REMAINS CLOSED.
 - (7). INSTALL 12" WATER MAIN TO VALVE "7". RECONNECT WATER HOUSE SERVICES.
 - (8). PERFORM PRESSURE TESTING AND DISINFECT 12" WATER MAIN. CLOSE VALVE "7".
 - (9). MAKE CONNECTIONS TO 8" WATER MAIN AFTER CLOSING VALVE "6" AND EX. VALVE "C".
 - (10). OPEN VALVE "6" AND VALVE "7". VALVE "8" REMAINS CLOSED.
 - (11). INSTALL 12" WATER MAIN TO VALVE "9". PERFORM PRESSURE TESTING AND DISINFECT 12" WATER MAIN. CLOSE VALVE "9".
 - (12). REPLACE AND RECONNECT WATER HOUSE SERVICES.
 - (13). MAKE CONNECTIONS TO 8" WATER MAIN AFTER CLOSING VALVE "10" AND EX. VALVE "B".
 - (14). OPEN VALVE "9" AND VALVE "10". VALVE "11" REMAINS CLOSED.
 - (15). INSTALL 12" WATER MAIN TO VALVE "12" AND INSTALL 8" WATER MAIN ALONG KYLE LEAF. PERFORM PRESSURE TESTING AND DISINFECT THE WATER MAIN.
 - (16). REPLACE AND RECONNECT WATER HOUSE SERVICES.
 - (17). CLOSE EX. VALVE "F" BEFORE MAKING CONNECTIONS TO THE EXISTING 6" WATER MAIN ALONG LORI LANE. PROVIDE 2" TAP WHEN MAKING CONNECTIONS.
 - (18). OPEN EX. VALVE "F", VALVE "13", VALVE "14", AND VALVE "15". CLOSE EX. VALVE "E". VALVE "12" REMAINS CLOSED.
 - (19). INSTALL 12" WATER MAIN TO VALVE "16". PERFORM PRESSURE TESTING AND DISINFECT THE WATER MAIN.
 - (20). REPLACE AND RECONNECT WATER HOUSE SERVICES.
 - (21). CLOSE EX. VALVE "G" AND EX. VALVE "H" WHEN MAKING CONNECTIONS TO THE EXISTING 6" WATER MAIN ON KARAS WALK. PROVIDE 2" TAP WHEN MAKING CONNECTIONS.
 - (22). OPEN EX. VALVE "G", EX. VALVE "H", AND VALVE "16".

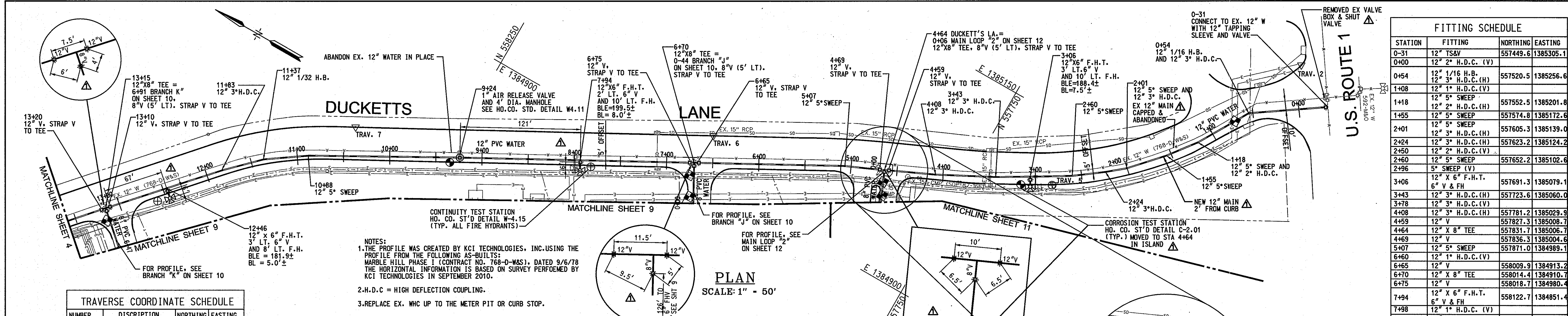
QUANTITIES				
ITEM	UNIT	ESTIMATE	AS-BUILT	MATERIAL SUPPLIER
MOBILIZATION/M.O.T.	EA.	1	1	
REMOVE EX. WATER MAIN	L.F.	8625	5484	
12" WATER (PVC)	L.F.	2928	2970.5	JM EAGLE/BRIS
8" WATER (PVC)	L.F.	8519	8483.5	JM EAGLE/BRIS
4" WATER (PVC)	L.F.	75	10	JM EAGLE/BRIS
12" X 12" TSAV	EA.	1	1	ROMAC IND/BRIS
CORROSION PROTECTION SYSTEM	L.S.	1	1	PIPING & CORROSION SPECIALTIES
REMOVE EX. FIRE HYD. & V	EA.	23	23	
FIRE HYDRANT & 6" V (RSGV)	EA.	23	23	MUELLER CO/BRIS
REMOVE EX. 12" V	EA.	1	1	
REMOVE EX. 6" V	EA.	21	-	
12" V (RSGV)	EA.	11	11	MUELLER CO/BRIS
8" V (RSGV)	EA.	22	32	MUELLER CO/BRIS
4" V (RSGV)	EA.	1	2	MUELLER CO/BRIS
REMOVE 1" AIR RELEASE VALVE	EA.	2	2	
REMOVE AIR RELEASE VALVE M.H.	EA.	2	2	
1" AIR RELEASE VALVE	EA.	2	2	CRISPIN/BRIS
4' DIA. PRECAST M.H.	EA.	2	2	
REMOVE EX. WHC	L.F.	6765	3695.31	
1" WATER HOUSE CONNECTION	L.F.	6242	3725.66	
2" WATER HOUSE CONNECTION	L.F.	523	265	
TEMPORARY WATER SYSTEM	L.F.	10725	10947	
1-1/2" WHC	L.F.		4467.65	
NAME OF UTILITY CONTRACTOR:				
AS-BUILT DATE: 7/23/2013				

AS-BUILT
DATE 7/23/2013

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 31363 EXPIRATION DATE: 1/16/2014

PLOTTED: 08/22/13, 10:52 AM on Wednesday, November 13, 2013
 BY: jason_besaco, File Path: P:\042 Water\WW\Embs\FIELD\MA_2007\01017378.05.dwg
 FILE: MA_2007\01017378.05.dwg
 PLOTTED: 08/22/13, 10:52 AM on Wednesday, November 13, 2013
 BY: jason_besaco, File Path: P:\042 Water\WW\Embs\FIELD\MA_2007\01017378.05.dwg
 FILE: MA_2007\01017378.05.dwg

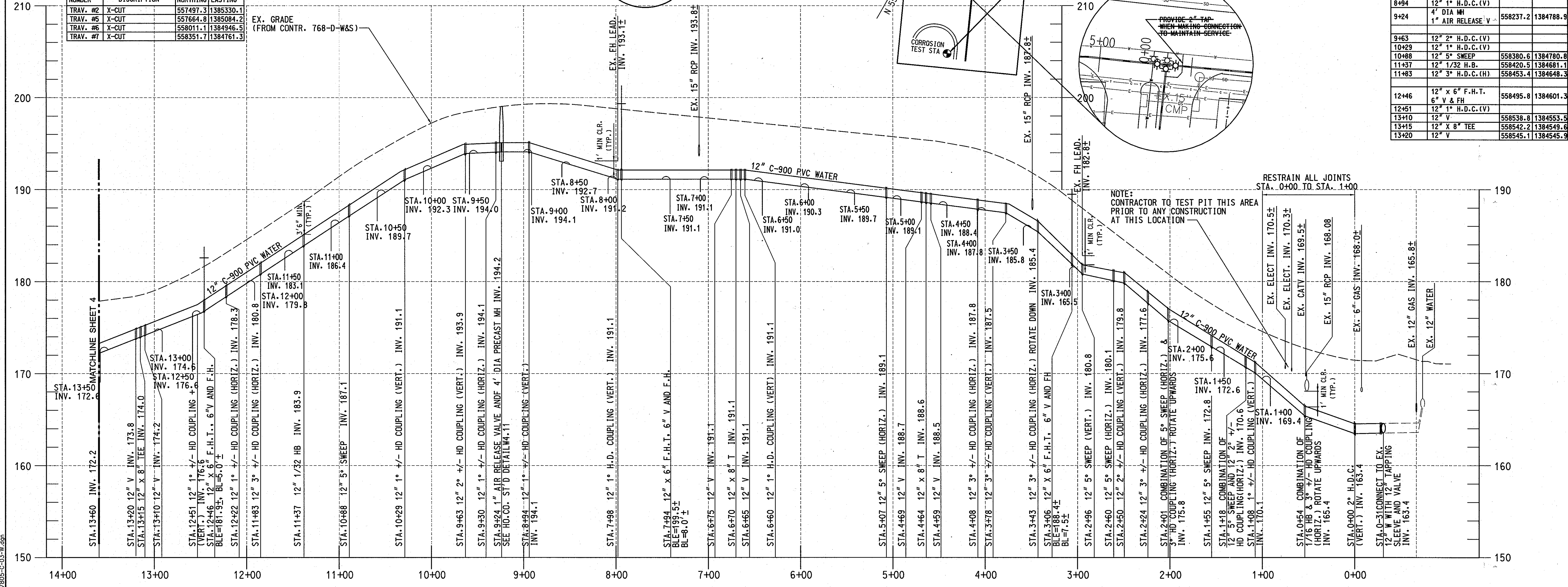
<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>[Signature]</i> 11/25/13 DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>[Signature]</i> 11/25/13 CHIEF, BUREAU OF UTILITIES DATE</p>	<p>ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS</p> <p>KCI TECHNOLOGIES</p> <p>936 RIDGEBROOK ROAD SHARPS, MARYLAND 21152 TELEPHONE: (410) 316-7800 FAX: (410) 316-7818 WWW.KCI.COM</p>	<p>DES: MRD</p> <p>DRN: KFJ</p> <p>CHK: GW/TWW</p> <p>DATE: JAN. 2011</p> <p>BY: NO.</p>	<p style="text-align: center;">PHASING PLAN</p> <p style="text-align: center;">DUCKETTS LANE WATER MAIN REPLACEMENT</p> <p style="text-align: center;">CAPITAL PROJECT No. W-8286 CONTRACT No. 44-4677</p> <p style="text-align: center;">ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND</p>	<p>SCALE AS SHOWN</p> <p>SHEET 2 OF 29</p>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------



FITTING SCHEDULE			
STATION	FITTING	NORTHING	EASTING
0-31	12" TSV	557449.6	1385305.1
0-400	12" 2" H.D.C. (V)		
0+54	12" 1/16 H.B.	557520.5	1385256.6
1+08	12" 1" H.D.C. (V)		
1+18	12" 5" SWEEP	557552.5	1385201.8
1+55	12" 2" H.D.C. (H)	557574.8	1385172.6
2+01	12" 5" SWEEP	557605.3	1385139.0
2+24	12" 3" H.D.C. (H)	557623.2	1385124.2
2+50	12" 2" H.D.C. (V)		
2+60	12" 5" SWEEP	557652.2	1385102.6
2+96	5" SWEEP (V)		
3+06	12" X 6" F.H.T.	557691.3	1385079.1
3+43	12" 3" H.D.C. (H)	557723.6	1385060.0
3+78	12" 3" H.D.C. (V)		
4+08	12" 3" H.D.C. (H)	557781.2	1385029.9
4+59	12" V	557827.3	1385008.7
4+64	12" X 8" TEE	557831.7	1385006.7
4+67	12" V	557836.3	1385004.6
5+07	12" 5" SWEEP	557871.0	1384989.1
6+60	12" 1" H.D.C. (V)		
6+65	12" V	558009.9	1384913.2
6+70	12" X 8" TEE	558014.4	1384910.7
6+75	12" V	558018.7	1384980.4
7+94	12" X 6" F.H.T.	558122.7	1384851.4
7+98	12" 1" H.D.C. (V)		
8+94	12" 1" H.D.C. (V)		
9+24	4" DIA MH	558237.2	1384788.9
9+63	12" 2" H.D.C. (V)		
10+29	12" 1" H.D.C. (V)		
10+88	12" 5" SWEEP	558380.6	1384780.8
11+37	12" 1/32 H.B.	558420.5	1384681.1
11+83	12" 3" H.D.C. (H)	558453.4	1384648.3
12+46	12" X 6" F.H.T.	558495.8	1384601.3
12+51	12" 1" H.D.C. (V)		
13+10	12" V	558538.8	1384553.5
13+15	12" X 8" TEE	558542.2	1384549.6
13+20	12" V	558545.1	1384545.9

TRAVERSE COORDINATE SCHEDULE			
NUMBER	DISCRPTION	NORTHING	EASTING
TRAV. #2	X-CUT	557497.3	1385330.1
TRAV. #5	X-CUT	557664.8	1385084.2
TRAV. #6	X-CUT	558011.1	1384946.5
TRAV. #7	X-CUT	558351.7	1384761.3

NOTES:
 1. THE PROFILE WAS CREATED BY KCI TECHNOLOGIES, INC. USING THE PROFILE FROM THE FOLLOWING AS-BUILTS: MARBLE HILL PHASE I (CONTRACT NO. 768-D-W&S), DATED 9/6/78 THE HORIZONTAL INFORMATION IS BASED ON SURVEY PERFORMED BY KCI TECHNOLOGIES IN SEPTEMBER 2010.
 2. H.D.C. = HIGH DEFLECTION COUPLING.
 3. REPLACE EX. WHC UP TO THE METER PIT OR CURB STOP.



PROFILE
 SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'

AS-BUILT
 DATE 7/23/2013

PLOTTED: 08:22 AM on Wednesday, November 13, 2013
 FILE: M:\2007\00713278.05\Drawings\0071327805-C-03-W.dgn

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

[Signature]
 DIRECTOR OF PUBLIC WORKS

[Signature]
 CHIEF, BUREAU OF UTILITIES

[Signature]
 CHIEF, UTILITY DESIGN DIVISION

DATE: 11/25/13

ENGINEERS
 PLANNERS
 SCIENTISTS
 CONSTRUCTION MANAGERS

KCI TECHNOLOGIES

936 RIDGEBROOK ROAD
 SHARPS, MARYLAND 21152
 TELEPHONE (410) 316-7800
 FAX (410) 316-7818
 WWW.KCI.COM

STATE OF MARYLAND
 PROFESSIONAL ENGINEER

[Signature]
 DATE: 11/19/13

DES:	MRD
DRN:	KFJ
CHK:	GW/TWW
DATE:	JAN. 2011
BY:	NO.
REVISION:	
DATE:	7/23/13

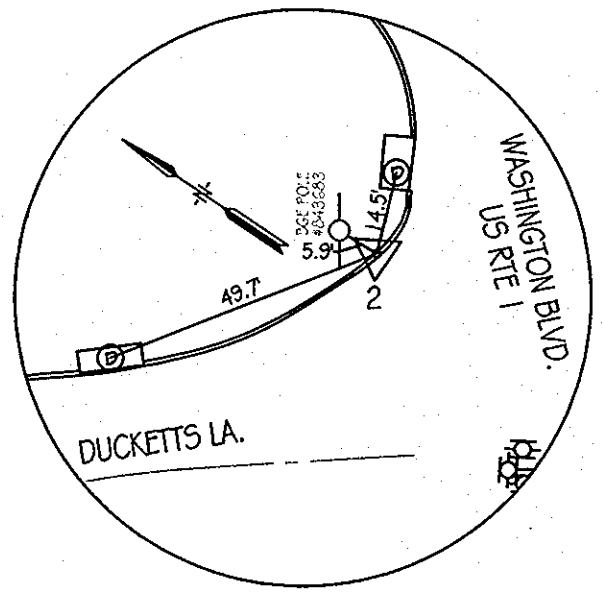
PLAN AND PROFILE
DUCKETTS LANE
 (STA. 0+00 TO STA. 13+60)

600' SCALE MAP NO. 37 BLOCK NO. 18

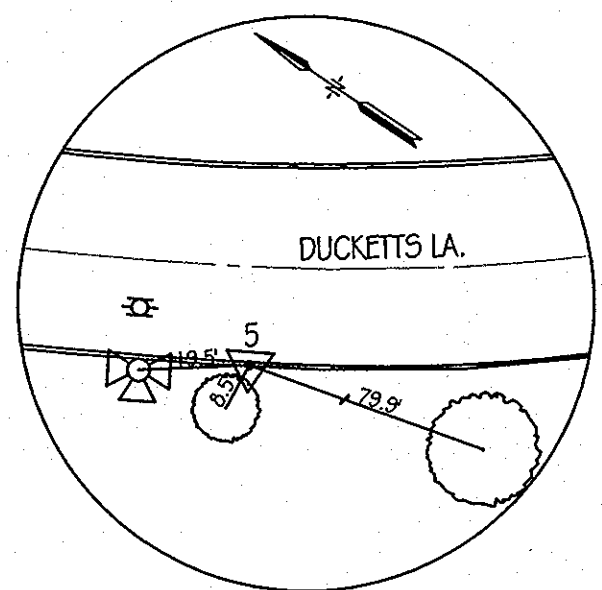
DUCKETTS LANE
WATER MAIN REPLACEMENT
 CAPITAL PROJECT No. W-8286
 CONTRACT No. 44-4677

ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

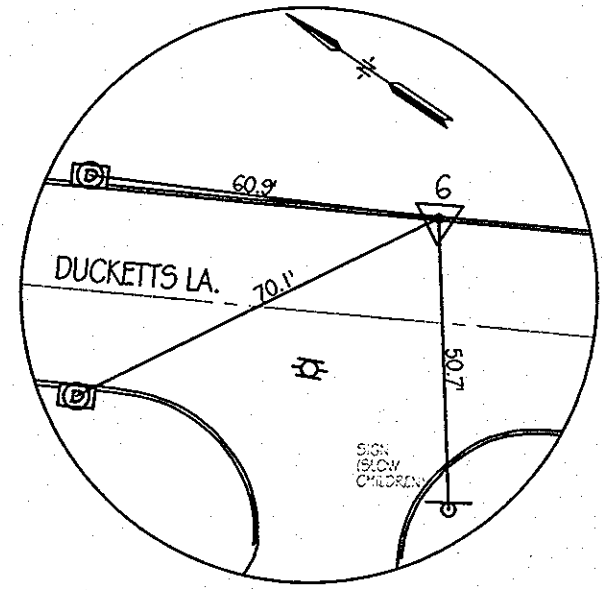
SCALE AS SHOWN SHEET 3 OF 29



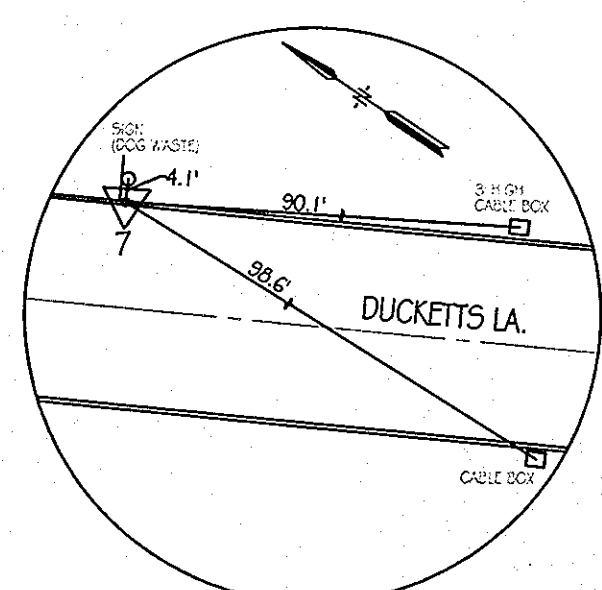
TRAV. #2
SCALE: N.T.S.



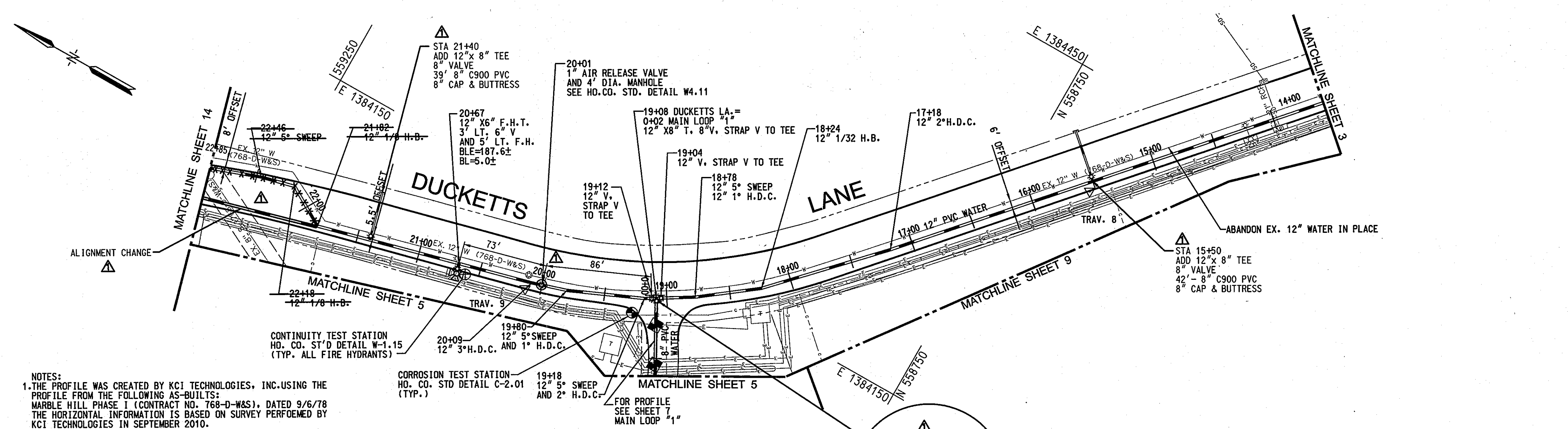
TRAV. #5
SCALE: N.T.S.



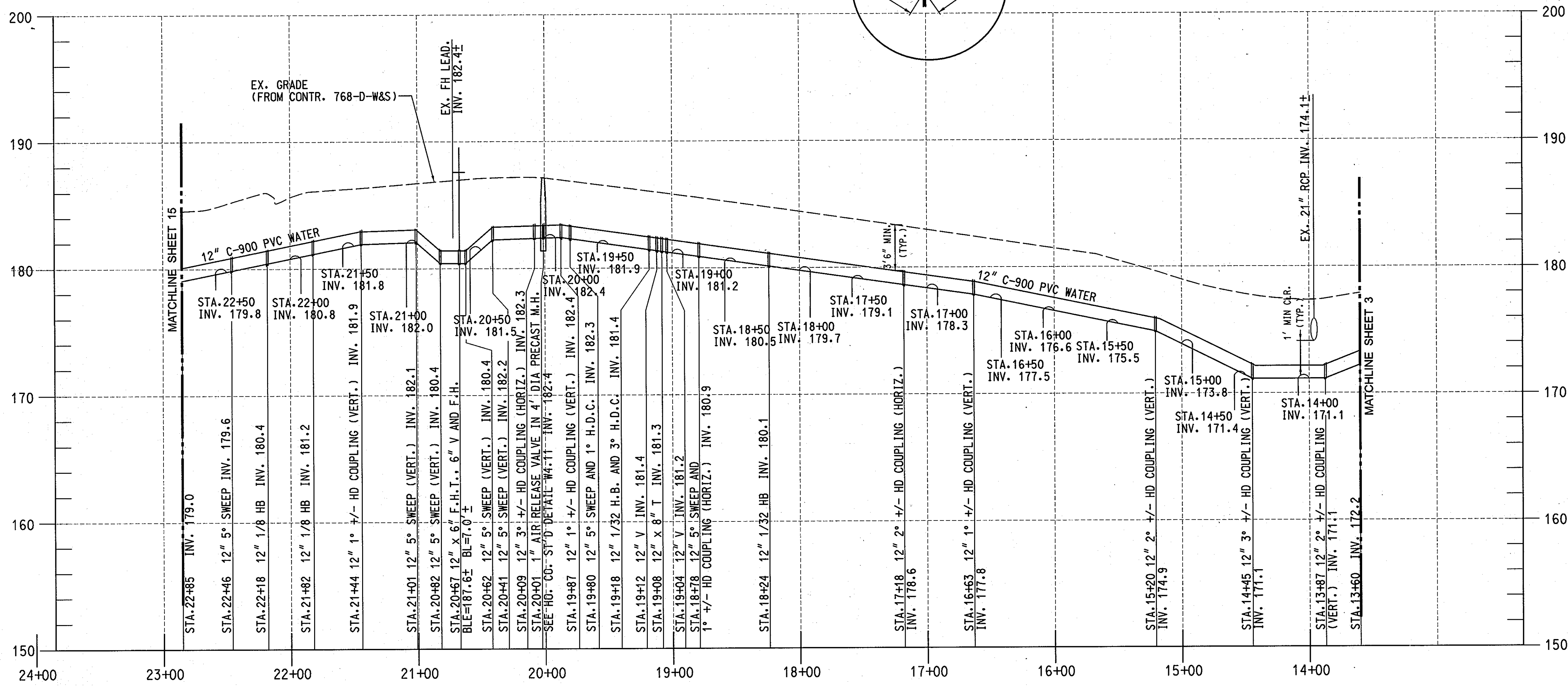
TRAV. #6
SCALE: N.T.S.



TRAV. #7
SCALE: N.T.S.



PLAN
SCALE: 1" = 50'



PROFILE
SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 5'

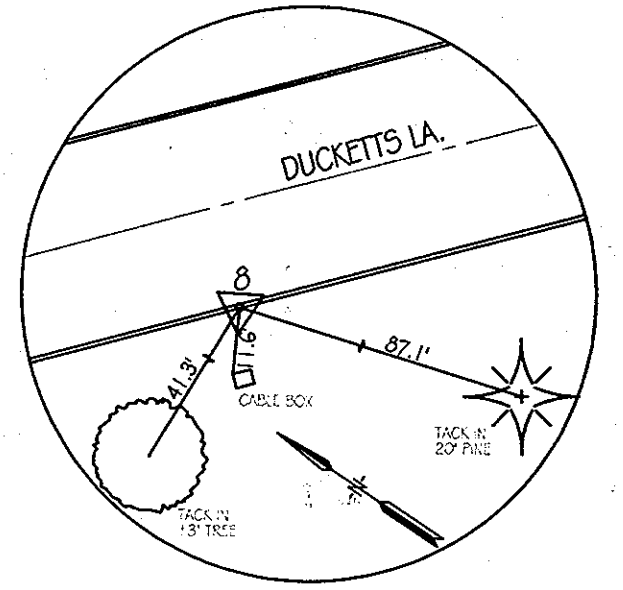
NOTES:
1. THE PROFILE WAS CREATED BY KCI TECHNOLOGIES, INC. USING THE PROFILE FROM THE FOLLOWING AS-BUILTS:
MARBLE HILL PHASE I (CONTRACT NO. 768-D-W&S), DATED 9/6/78
THE HORIZONTAL INFORMATION IS BASED ON SURVEY PERFORMED BY KCI TECHNOLOGIES IN SEPTEMBER 2010.
2. H.D.C. = HIGH DEFLECTION COUPLING.
3. REPLACE EX. WMC UP TO THE METER PIT OR CURB STOP.

CORROSION TEST STATION
HO. CO. STD DETAIL C-2.01
(TYP.)

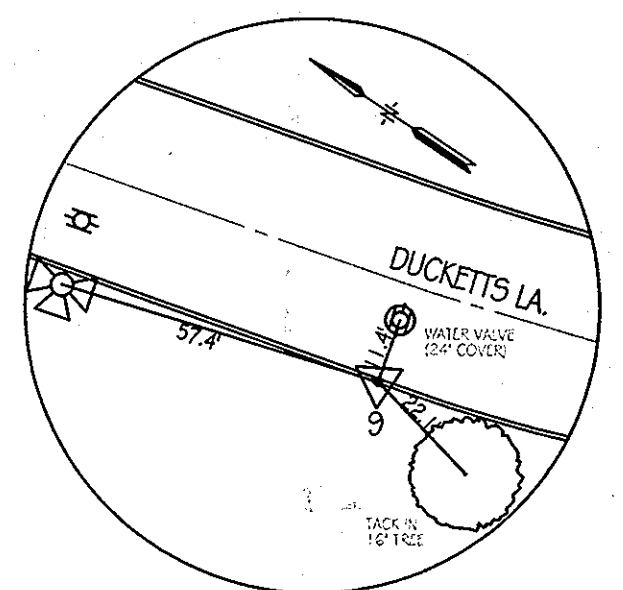
CONTINUITY TEST STATION
HO. CO. STD DETAIL W-1.15
(TYP. ALL FIRE HYDRANTS)

FITTING SCHEDULE			
STATION	FITTING	NORTHING	EASTING
13+87	12" 2" H.D.C. (V)		
14+45	12" 3" H.D.C. (V)		
15+20	12" 2" H.D.C. (V)		
16+63	12" 1" H.D.C. (V)		
17+18	12" 2" H.D.C. (H)	558808.6	1384248.3
18+24	12" 1/32 H.B.	558881.4	1384171.8
18+78	12" 5" SWEEP AND 1" H.D.C. (H)	558923.4	1384139.8
19+04	12" V	558946.2	1384125.9
19+08	12" X 8" TEE	558949.5	1384124.0
19+12	12" V	558952.5	1384121.9
19+18	12" 5" SWEEP	558957.5	1384119.1
19+80	12" 5" SWEEP	559013.5	1384094.5
19+87	12" 1" H.D.C. (V)		
20+01	4" DIA. MH	559033.0	1384088.4
20+09	12" 3" H.D.C. (H)	559040.4	1384086.0
20+41	12" 5" SWEEP (V)		
20+62	12" 5" SWEEP (V)		
20+67	12" X 6" F.H.T. 6" V & FH	559097.6	1384070.8
20+82	12" 5" SWEEP (V)		
21+01	12" 5" SWEEP (V)		
21+44	12" 1" H.D.C. (V)		
21+82	12" 1/8 H.B.	559208.8	1384041.4
22+18	12" 1/8 H.B.	558240.0	1384059.9
22+46	12" 5" SWEEP	558266.4	1384053.1

TRAVERSE COORDINATE SCHEDULE			
NUMBER	DISCRPTION	NORTHING	EASTING
TRAV. #8	X-CUT	558695.6	1384365.9
TRAV. #9	X-CUT	559042.7	1384079.3



TRAV. #8
SCALE: N.T.S.



TRAV. #9
SCALE: N.T.S.

PLOTTED: 09:22 AM on Wednesday, November 13, 2013
 FILE: \\M:\200\1017\178\05\Drawings\101717805-C-04-W.dgn

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31363, EXPIRATION DATE: 1/16/2014

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature]
DIRECTOR OF PUBLIC WORKS
DATE: 11/23/13

[Signature]
CHIEF, BUREAU OF UTILITIES
DATE: 11/23/13

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI
TECHNOLOGIES

936 RIDGEBROOK ROAD
SHARPS, MARYLAND 21152
TELEPHONE (410) 316-7800
FAX (410) 316-7818
WWW.KCI.COM

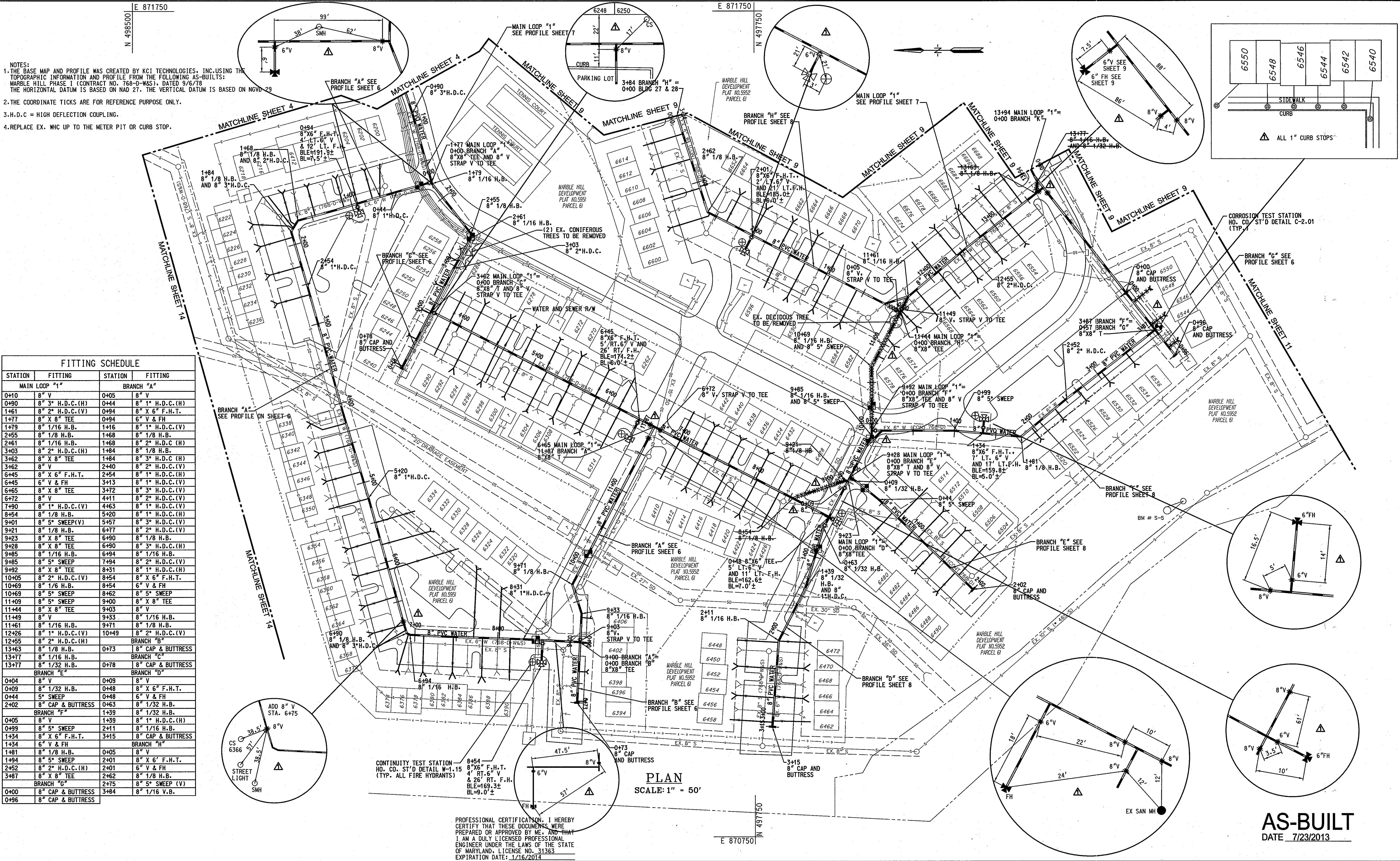
STATE OF MARYLAND
Professional Engineer
No. 31363
11/23/13

DES: MRD	
DRN: KFJ	
CHK: GW/TWW	
DATE: JAN. 2011	
BY: [Signature]	
NO.:	
AS-BUILT REPLACEMENT SHEET	7/23/13
REVISION	

PLAN AND PROFILE
DUCKETTS LANE
(STA. 13+60 TO STA. 22+85)
REPLACEMENT PLAN

DUCKETTS LANE
WATER MAIN REPLACEMENT
CAPITAL PROJECT No. W-8286
CONTRACT No. 44-4677
ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

SCALE	AS SHOWN
SHEET	4 OF 29

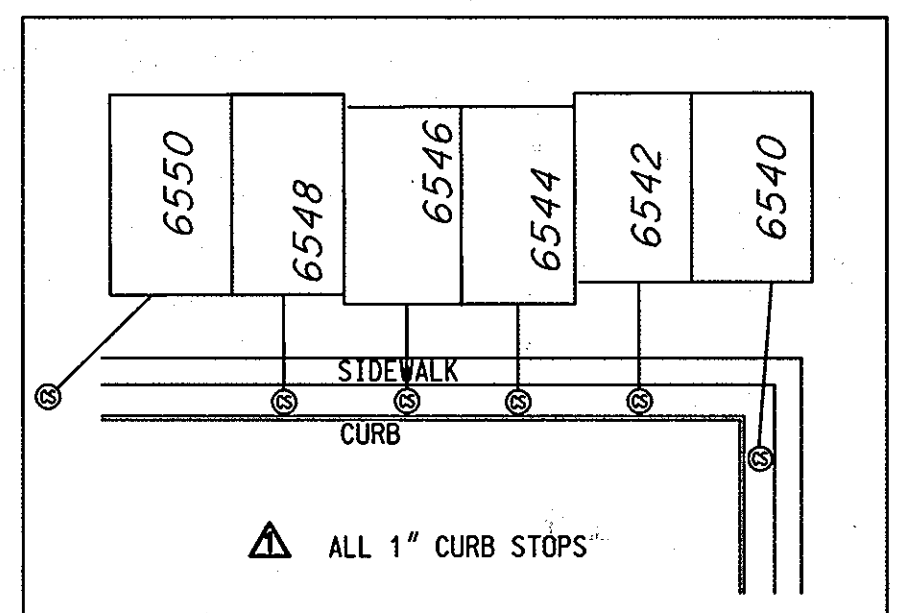


- NOTES:
1. THE BASE MAP AND PROFILE WAS CREATED BY KCI TECHNOLOGIES, INC. USING THE TOPOGRAPHIC INFORMATION AND PROFILE FROM THE FOLLOWING AS-BUILTS: MARBLE HILL PHASE I (CONTRACT NO. 768-D-WAS), DATED 9/6/78. THE HORIZONTAL DATUM IS BASED ON NAD 27. THE VERTICAL DATUM IS BASED ON NGVD 29.
 2. THE COORDINATE TICKS ARE FOR REFERENCE PURPOSE ONLY.
 3. H.D.C. = HIGH DEFLECTION COUPLING.
 4. REPLACE EX. WHC UP TO THE METER PIT OR CURB STOP.

FITTING SCHEDULE			
STATION	FITTING	STATION	FITTING
MAIN LOOP "1"		BRANCH "A"	
0+10	8" V	0+05	8" V
0+90	8" 3" H.D.C.(H)	0+44	8" 1" H.D.C.(H)
1+61	8" 2" H.D.C.(V)	0+94	8" X 6" F.H.T.
1+77	8" X 8" TEE	0+94	6" V & FH
1+79	8" 1/16 H.B.	1+16	8" 1" H.D.C.(V)
2+55	8" 1/8 H.B.	1+68	8" 1/8 H.B.
2+61	8" 1/16 H.B.	1+68	8" 2" H.D.C.(H)
3+03	8" 2" H.D.C.(H)	1+84	8" 1/8 H.B.
3+62	8" X 8" TEE	1+84	8" 3" H.D.C.(H)
3+62	8" V	2+40	8" 2" H.D.C.(V)
6+45	8" X 6" F.H.T.	2+54	8" 1" H.D.C.(H)
6+45	6" V & FH	3+13	8" 1" H.D.C.(V)
6+65	8" X 8" TEE	3+72	8" 3" H.D.C.(V)
6+72	8" V	4+11	8" 2" H.D.C.(V)
7+90	8" 1" H.D.C.(V)	4+63	8" 1" H.D.C.(H)
8+54	8" 1/8 H.B.	5+20	8" 1" H.D.C.(H)
9+01	8" 5" SWEEP(V)	5+57	8" 3" H.D.C.(V)
9+21	8" 1/8 H.B.	6+77	8" 2" H.D.C.(V)
9+23	8" X 8" TEE	6+90	8" 1/8 H.B.
9+28	8" X 8" TEE	6+90	8" 3" H.D.C.(H)
9+85	8" 1/16 H.B.	6+94	8" 1/16 H.B.
9+85	8" 5" SWEEP	7+94	8" 2" H.D.C.(V)
9+92	8" X 8" TEE	8+31	8" 1/8 H.B.
10+05	8" 2" H.D.C.(V)	8+54	8" X 6" F.H.T.
10+69	8" 1/6 H.B.	8+54	6" V & FH
10+69	8" 5" SWEEP	8+62	8" 5" SWEEP
11+09	8" 5" SWEEP	9+00	8" X 8" TEE
11+44	8" X 8" TEE	9+03	8" V
11+49	8" V	9+33	8" 1/16 H.B.
11+61	8" 1/16 H.B.	9+71	8" 1/8 H.B.
12+26	8" 1" H.D.C.(V)	10+49	8" 2" H.D.C.(V)
12+55	8" 2" H.D.C.(H)	BRANCH "B"	
13+63	8" 1/8 H.B.	8" CAP & BUTTRESS	
13+77	8" 1/16 H.B.	BRANCH "C"	
13+77	8" 1/32 H.B.	8" CAP & BUTTRESS	
BRANCH "E"		BRANCH "D"	
0+04	8" V	0+09	8" V
0+09	8" 1/32 H.B.	0+48	8" X 6" F.H.T.
0+44	5" SWEEP	0+48	6" V & FH
2+02	8" CAP & BUTTRESS	0+63	8" 1/32 H.B.
BRANCH "F"		BRANCH "H"	
0+05	8" V	1+39	8" 1" H.D.C.(H)
0+99	8" 5" SWEEP	2+11	8" 1/16 H.B.
1+34	8" X 6" F.H.T.	3+15	8" CAP & BUTTRESS
1+34	6" V & FH	BRANCH "I"	
1+61	8" 1/8 H.B.	0+05	8" V
1+94	8" 5" SWEEP	2+01	8" X 6" F.H.T.
2+52	8" 2" H.D.C.(H)	2+01	6" V & FH
3+87	8" X 8" TEE	2+62	8" 1/8 H.B.
BRANCH "G"		2+75	8" 5" SWEEP (V)
0+00	8" CAP & BUTTRESS	3+84	8" 1/16 V.B.
0+96	8" CAP & BUTTRESS		

PLAN SCALE: 1" = 50'

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31363, EXPIRATION DATE: 1/16/2014.

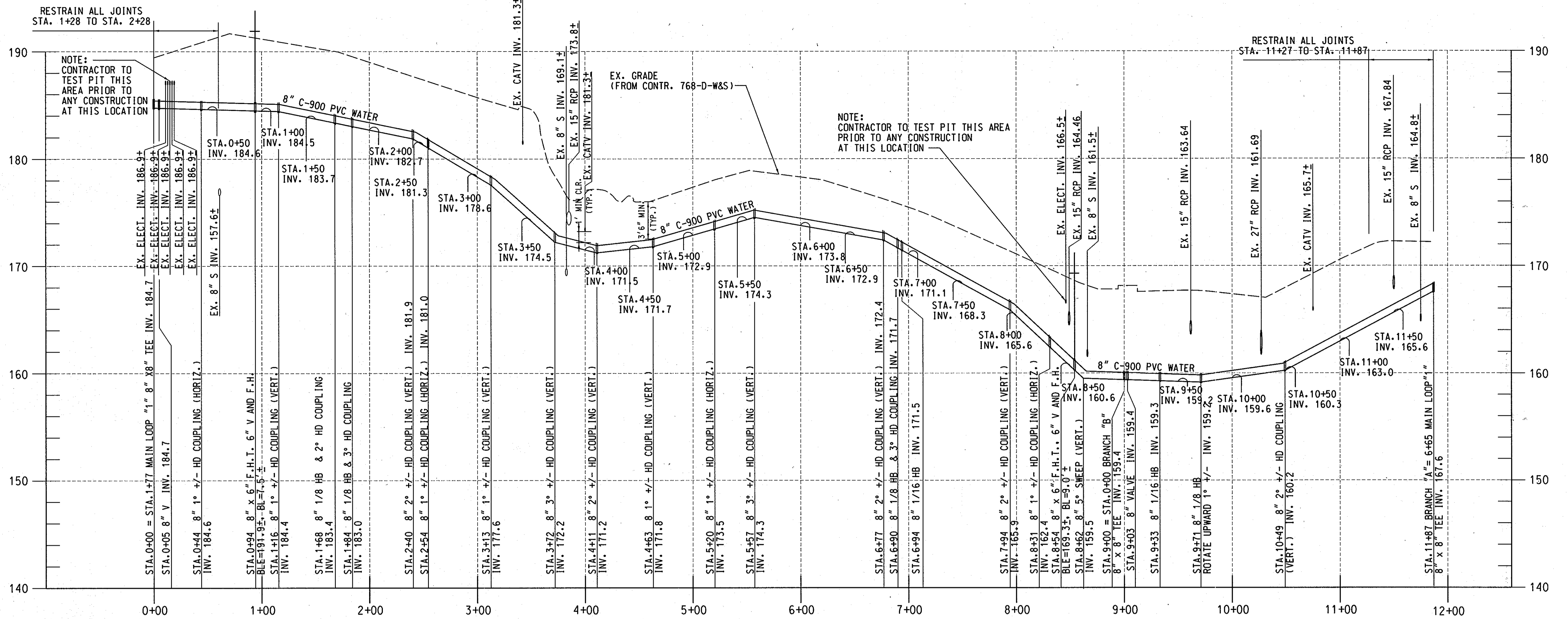


AS-BUILT DATE 7/23/2013

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 		 ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS 936 RINGBROOK ROAD SPARKS, MARYLAND 21152 TELEPHONE: (410) 316-7800 FAX: (410) 316-7818 WWW.KCI.COM		DES: MRD DRN: KFJ CHK: GW/TWW DATE: JAN. 2011		PLAN MARBLE HILL I AS-BUILT REPLACEMENT SHEET 7/23/13		DUCKETTS LANE WATER MAIN REPLACEMENT CAPITAL PROJECT NO. W-8286 CONTRACT NO. 44-4677 ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND		SCALE AS SHOWN SHEET 5 OF 29
-----------------------------------------------------------	--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--------------------------------------------------------	--	----------------------------------------------------------------	--	--------------------------------------------------------------------------------------------------------------------------------------------------	--	---------------------------------------

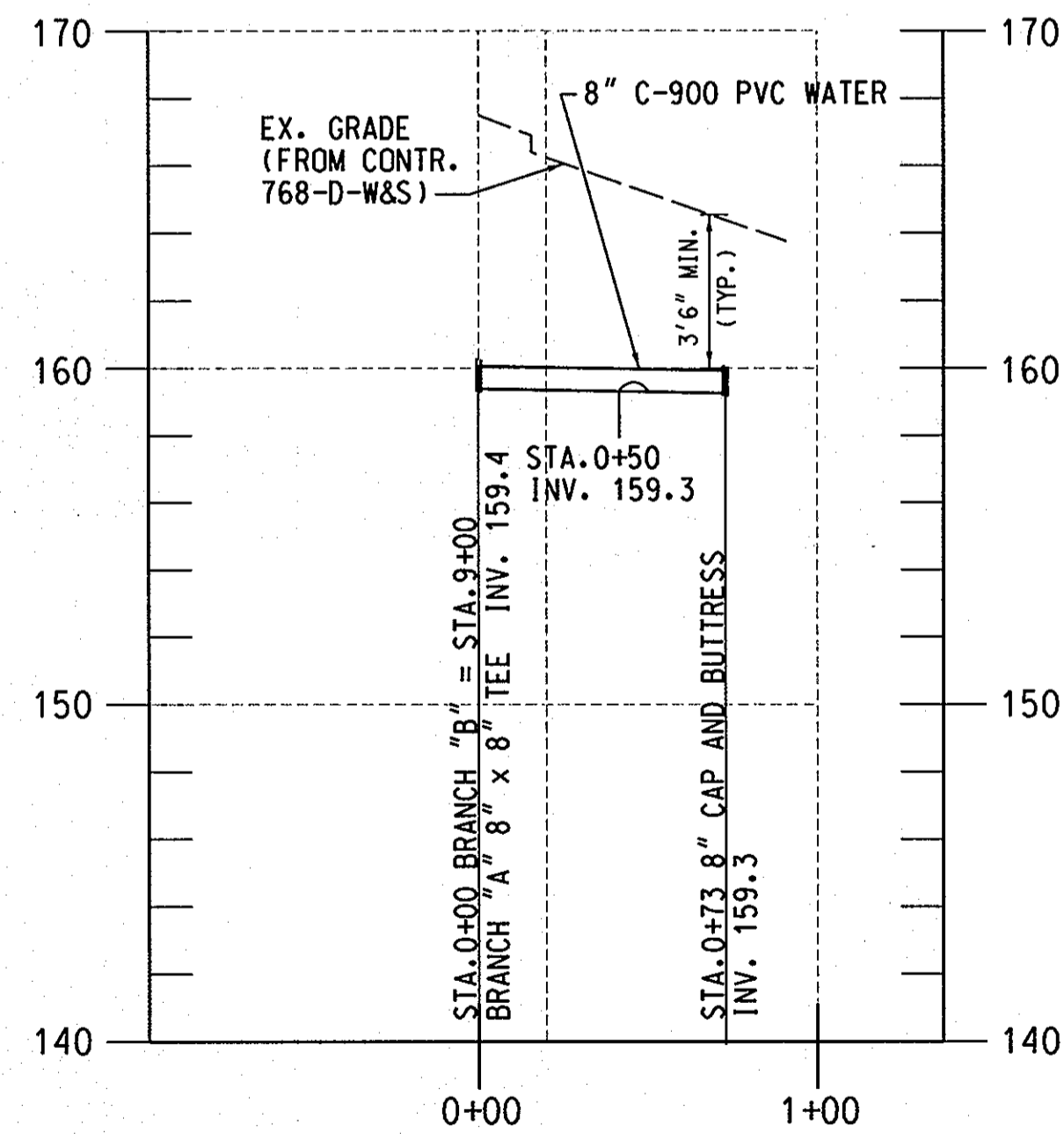
NOTES:
 1. THE BASE MAP AND PROFILE WAS CREATED BY KCI TECHNOLOGIES, INC. USING THE TOPOGRAPHIC INFORMATION AND PROFILE FROM THE FOLLOWING AS-BUILTS:
 MARBLE HILL PHASE I (CONTRACT NO. 768-D-W&S), DATED 9/6/78

2. H.D.C. = HIGH DEFLECTION COUPLING.



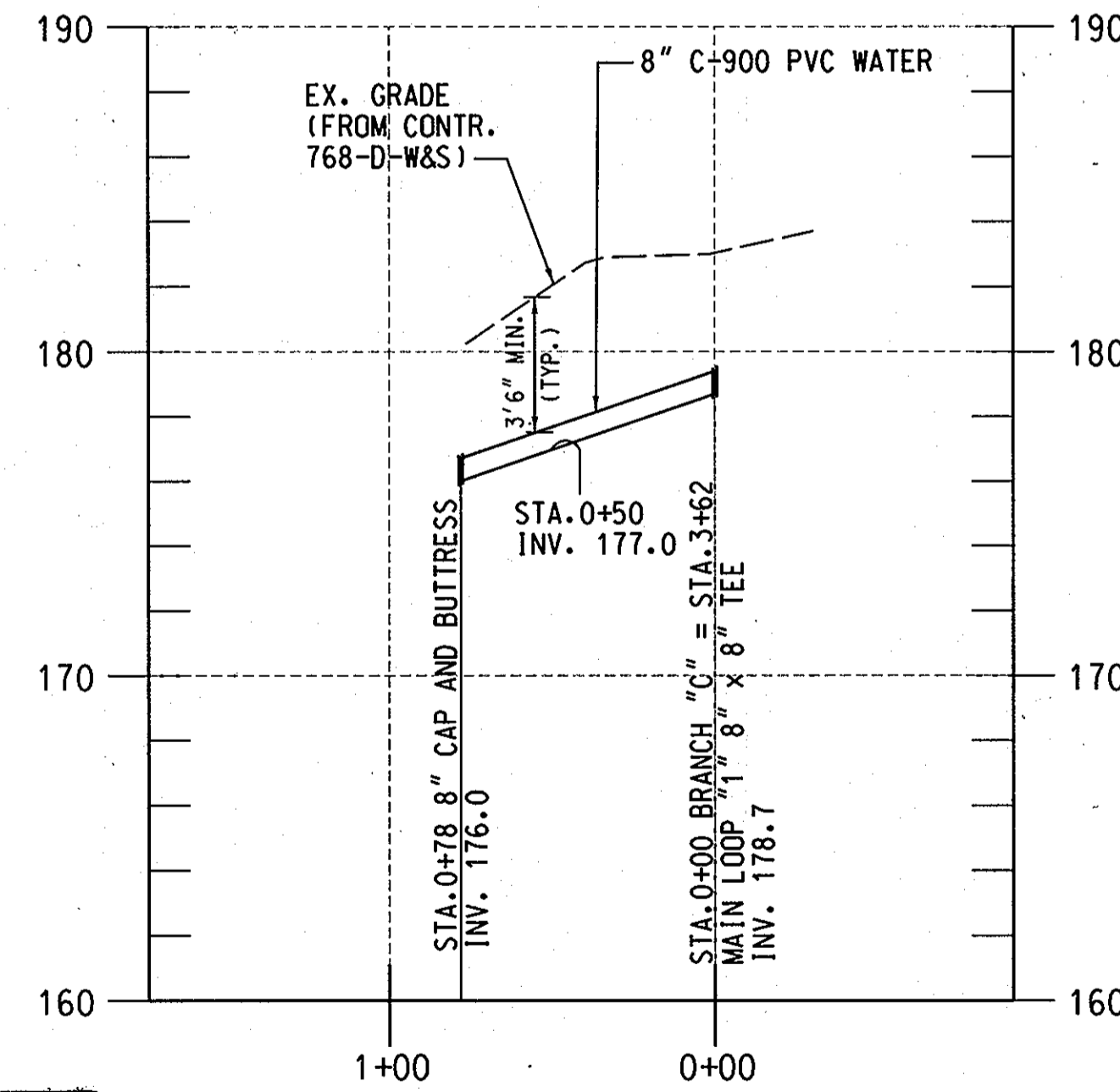
PROFILE-BRANCH "A"

SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'
 (FOR PLAN SEE SHEET 5)



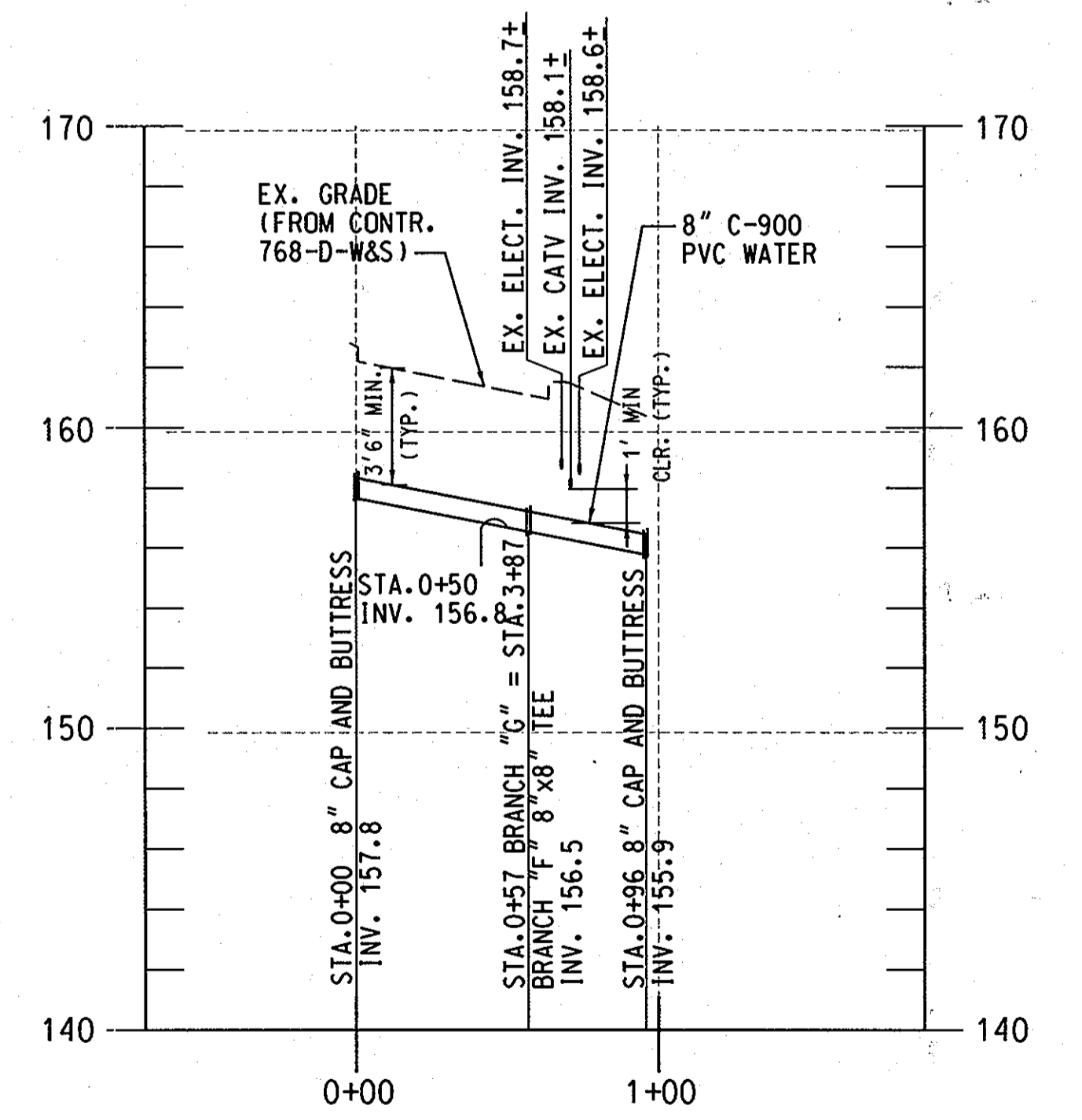
PROFILE-BRANCH "B"

SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'
 (FOR PLAN SEE SHEET 5)



PROFILE-BRANCH "C"

SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'
 (FOR PLAN SEE SHEET 5)



PROFILE-BRANCH "G"

SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'
 (FOR PLAN SEE SHEET 5)

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 31363 EXPIRATION DATE: 1/16/2012

AS-BUILT

DATE 7/23/2013

PLOTTED: 10/14/13 AM 11:34 Tuesday, January 25, 2011
 BY: K. Kavin Jackson, Division P042, W:\WWW\Sales\Waste QMA Emg
 FILE: MA 2007\01071378.05.dwg, drawings\0107137805-C-06-W.dgn

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 1/25/11
 Chief, Bureau of Utilities: *[Signature]* 1/25/11

Chief Engineer: *[Signature]* 1/25/11
 Chief, Utility Design Division: *[Signature]* 1/25/11

ENGINEERS
 PLANNERS
 SCIENTISTS
 CONSTRUCTION MANAGERS

KCI TECHNOLOGIES

936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 WWW.KCI.COM

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 No. 31363
 EXPIRES 1/16/2012

DES: MRD	
DRN: KFJ	
CHK: GW/TWW	
DATE: JAN. 2011	BY: NO.
REVISION	DATE
AS-BUILT	7/23/13

PROFILES MARBLE HILL I

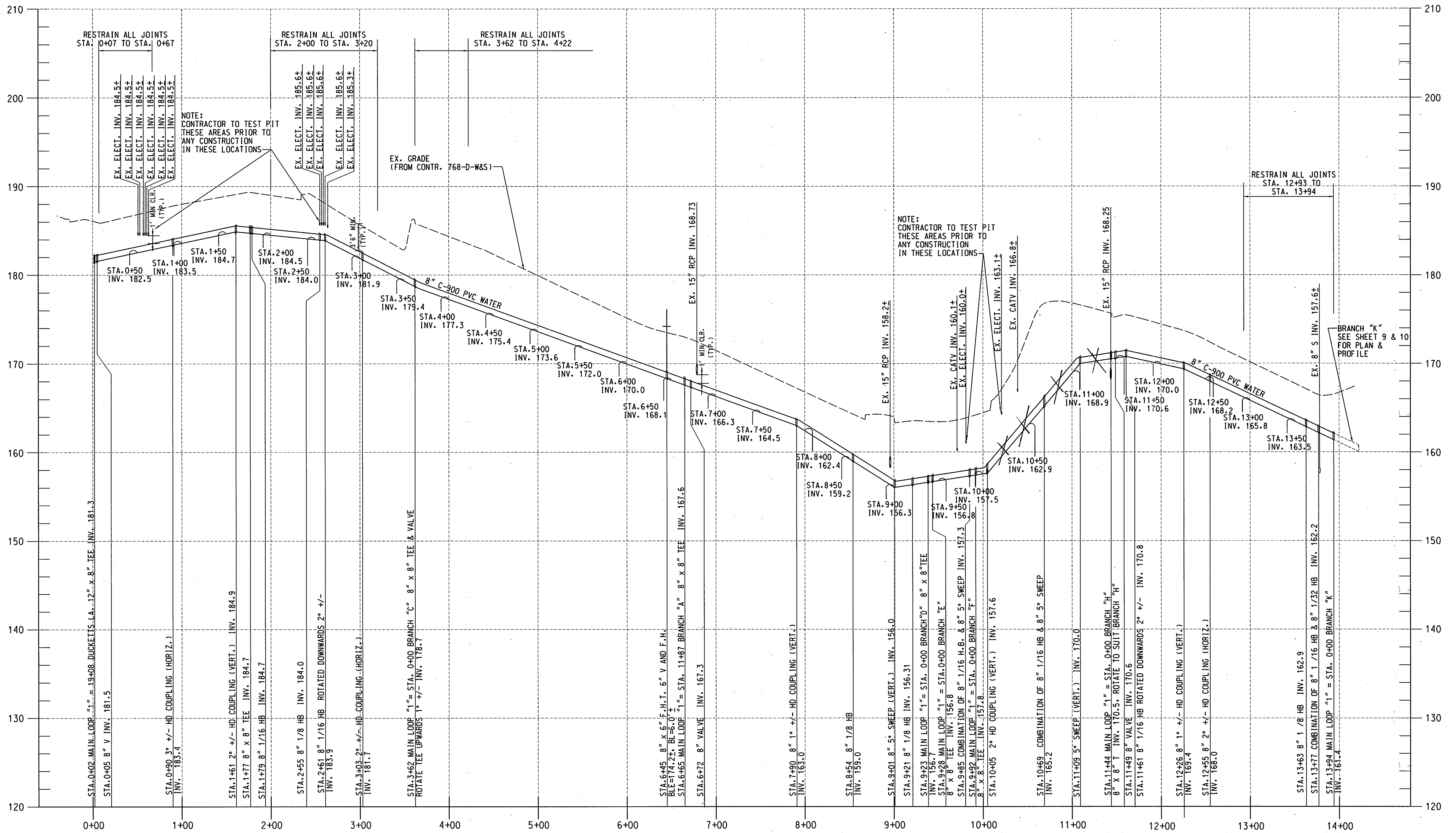
600' SCALE MAP NO. 37 BLOCK NO. 18

DUCKETTS LANE WATER MAIN REPLACEMENT

CAPITAL PROJECT No. W-8286
 CONTRACT No. 44-4677

ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 6 OF 29



NOTES:
 1. THE BASE MAP AND PROFILE WAS CREATED BY KCI TECHNOLOGIES, INC. USING THE TOPOGRAPHIC INFORMATION AND PROFILE FROM THE FOLLOWING AS-BUILTS: MARBLE HILL PHASE I (CONTRACT NO. 768-D-W&S), DATED 9/6/78
 2. H.D.C. = HIGH DEFLECTION COUPLING.



PROFILE-MAIN LOOP "1"
 SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'
 (FOR PLAN SEE SHEET 5)

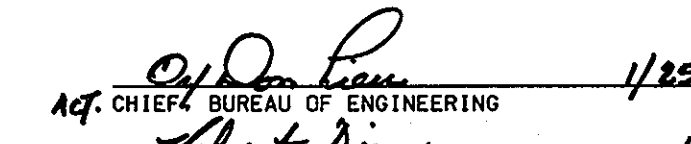

AS-BUILT
 DATE 7/23/2013

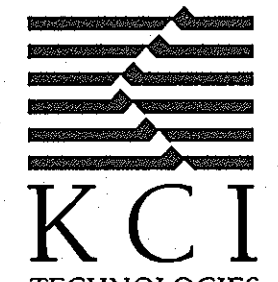
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 31363 EXPIRATION DATE: 1/16/2012


PLOTTED: 09/16/13 At: Tuesday, January 26, 2011
 BY: Kevin Jackson Division F042 W: WWW.Solid Waste
 FILE: MA_2007_01071378_05.dwg/ma_0107137805-C-07-W.dgn

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

 1/25/11
 DIRECTOR OF PUBLIC WORKS DATE
 1/25/11
 CHIEF, BUREAU OF UTILITIES DATE

 1/25/11
 CHIEF, BUREAU OF ENGINEERING DATE
 1/25/11
 CHIEF, UTILITY DESIGN DIVISION PSD DATE


 ENGINEERS
 PLANNERS
 SCIENTISTS
 CONSTRUCTION MANAGERS
 936 RIDGECROFT ROAD
 SINKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 WWW.KCI.COM

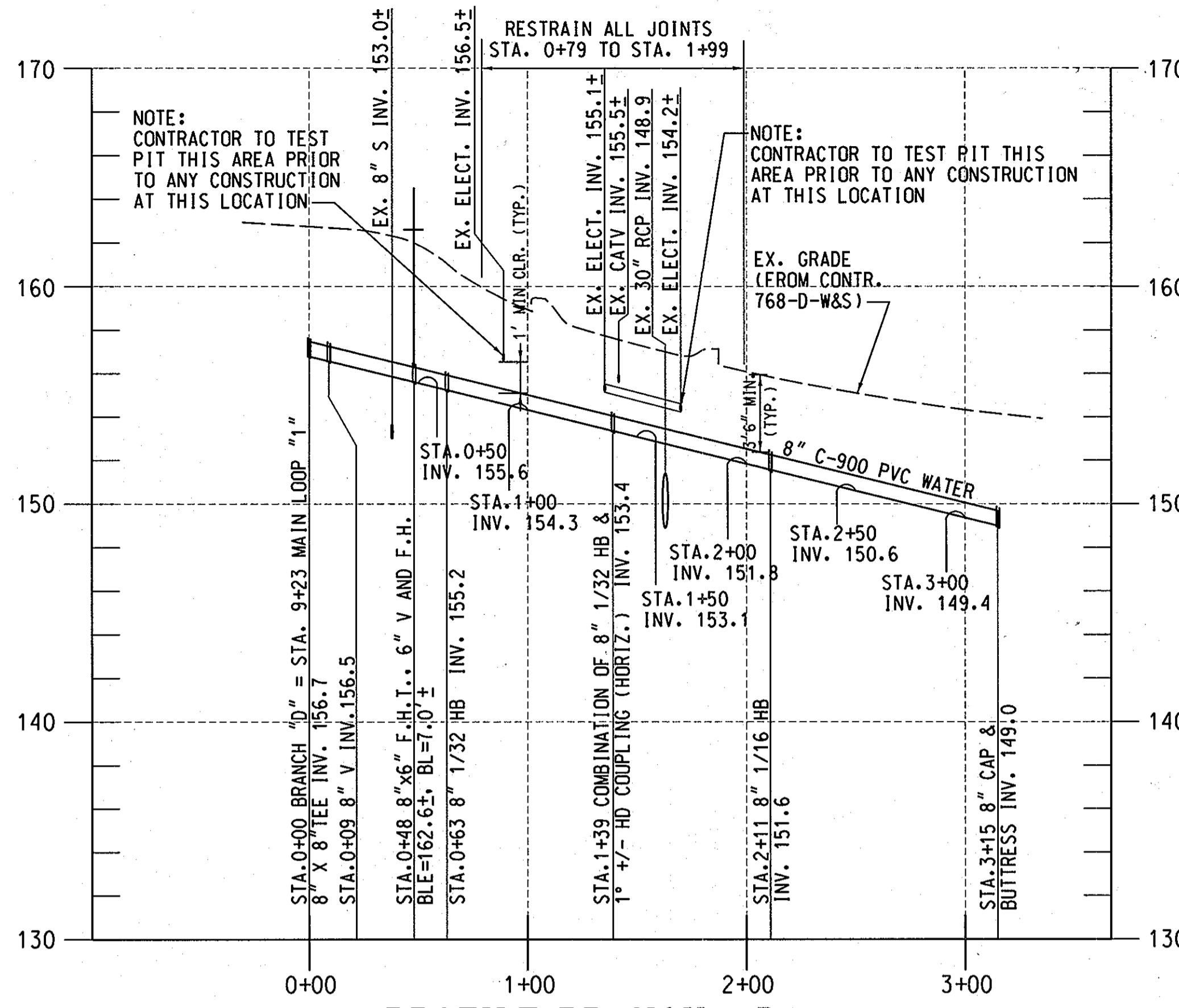

 KEVIN JACKSON
 LICENSE NO. 31363
 EXPIRATION DATE: 1/16/2012

DES:	MRD		
DRN:	KFJ		
CHK:	GW/TWW		
DATE:	AS	AS-BUILT	7/23/13
JAN. 2011	BY	NO.	REVISION

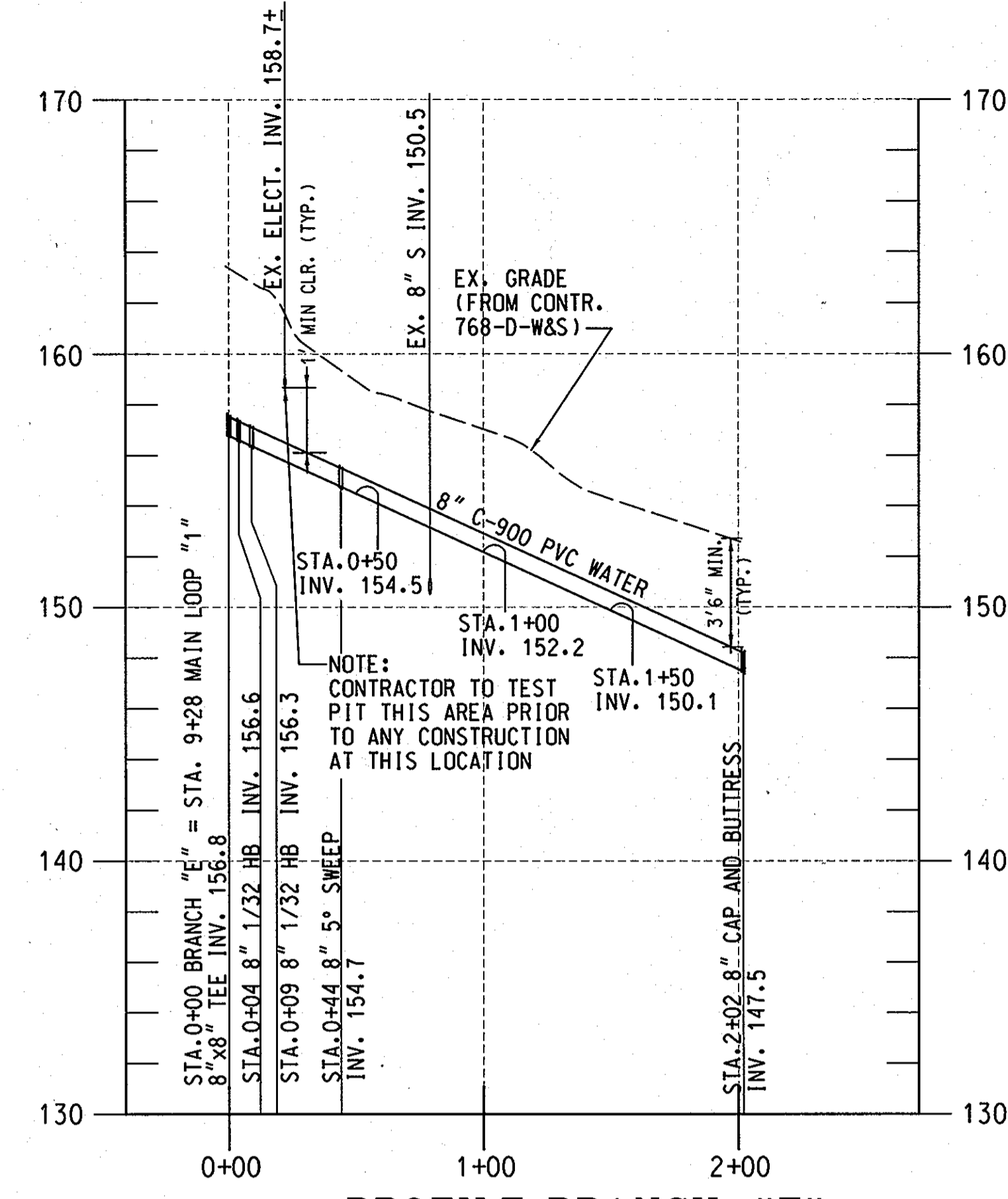
PROFILE
MARBLE HILL I
 600' SCALE MAP NO. 37 BLOCK NO. 18

DUCKETTS LANE
 WATER MAIN REPLACEMENT
 CAPITAL PROJECT No. W-8286
 CONTRACT No. 44-4677
 ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

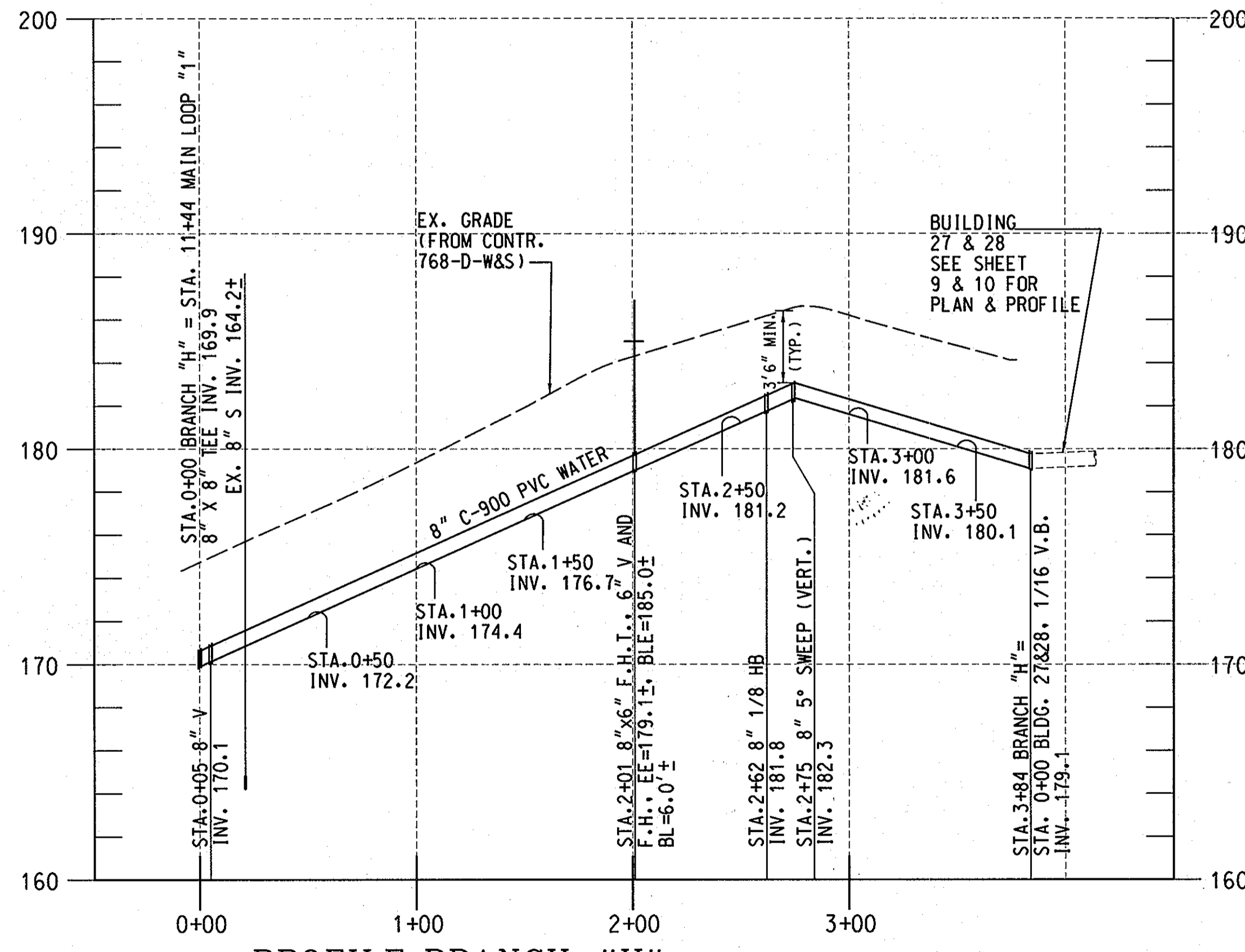
NOTES:
 1. THE BASE MAP AND PROFILE WAS CREATED BY KCI TECHNOLOGIES, INC. USING THE TOPOGRAPHIC INFORMATION AND PROFILE FROM THE FOLLOWING AS-BUILTS: MARBLE HILL PHASE I (CONTRACT NO. 768-D-W&S), DATED 9/6/78
 2. H.D.C = HIGH DEFLECTION COUPLING.



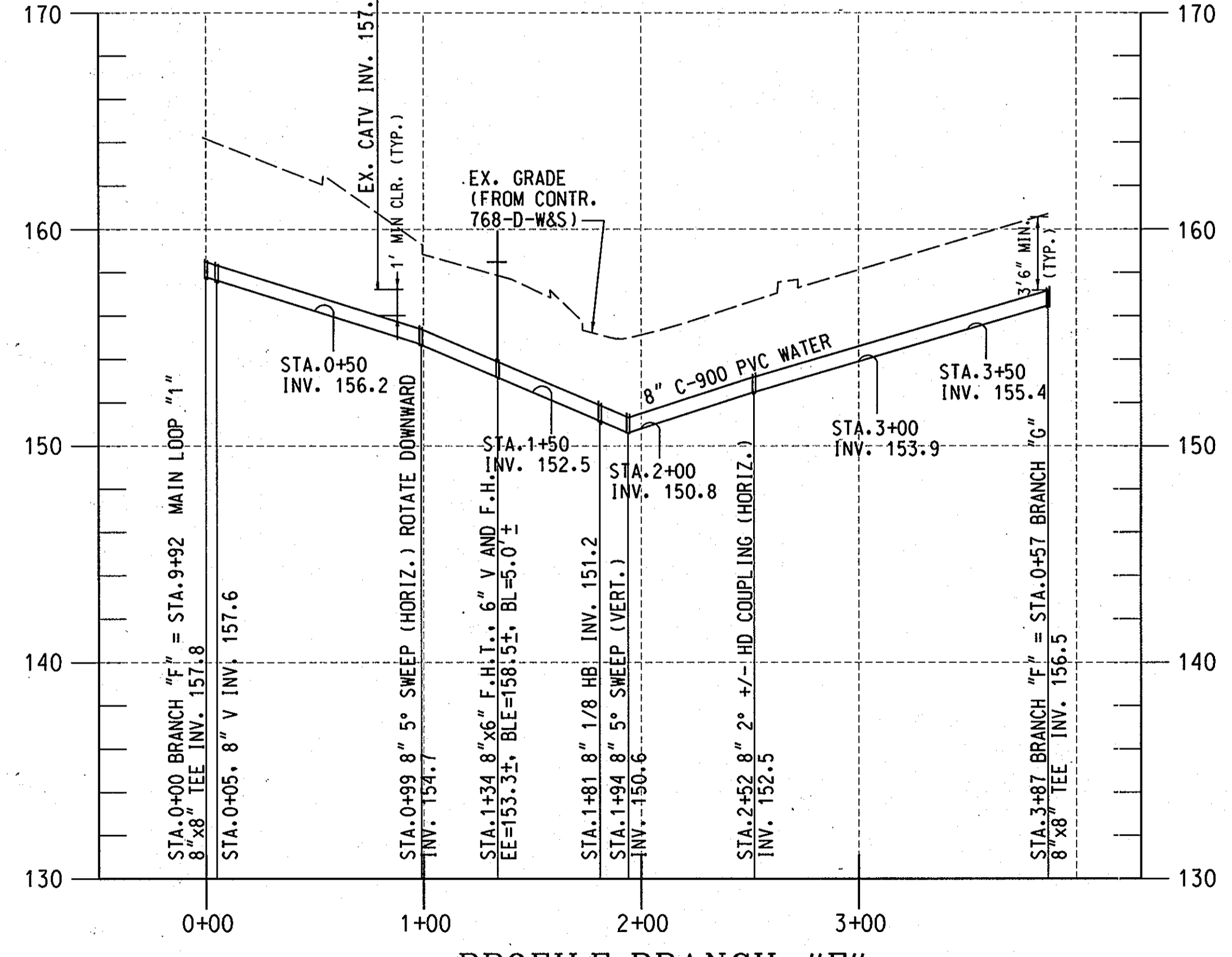
PROFILE-BRANCH "D"
 SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'
 (FOR PLAN SEE SHEET 5)



PROFILE-BRANCH "E"
 SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'
 (FOR PLAN SEE SHEET 5)



PROFILE-BRANCH "H"
 SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'
 (FOR PLAN SEE SHEET 5)



PROFILE-BRANCH "F"
 SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'
 (FOR PLAN SEE SHEET 5)

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 31363 EXPIRATION DATE: 1/16/2012

AS-BUILT
 DATE 7/23/13

PLOTTED: 10:46 AM on Tuesday, January 25, 2011
 BY: Kevin Jackson, Division P042, W:\WWW\Solid Waste GMA, Edm
 FILE: M:\2007\01071378.05\Drawings\0107137805-C-08-W.dgn

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 1/25/11
 Chief, Bureau of Engineering: *[Signature]* 1/25/11
 Chief, Bureau of Utilities: *[Signature]* 1/25/11
 ACT. CHIEF, UTILITY DESIGN DIVISION: *[Signature]* PSD

ENGINEERS
 PLANNERS
 SCIENTISTS
 CONSTRUCTION MANAGERS

KCI TECHNOLOGIES

936 RIDGEBROOK ROAD
 SINKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 WWW.KCI.COM

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 License No. 31363
 Expiration Date: 1/16/2012

DES: MRD	
DRN: KFJ	
CHK: GW/TWW	
DATE: JAN. 2011	BY: GS
	NO. AS-BUILT
	REVISION
	DATE: 7/23/13

PROFILES
 MARBLE HILL I

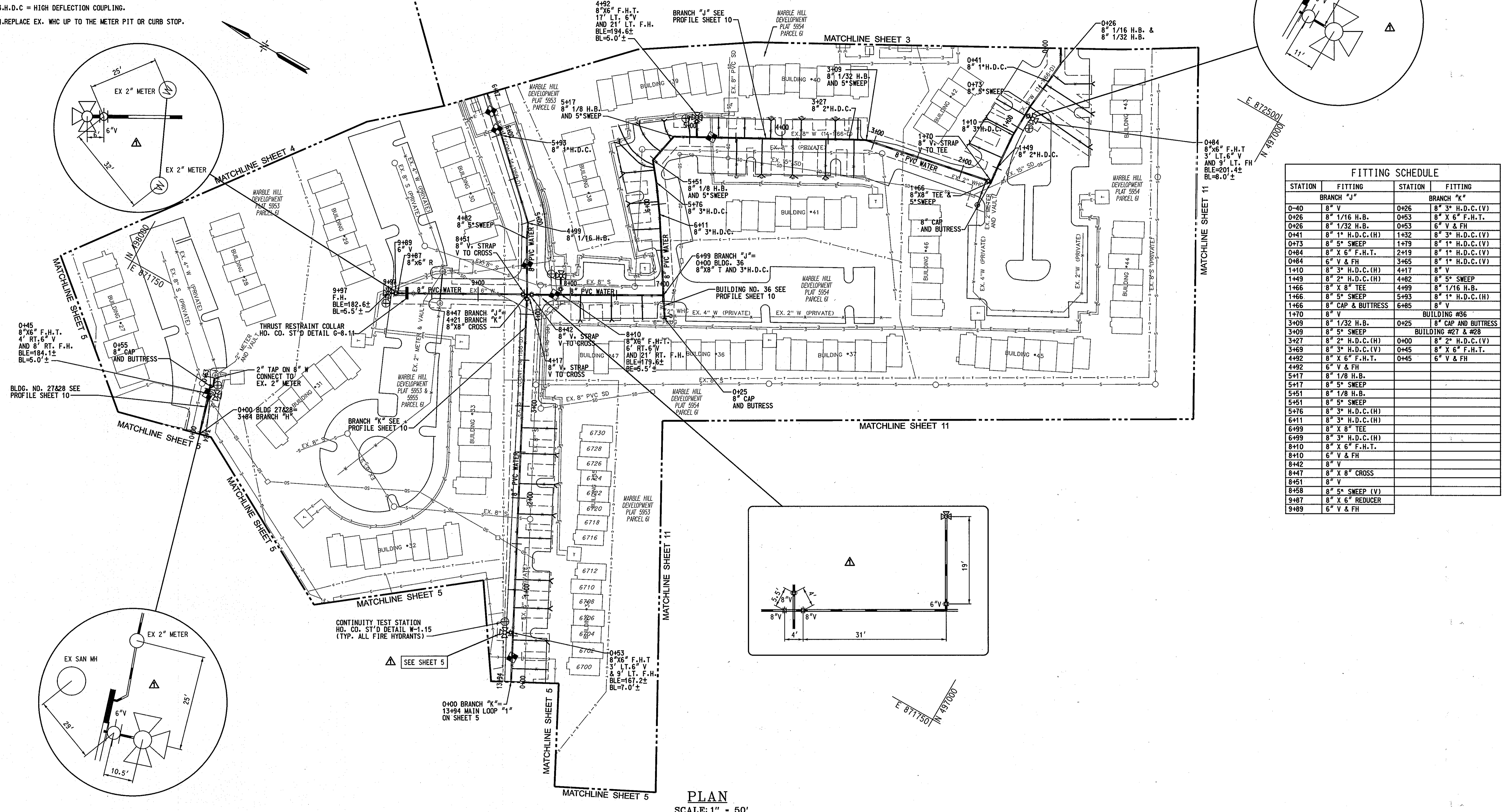
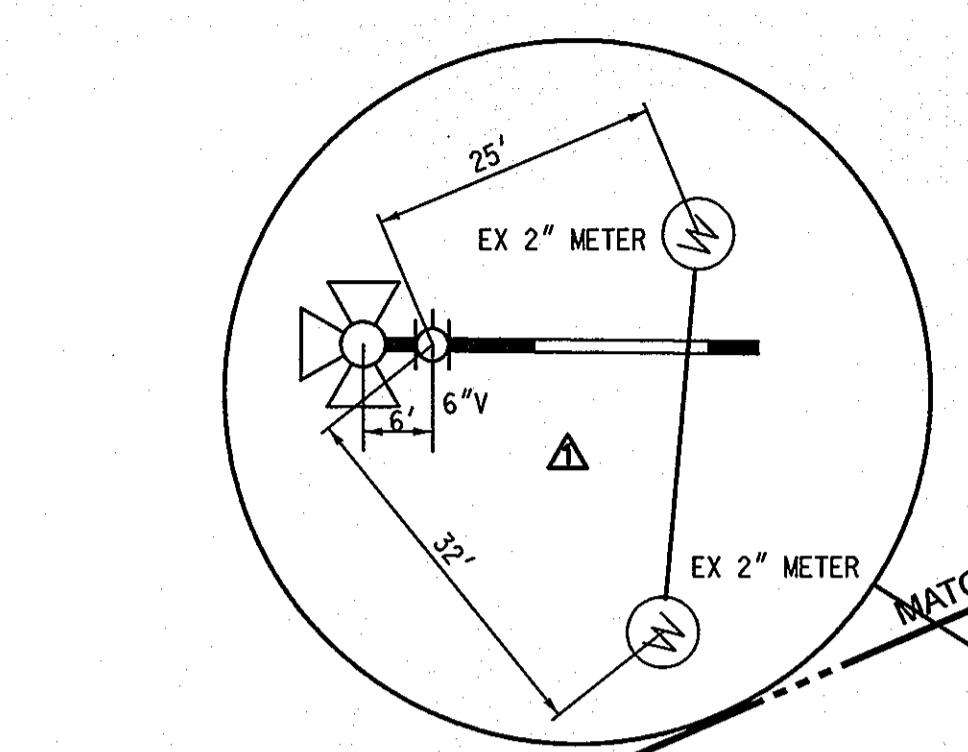
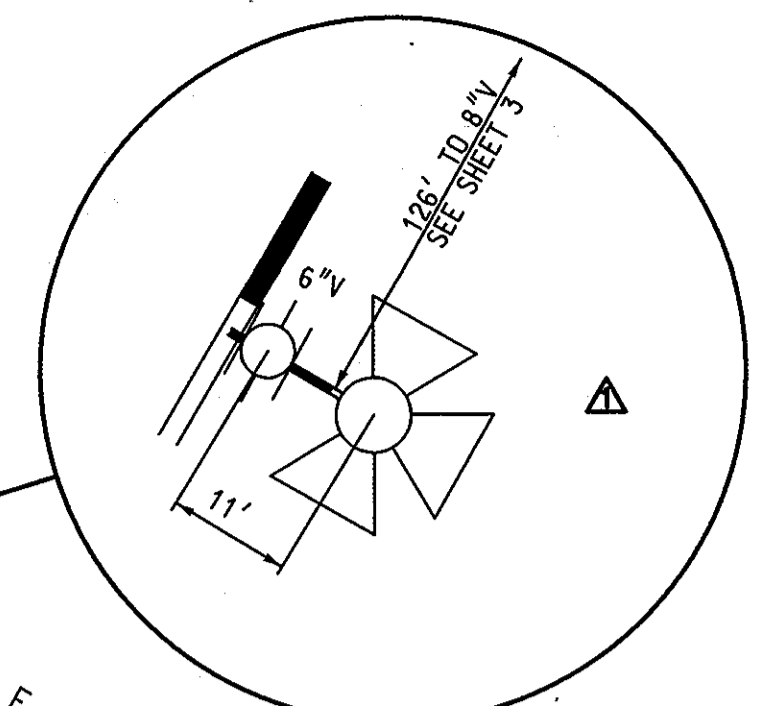
600' SCALE MAP NO. 37 BLOCK NO. 18

DUCKETTS LANE
 WATER MAIN REPLACEMENT
 CAPITAL PROJECT No. W-8286
 CONTRACT No. 44-4677

ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET
8 OF 29

- NOTES:
1. THE BASE MAP AND PROFILE WAS CREATED BY KCI TECHNOLOGIES, INC. USING THE TOPOGRAPHIC INFORMATION AND PROFILE FROM THE FOLLOWING AS-BUILTS: MARBLE HILL PHASE I (CONTRACT NO. 44-1166-D), DATED 11/17/83 & 12/15/84. THE HORIZONTAL DATUM IS BASED ON NAD 27. THE VERTICAL DATUM IS BASED ON NGVD 29.
 2. THE COORDINATE TICKS ARE FOR REFERENCE PURPOSE ONLY.
 3. H.D.C. = HIGH DEFLECTION COUPLING.
 4. REPLACE EX. W.C. UP TO THE METER PIT OR CURB STOP.



FITTING SCHEDULE			
STATION	FITTING	STATION	FITTING
0-40	8" V	0426	8" 3" H.D.C. (V)
0426	8" 1/16 H.B.	0453	8" X 6" F.H.T.
0426	8" 1/32 H.B.	0453	6" V & FH
0441	8" 1" H.D.C. (H)	1432	8" 3" H.D.C. (V)
0473	8" 5" SWEEP	1479	8" 1" H.D.C. (V)
0484	8" X 6" F.H.T.	2419	8" 1" H.D.C. (V)
0484	6" V & FH	3465	8" 1" H.D.C. (V)
1410	8" 3" H.D.C. (H)	4417	8" V
1449	8" 2" H.D.C. (H)	4462	8" 5" SWEEP
1466	8" X 8" TEE	4499	8" 1/16 H.B.
1466	8" 5" SWEEP	5493	8" 1" H.D.C. (H)
1466	8" CAP & BUTTRESS	6485	8" V
1470	8" V		BUILDING #36
3409	8" 1/32 H.B.	0425	8" CAP AND BUTTRESS
3409	8" 5" SWEEP		BUILDING #27 & #28
3427	8" 2" H.D.C. (H)	0400	8" 2" H.D.C. (V)
3469	8" 3" H.D.C. (V)	0445	8" X 6" F.H.T.
4492	8" X 6" F.H.T.	0445	6" V & FH
4492	6" V & FH		
5417	8" 1/8 H.B.		
5417	8" 5" SWEEP		
5451	8" 1/8 H.B.		
5451	8" 5" SWEEP		
5476	8" 3" H.D.C. (H)		
6411	8" 3" H.D.C. (H)		
6499	8" X 8" TEE		
6499	8" 3" H.D.C. (H)		
8410	8" X 6" F.H.T.		
8410	6" V & FH		
8442	8" V		
8447	8" X 8" CROSS		
8451	8" V		
8458	8" 5" SWEEP (V)		
9487	8" X 6" REDUCER		
9489	6" V & FH		

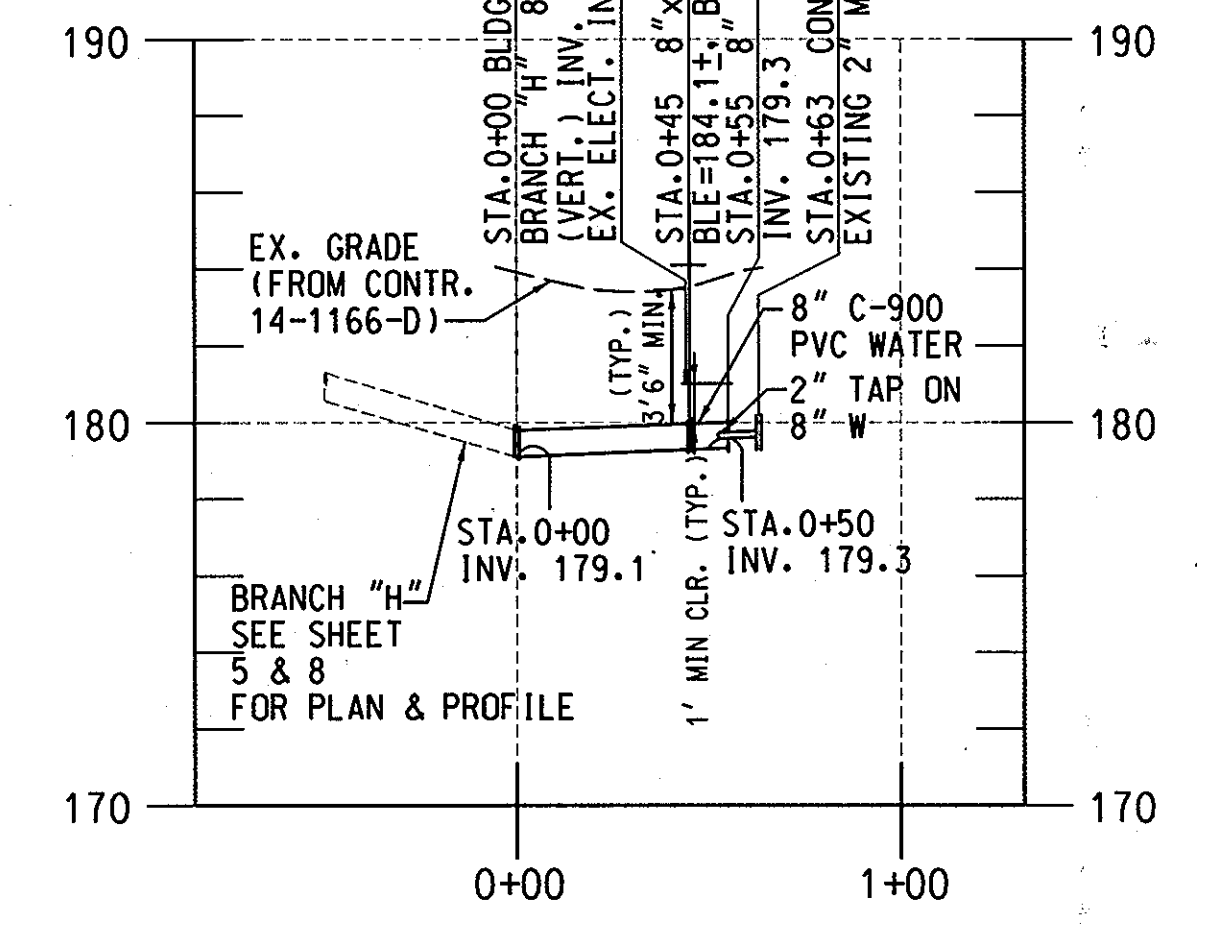
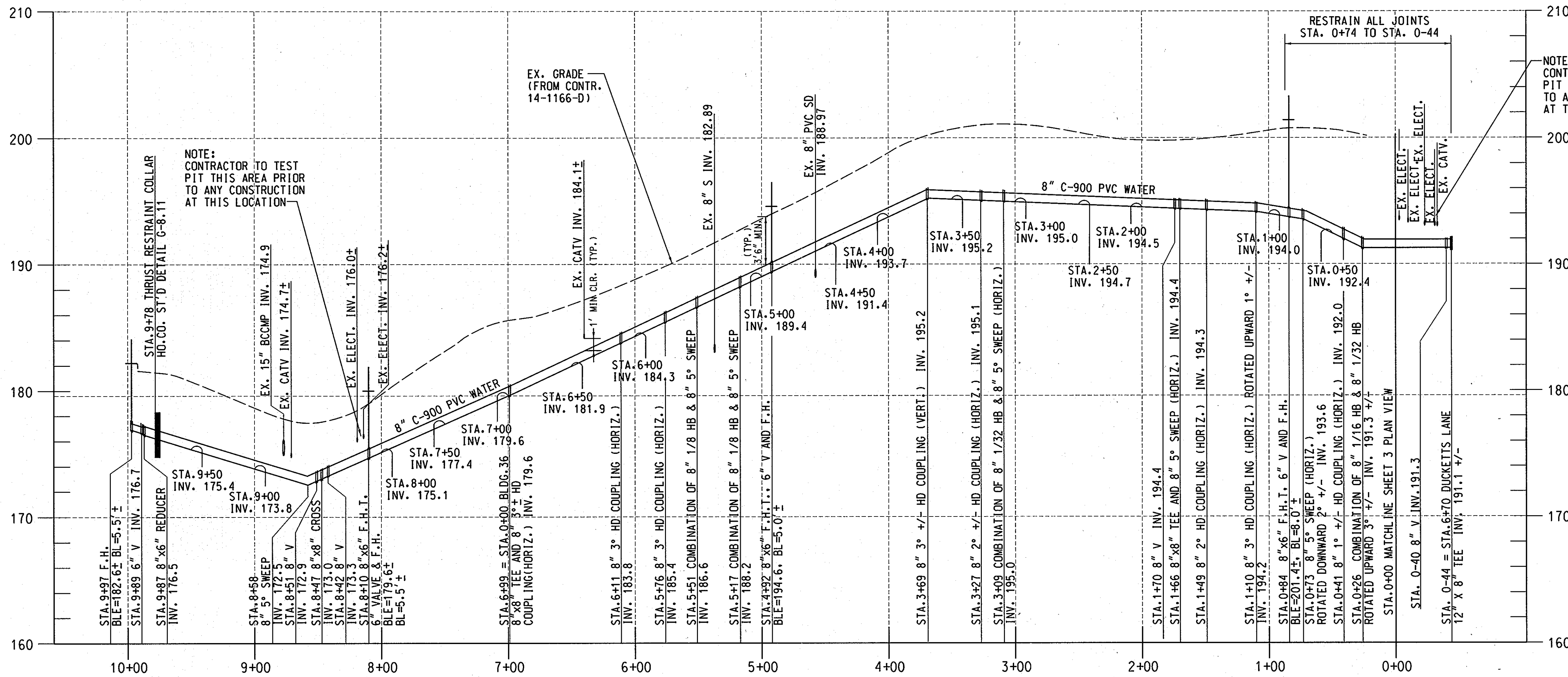
PLAN
SCALE: 1" = 50'

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31363 EXPIRATION DATE: 1/16/2014

AS-BUILT
DATE 7/23/2013

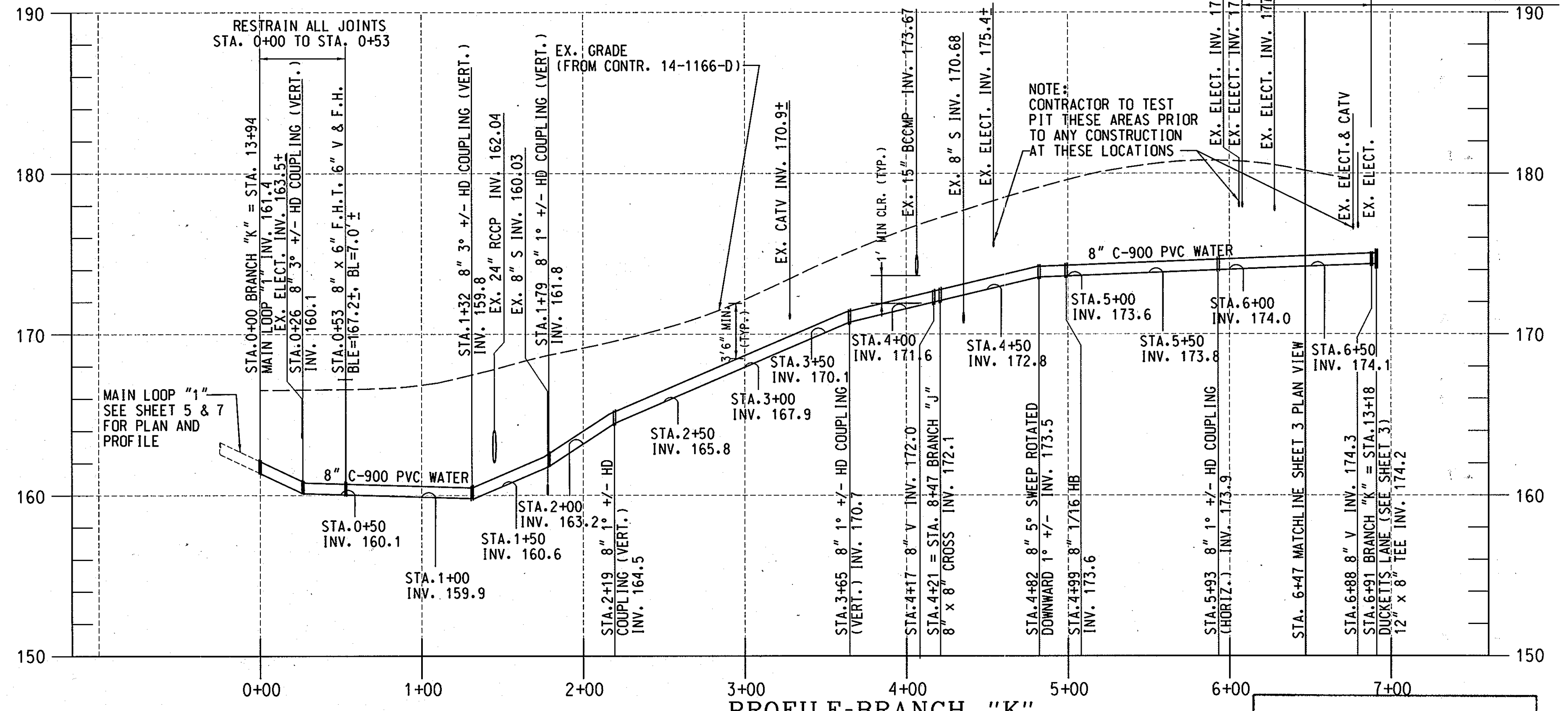
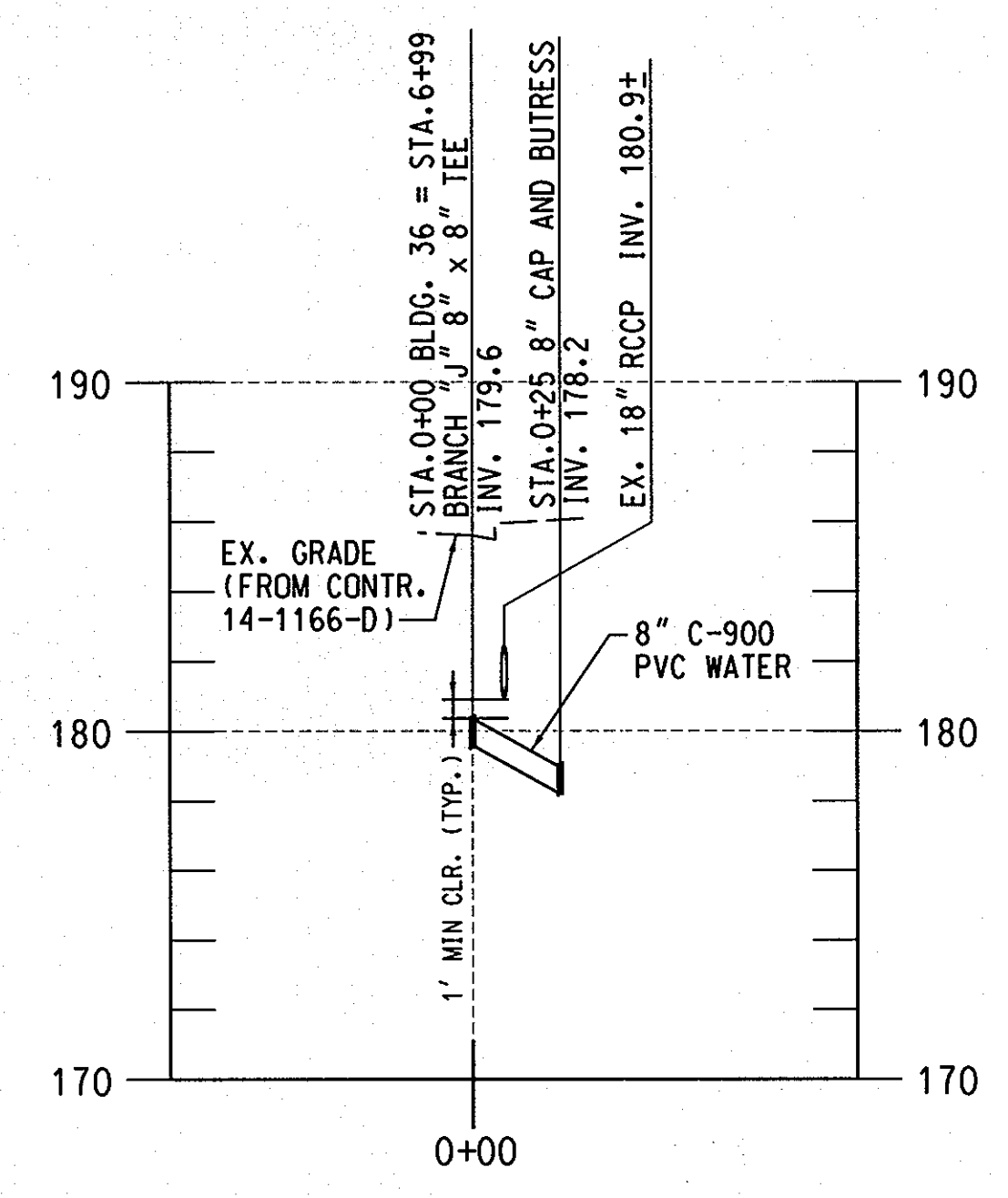
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DIRECTOR OF PUBLIC WORKS CHIEF, BUREAU OF UTILITIES		 ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS 936 RINGBROOK ROAD SHARPS, MARYLAND 21152 TELEPHONE (410) 316-7800 FAX (410) 316-7818 WWW.KCI.COM		 DES: MRD DRN: KFJ CHK: GW/TWW DATE: JAN. 2011		PLAN MARBLE HILL II REPLACEMENT PLAN 600' SCALE MAP NO. 37 BLOCK NO. 18		DUCKETTS LANE WATER MAIN REPLACEMENT CAPITAL PROJECT No. W-8286 CONTRACT No. 44-4677 ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND		SCALE AS SHOWN SHEET 9 OF 29
-------------------------------------------------------------------------------------------------------------------------	--	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	------------------------------------------------------------	--	----------------------------------------------------------------------------------	--	--------------------------------------------------------------------------------------------------------------------------------------------------	--	---------------------------------------

PLOTTED: 10:22 AM on Wednesday, November 13, 2013
 FILE: M:\2007\01071378\05_Verminas\0107137805-C-09-W.dwg



NOTE:
1. THE BASE MAP AND PROFILE WAS CREATED BY KCI TECHNOLOGIES, INC. USING THE TOPOGRAPHIC INFORMATION AND PROFILE FROM THE FOLLOWING AS-BUILTS: MARBLE HILL PHASE 1 (CONTRACT NO. 14-1166-D), DATED 11/17/83, REVISED 2/15/84.
2. H.D.C = HIGH DEFLECTION COUPLING.

PROFILE-BRANCH "J"
SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 5'
(FOR PLAN SEE SHEET 9)



PROFILE-BRANCH "K"
SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 5'
(FOR PLAN SEE SHEET 9)

AS-BUILT
DATE: 7/23/2013

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 31363 EXPIRATION DATE: 1/16/2012

PLOTTED: 10/16/13 AM 10:25 Tuesday, January 25, 2011
 BY: Kevin Jackson, Division F042, W. W. W. Solid Waste GMA Emp
 FILE: M:\2007\10171378.05\1017137805-C-10-W.dgn

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
Director of Public Works <i>[Signature]</i> 1/25/11 DATE	Chief, Bureau of Engineering <i>[Signature]</i> 1/25/11 DATE
Chief, Bureau of Utilities <i>[Signature]</i> 1/25/11 DATE	Chief, Utility Design Division <i>[Signature]</i> 1/25/11 DATE

KCI TECHNOLOGIES
ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS
936 RIDGEBOOK ROAD
SINNS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
www.kci.com

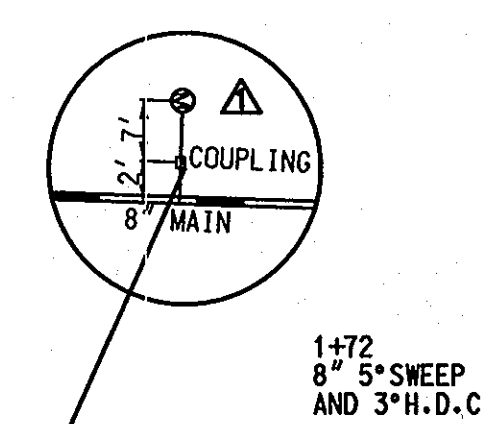
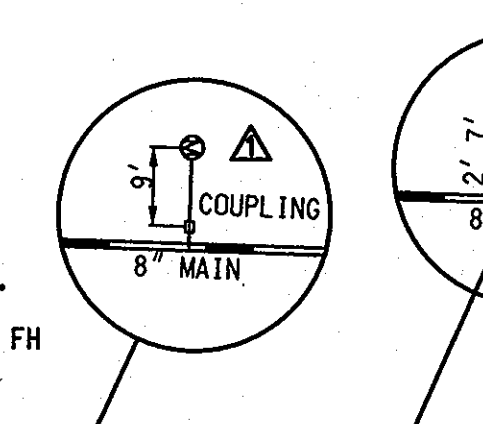
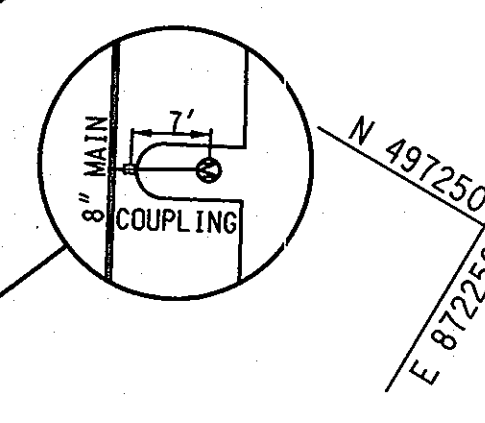
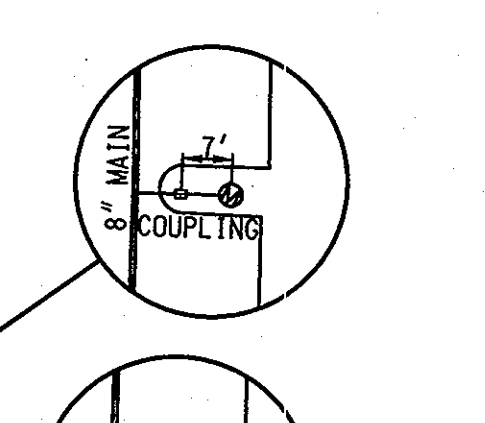
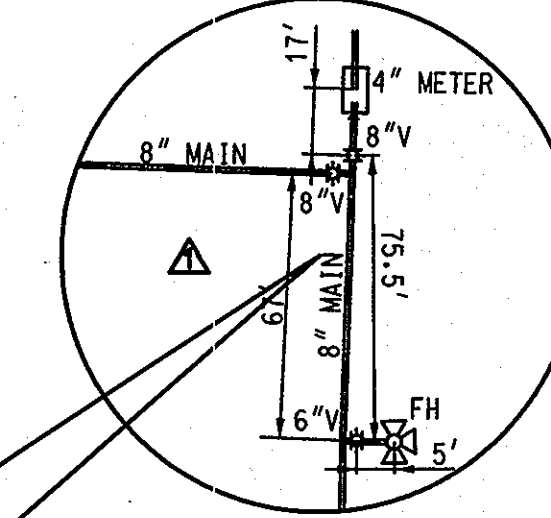
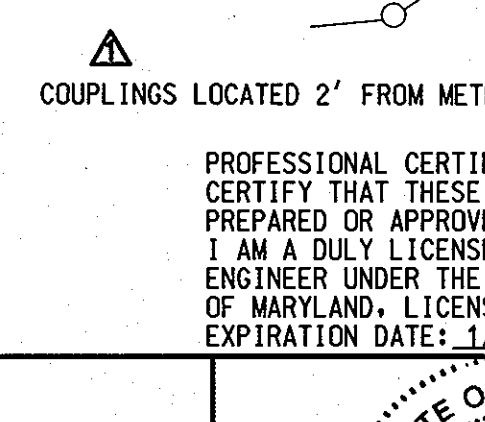
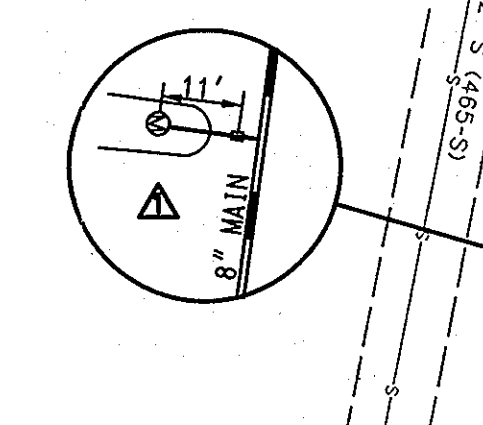
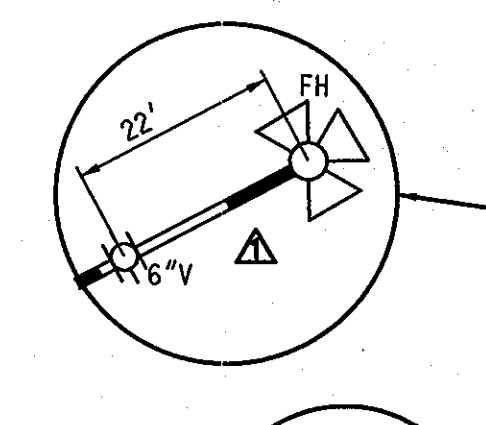
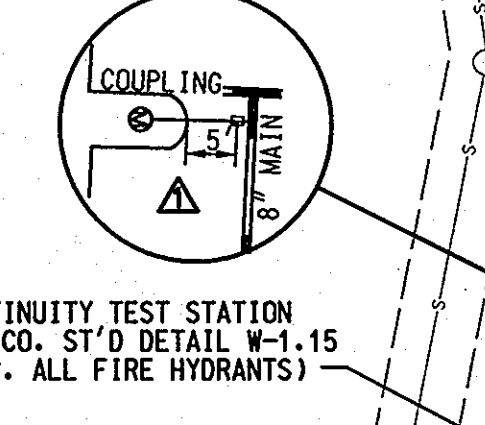
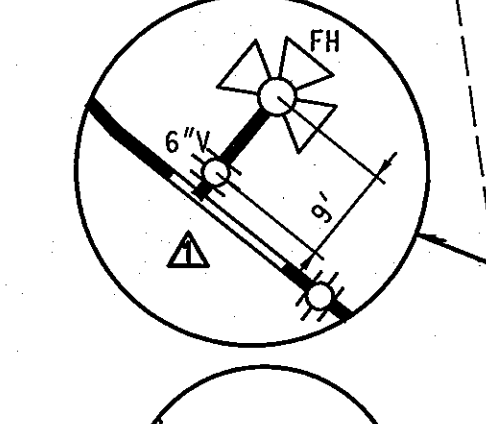
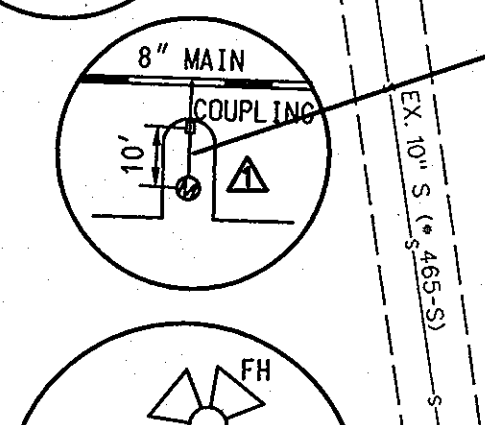
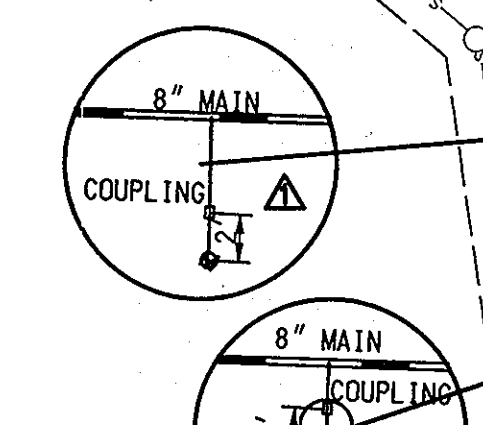
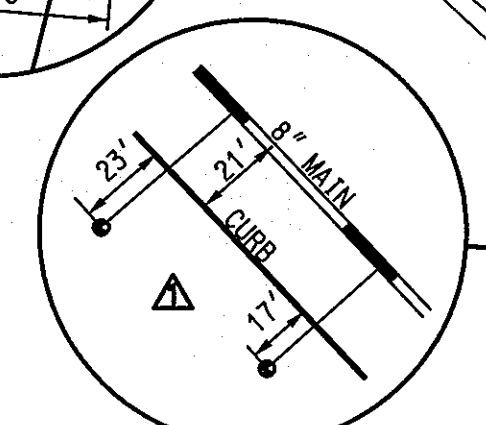
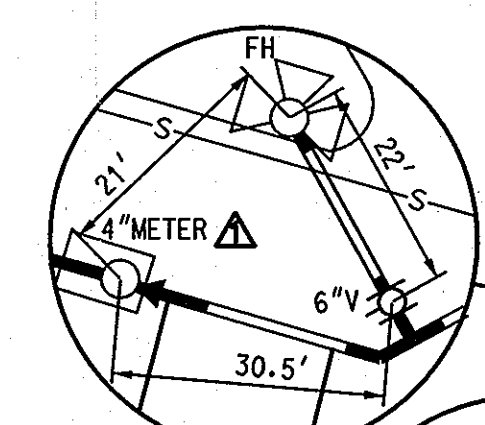
STATE OF MARYLAND
PROFESSIONAL ENGINEER
NO. 31363
1/25/11

DES: MRD	DRN: KFJ	CHK: GW/TWW	DATE: 1/25/11
BY: GS	NO. AS-BUILT	REVISION	DATE: 7/23/13

PROFILES MARBLE HILL II
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DUCKETTS LANE WATER MAIN REPLACEMENT
CAPITAL PROJECT No. W-8286
CONTRACT No: 44-4677
SCALE AS SHOWN
SHEET 10 OF 29

NOTES:
 1. THE BASE MAP AND PROFILE WAS CREATED BY KCI TECHNOLOGIES, INC. USING THE TOPOGRAPHIC INFORMATION AND PROFILE FROM THE FOLLOWING AS-BUILTS: MARBLE HILL PHASE 1 (CONTRACT NO. 768-D-WAS), DATED 9/6/78. THE HORIZONTAL DATUM IS BASED ON NAD 27. THE VERTICAL DATUM IS BASED ON NGVD 29.
 2. THE COORDINATE TICKS ARE FOR REFERENCE PURPOSE ONLY.
 3. H.D.C. = HIGH DEFLECTION COUPLING.
 4. REPLACE EX. WHC UP TO THE METER PIT OR CURB STOP.



FITTING SCHEDULE			
STATION	FITTING	STATION	FITTING
MAIN LOOP "2"		COURT "B"	
0408	8" V	0400	8" V
0457	3" H.D.C. (H)	0437	8" 2" H.D.C. (H)
0498	8" 5" SWEEP	0492	8" 1/16 H.B.
1110	8" 5" SWEEP	0492	8" 1/32 H.B.
1130	8" 5" SWEEP	1400	5" SWEEP (V)
1149	8" 5" SWEEP	1444	8" 1/16 H.B.
1172	8" 5" SWEEP	1444	8" 1/32 H.B.
1172	8" 3" H.D.C. (H)	2412	8" 2" H.D.C. (V)
2405	8" 5" SWEEP	2451	8" 2" H.D.C. (V)
2405	8" 3" H.D.C. (H)	2488	8" 1/8 H.B.
2428	8" 5" SWEEP	3404	8" 1/8 H.B.
2428	8" 2" H.D.C. (H)	4428	8" 1/8 H.B.
2452	8" 3" H.D.C. (H)	4439	8" 1/8 H.B.
2468	8" X 6" F.H.T.	4439	8" 1/32 H.B.
2468	6" V & FH	5400	8" 2" H.D.C. (V)
2481	8" 1/8 H.B.	5477	8" 3" H.D.C. (V)
2481	8" 5" SWEEP	5491	8" 5" SWEEP
2481	8" 3" H.D.C. (H)	6417	8" X 6" F.H.T.
3415	8" X 4" TEE	6417	6" V & FH
3415	4" V	6485	8" CAP AND BUTTRESS
3479	8" 1" H.D.C. (H)	COURT "C"	
4437	8" 1" H.D.C. (H)	0405	8" V
5488	8" 1" H.D.C. (V)	1405	8" 3" H.D.C. (V)
6410	8" 1/8 H.B.	1496	8" 3" H.D.C. (V)
6410	8" 1/16 H.B.	2429	8" 1/8 H.B.
6426	8" X 6" TEE	2429	8" 1/8 H.B.
6431	8" V	2442	8" X 6" F.H.T.
6448	8" X 6" F.H.T.	2442	6" V & FH
6448	6" V & FH	2454	8" X 4" REDUCER
6459	8" 5" SWEEP		
6499	8" 5" SWEEP		
7432	8" 3" H.D.C. (H)		
7446	8" 2" H.D.C. (V)		
8441	8" 1" H.D.C. (V)		
8422	8" 1" H.D.C. (H)		
9428	8" 1" H.D.C. (V)		
9482	8" X 6" F.H.T.		
9482	6" V & FH		
9484	8" 1" H.D.C. (H)		
10451	8" X 8" TEE		
10467	8" X 4" REDUCER		

CONTINUITY TEST STATION HO. CO. ST'D DETAIL W-1.15 (TYP. ALL FIRE HYDRANTS)

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 31363 EXPIRATION DATE: 1/16/2014

PLAN SCALE: 1" = 50'

AS-BUILT DATE 7/23/2013

PLAN PINE RIDGE

DUCKETTS LANE WATER MAIN REPLACEMENT CAPITAL PROJECT No. W-8286 CONTRACT No. 44-4677

SCALE AS SHOWN SHEET 11 OF 29

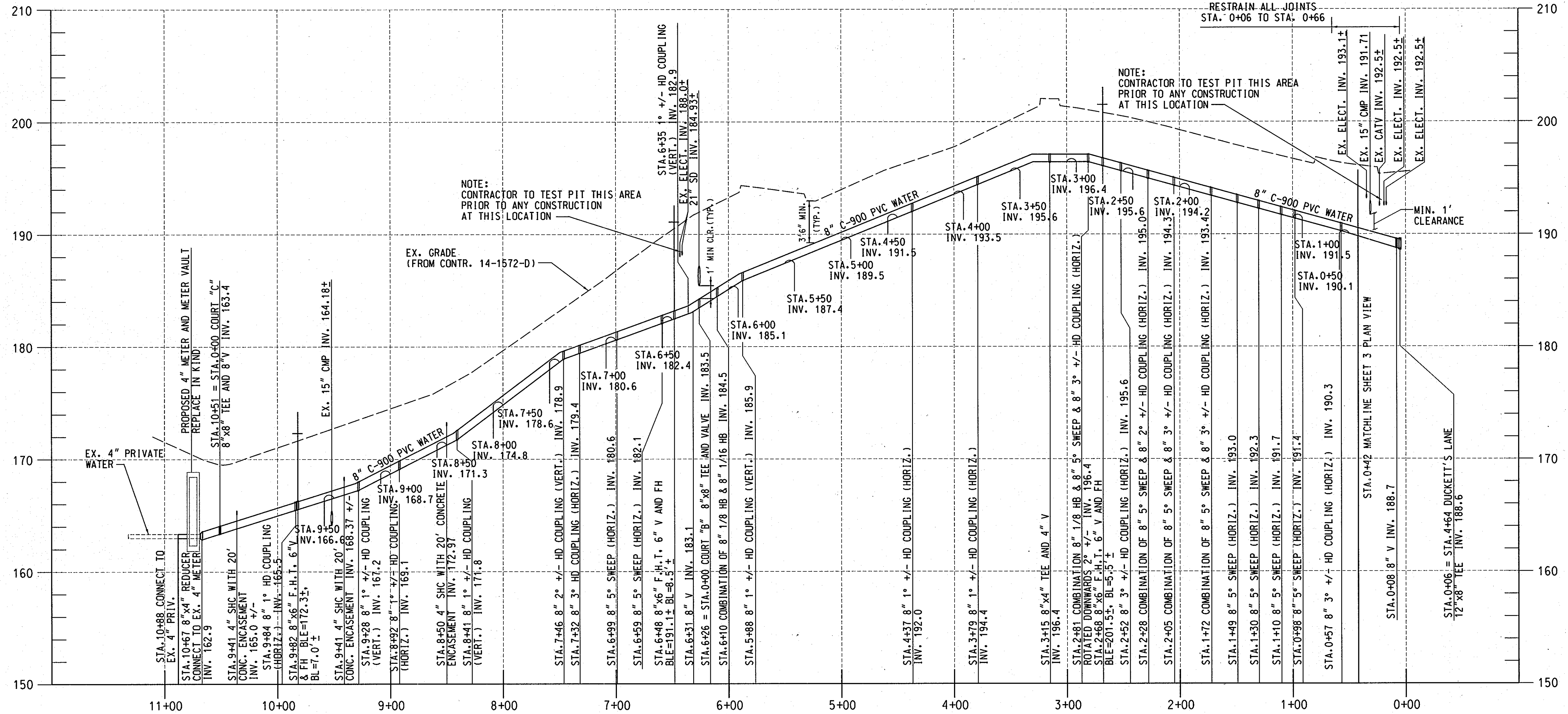
PLOTTED: 09/29/13 At: Wednesday, November 13, 2013 8:41 AM
 BY: Kevin Johnson, Division: P042, Water-WW Emp.
 FILE: \\MAV007\01071378.OS\Drawings\0107137805-C-11-W.dgn

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND			ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS 936 RIDGEBROOK ROAD SPARKS, MARYLAND 21152 TELEPHONE: (410) 316-7800 FAX: (410) 316-7818 WWW.KCI.COM
 DIRECTOR OF PUBLIC WORKS DATE: 11/25/13	 CHIEF, BUREAU OF ENGINEERING DATE: 11/25/13		
 CHIEF, BUREAU OF UTILITIES DATE: 11/25/13	 CHIEF, UTILITY DESIGN DIVISION DATE: 11/25/13		DES: MRD DRN: KFJ CHK: GW/TWW DATE: 7/23/13 BY NO. _____
AS-BUILT REPLACEMENT SHEET			

600' SCALE MAP NO. 37 BLOCK NO. 18 ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

NOTE:
 1. THE BASE MAP AND PROFILE WAS CREATED BY KCI TECHNOLOGIES, INC. USING THE TOPOGRAPHIC INFORMATION AND PROFILE FROM THE FOLLOWING AS-BUILT PINE RIDGE (CONTRACT NO. 14-1572-D), DATED 3/19/87, REVISED 9/28/89.

2. H.D.C = HIGH DEFLECTION COUPLING.



PROFILE-MAIN LOOP "2"
 SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'
 (FOR PLAN SEE SHEET 11)

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31363 EXPIRATION DATE: 1/16/2012

AS-BUILT
 DATE 7/23/13

PLOTTED: 09:50 AM on Tuesday, January 25, 2011
 BY: Kevin Jackson, Division: P042, W:\WWS-Solid Waste
 FILE: M:\2007\01071378\05.dwg, User: kja, Plot: 14-1572-D-01

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 1/25/11
 Chief, Bureau of Utilities: *[Signature]* 1/25/11

Chief, Utility Design Division: *[Signature]* PSD

ENGINEERS
 PLANNERS
 SCIENTISTS
 CONSTRUCTION MANAGERS

KCI
 TECHNOLOGIES

936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 WWW.KCI.COM

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 License No. 31363
 Expiration Date: 1/16/2012

DES:	MRD
DRN:	KFJ
CHK:	GW/TWW
DATE:	7/23/13
JAN. 2011	BY NO. REVISION
AS-BUILT	

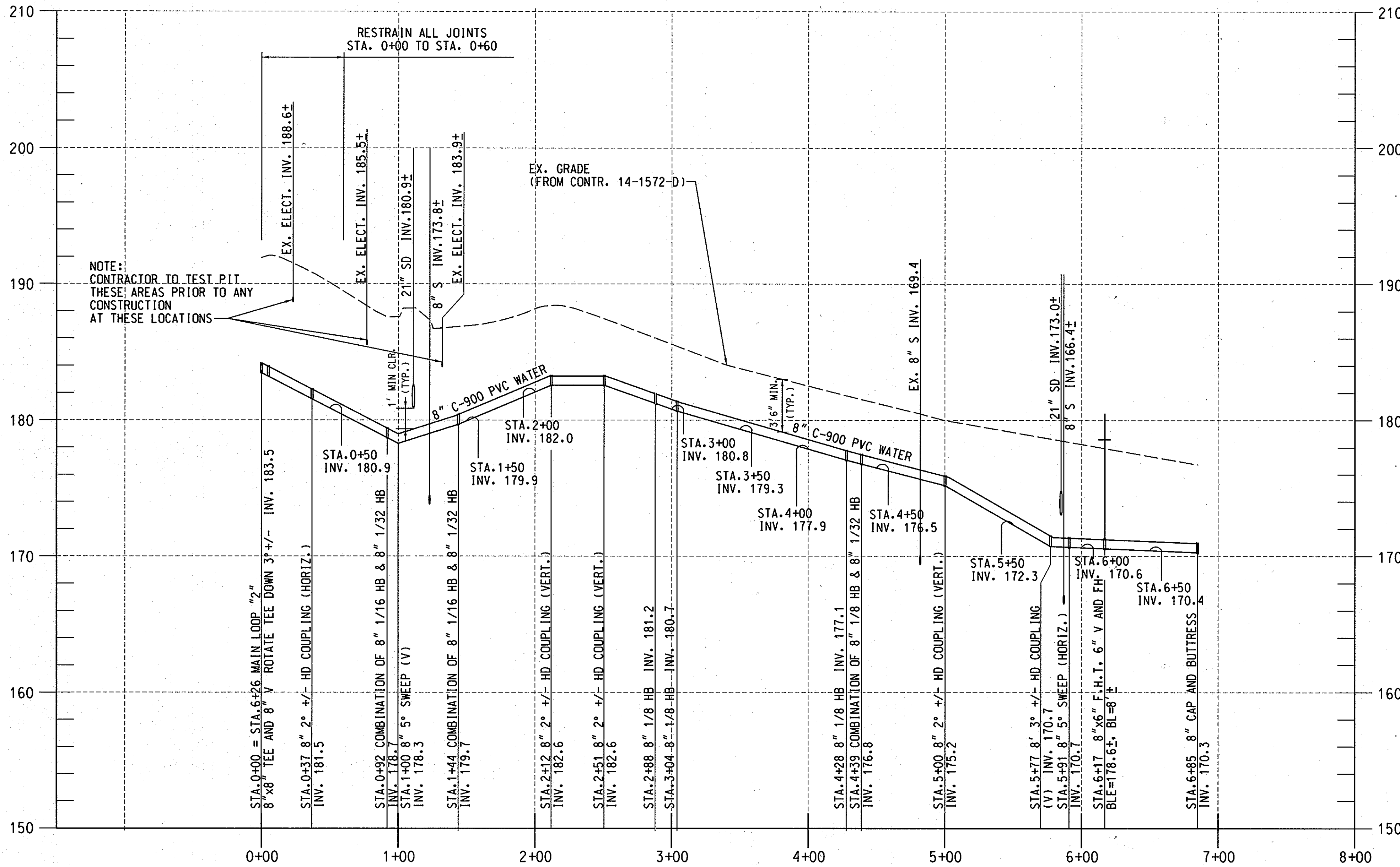
PROFILE
 PINE RIDGE

600' SCALE MAP NO. 37 BLOCK NO. 18

DUCKETTS LANE
 WATER MAIN REPLACEMENT
 CAPITAL PROJECT No. W-8286
 CONTRACT No. 44-4877

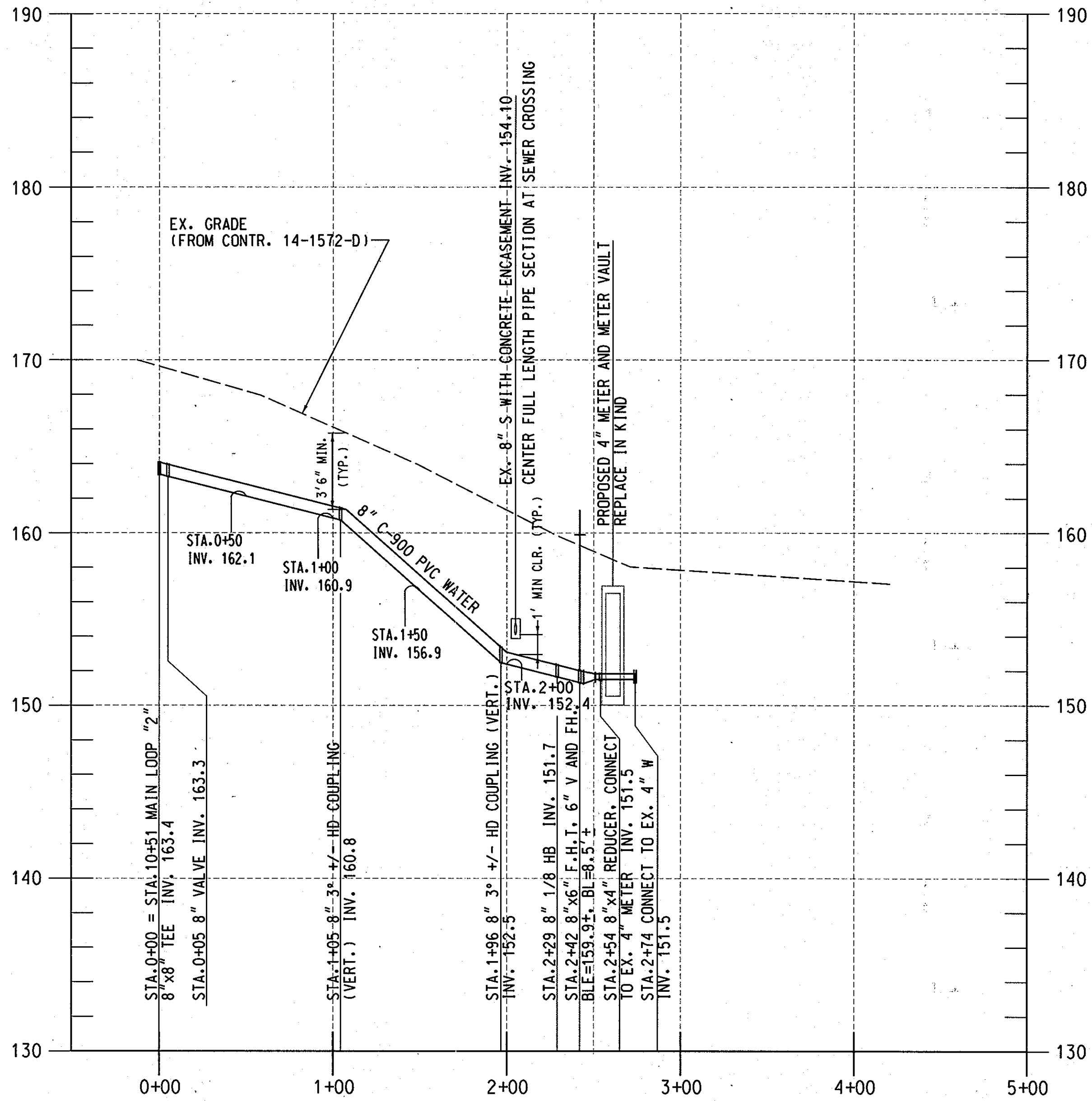
ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 12 OF 29



PROFILE-COURT "B"

SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'
 (FOR PLAN SEE SHEET 11)



PROFILE-COURT "C"

SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'
 (FOR PLAN SEE SHEET 11)

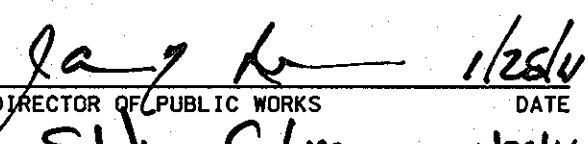

NOTE:
 1. THE BASE MAP AND PROFILE WAS CREATED BY KCI TECHNOLOGIES, INC. USING THE TOPOGRAPHIC INFORMATION AND PROFILE FROM THE FOLLOWING AS-BUILTS: PINE RIDGE (CONTRACT NO. 14-1572-D), DATED 3/19/87, REVISED 9/28/89.
 2. W.D.C. = HIGH DEFLECTION COUPLING.



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31363 EXPIRATION DATE: 1/16/2012

AS-BUILT
 DATE 7/23/13

PLOTTED: 09:50 AM on Tuesday, January 25, 2011
 BY: Kevin Jackson, Division PO#2 W:\NW_Solid Waste_GMA_Emp
 FILE: MAZ600\01071978_05\Drawings\01071978-05-C-13-W-50p

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

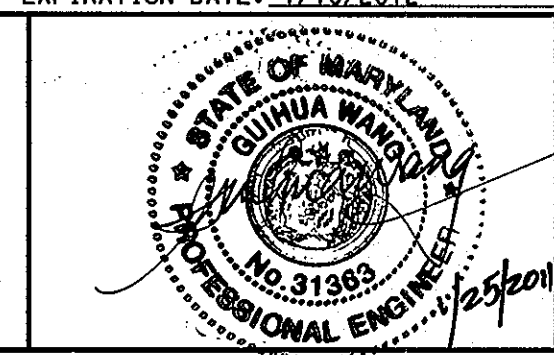
 1/25/11
 DIRECTOR OF PUBLIC WORKS DATE
 1/25/11
 CHIEF, BUREAU OF UTILITIES DATE

 1/25/11
 CHIEF, BUREAU OF ENGINEERING DATE
 1/25/11
 CHIEF, UTILITY DESIGN DIVISION DATE

ENGINEERS
 PLANNERS
 SCIENTISTS
 CONSTRUCTION MANAGERS

KCI
 TECHNOLOGIES

936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 WWW.KCI.COM



DES:	MRD		
DRN:	KFJ		
CHK:	GW/TWW		
DATE:	JAN. 2011	BY:	NO.
		AS-BUILT	
		REVISION	
		DATE:	7/23/13

PROFILES
 PINE RIDGE

600' SCALE MAP NO. 37 BLOCK NO. 18

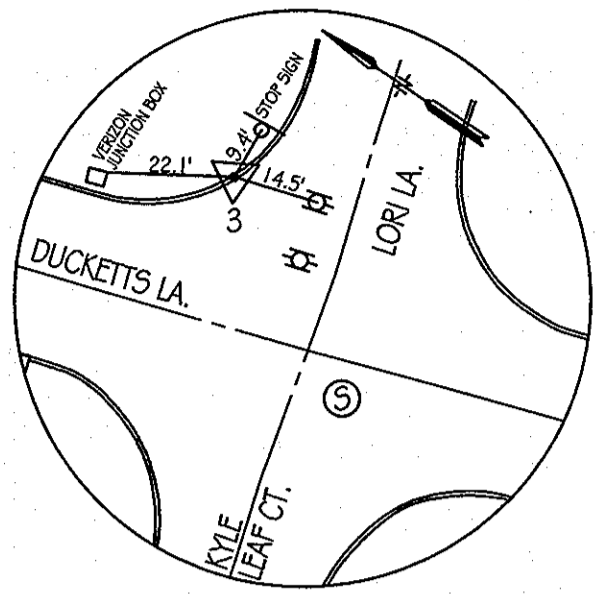
DUCKETTS LANE
 WATER MAIN REPLACEMENT

CAPITAL PROJECT No. W-8286
 CONTRACT No. 44-4677

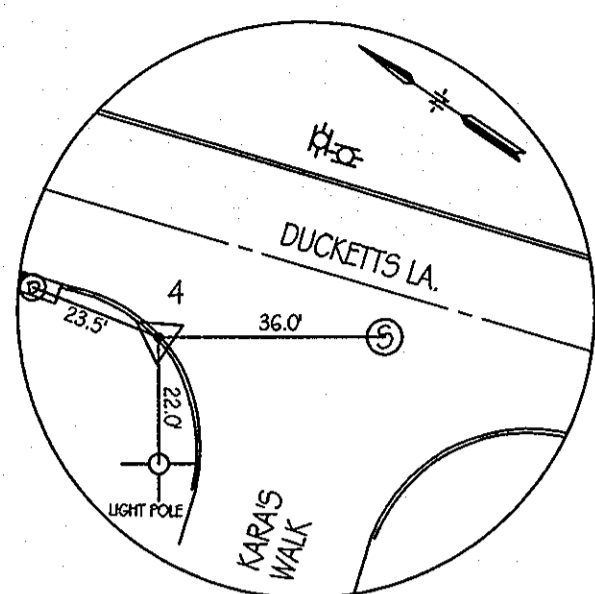
ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN SHEET 13 OF 29

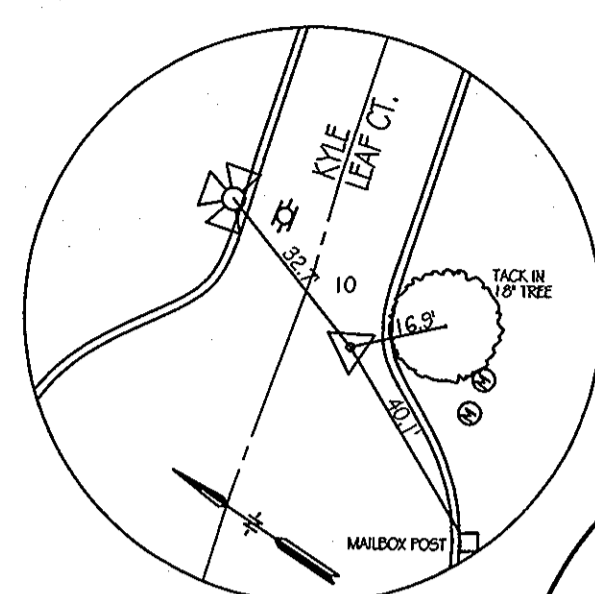
NOTES:
 1. THE PROFILE WAS CREATED BY KCI TECHNOLOGIES, INC. USING THE PROFILE FROM THE FOLLOWING AS-BUILTS:
 MARBLE HILL PHASE I (CONTRACT NO. 768-D-WAS), DATED 9/6/78
 THE HORIZONTAL INFORMATION IS BASED ON SURVEY PERFORMED BY KCI TECHNOLOGIES IN SEPTEMBER 2010.
 2. H.D.C. = HIGH DEFLECTION COUPLING.
 3. REPLACE EX. W.H.C UP TO THE METER PIT OR CURB STOP.



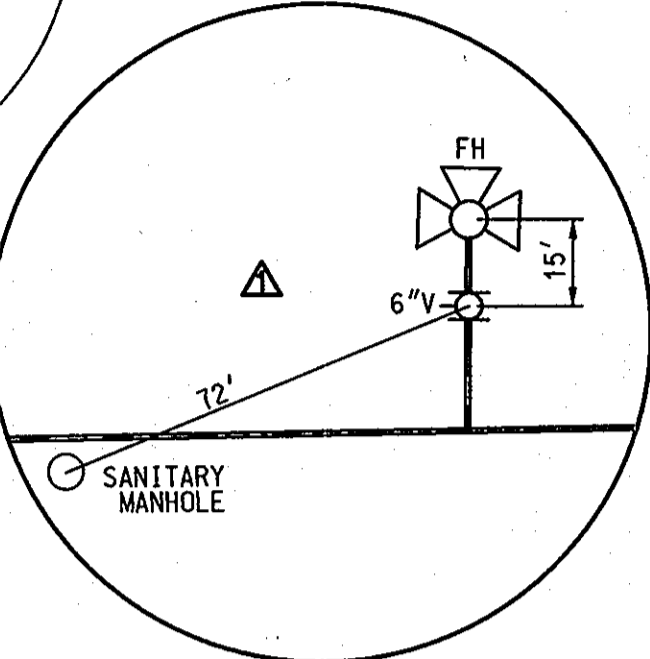
TRAV. #3
SCALE: N.T.S.



TRAV. #4
SCALE: N.T.S.



TRAV. #10
SCALE: N.T.S.



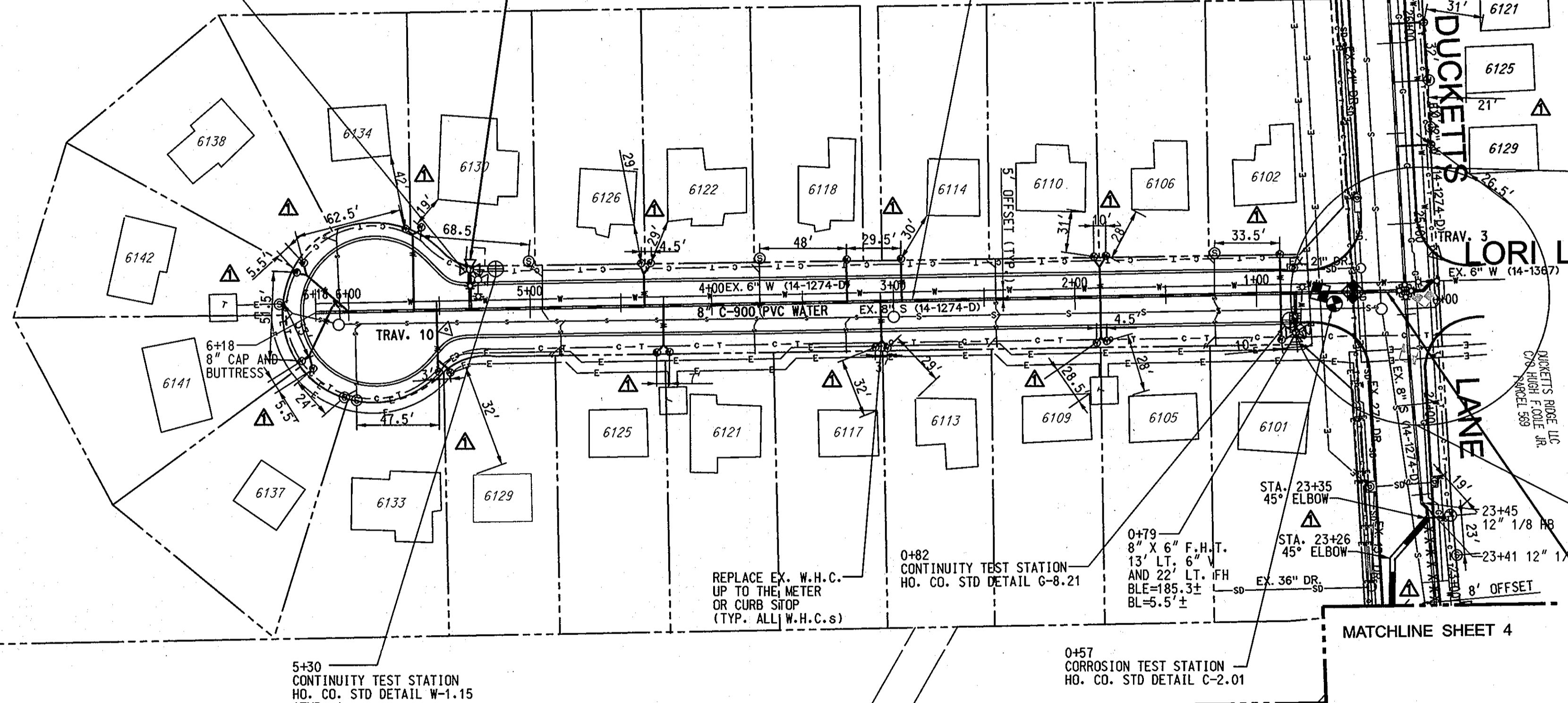
E 1383400
N 559750

KARA'S WALK

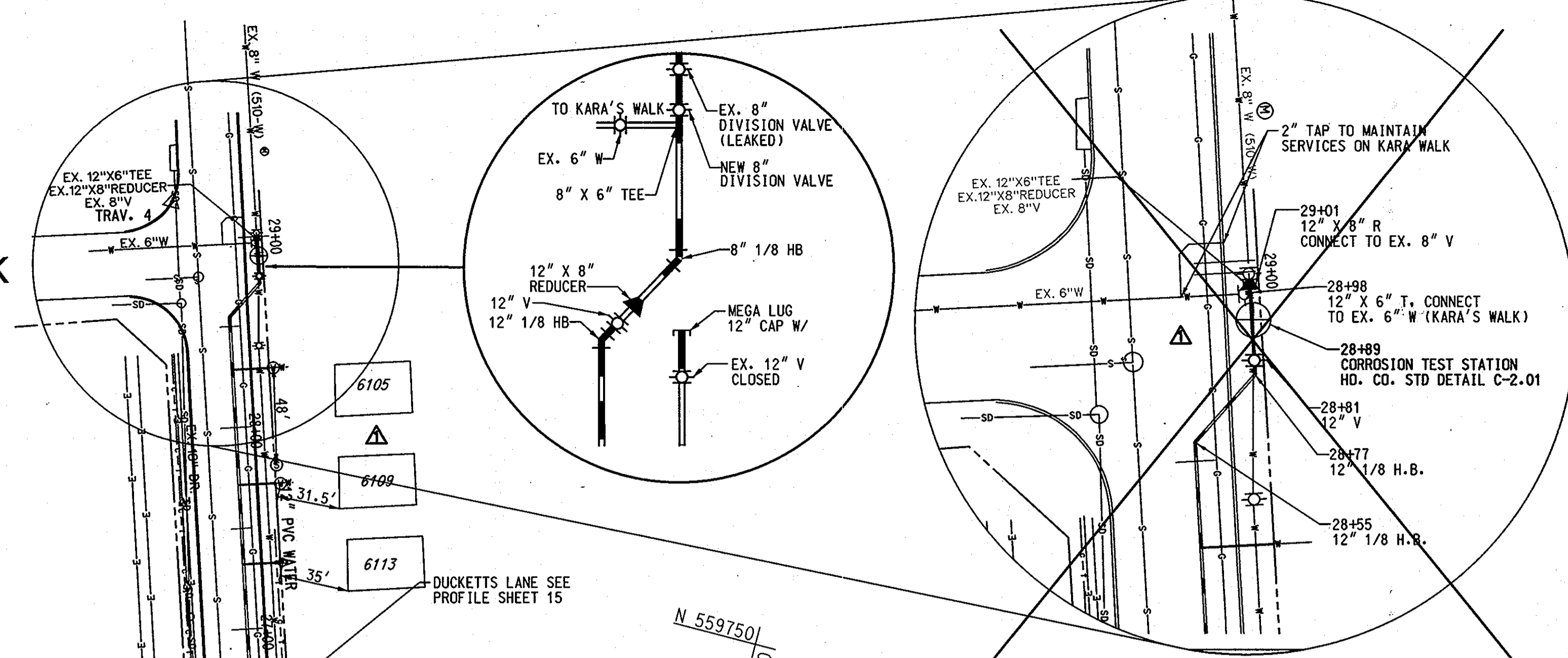
KYLE LEAF CT.

FITTING SCHEDULE			
STATION	FITTING	NORTHING	EASTING
DUCKETTS LA.			
23+41	12" 1/8 H.B.	559355.3	1384021.1
23+45	12" 1/8 H.B.	559356.9	1384017.7
24+21	12" 2" H.D.C.	559428.7	1383991.9
24+55	12" 1" H.D.C.(V)		
24+60	12" V	559465.1	1383980.1
24+63	12" X 8" CROSS	559468.3	1383979.0
24+66	12" V	559471.4	1383977.9
24+71	12" 1/32 V.B.		
24+82	12" 1/32 V.B.		
26+78	12" 1" H.D.C.(V)		
28+55	12" 1/8 H.B.	559840.9	1383858.4
28+77	12" 1/8 H.B.	559860.8	1383868.5
28+81	12" V	559864.2	1383867.4
28+98	12" X 6" TEE	559880.1	1383862.1
29+01	12" X 8" REDUCER	559883.4	1383861.1
KYLE LEAF CT.			
0+01	6" 1/8 H.B.	559477.2	1383992.0
0+08	6" 1/8 H.B.	559470.9	1383988.5
0+10	6" 1/8 V.B.		
0+12	6" 1/8 V.B.		
0+13	8" X 6" REDUCER	559469.9	1383984.7
0+15	8" V	559469.1	1383982.3
0+21	8" V	559467.6	1383975.8
0+47	8" 5" SWEEP(V)		
0+79	8" X 6" F.H.T. 6" V & FH	559451.7	1383920.8
0+81	8" 2" H.D.C.(V)		
0+91	8" 2" H.D.C.(V)		
1+83	8" 1" H.D.C.(V)		
2+90	8" 1" H.D.C.(V)		
3+91	8" 1" H.D.C.(V)		
5+33	8" X 6" F.H.T. 6" V & FH	559327.5	1383483.9
5+47	8" 1" H.D.C.(V)		
6+18	8" CAP & BUTTRESS	559304.2	1383402.0

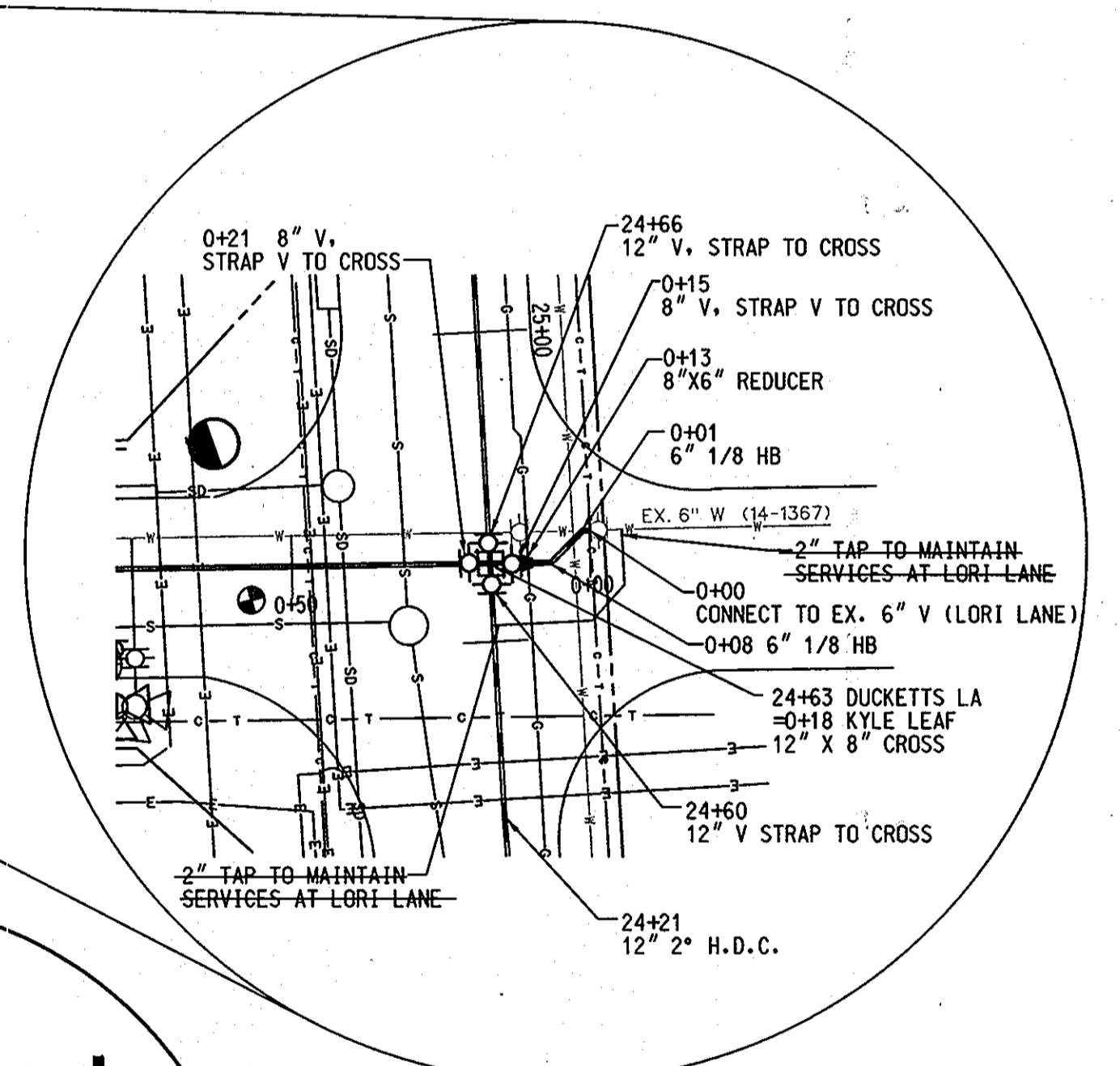
TRAVERSE COORDINATE SCHEDULE			
NUMBER	DISCRIPTION	NORTHING	EASTING
TRAV. #3	X-CUT	559492.3	1383990.3
TRAV. #4	X-CUT	559888.5	1383816.5
TRAV. #10	PK NAIL	559313.4	1383473.8



PLAN
SCALE: 1" = 50'



NOTE: SEE SHEET 2. SUGGESTED SEQUENCE OF CONSTRUCTION, FOR CONSTRUCTION AND CONNECTION DETAILS.



NOTE: SEE SHEET 2. SUGGESTED SEQUENCE OF CONSTRUCTION, FOR CONSTRUCTION AND CONNECTION DETAILS.

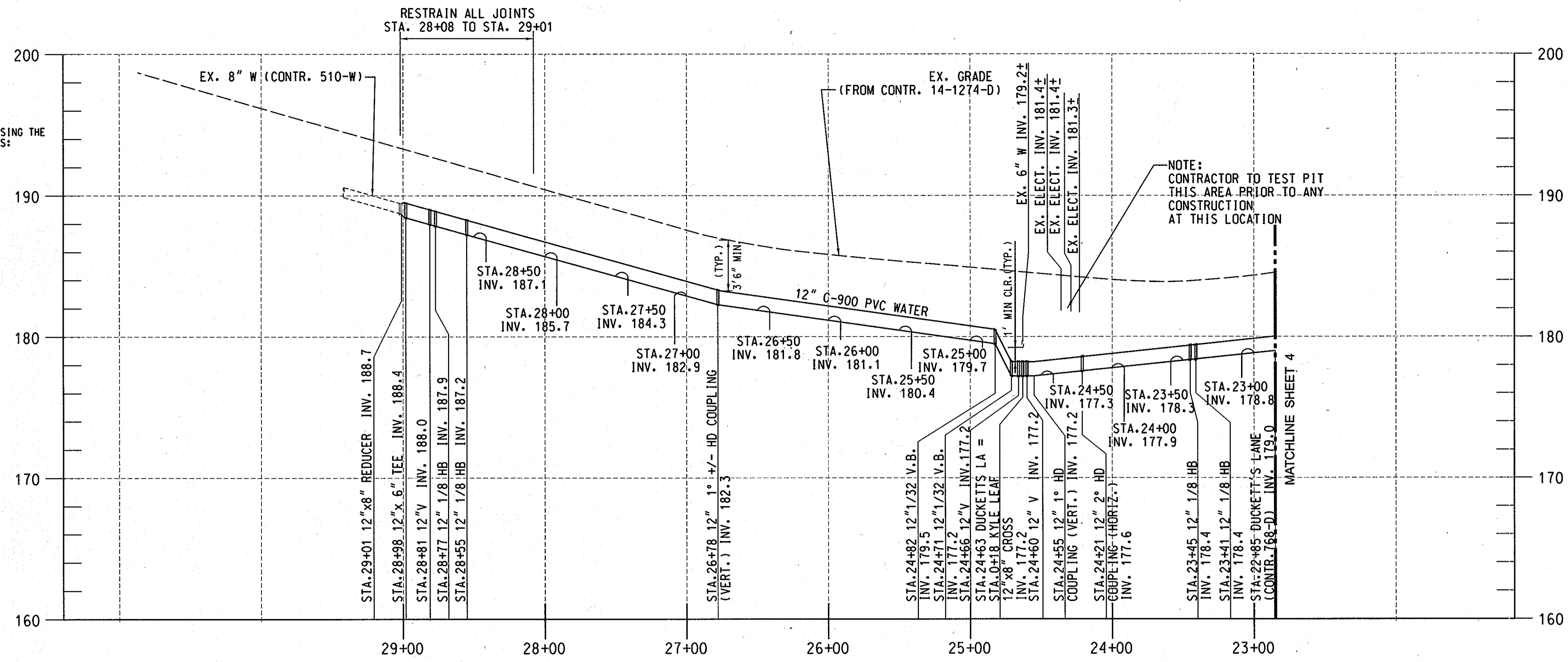
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 31363 EXPIRATION DATE: 1/16/2014

AS-BUILT
DATE 7/23/2013

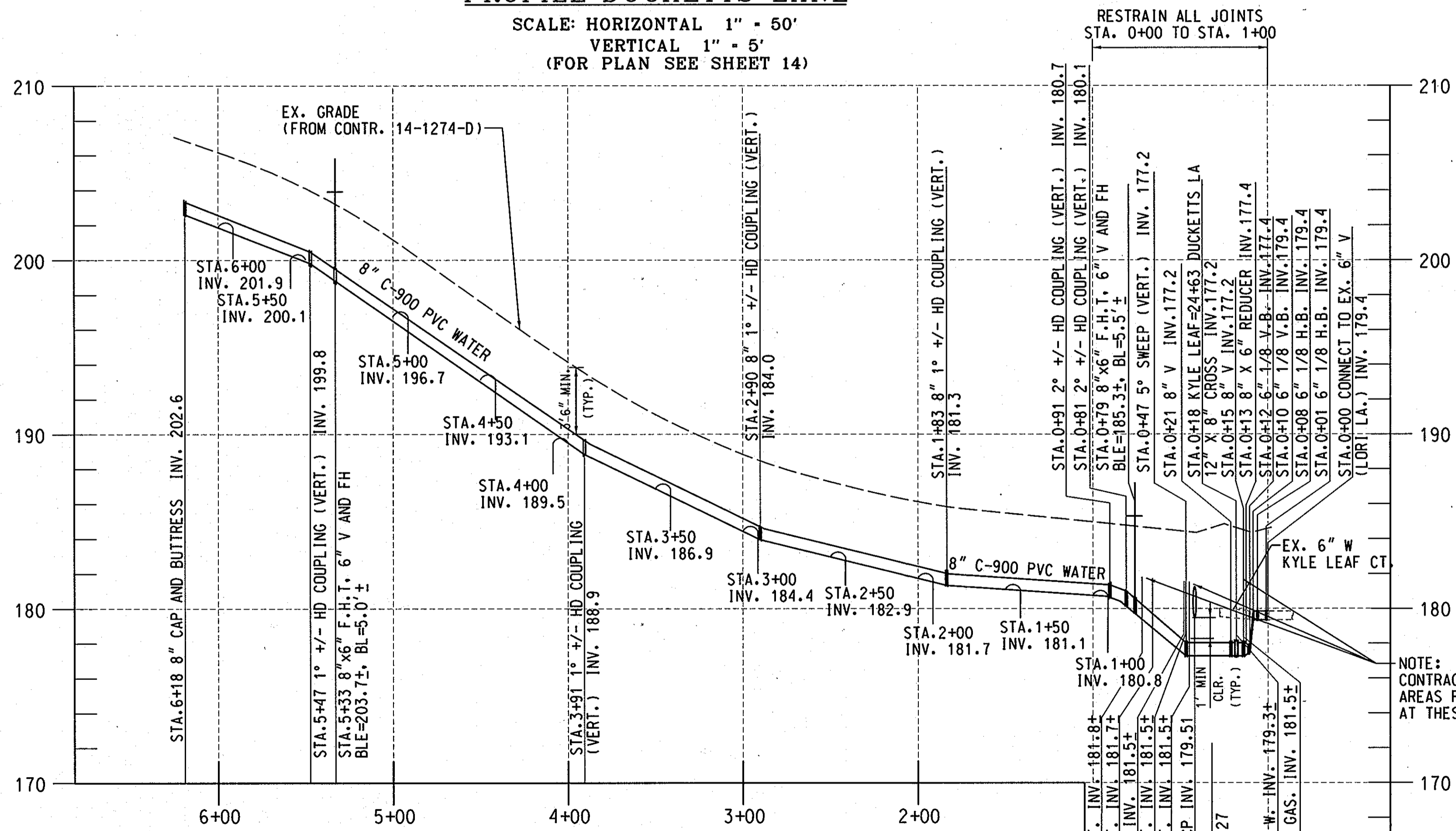
PLOTED: 09/23 AM on Wednesday, November 13, 2013 BY: Kevin Jackson, Division: P042, Water-WW, Emp. FILE: \\A\2007\01071578\05\Drawings\0107157805-C-14-W.dwg

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>[Signature]</i> DATE: 11/23/13 Chief, Bureau of Utilities: <i>[Signature]</i> DATE: 11/23/13		ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS KCI TECHNOLOGIES 936 RIDGEBROOK ROAD SPARKS, MARYLAND 21152 TELEPHONE: (410) 316-7800 FAX: (410) 316-7918 WWW.KCI.COM		STATE OF MARYLAND SUBDIVISION <i>[Professional Seal]</i> PROFESSIONAL ENGINEER NO. 31363 EXPIRATION DATE: 1/16/2014		DES: MRD DRN: KFJ CHK: GW/TWW DATE: JAN. 2011 BY: NO.		PLAN KYLE LEAF COURT AS-BUILT REPLACEMENT SHEET REVISION		DATE: 7/23/13 600' SCALE MAP NO. 37 BLOCK NO. 12		DUCKETTS LANE WATER MAIN REPLACEMENT CAPITAL PROJECT No. W-8286 CONTRACT No. 44-4677 ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND		SCALE AS SHOWN SHEET 14 OF 29
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	------------------------------------------------------------------------------------------------------------------------------------	--	-------------------------------------------------------------------	--	-------------------------------------------------------------------	--	-----------------------------------------------------	--	--------------------------------------------------------------------------------------------------------------------------------------------------	--	----------------------------------

NOTE:
 1. THE BASE MAP AND PROFILE WAS CREATED BY KCI TECHNOLOGIES, INC. USING THE TOPOGRAPHIC INFORMATION AND PROFILE FROM THE FOLLOWING AS-BUILTS: GLEN COVE ESTATES (CONTRACT NO. 14-1274-D), DATED 5/1984.
 2. H.D.C = HIGH DEFLECTION COUPLING



PROFILE-DUCKETTS LANE
 SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'
 (FOR PLAN SEE SHEET 14)



PROFILE-KYLE LEAF COURT
 SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'
 (FOR PLAN SEE SHEET 14)

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 31363 EXPIRATION DATE: 1/16/2012

NOTE: CONTRACTOR TO TEST PIT THESE AREAS PRIOR TO ANY CONSTRUCTION AT THESE LOCATIONS

AS-BUILT
 DATE 7/23/2013

PLOTTED: 09:50 AM on Tuesday, January 25, 2011
 BY: Kevin Jackson, Division PO/2 W-WW-Solid Waste GMA, Emp. FILE: M:\2007\01071978-05\Drawings\01071978-05-C-15-W.dgn

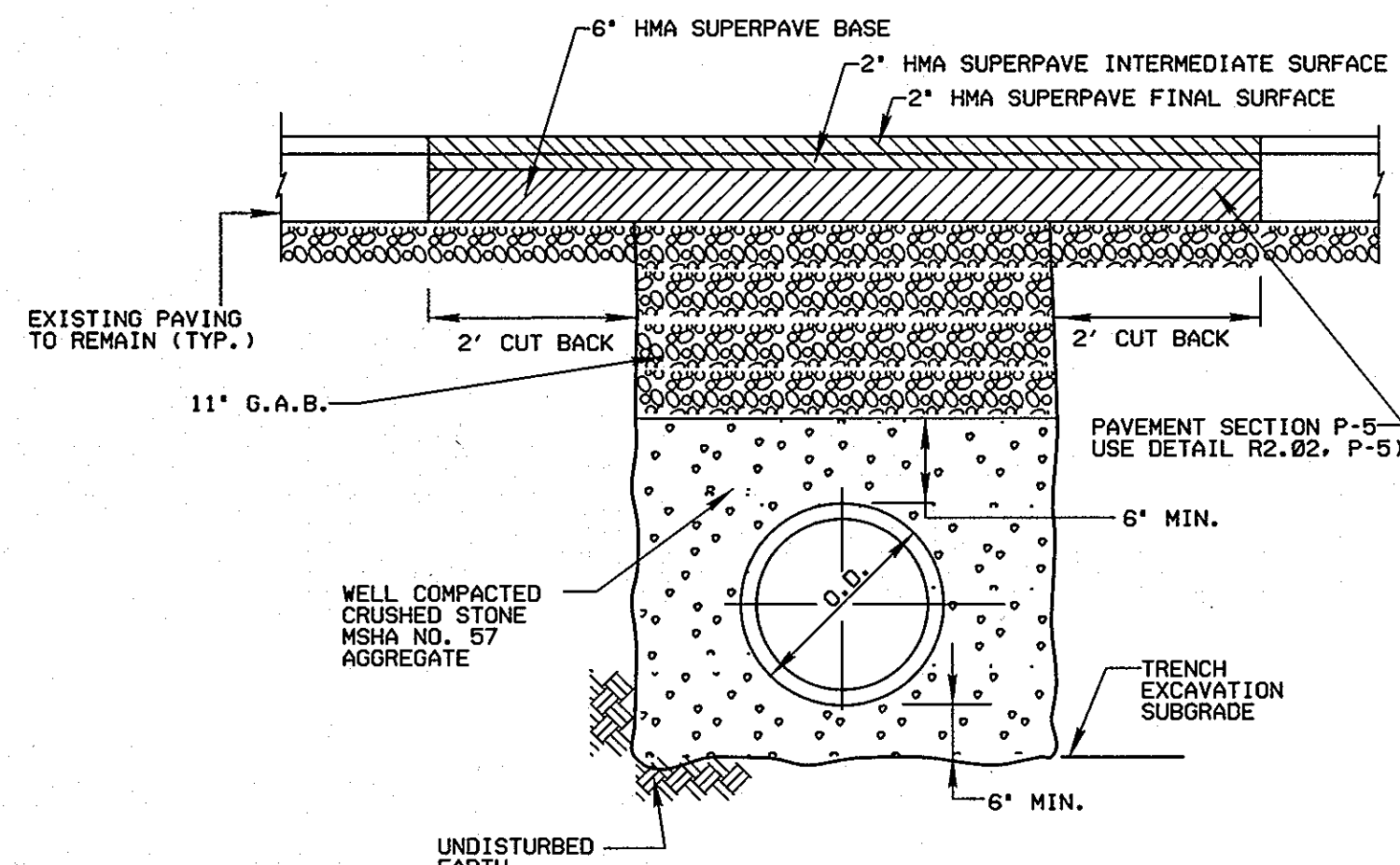
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND		<p>ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS</p> <p>936 RIDGEBROOK ROAD SPARKS, MARYLAND 21152 TELEPHONE: (410) 316-7800 FAX: (410) 316-7818 WWW.KCI.COM</p>	DES: MRD DRN: KFJ CHK: GW/TWW DATE: 7/23/13	AS-BUILT REVISION	DATE: 7/23/13 600' SCALE MAP NO. 37 BLOCK NO. 12
DIRECTOR OF PUBLIC WORKS <i>John C. ...</i> 1/25/11	ACT. CHIEF, BUREAU OF ENGINEERING <i>...</i> 1/25/11		DATE: 7/23/13	SHEET	ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES <i>...</i> 1/25/11	ACT. CHIEF, UTILITY DESIGN DIVISION <i>...</i> 1/25/11		DATE: 7/23/13	SHEET	15 OF 29
STATE OF MARYLAND PROFESSIONAL ENGINEER No. 31363 EXPIRATION DATE: 1/16/2012			DATE: 7/23/13	SHEET	15 OF 29

**PROFILES
KYLE LEAF COURT**

**DUCKETTS LANE
WATER MAIN REPLACEMENT**

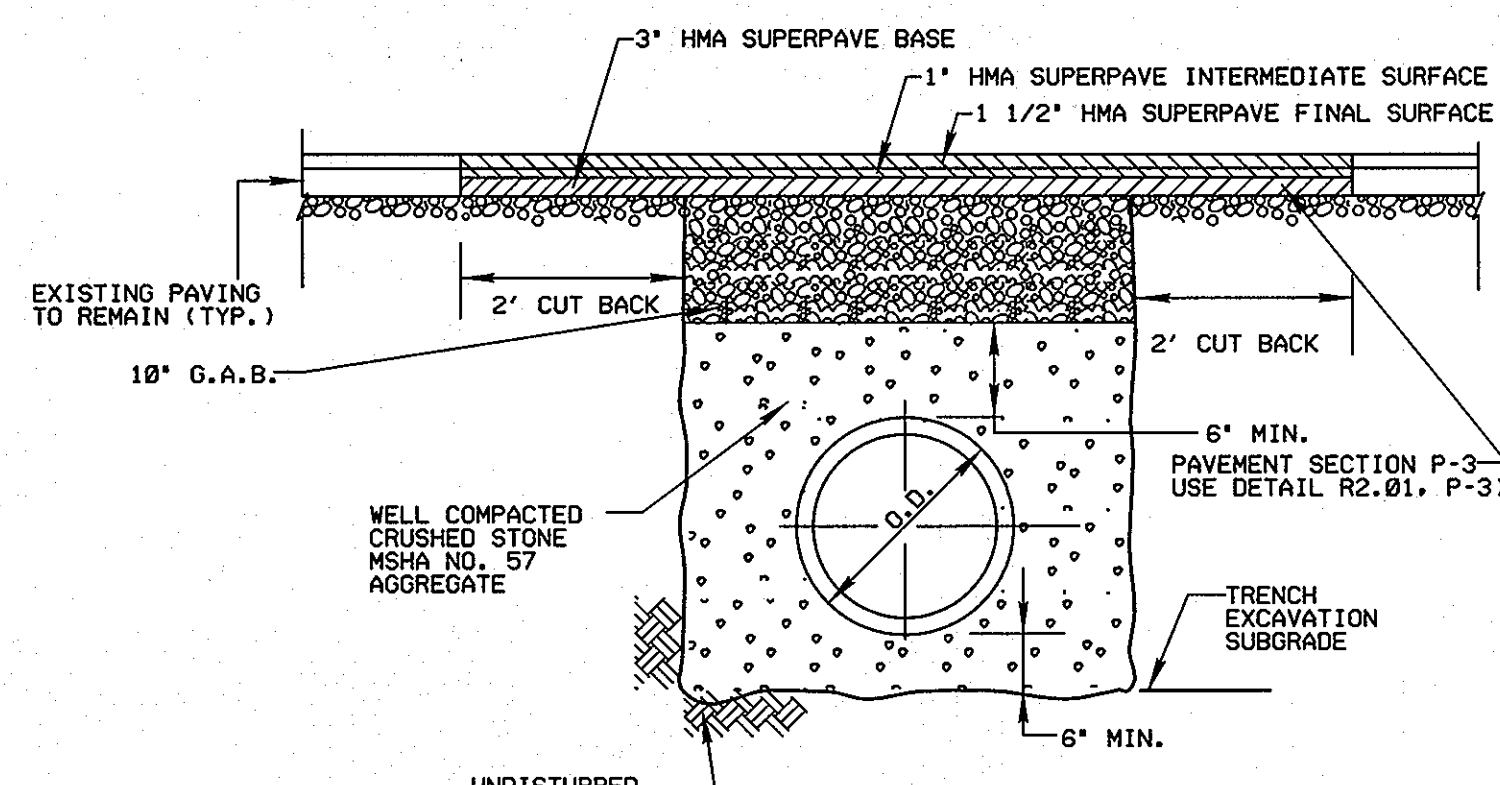
CAPITAL PROJECT NO. W-8286
CONTRACT NO. 44-4677

ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND



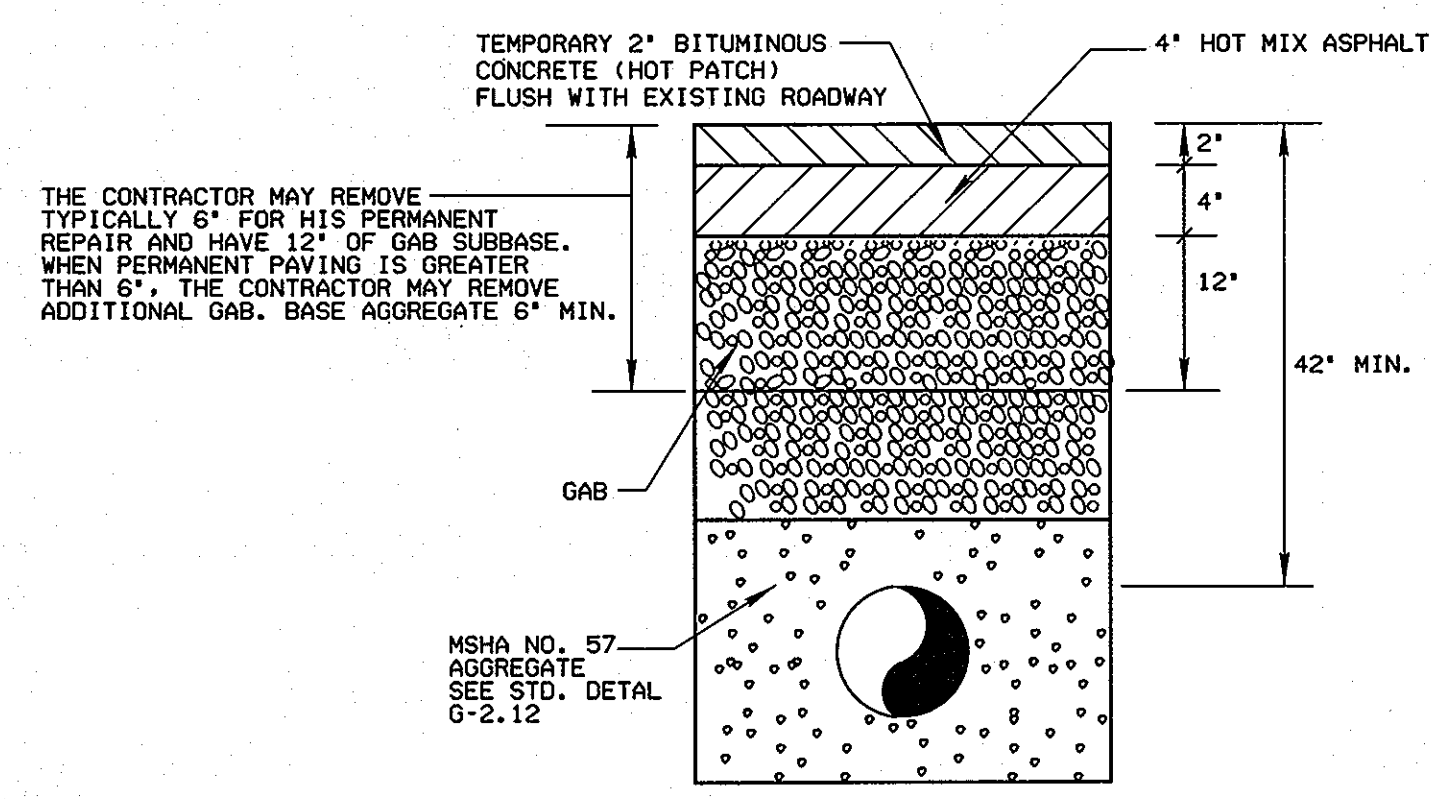
**DETAIL *
TRENCH FOR PVC PIPE
& PAVEMENT - DUCKETTS LANE**

NOT TO SCALE
* BASED ON HOWARD COUNTY STANDARD DETAIL G-2.12 & G-4.01



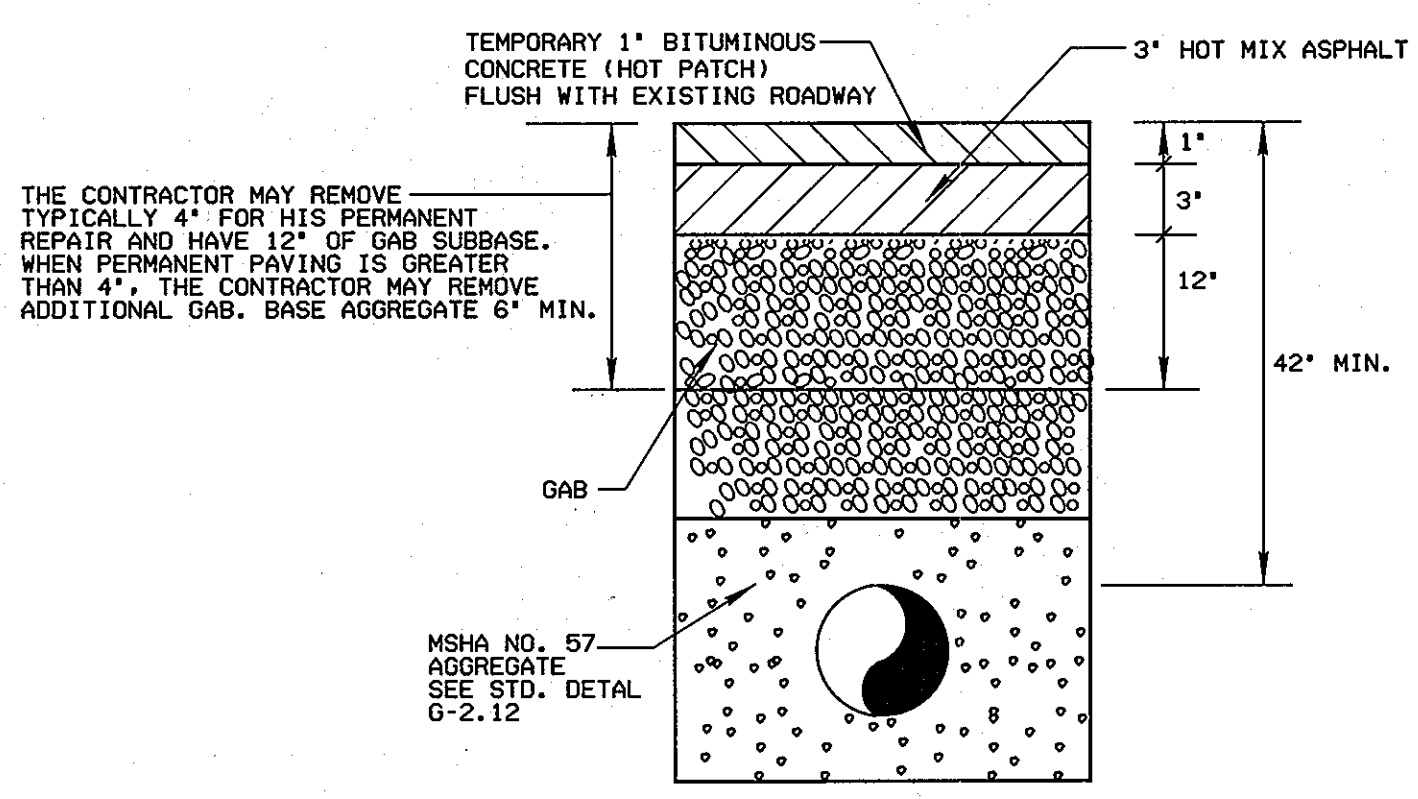
**DETAIL *
TRENCH FOR PVC PIPE
& PAVEMENT - SUBDIVISION**

NOT TO SCALE
* BASED ON HOWARD COUNTY STANDARD DETAIL G-2.12 & G-4.01



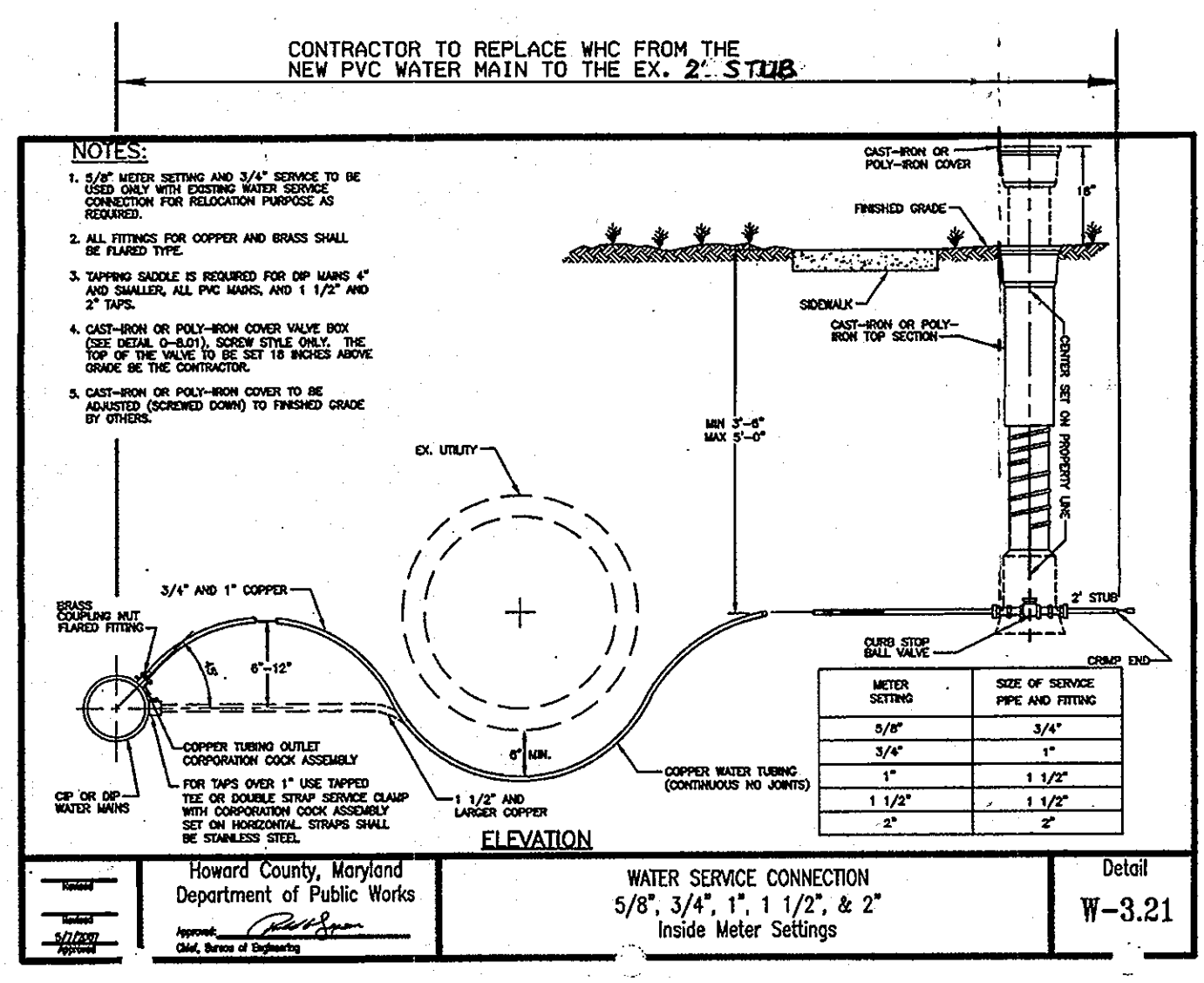
**TEMPORARY PAVING DETAIL
ON DUCKETTS LANE**

NOT TO SCALE



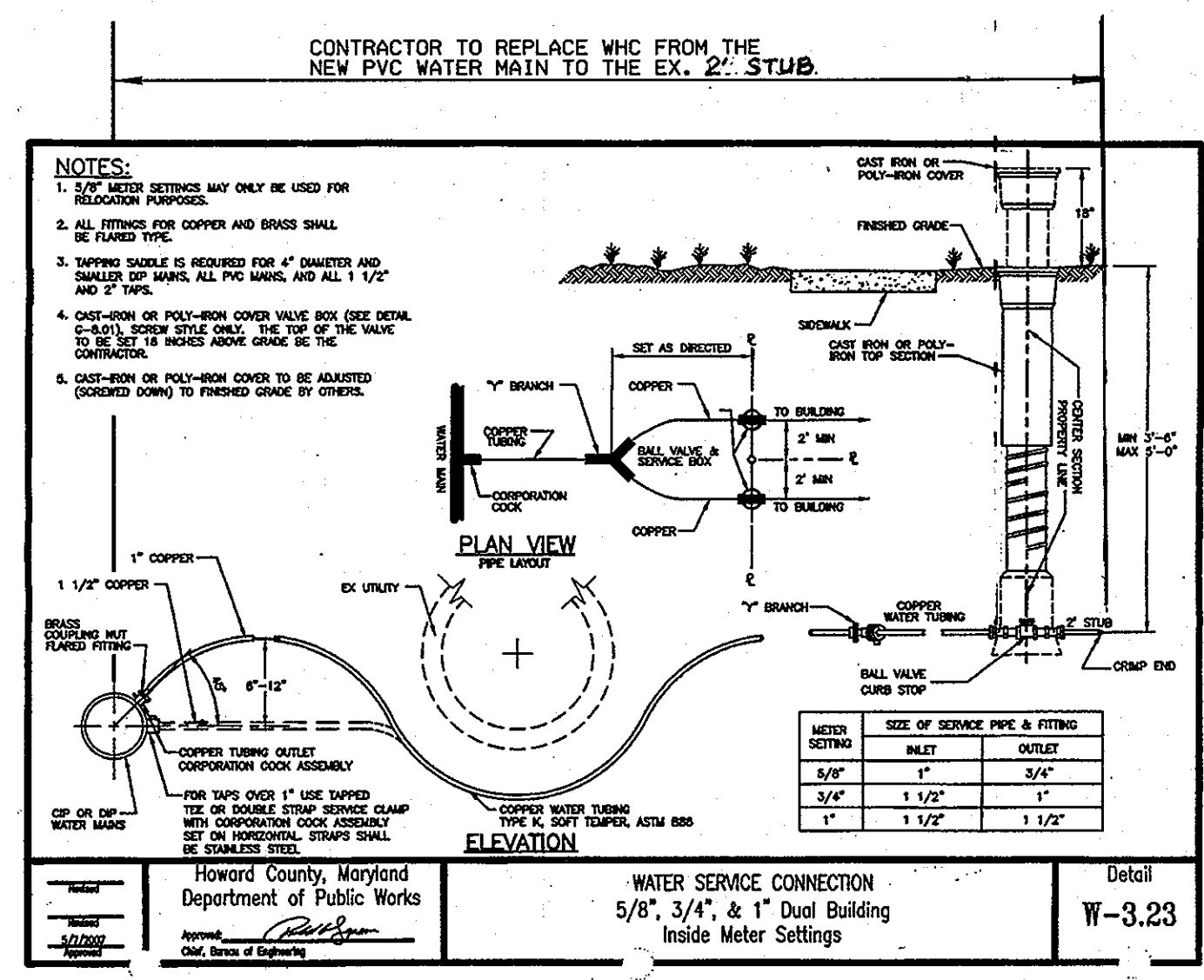
**TEMPORARY PAVING DETAIL
SUBDIVISION**

NOT TO SCALE



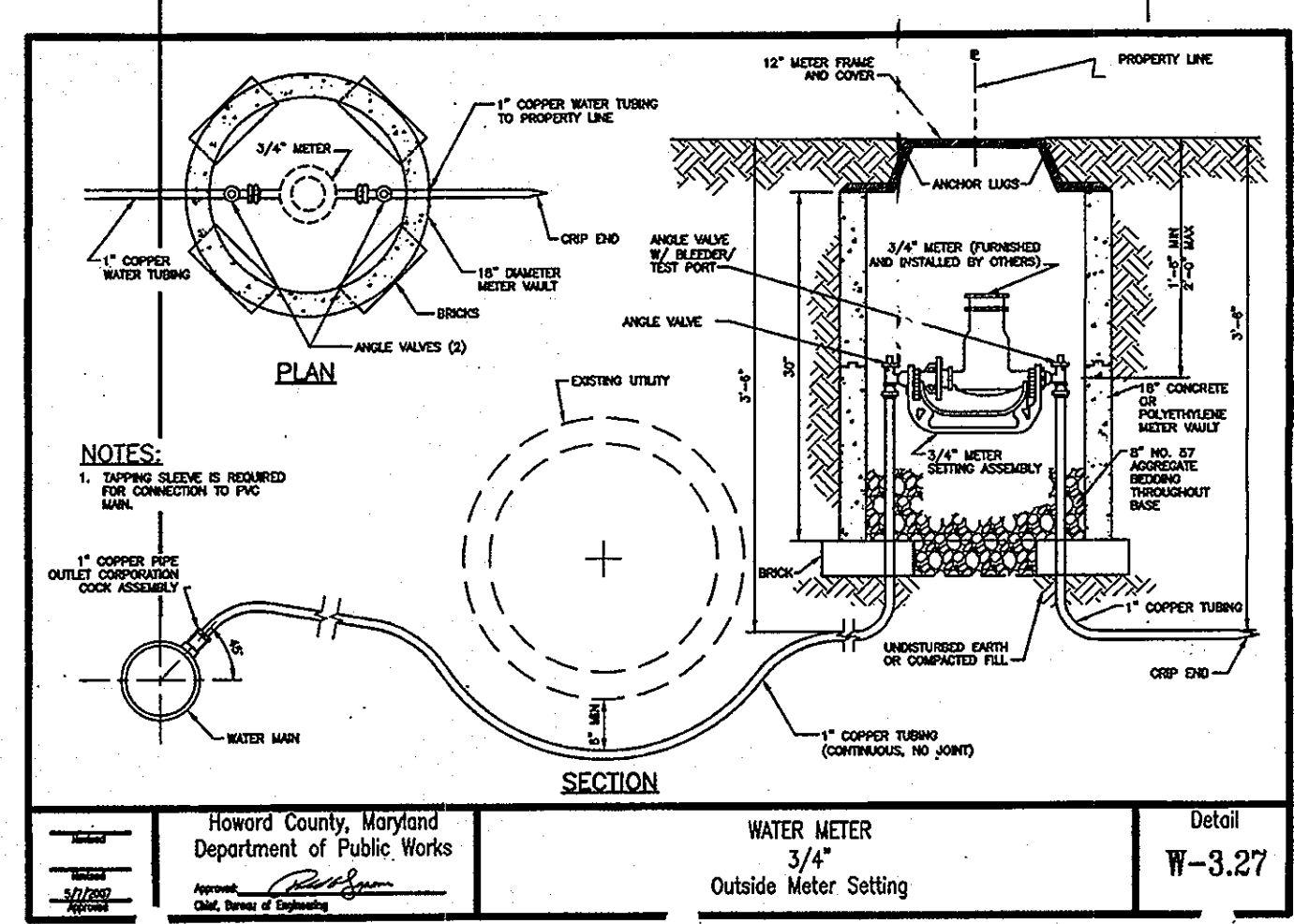
**WATER SERVICE CONNECTION
5/8\", 3/4\", 1\", 1 1/2\", & 2\"
Inside Meter Settings**

Detail W-3.21
Howard County, Maryland
Department of Public Works



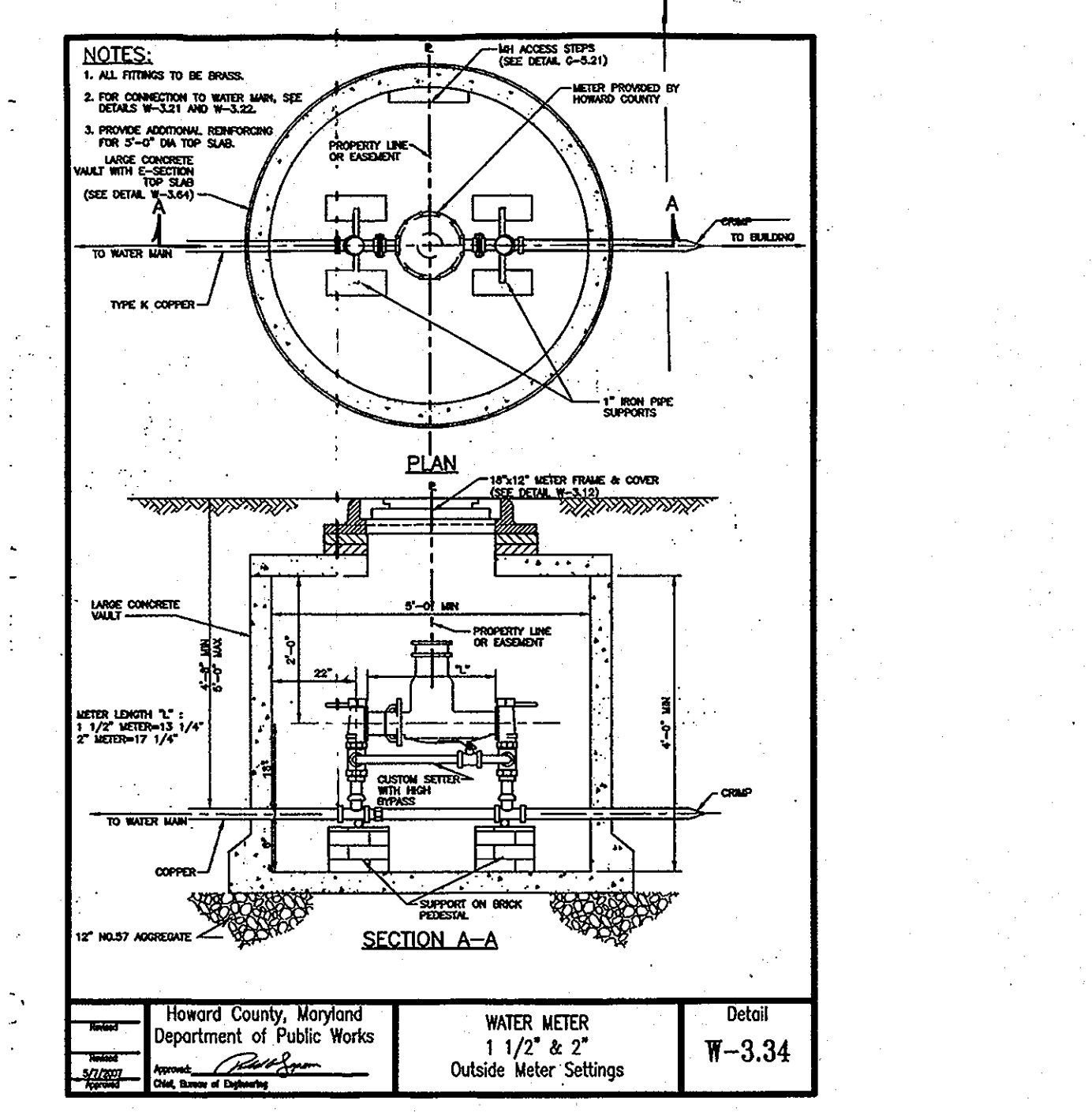
**WATER SERVICE CONNECTION
5/8\", 3/4\", & 1\"
Dual Building
Inside Meter Settings**

Detail W-3.23
Howard County, Maryland
Department of Public Works



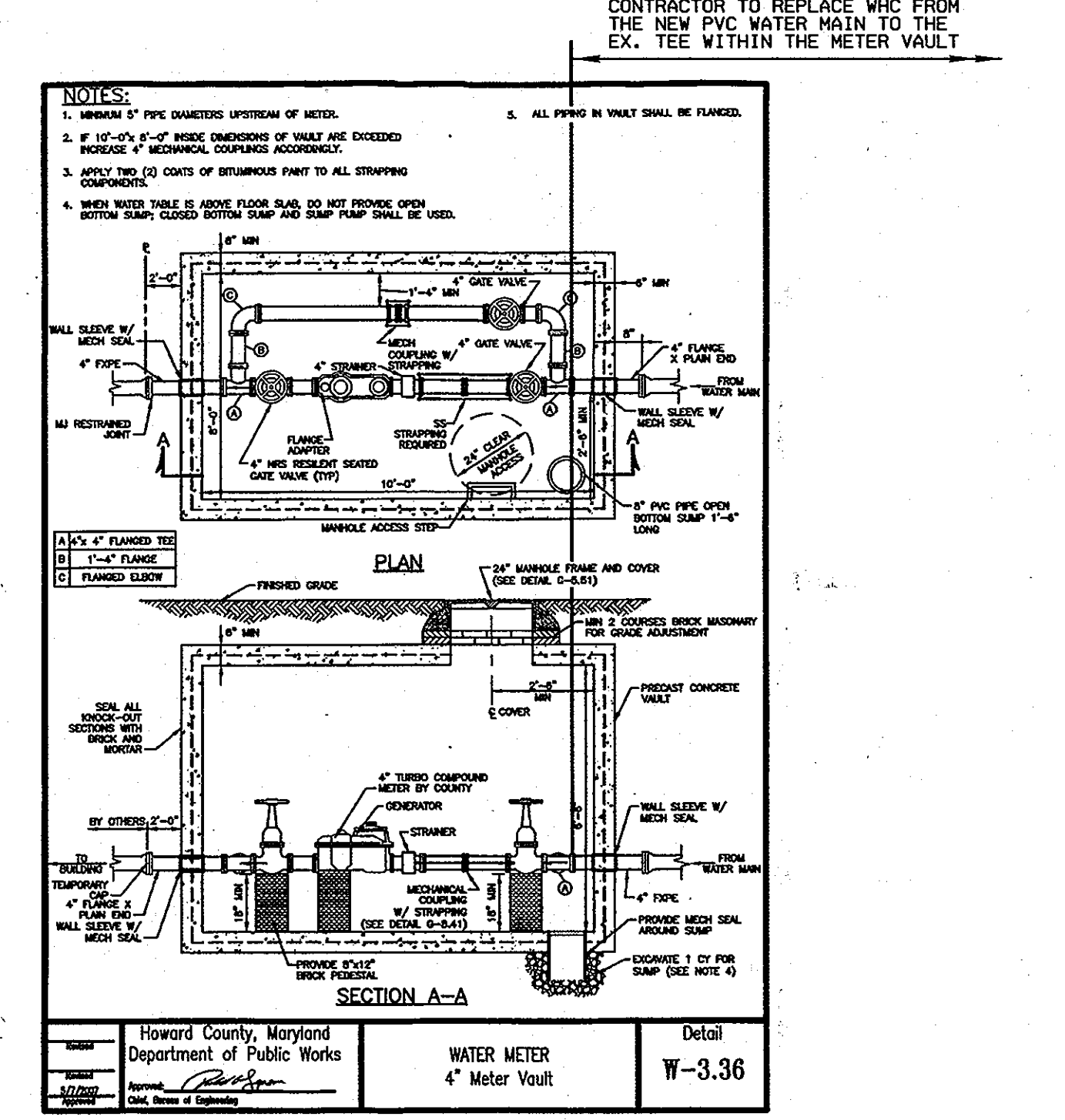
**WATER METER
3/4\"
Outside Meter Setting**

Detail W-3.27
Howard County, Maryland
Department of Public Works



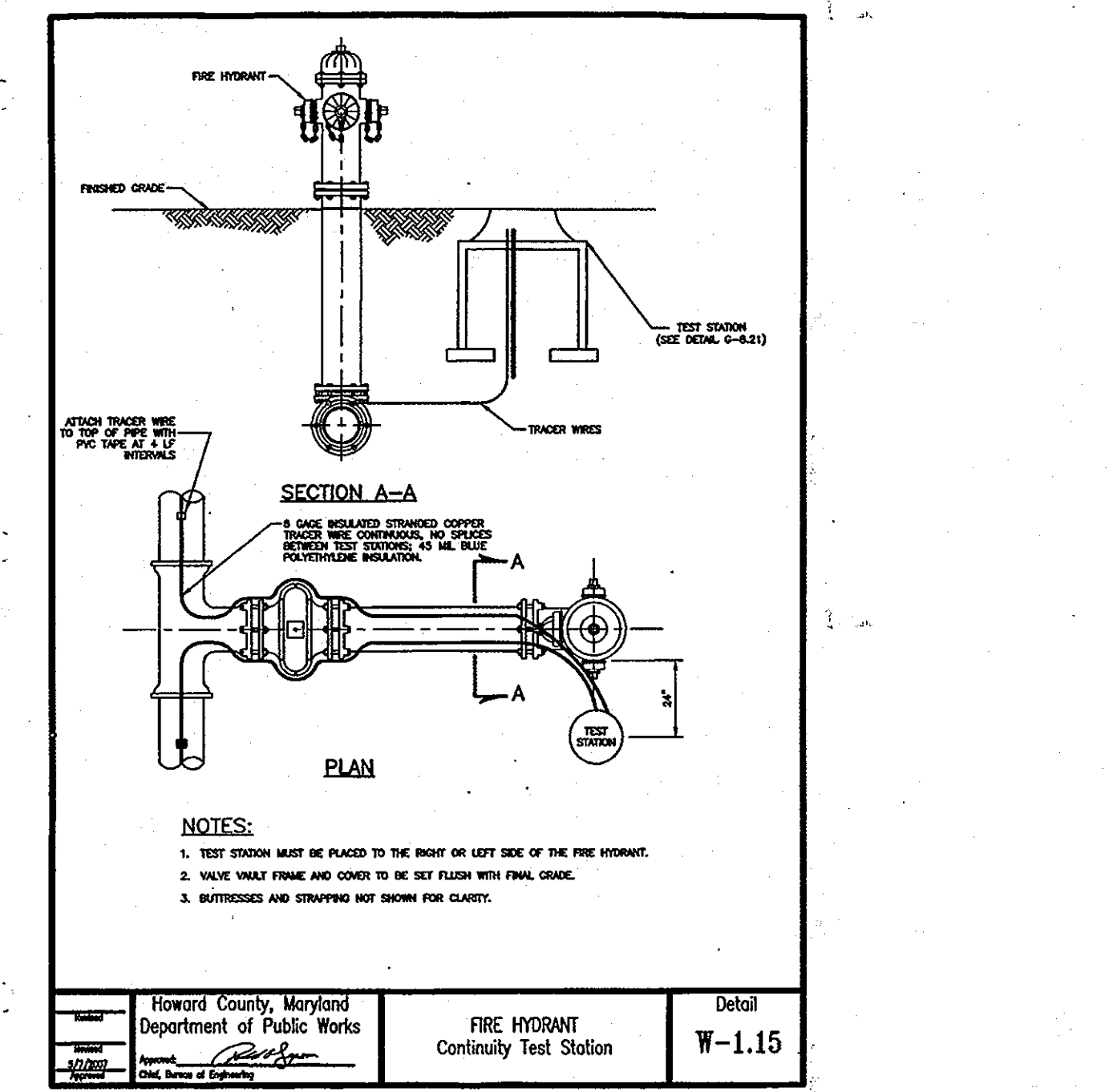
**WATER METER
1 1/2\" & 2\"
Outside Meter Settings**

Detail W-3.34
Howard County, Maryland
Department of Public Works



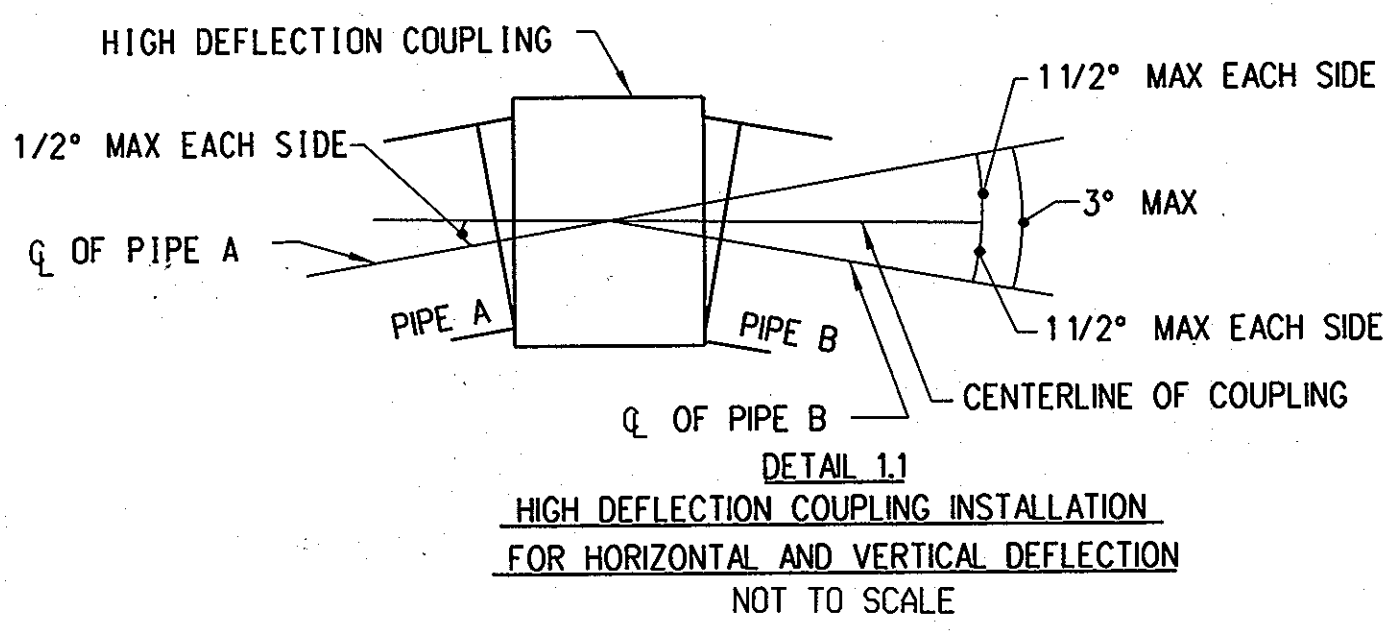
**WATER METER
4\"
Meter Vault**

Detail W-3.36
Howard County, Maryland
Department of Public Works



**FIRE HYDRANT
Continuity Test Station**

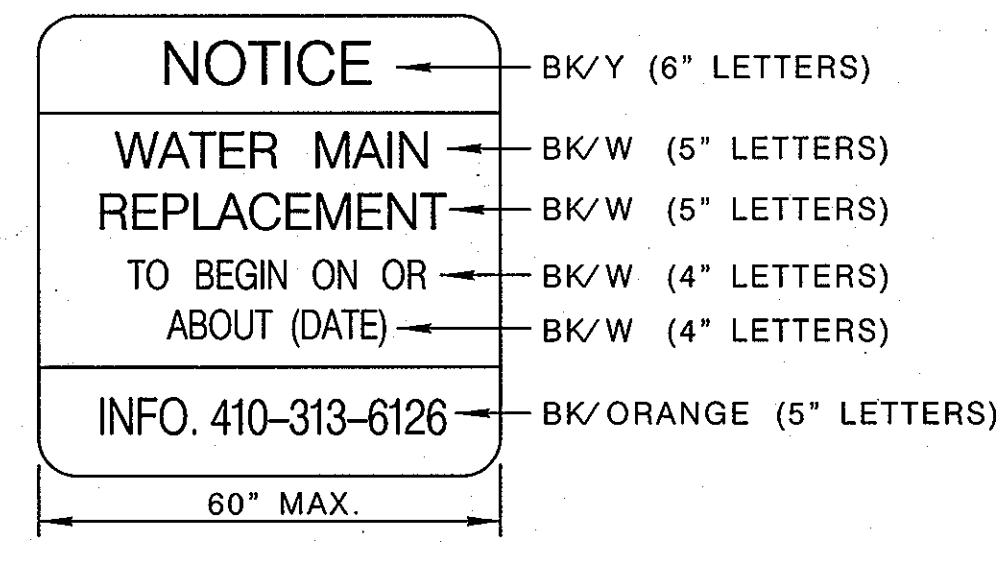
Detail W-1.15
Howard County, Maryland
Department of Public Works



**DETAIL 1.1
HIGH DEFLECTION COUPLING INSTALLATION
FOR HORIZONTAL AND VERTICAL DEFLECTION**

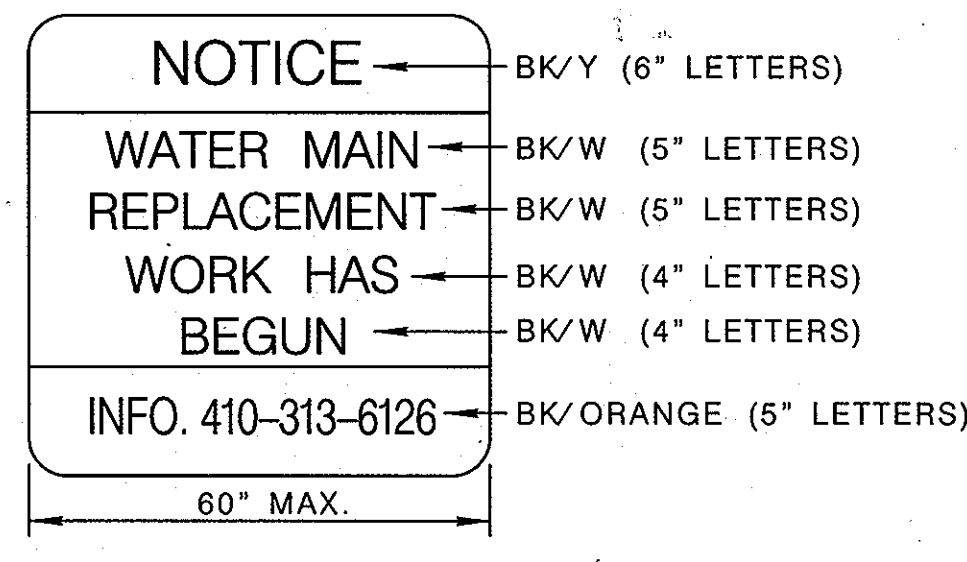
NOT TO SCALE

NOTE: THE MAXIMUM ALLOWED DEFLECTION AT THE HIGH DEFLECTION COUPLING IS 3\"/>



NOTICE SIGN-WORK TO BEGIN

NOT TO SCALE



NOTICE SIGN-WORK HAS BEGUN

NOT TO SCALE

NOTE: LOCATE THESE SIGNS AT EACH ENTRANCE TO THE SUBDIVISION

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31363 EXPIRATION DATE: 1/16/2012

AS-BUILT
DATE 7/23/2013

PLOTED: 09:50 AM on Tuesday, January 25, 2011
BY: Kevin Jackson, Division PO#2 W-WW-Solid Waste GMA
FILE: M:\2007\01071378\05\Drawings\0107137805-C-18-DETAILS.dgn

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Kevin Jackson 1/25/11
DIRECTOR OF PUBLIC WORKS DATE

Robert Dineen 1/25/11
ACT. CHIEF, UTILITY DESIGN DIVISION DATE

KCI TECHNOLOGIES

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

936 ROCKBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
WWW.KCI.COM

STATE OF MARYLAND
PROFESSIONAL ENGINEER
No. 31363
EXPIRES 1/16/2012

DES:	MRD				
DRN:	KFJ				
CHK:	GW/TWW				
DATE:	7/23/13				
JAN. 2011	BY NO.	AS-BUILT	REVISION	DATE	7/23/13

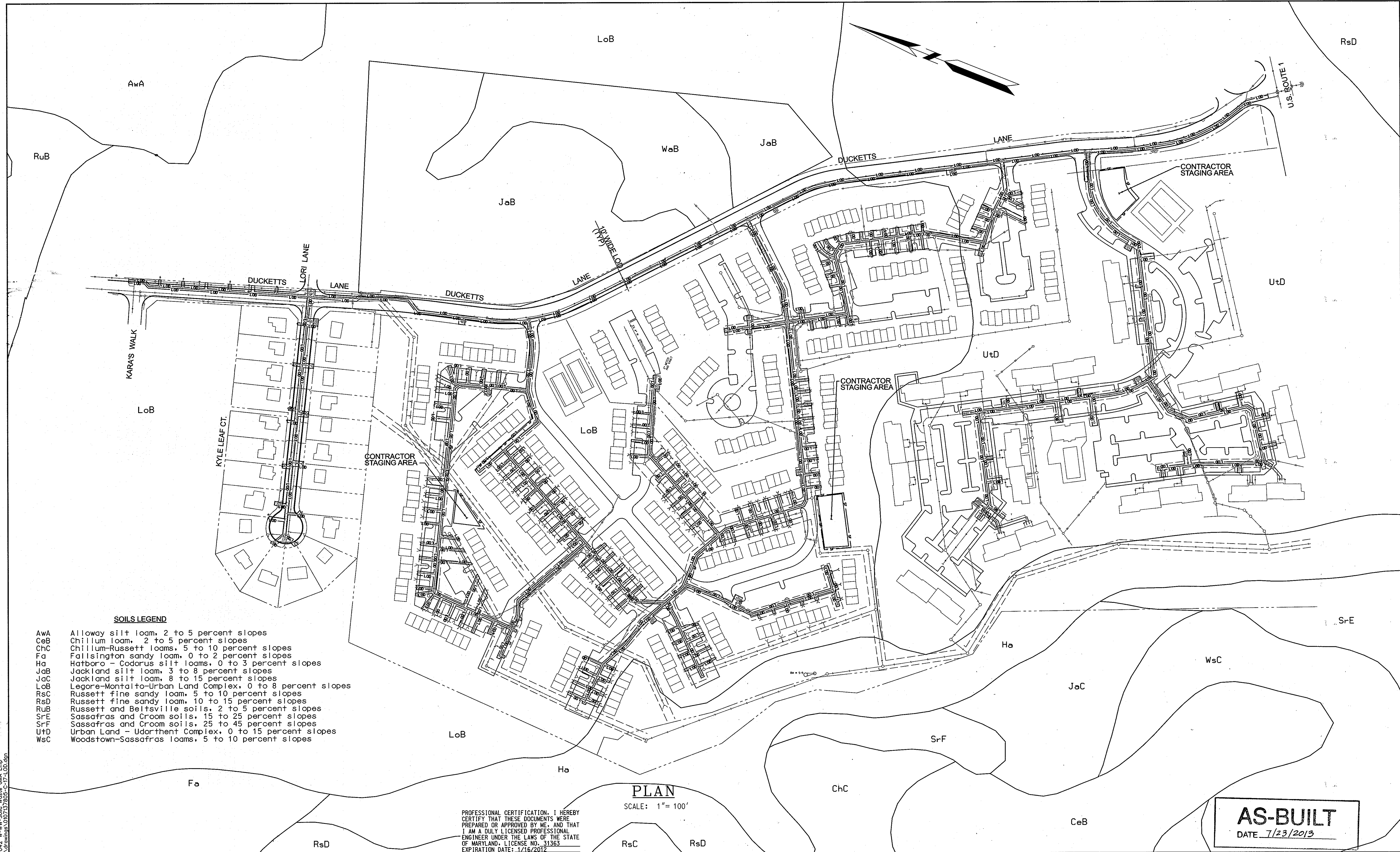
600' SCALE MAP NO.	37	BLOCK NO.	18
--------------------	----	-----------	----

**DUCKETTS LANE
WATER MAIN REPLACEMENT**

CAPITAL PROJECT NO. W-8286
CONTRACT NO. 44-4877

ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 16 OF 29



SOILS LEGEND

- AWA Alloway silt loam, 2 to 5 percent slopes
- CeB Chillum loam, 2 to 5 percent slopes
- ChC Chillum-Russett loams, 5 to 10 percent slopes
- Fa Fallington sandy loam, 0 to 2 percent slopes
- Ha Hatboro - Codorus silt loams, 0 to 3 percent slopes
- JaB Jackland silt loam, 3 to 8 percent slopes
- JaC Jackland silt loam, 8 to 15 percent slopes
- LoB Legore-Montalto-Urban Land Complex, 0 to 8 percent slopes
- LoC Russett fine sandy loam, 5 to 10 percent slopes
- LoD Russett fine sandy loam, 10 to 15 percent slopes
- LoE Russett and Beltsville soils, 2 to 5 percent slopes
- LoF Sassafras and Croom soils, 15 to 25 percent slopes
- LoG Sassafras and Croom soils, 25 to 45 percent slopes
- LoH Urban Land - Udorthent Complex, 0 to 15 percent slopes
- LoI Woodstown-Sassafras loams, 5 to 10 percent slopes

PLAN

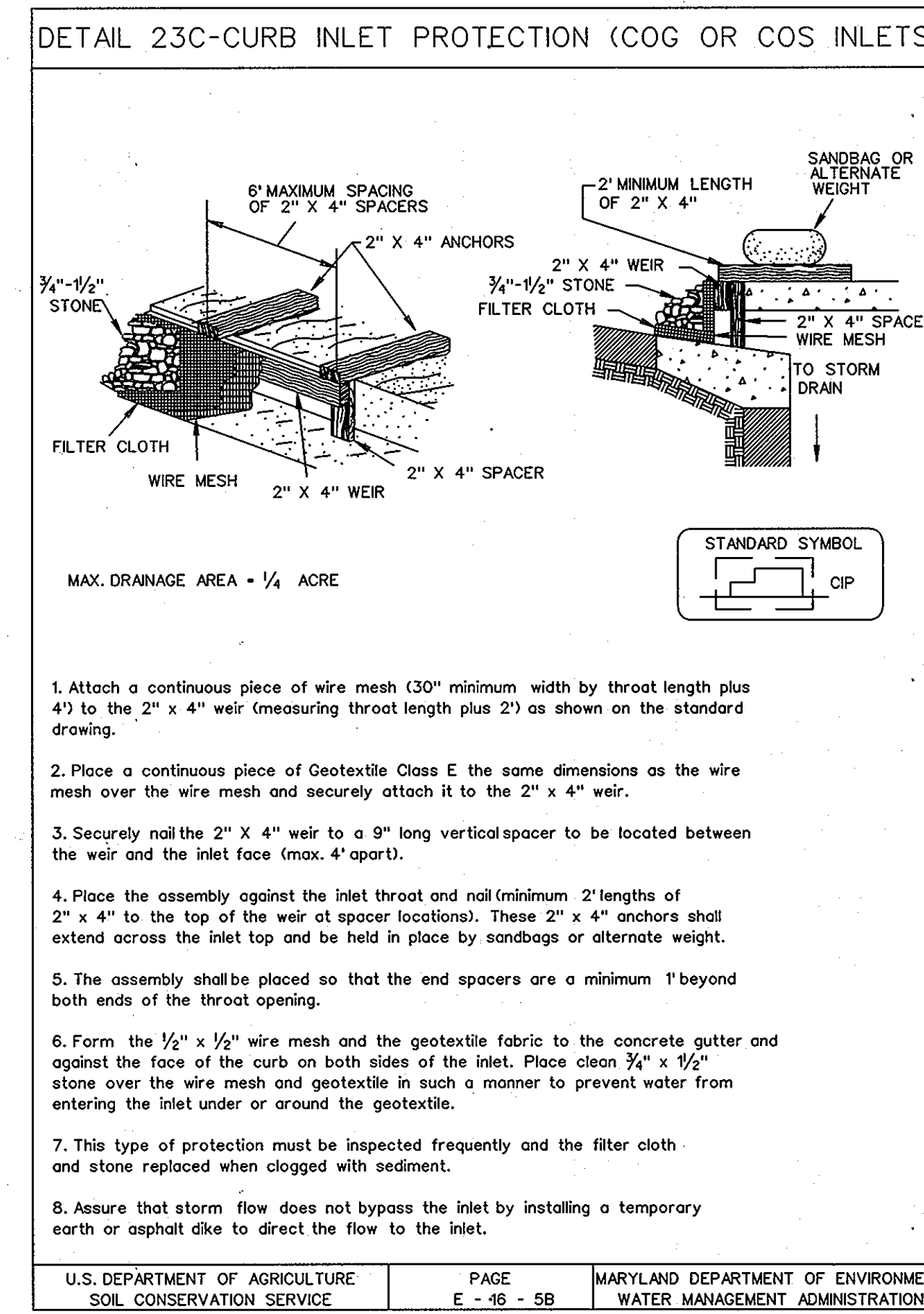
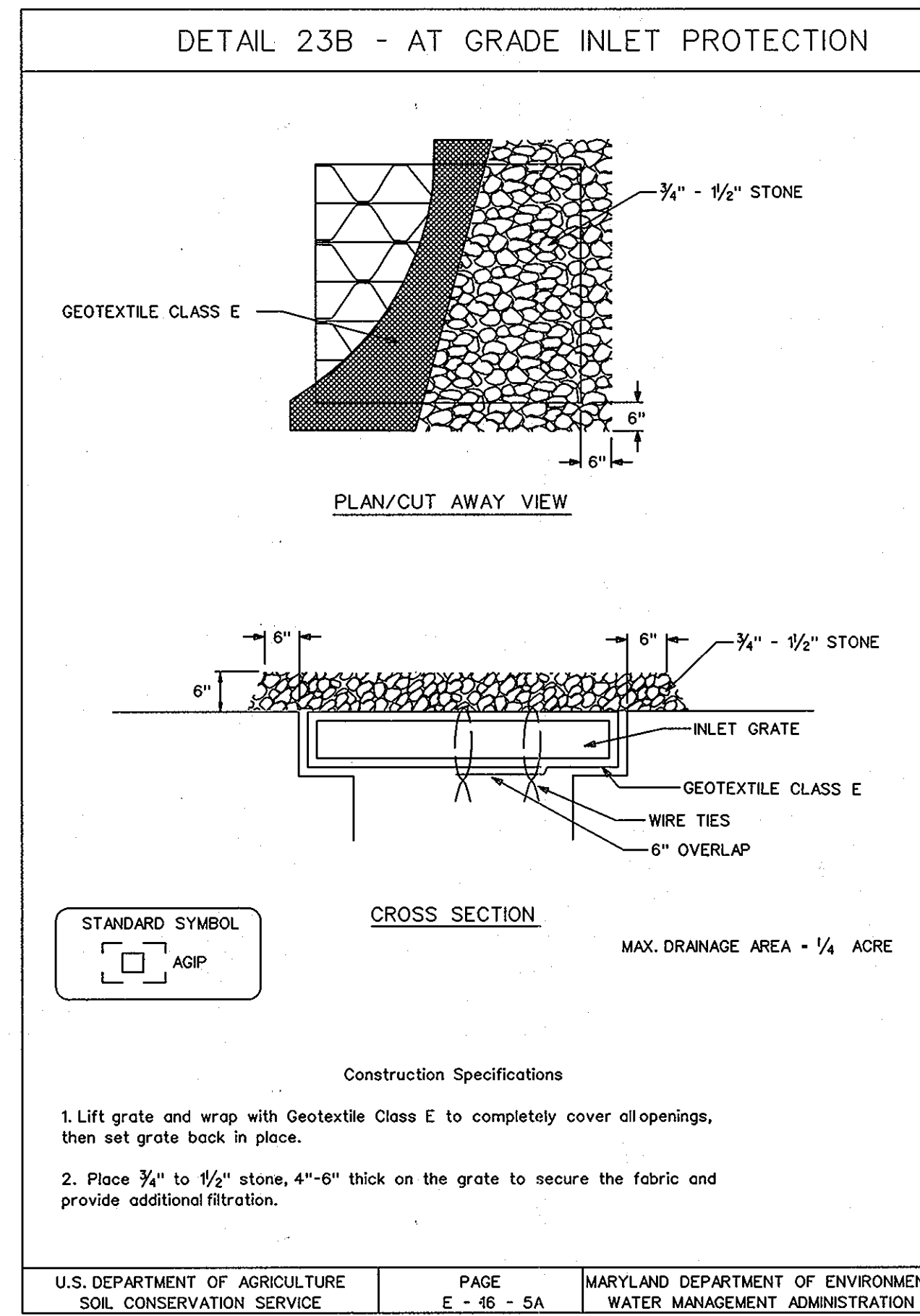
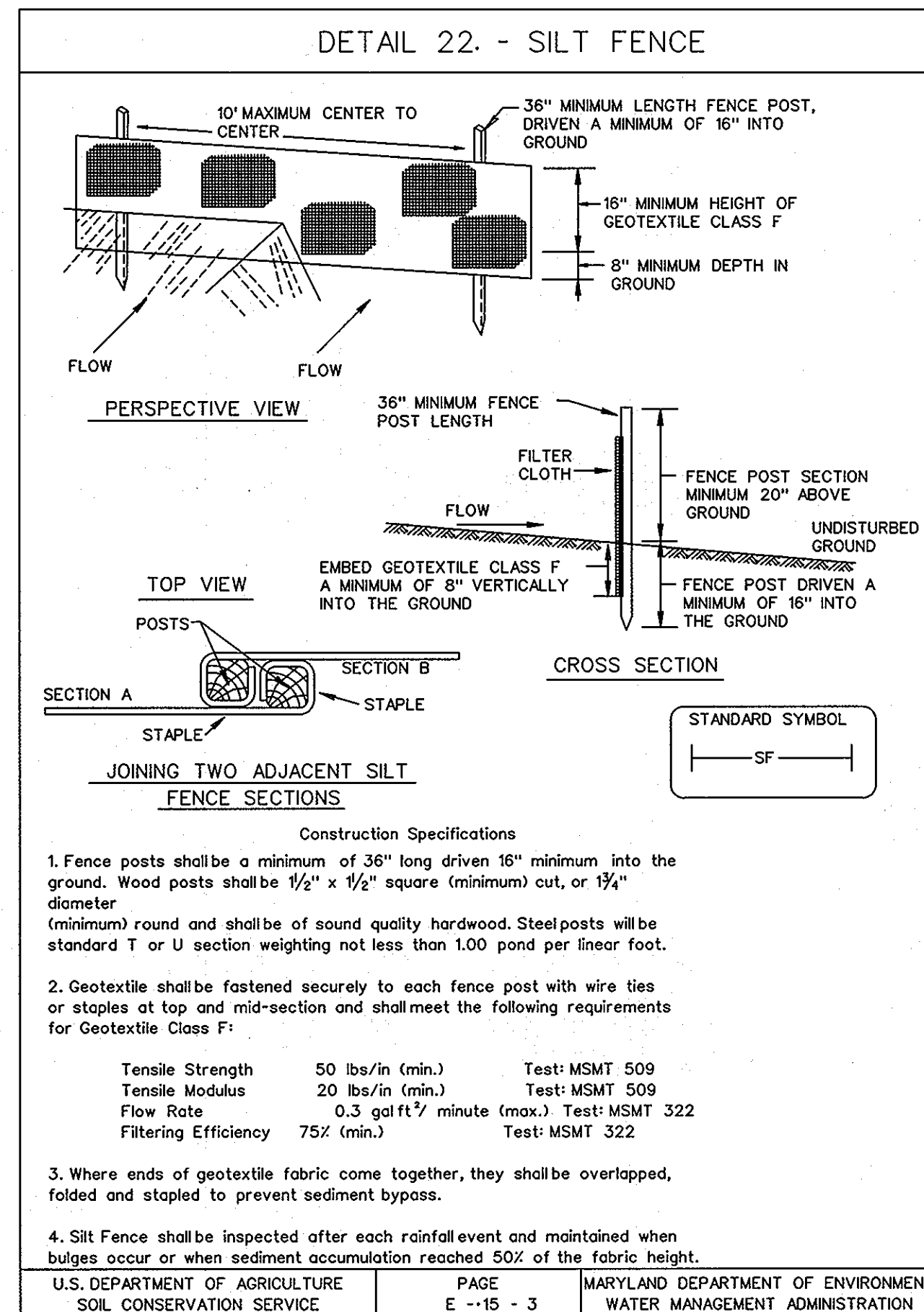
SCALE: 1" = 100'

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31363 EXPIRATION DATE: 1/15/2012

AS-BUILT
DATE 7/23/2013

PLOTTED: 09:50 AM on Tuesday, January 25, 2011
 BY: Kevin Jackson, Division P042 W-WW-Solid Waste O&A Emp.
 FILE: M:\2007\00071378 OS Drawings\007137805-C-17-LOD.dwg

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DIRECTOR OF PUBLIC WORKS CHIEF - BUREAU OF UTILITIES	KCI TECHNOLOGIES 936 RIDGEBROOK ROAD SPARKS, MARYLAND 21152 TELEPHONE: (410) 316-7800 FAX: (410) 316-7818 WWW.KCI.COM	KEVIN JACKSON LICENSE NO. 31363 EXPIRES 1/15/2012	DES: MRD DRN: KFJ CHK: GW/TWW DATE: JAN. 2011 BY: NO.	LIMITS OF DISTURBANCE AS - BUILT REVISION DATE: 7/23/13	DUCKETTS LANE WATER MAIN REPLACEMENT CAPITAL PROJECT No. W-8286 CONTRACT No. 44-4677 ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 17 OF 23
----------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------	-------------------------------------------------------------------	----------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------



STANDARD SEDIMENT CONTROL NOTES

- 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).
- 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 REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
 - 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.
 - 14 DAYS FOR 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 (SEC. 020.0) FOR PERMANENT SEEDINGS, SOD, TEMPORARY SEEDING AND MULCHING. 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 INSPECTOR.
- SITE ANALYSIS:

TOTAL AREA OF SITE	2.7 ACRES
AREA DISTURBED	0.63 ACRES
AREA TO BE ROOFED OR PAVED	0.62 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.01 ACRES
TOTAL CUT	N/A CU. YDS.
TOTAL FILL	N/A CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION	N/A
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF THE DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 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 AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE (3) PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- CONTRACTOR SHALL PLACE EXCAVATED MATERIALS ON UPHILL SIDE OF TRENCH AND PLACE SILT FENCE ON DOWNHILL SIDE OF TRENCH.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- PREFERRED** - APPLY 2 TONS PER ACRES DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14LBS/1000 SQ FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ FT.).
- ACCEPTABLE** - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT.) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (.05 LBS/1000 SQ FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT.) FOR ANCHORING.

MAINTENANCE - INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: - APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT.).

SEEDING: - FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 GAL/1000 SQ FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FT OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SQ FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

TRAFFIC MAINTENANCE

FOR TRAFFIC MAINTENANCE REQUIREMENTS SEE SPECIFICATION DOCUMENT D, PARAGRAPH 15 AND SHEET 23 "M.O.T-TRAFFIC CONTROL"

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT.
- LAYOUT TEMPORARY WATER PIPE.
- LAYOUT ALIGNMENT AT SITE. (1 DAY)
- THE CONTRACTOR SHALL INSTALL SEDIMENT CONTROL DEVICES AT THE DIRECTION OF SEDIMENT CONTROL INSPECTOR.
- EXCAVATE DITCH TO THE GRADE SPECIFIED ON THE PROFILE, INSTALL WATER MAIN AND STABILIZE OR BACKFILL TRENCH AND RESURFACE WITH BITUMINOUS PAVING AS APPROPRIATE (30 DAYS) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO 25' OF PIPE LENGTH OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- CLEAN UP CONSTRUCTION SITE. (1 DAY)
- REMOVE SEDIMENT CONTROL DEVICES AFTER PERMISSION IS GRANTED BY THE SEDIMENT CONTROL INSPECTOR. (1 DAY)

AS-BUILT
DATE 7/23/2013

PLOTED: 09:50 AM on Tuesday, January 25, 2011
By: Kevin Jackson, Division FOI2 W-WW-Solid Waste GMA Emp.
FILE: M:\2007\010178 US Drawings\01017805-C-18-ESC.dgn

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
<i>John G. ...</i> DIRECTOR OF PUBLIC WORKS DATE 1/25/11	<i>Acq. Chief ...</i> ACQ. CHIEF, BUREAU OF ENGINEERING DATE 1/25/11
<i>Shirley ...</i> CHIEF, BUREAU OF UTILITIES DATE 1/25/11	<i>Acq. Chief ...</i> ACQ. CHIEF, UTILITY DESIGN DIVISION DATE 1/25/11

KCI TECHNOLOGIES
ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS
936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
WWW.KCI.COM

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31363 EXPIRATION DATE: 1/16/2012

[Signature]
PROFESSIONAL ENGINEER
NO. 31363
1/25/2011

DES: MRD	
DRN: KFJ	
CHK: GW/TWW	
DATE: 1/25/11	7/23/13
JAN. 2011	BY NO.
	AS-BUILT
	REVISION

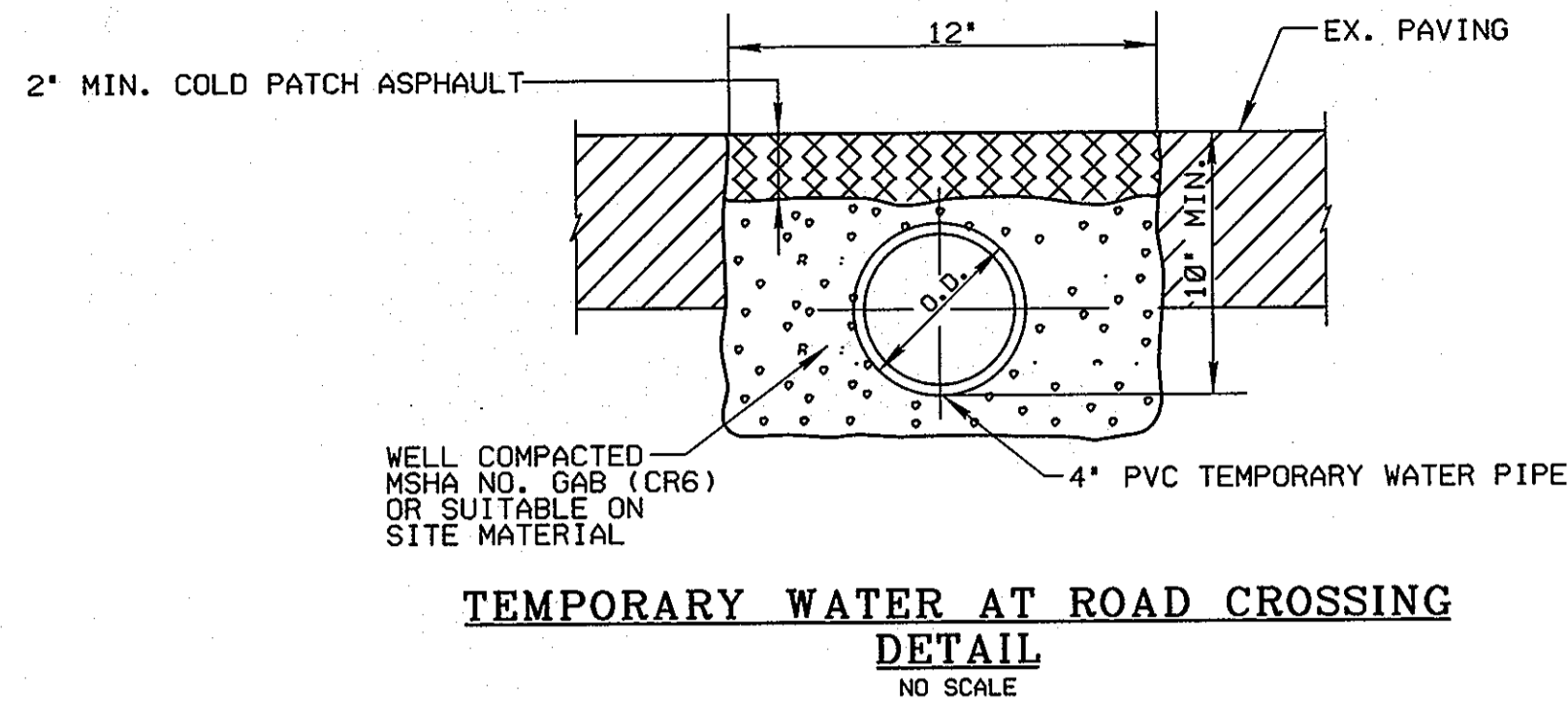
EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

600' SCALE MAP NO. 37 BLOCK NO. 12 & 18

DUCKETTS LANE WATER MAIN REPLACEMENT
CAPITAL PROJECT No. W-8286
CONTRACT No. 44-4677

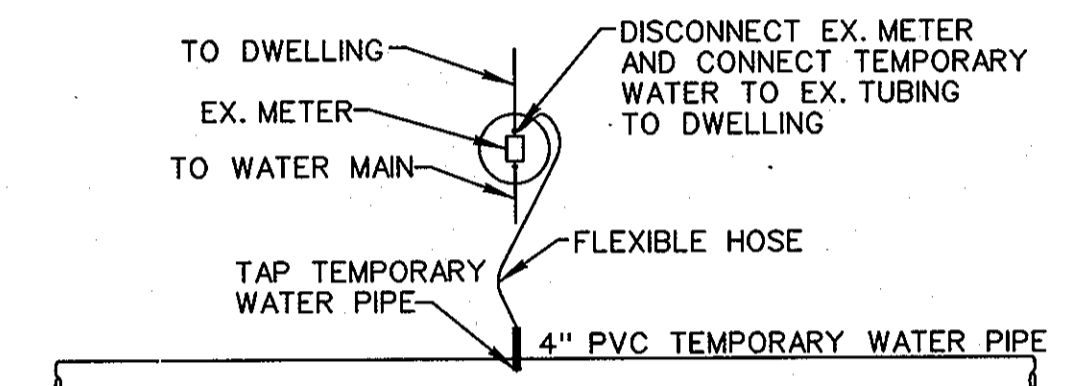
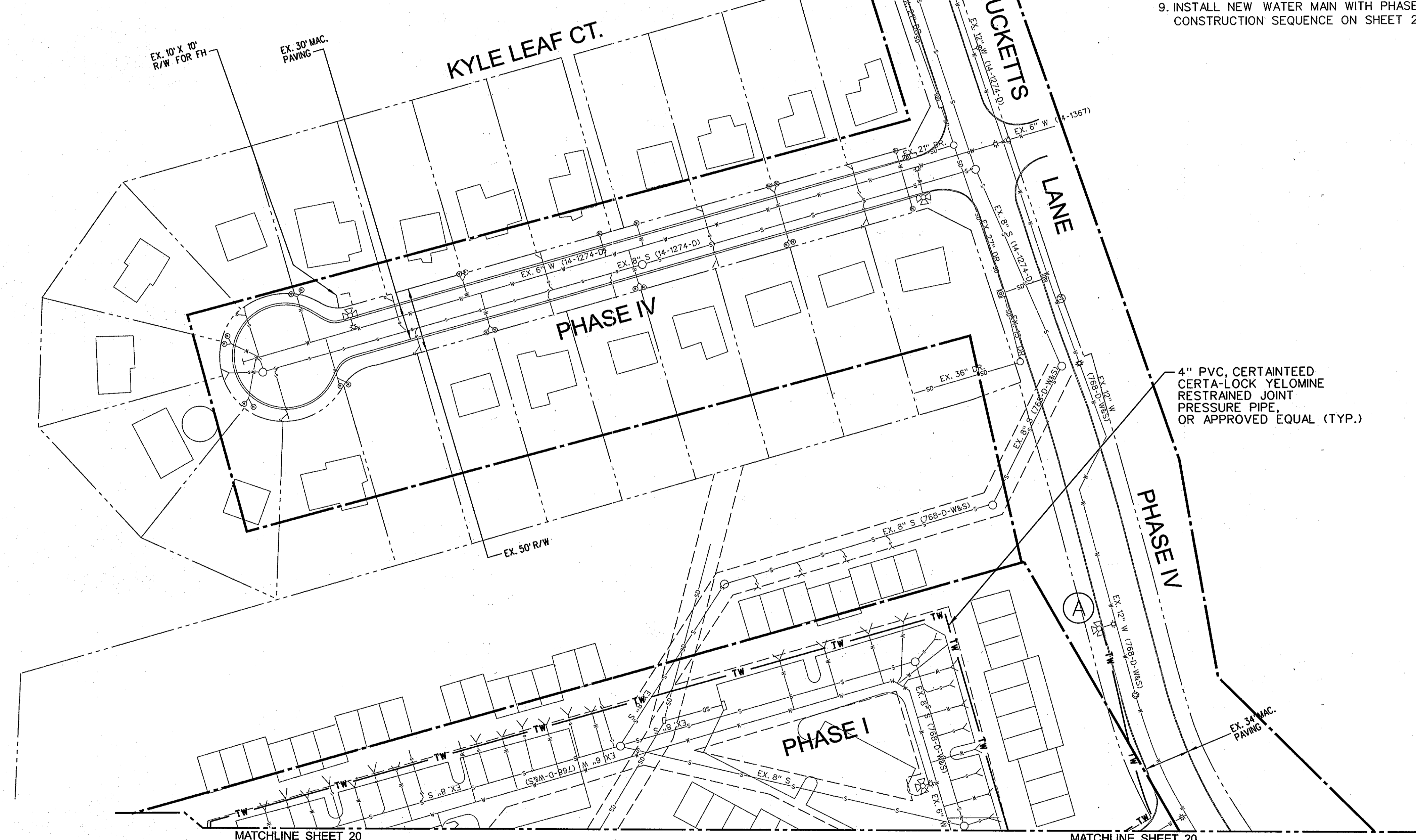
ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN SHEET 18 OF 29

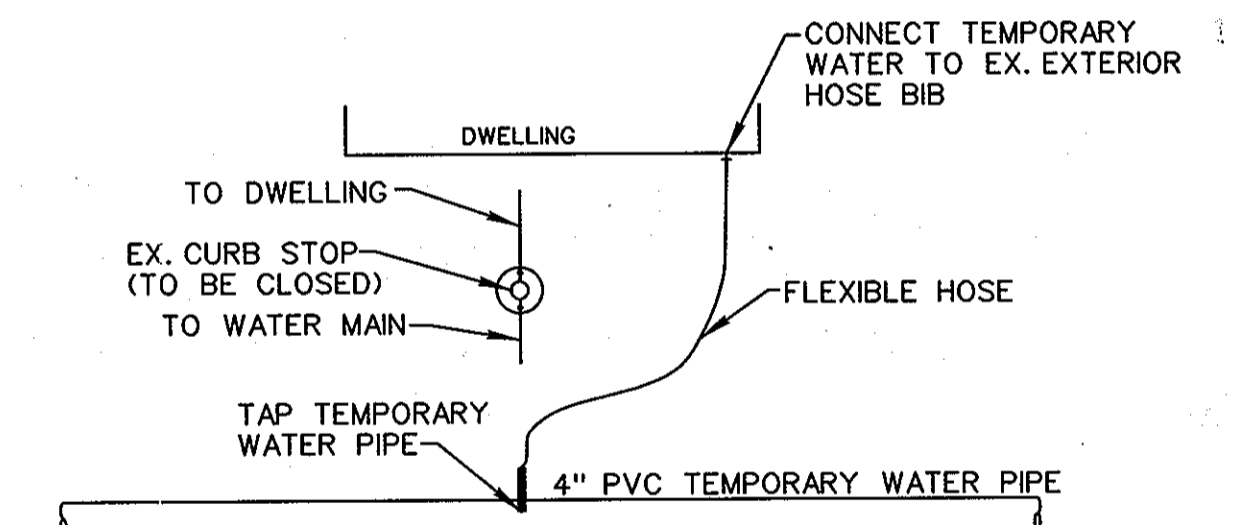


SEQUENCE OF INSTALLING TEMPORARY WATER:

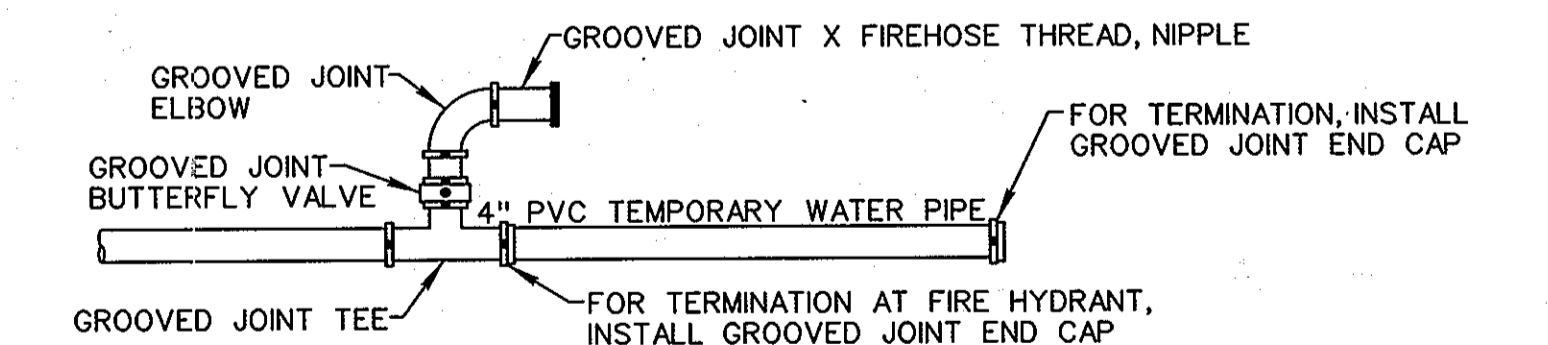
1. PRIOR TO THE INSTALLATION OF NEW WATER MAIN WITHIN PHASE I LIMIT, INSTALL 4" TEMPORARY WATER AS SHOWN ON SHEETS 19 AND 20. THE TEMPORARY WATER IS FED FROM EX. FH (A).
2. CHARGE AND TEST TEMPORARY WATER PIPING. CONNECT TEMPORARY WATER HOUSE CONNECTION IN ACCORDANCE WITH THE DETAILS PROVIDED ON SHEET 19.
3. INSTALL NEW WATER MAIN WITHIN PHASE I IN ACCORDANCE WITH THE CONSTRUCTION SEQUENCE ON SHEET 2.
4. PRIOR TO THE INSTALLATION OF NEW WATER MAIN WITH PHASE II LIMIT, INSTALL 4" TEMPORARY WATER AS SHOWN ON SHEET 20. THE TEMPORARY WATER IS FED FROM EX. FH (B).
5. CHARGE AND TEST TEMPORARY WATER PIPING. CONNECT TEMPORARY WATER HOUSE CONNECTION IN ACCORDANCE WITH THE DETAILS PROVIDED ON SHEET 19.
6. INSTALL NEW WATER MAIN WITH PHASE III IN ACCORDANCE WITH THE CONSTRUCTION SEQUENCE ON SHEET 2.
7. PRIOR TO THE INSTALLATION OF NEW WATER MAIN WITHIN PHASE III LIMIT, INSTALL 4" TEMPORARY WATER AS SHOWN ON SHEETS 21 AND 22. THE TEMPORARY WATER IS FED FROM EX. FH (C) AND EX. FH (D).
8. CHARGE AND TEST TEMPORARY WATER PIPING. CONNECT TEMPORARY WATER HOUSE CONNECTION IN ACCORDANCE WITH THE DETAILS PROVIDED ON SHEET 19.
9. INSTALL NEW WATER MAIN WITH PHASE III IN ACCORDANCE WITH THE CONSTRUCTION SEQUENCE ON SHEET 2.



TEMPORARY WATER HOUSE CONNECTION OUTSIDE METER DETAIL
NO SCALE



TEMPORARY WATER HOUSE CONNECTION INSIDE METER DETAIL
NO SCALE



TEMPORARY WATER FIRE HYDRANT DETAIL
NO SCALE

PHASING LIMITS

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31363 EXPIRATION DATE: 1/16/2012

PLAN
SCALE: 1" = 50'

AS-BUILT
DATE 7/23/2013

PLOTTED: 10:50 AM on Tuesday, January 25, 2011
 BY: Kevin Jackson Division P042 W-WW-Solid Waste OMA Emp
 FILE: M:\2007\007378_05\Drawings\00737805-C-19-TW.dwg

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
Director of Public Works <i>[Signature]</i> DATE 1/25/11	Chief, Bureau of Engineering <i>[Signature]</i> DATE 1/25/11
Chief, Bureau of Utilities <i>[Signature]</i> DATE 1/25/11	Chief, Utility Design Division <i>[Signature]</i> DATE 1/25/11

ENGINEERS
 PLANNERS
 SCIENTISTS
 CONSTRUCTION MANAGERS
KCI
 TECHNOLOGIES
 936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7900
 FAX: (410) 316-7918
 WWW.KCI.COM

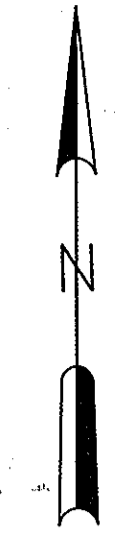
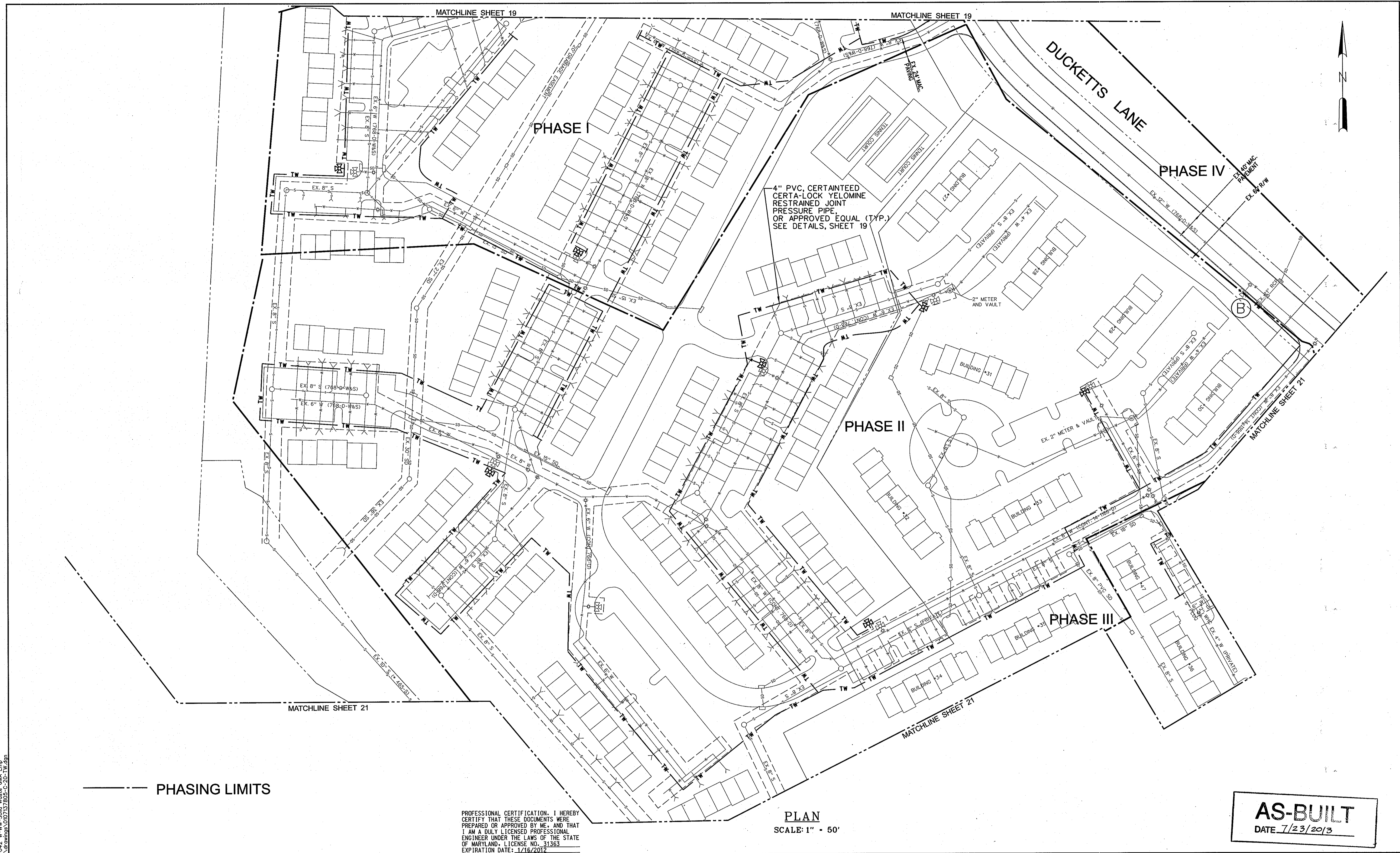
STATE OF MARYLAND
 PROFESSIONAL ENGINEER
GUINIA WANG
 LICENSE NO. 31363
 EXPIRES 1/16/2012
 1/25/2011

DES:	MRD				
DRN:	KFJ				
CHK:	GW/TWW				
DATE:	JAN. 2011	BY:	AS-BUILT	REVISION:	7/23/13

TEMPORARY WATER
 600' SCALE MAP NO. 37 BLOCK NO. 12 & 18

DUCKETTS LANE
 WATER MAIN REPLACEMENT
 CAPITAL PROJECT No. W-8286
 CONTRACT No. 44-4677
 ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 19 OF 23



4" PVC, CERTANTEED
CERTA-LOCK YELOMINE
RESTRAINED JOINT
PRESSURE PIPE
OR APPROVED EQUAL (TYP.)
SEE DETAILS, SHEET 19

PHASE II

PHASE I

PHASE IV

PHASE III

PLAN
SCALE: 1" = 50'

AS-BUILT
DATE 7/23/2013

--- PHASING LIMITS

PROFESSIONAL CERTIFICATION. I HEREBY
CERTIFY THAT THESE DOCUMENTS WERE
PREPARED OR APPROVED BY ME, AND THAT
I AM A DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE
OF MARYLAND, LICENSE NO. 31363
EXPIRATION DATE: 1/16/2012

PLOTTED: 09:50 AM on Tuesday, January 25, 2011
 BY: Kevin Jackson Division PO42 W-WW-Solid Waste GMA Emp.
 FILE: M:\2007\0101378\05\Drawings\010137805-C-20-TW.dwg

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
 DIRECTOR OF PUBLIC WORKS DATE 1/25/11	 CHIEF, BUREAU OF ENGINEERING DATE 1/25/11
 CHIEF, BUREAU OF UTILITIES DATE 1/25/11	 CHIEF, UTILITY DESIGN DIVISION DATE 1/25/11

KCI
 TECHNOLOGIES
 ENGINEERS
 PLANNERS
 SCIENTISTS
 CONSTRUCTION MANAGERS
 936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 WWW.KCI.COM

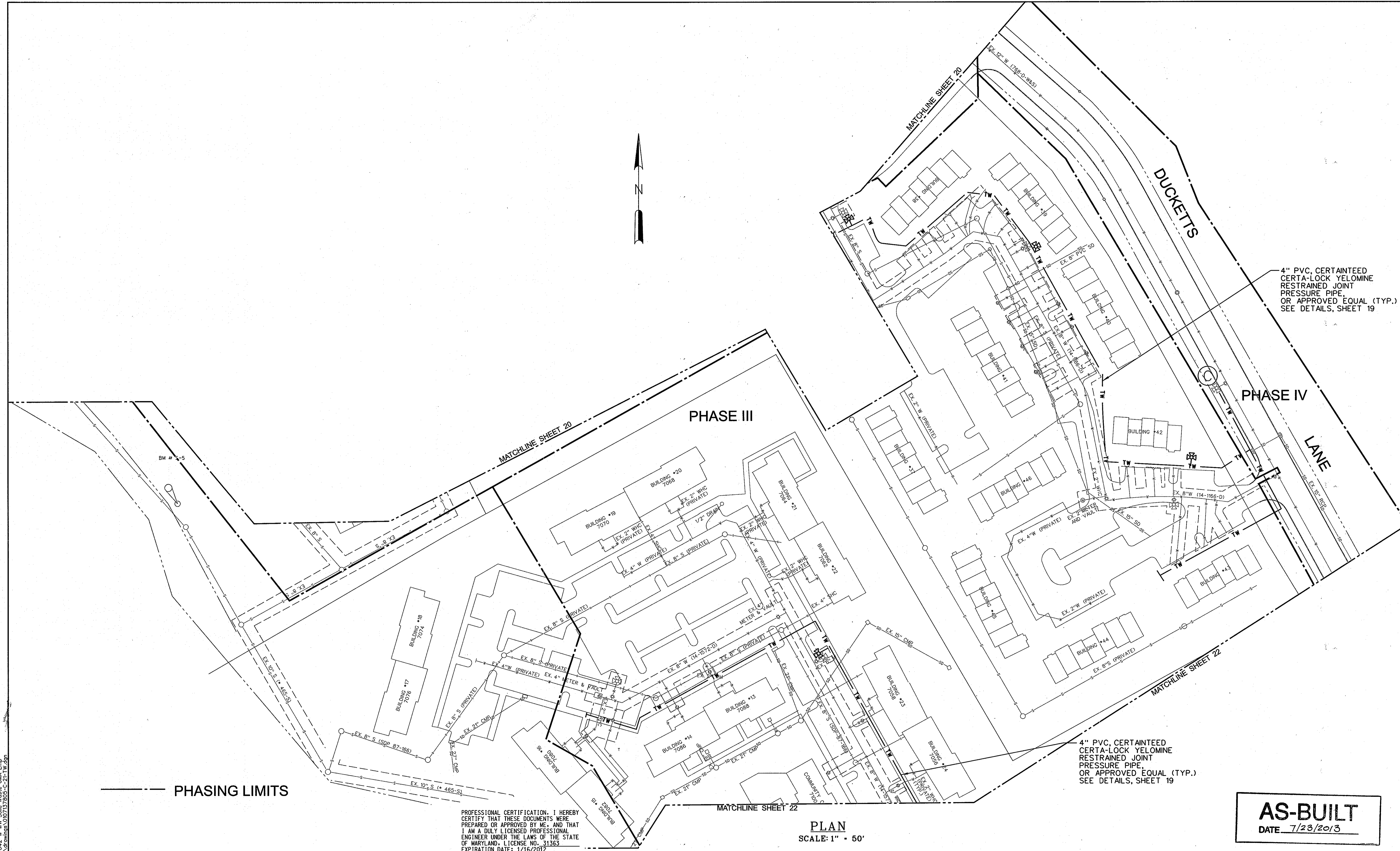
STATE OF MARYLAND
 KEVIN JACKSON
 LICENSE NO. 31363
 PROFESSIONAL ENGINEER
 EXPIRES 1/16/2012

DES:	MRD				
DRN:	KFJ				
CHK:	GW/TWW				
DATE:	JAN. 2011	BY:	GS	NO.	AS-BUILT
REVISION:		DATE:	7/23/13		

TEMPORARY WATER
 600' SCALE MAP NO. 37 BLOCK NO. 18

DUCKETTS LANE
 WATER MAIN REPLACEMENT
 CAPITAL PROJECT No. W-8286
 CONTRACT No. 44-4677
 ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 20 OF 29





PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31363 EXPIRATION DATE: 1/16/2012

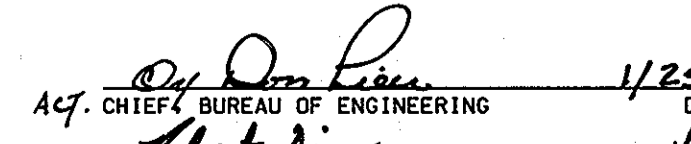
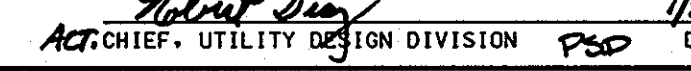
PLAN
SCALE: 1" = 50'

AS-BUILT
DATE 7/23/2013


PLOTTED: 09:50 AM on Tuesday, January 25, 2011
 BY: Kevin Jackson, Division FO42 W-WW-Solid Waste OMA, Emp. FILE: M:\2007\0107378\05\Drawings\010737805-C-21-TW.dgn

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

 1/25/11
 DIRECTOR OF PUBLIC WORKS DATE
 1/25/11
 CHIEF, BUREAU OF UTILITIES DATE

 1/25/11
 ACT. CHIEF, BUREAU OF ENGINEERING DATE
 1/25/11
 ACT. CHIEF, UTILITY DESIGN DIVISION PSD DATE


 ENGINEERS
 PLANNERS
 SCIENTISTS
 CONSTRUCTION MANAGERS
 936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 WWW.KCI.COM


 KEVIN JACKSON
 PROFESSIONAL ENGINEER
 LICENSE NO. 31363
 EXPIRES 1/16/2012

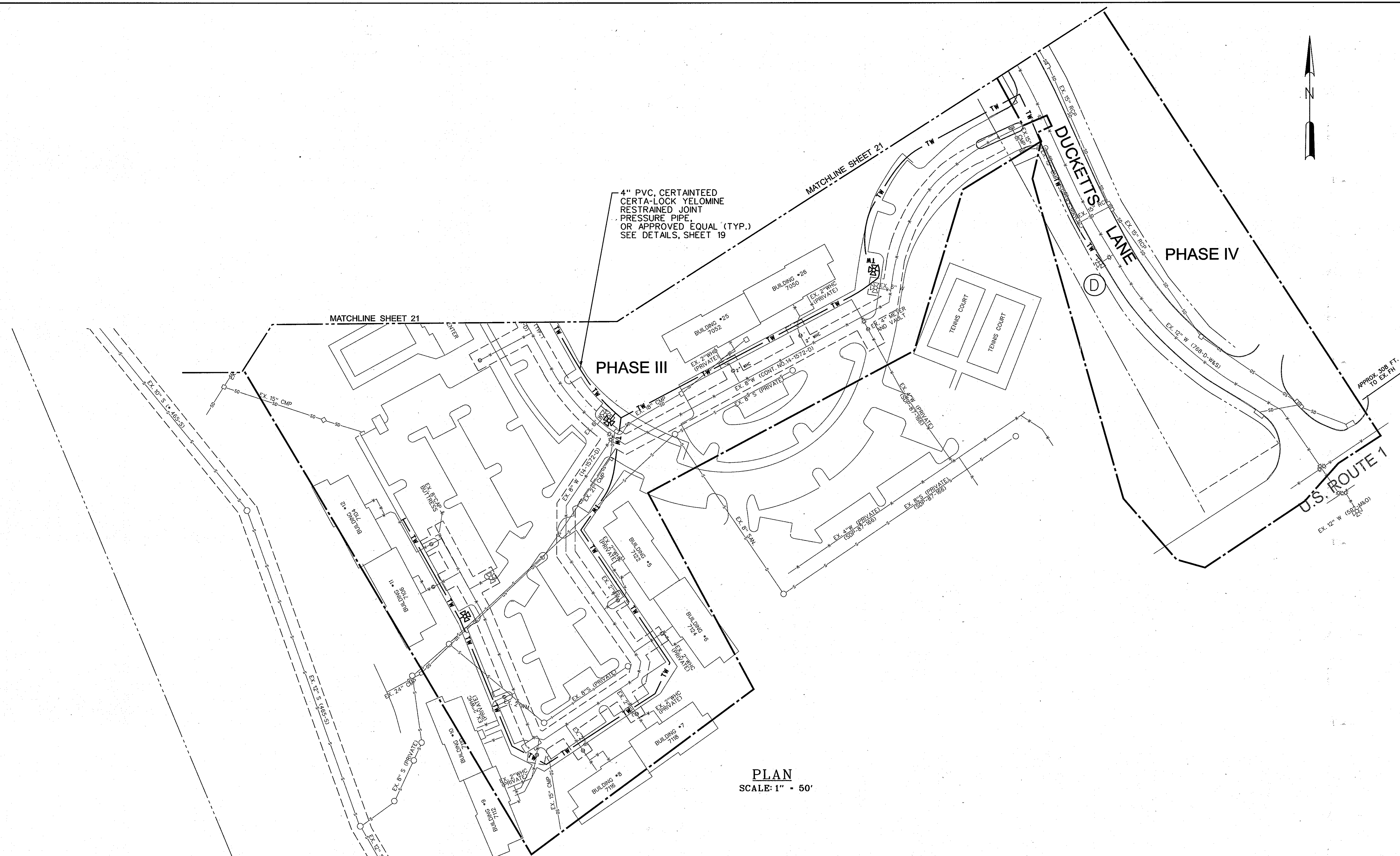
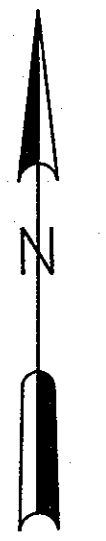
DES:	MRD				
DRN:	KFJ				
CHK:	GW/TWW				
DATE:	1/23/11				
JAN. 2011	BY	NO.	REVISION	DATE	
			AS-BUILT	7/23/11	

TEMPORARY WATER

600' SCALE MAP NO. 37 BLOCK NO. 18

DUCKETTS LANE
 WATER MAIN REPLACEMENT
 CAPITAL PROJECT No. W-8286
 CONTRACT No. 44-4677
 ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN SHEET 21 OF 29



4" PVC, CERTAITEED
CERTA-LOCK YELOMINE
RESTRAINED JOINT
PRESSURE PIPE,
OR APPROVED EQUAL (TYP.)
SEE DETAILS, SHEET 19

MATCHLINE SHEET 21

MATCHLINE SHEET 21

PHASE III

PHASE IV

DUCKETTS LANE

U.S. ROUTE 1

PLAN
SCALE: 1" = 50'

--- PHASING LIMITS

PROFESSIONAL CERTIFICATION. I HEREBY
CERTIFY THAT THESE DOCUMENTS WERE
PREPARED OR APPROVED BY ME, AND THAT
I AM A DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE
OF MARYLAND, LICENSE NO. 31363
EXPIRATION DATE: 1/18/2012

AS-BUILT
DATE 7/23/2013

PLOTTED: 09:50 AM on Tuesday, January 25, 2011
BY: Kevin Jackson, Division: P042, W-WW-Solid Waste GMA Emp.
FILE: M:\2007\01071378\03\Drawings\0107137805-C-22-TW.dwg

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Janet K... 1/25/11
DIRECTOR OF PUBLIC WORKS DATE

Robert D... 1/25/11
ACT. CHIEF, BUREAU OF ENGINEERING DATE

... 1/25/11
CHIEF, BUREAU OF UTILITIES DATE

... 1/25/11
ACT. CHIEF, UTILITY DESIGN DIVISION DATE

KCI
TECHNOLOGIES

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

936 RIDGEBROOK ROAD
SPRINGSBURG, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
WWW.KCI.COM

STATE OF MARYLAND
PROFESSIONAL ENGINEER
No. 31363
EXPIRES 1/18/2012

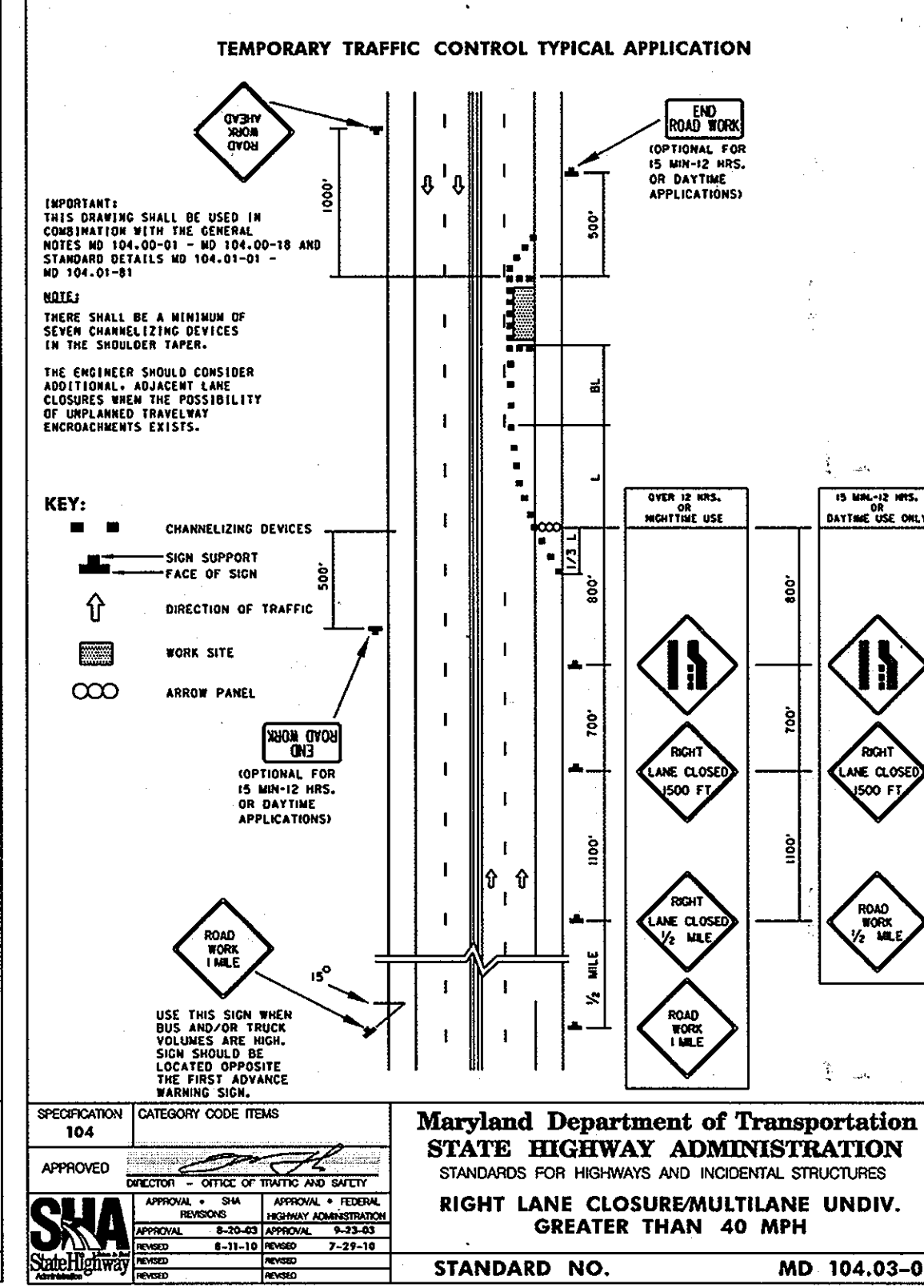
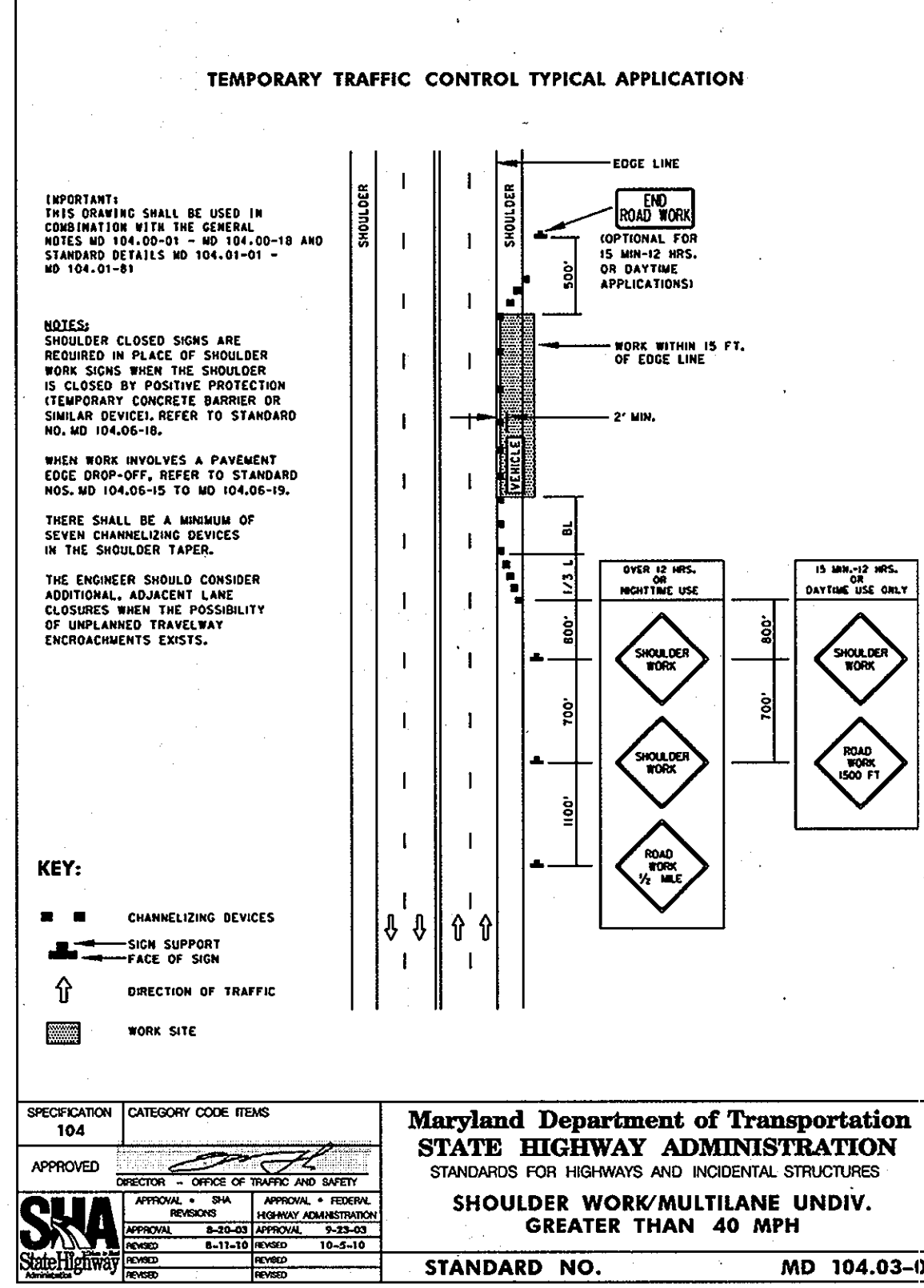
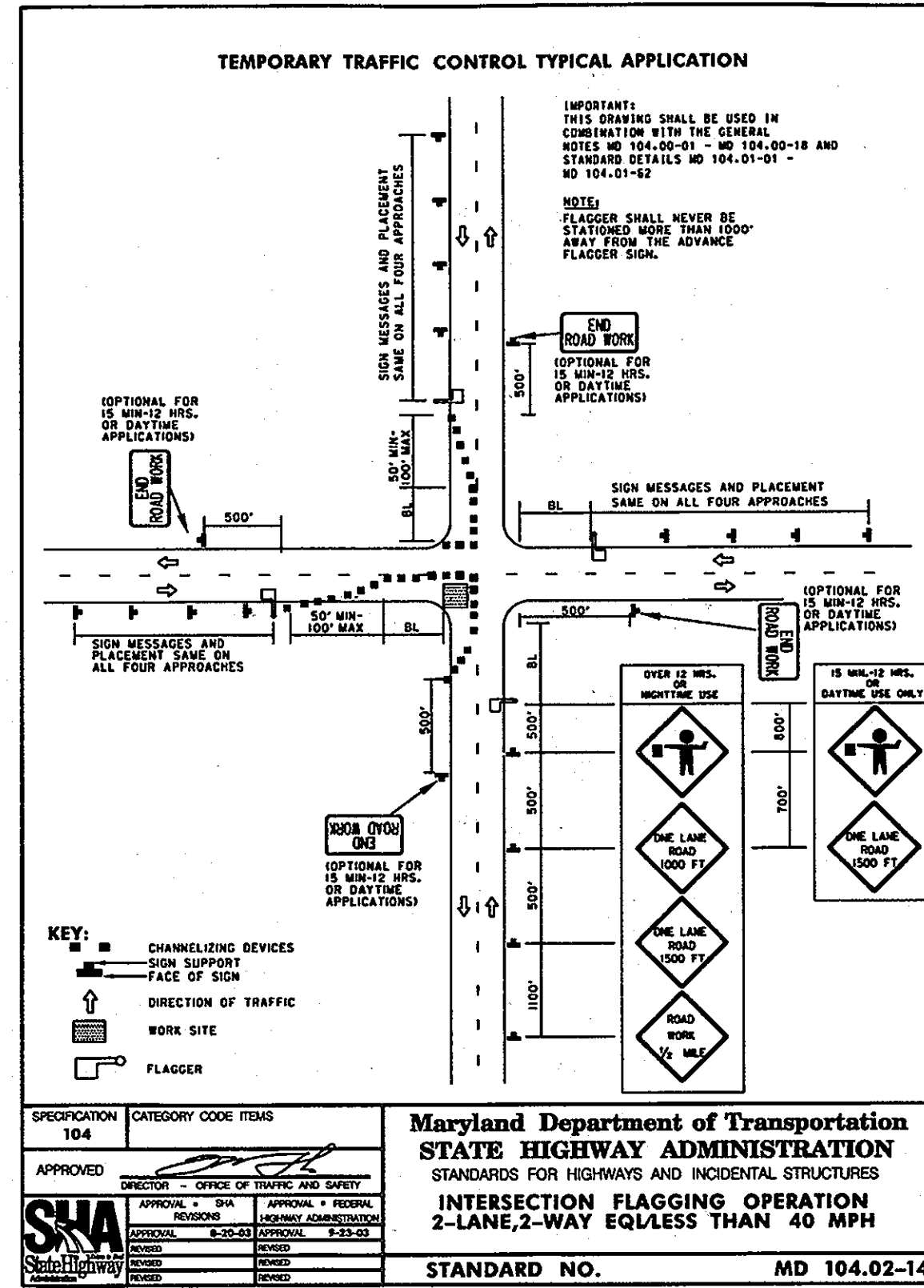
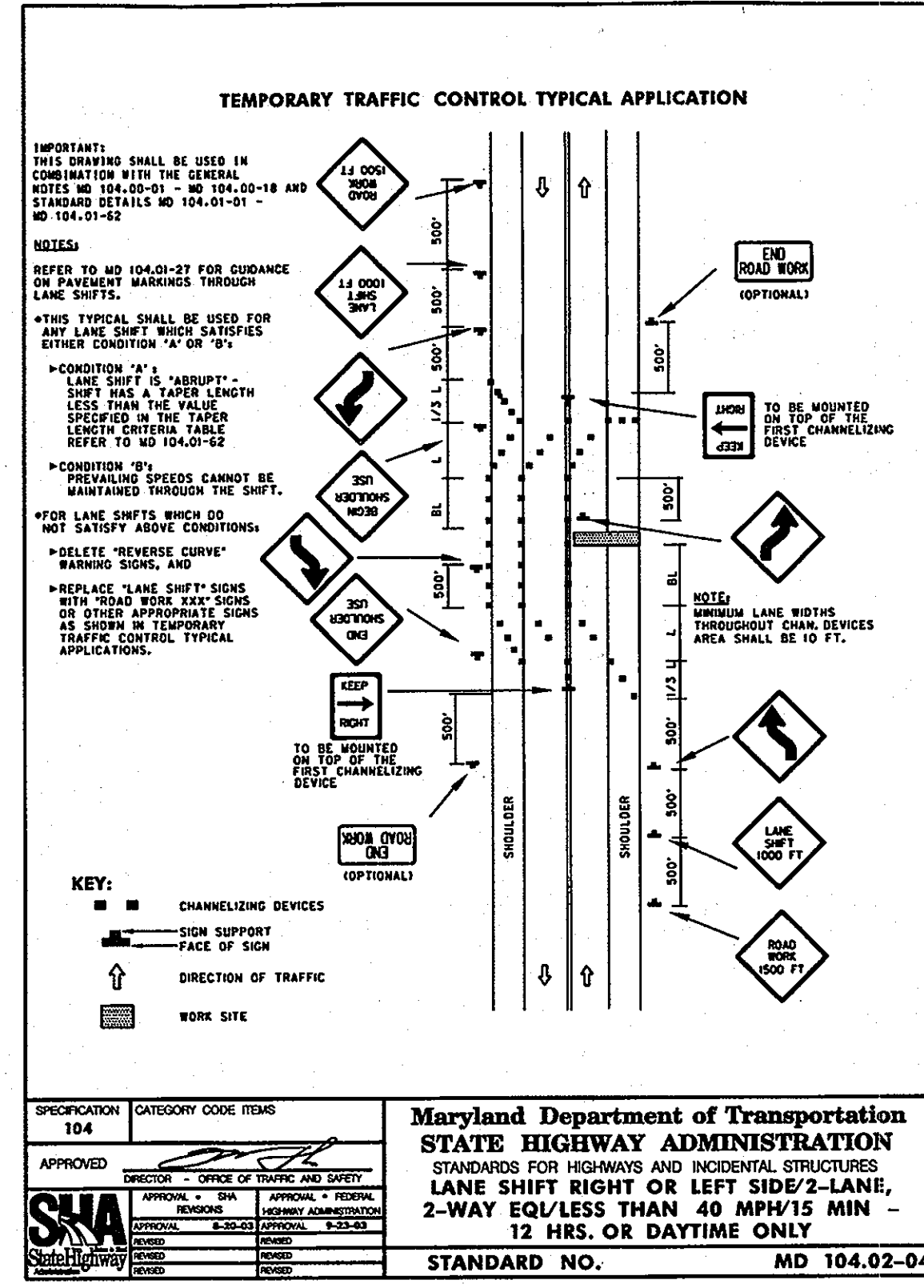
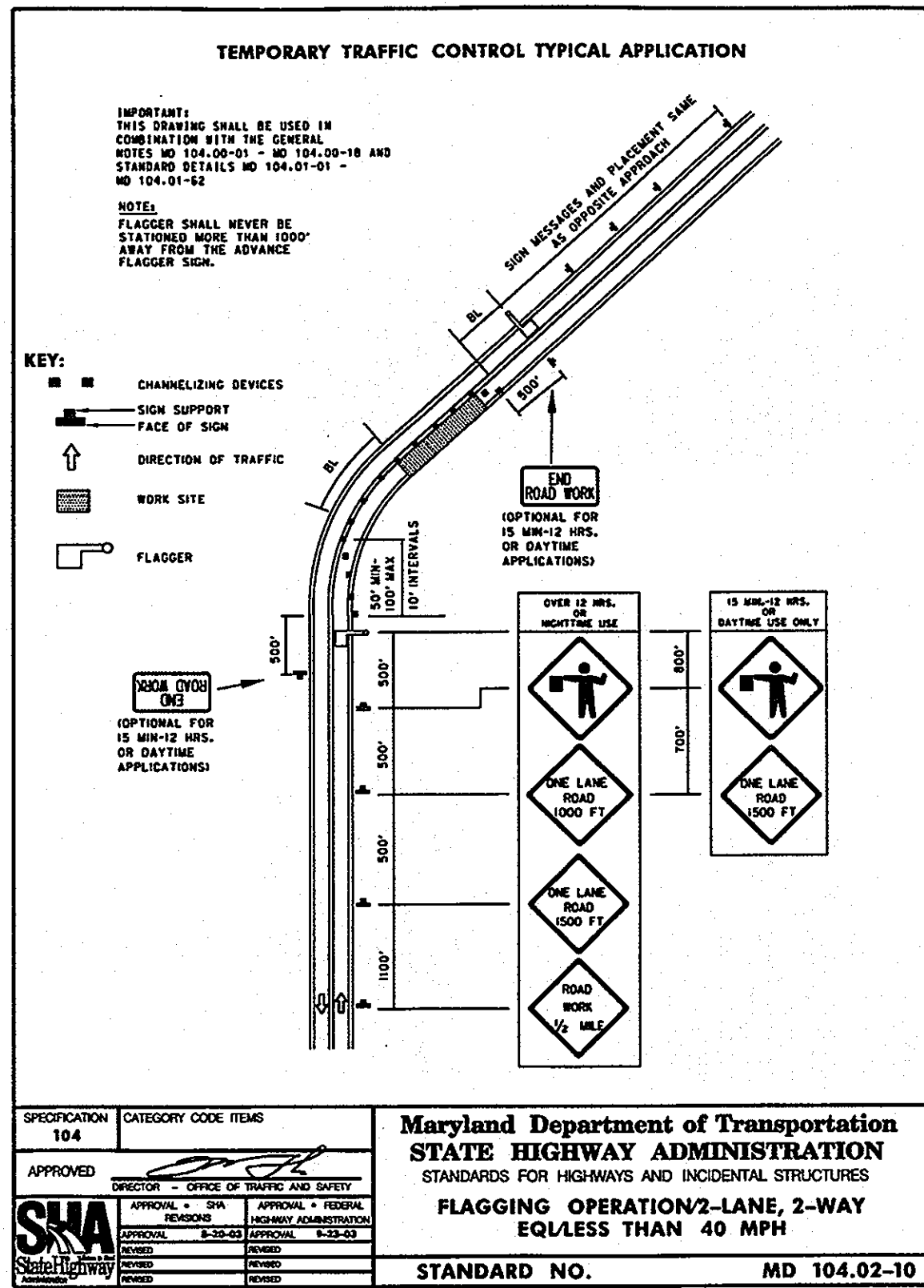
DES:	MRD				
DRN:	KFJ				
CHK:	GW/TWW				
DATE:	JAN. 2011	BY:	NO.	REVISION	DATE
				AS-BUILT	7/23/13

TEMPORARY WATER

600' SCALE MAP NO. 37 BLOCK NO. 18

DUCKETTS LANE
WATER MAIN REPLACEMENT
CAPITAL PROJECT No. W-8286
CONTRACT No. 44-4677
ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 22 OF 29



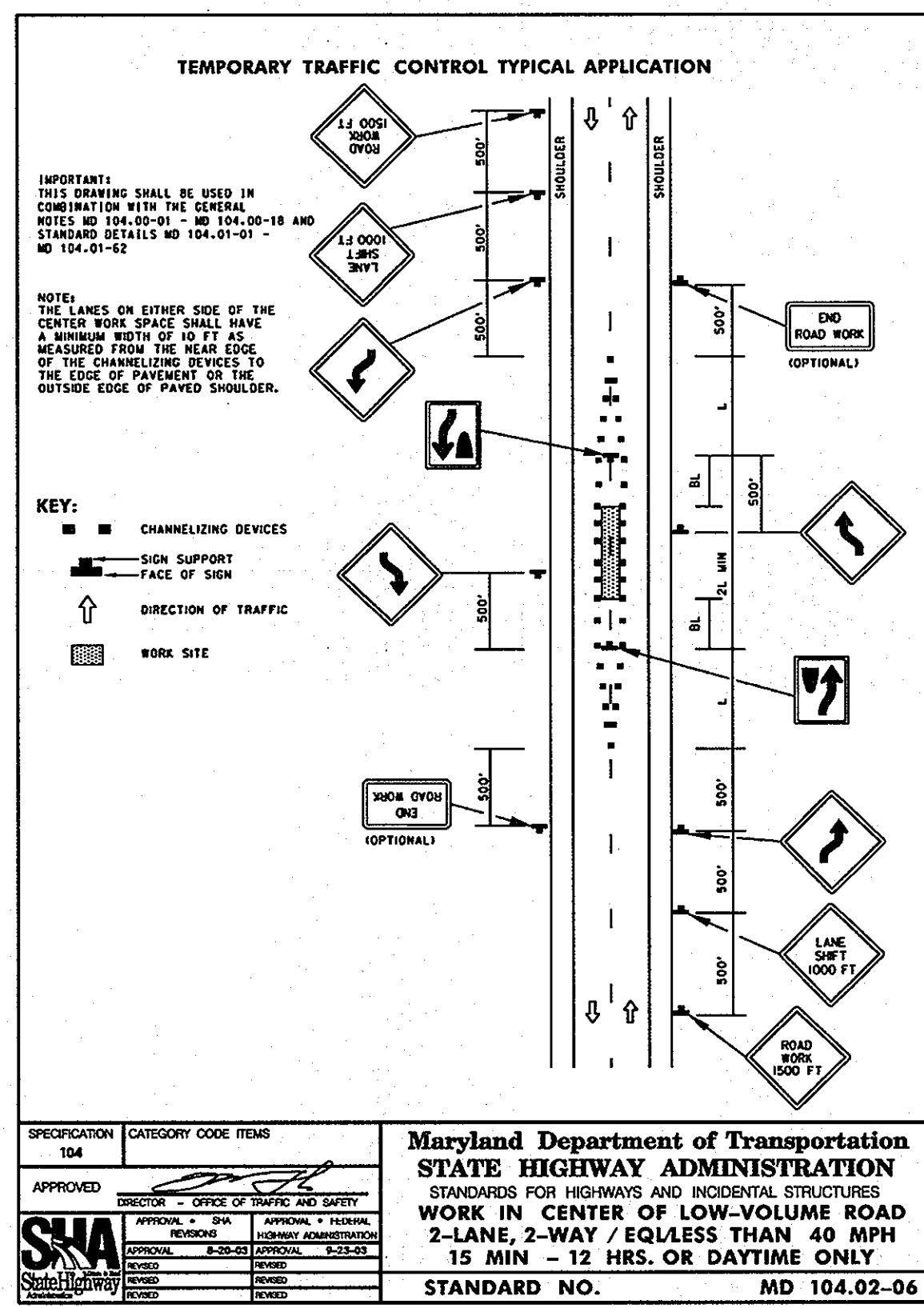
USE ON DUCKETTS LANE
 FROM STA. 21+80 TO STA. 22+18 &
 FROM STA. 23+40 TO STA. 29+02
 USE ON KYLE LEAF COURT.
 FROM STA. 1+00 TO STA. 6+18
 USE THROUGHOUT THE MARBLE HILL
 AND PINE RIDGE COMMUNITIES AS NEEDED

USE ON DUCKETTS LANE
 FROM STA. 0+00 TO STA. 21+80 &
 FROM STA. 22+18 TO STA. 23+40

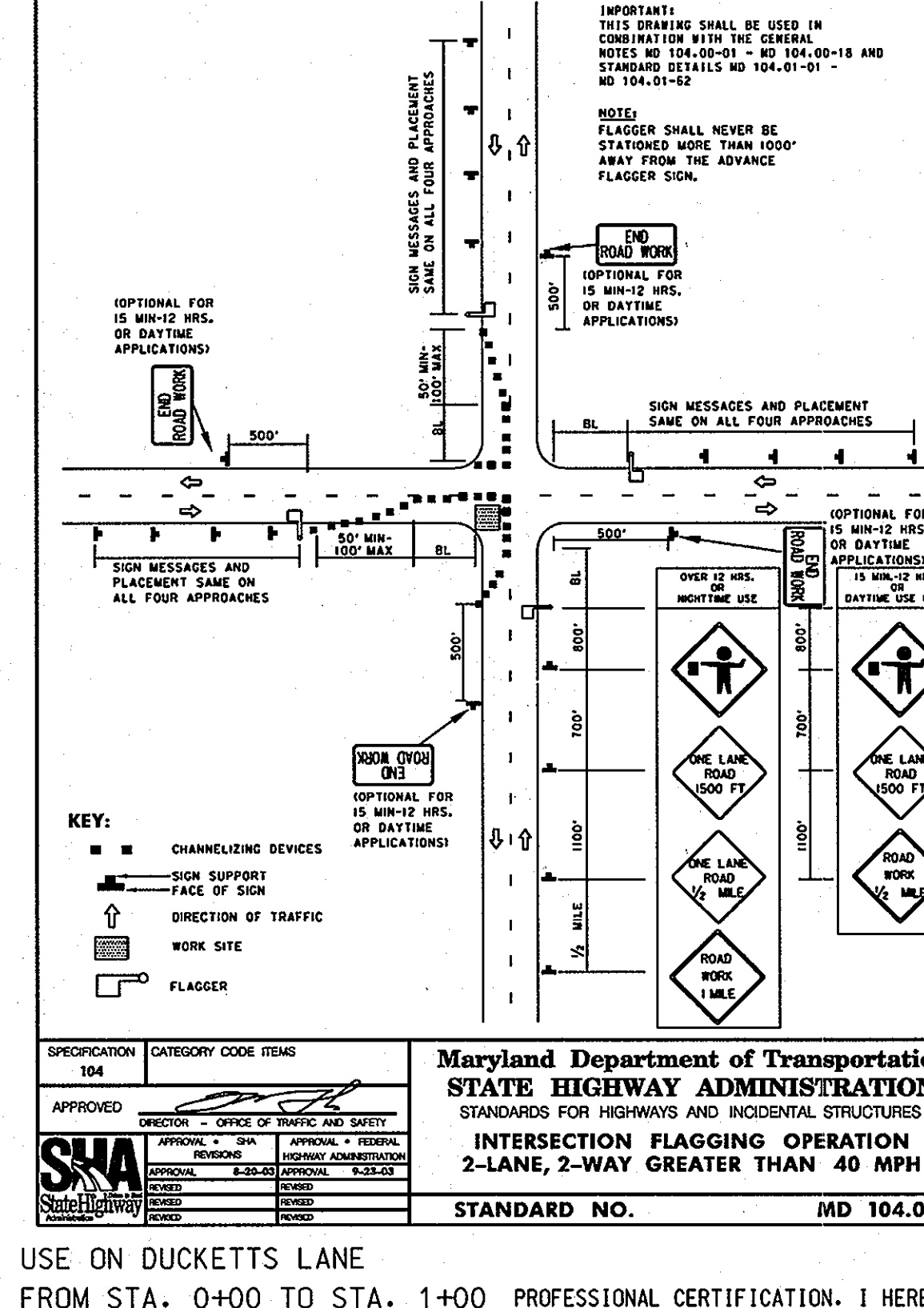
USE ON DUCKETTS LANE
 AT STA. 4+50, 6+70, 13+00 & STA. 19+00
 USE ON KYLE LEAF COURT.
 FROM STA. 0+00 TO STA. 1+00

USE ON U.S. ROUTE 1

USE ON U.S. ROUTE 1

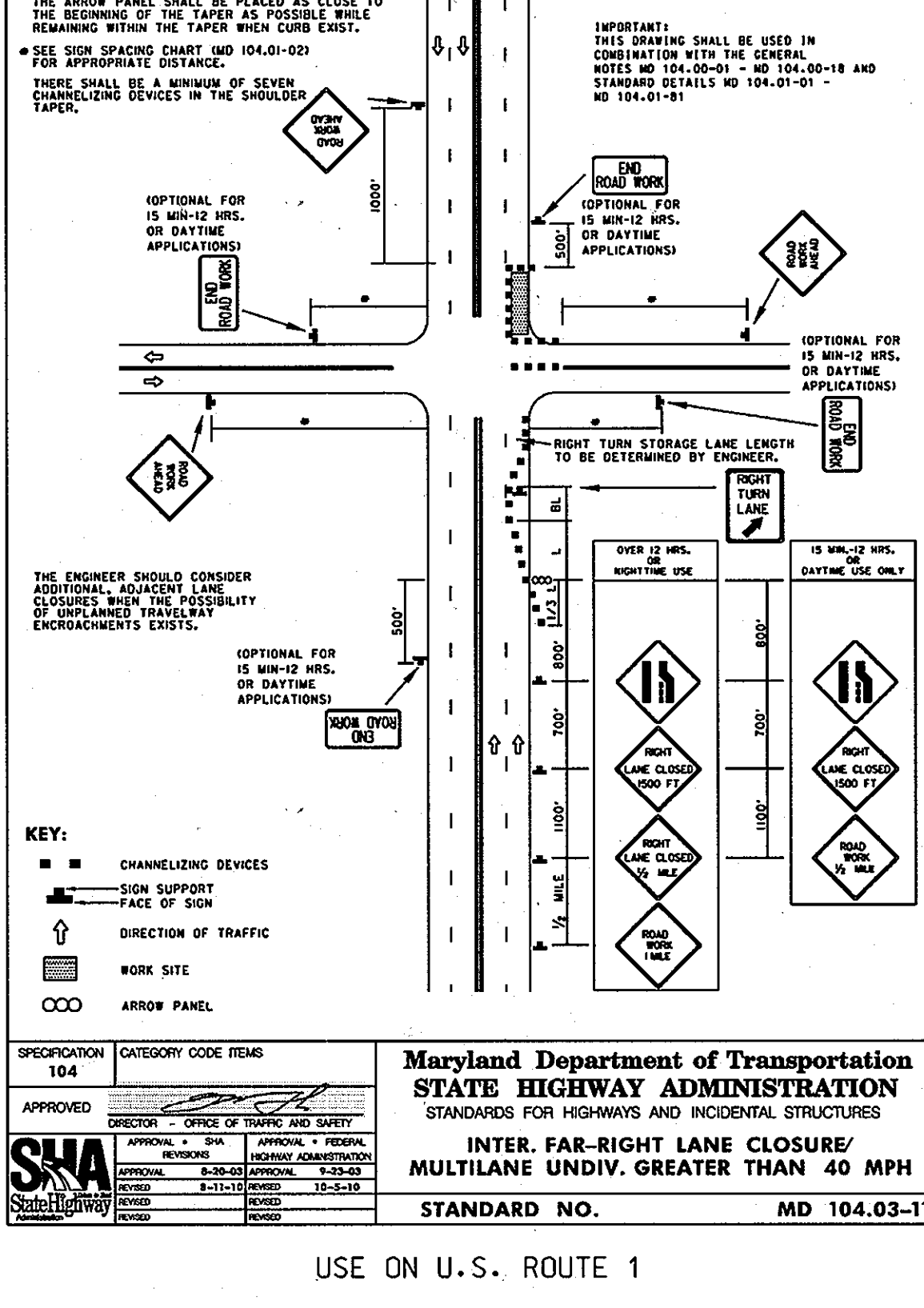


USE ON DUCKETTS LANE
 FROM STA. 21+80 TO STA. 22+18

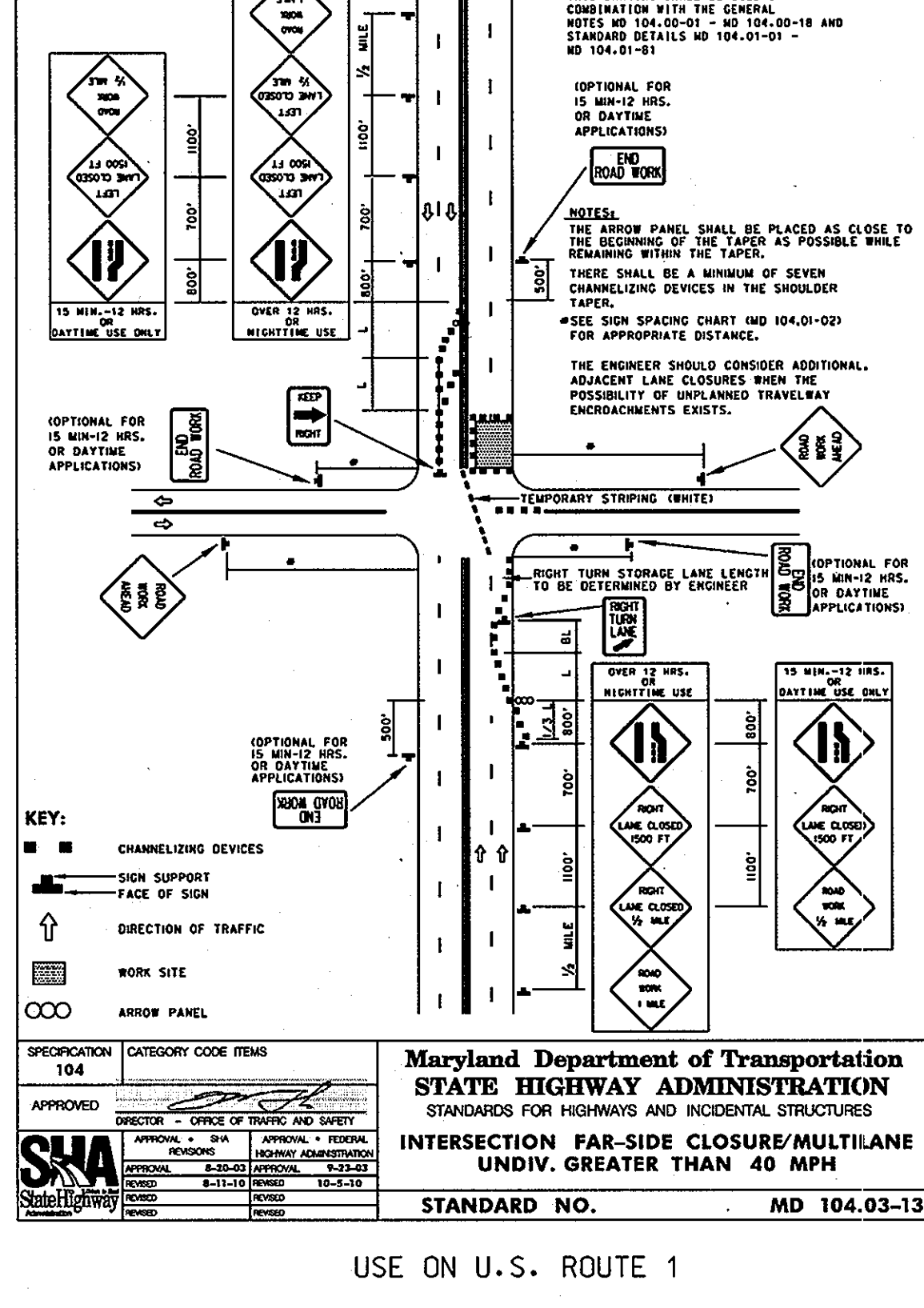


USE ON DUCKETTS LANE
 FROM STA. 0+00 TO STA. 1+00

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 31363 EXPIRATION DATE: 1/16/2012



USE ON U.S. ROUTE 1



USE ON U.S. ROUTE 1

AS-BUILT
 DATE 7/23/2013

PLOTTED: 09:50 AM on Tuesday, January 25, 2011
 BY: Kevin Jackson, Division: P042, W-WWW-Solid Waste, OMA, EDP
 FILE: \\MAZ001\01071378 US\Drawings\10171378-05-C-23-MOT.dgn

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

[Signature] 1/25/11
 DIRECTOR OF PUBLIC WORKS DATE

[Signature] 1/25/11
 ACT. CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 1/25/11
 CHIEF, BUREAU OF UTILITIES DATE

[Signature] 1/25/11
 ACT. CHIEF, UTILITY DESIGN DIVISION DATE

KCI TECHNOLOGIES
 ENGINEERS
 PLANNERS
 SCIENTISTS
 CONSTRUCTION MANAGERS

936 RIDGEBROOK ROAD
 SOWES, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 WWW.KCI.COM

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 LICENSE NO. 31363
 EXPIRATION DATE: 1/16/2012

DES: MRD
 DRN: KFJ
 CHK: GW/TWW
 DATE: 1/25/11
 BY: GS

AS-BUILT

REVISION

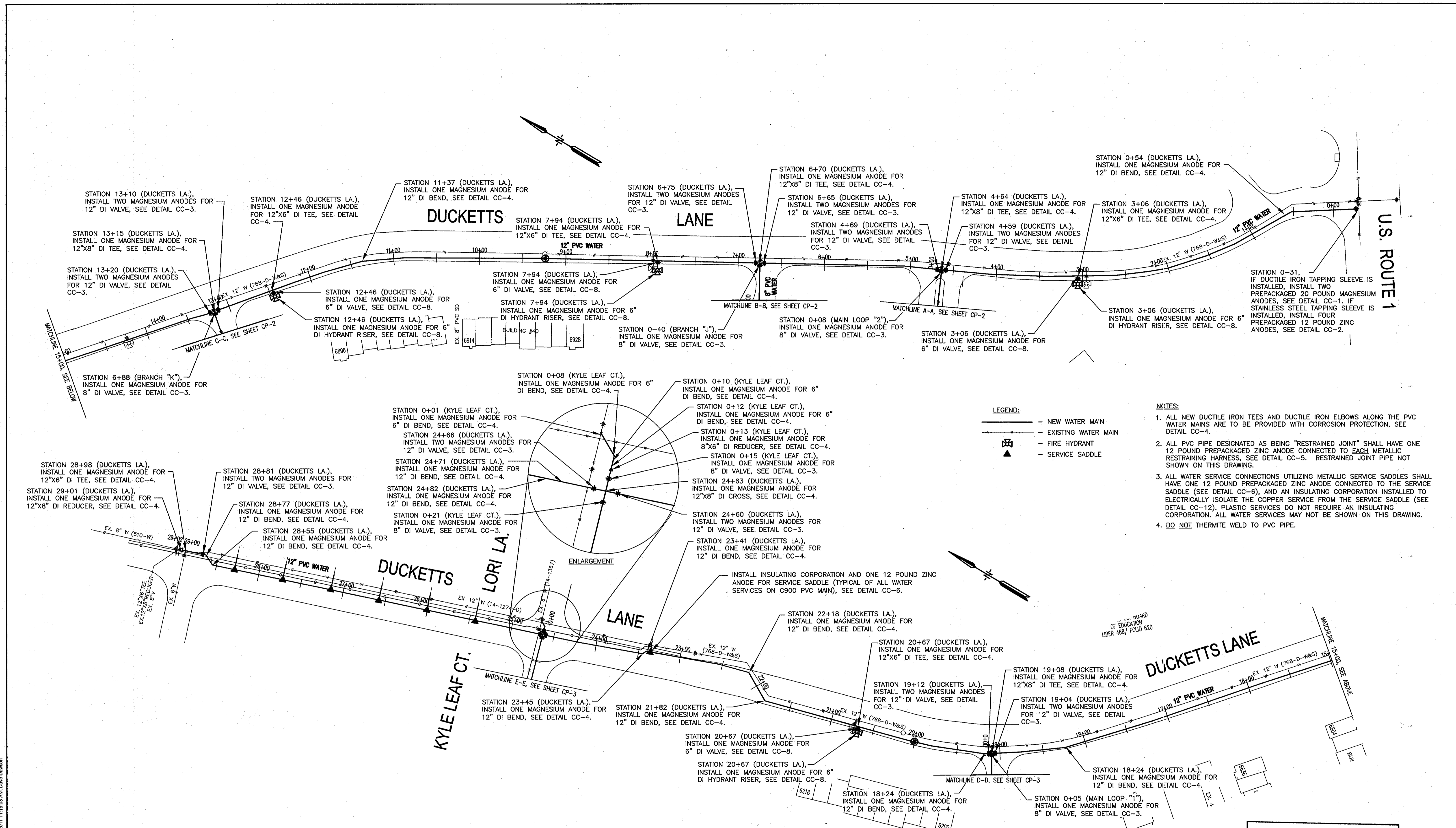
M.O.T. - TRAFFIC CONTROL

600' SCALE MAP NO. 37 BLOCK NO. 12 & 18

DUCKETTS LANE
 WATER MAIN REPLACEMENT
 CAPITAL PROJECT No. W-8286
 CONTRACT No. 44-4677

ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 23 OF 29



LEGEND:

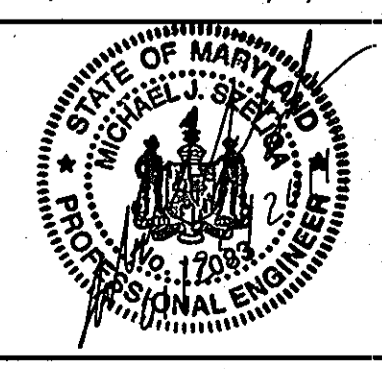
- NEW WATER MAIN
- - - EXISTING WATER MAIN
- ⊕ FIRE HYDRANT
- ▲ SERVICE SADDLE

- NOTES:**
1. ALL NEW DUCTILE IRON TEES AND DUCTILE IRON ELBOWS ALONG THE PVC WATER MAINS ARE TO BE PROVIDED WITH CORROSION PROTECTION, SEE DETAIL CC-4.
 2. ALL PVC PIPE DESIGNATED AS BEING "RESTRAINED JOINT" SHALL HAVE ONE 12 POUND PREPACKAGED ZINC ANODE CONNECTED TO EACH METALLIC RESTRAINING HARNESS, SEE DETAIL CC-5. RESTRAINED JOINT PIPE NOT SHOWN ON THIS DRAWING.
 3. ALL WATER SERVICE CONNECTIONS UTILIZING METALLIC SERVICE SADDLES SHALL HAVE ONE 12 POUND PREPACKAGED ZINC ANODE CONNECTED TO THE SERVICE SADDLE (SEE DETAIL CC-6), AND AN INSULATING CORPORATION INSTALLED TO ELECTRICALLY ISOLATE THE COPPER SERVICE FROM THE SERVICE SADDLE (SEE DETAIL CC-12). PLASTIC SERVICES DO NOT REQUIRE AN INSULATING CORPORATION. ALL WATER SERVICES MAY NOT BE SHOWN ON THIS DRAWING.
 4. DO NOT THERMITE WELD TO PVC PIPE.

AS-BUILT
DATE 7/23/2013

THIS DRAWING IS NOT APPLICABLE FOR USE AS STANDARD CORROSION CONTROL PROCEDURES FOR OTHER PROJECTS DUE TO VARIABLE CONDITIONS AT OTHER SITES. NEITHER THIS DESIGN NOR ANY PART THEREOF MAY BE DUPLICATED IN ANY WAY FOR OTHER PROJECTS OR MODIFIED IN ANY WAY FOR THIS OR OTHER PROJECTS, EXCEPT BY WRITTEN AGREEMENT WITH RUSSELL CORROSION CONSULTANTS, INC.

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17083, EXPIRATION DATE 9/27/2012



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

1/25/11
1/25/11
1/25/11

Director of Public Works
Chief, Bureau of Engineering
Chief, Bureau of Utilities
Chief, Utility Design Division

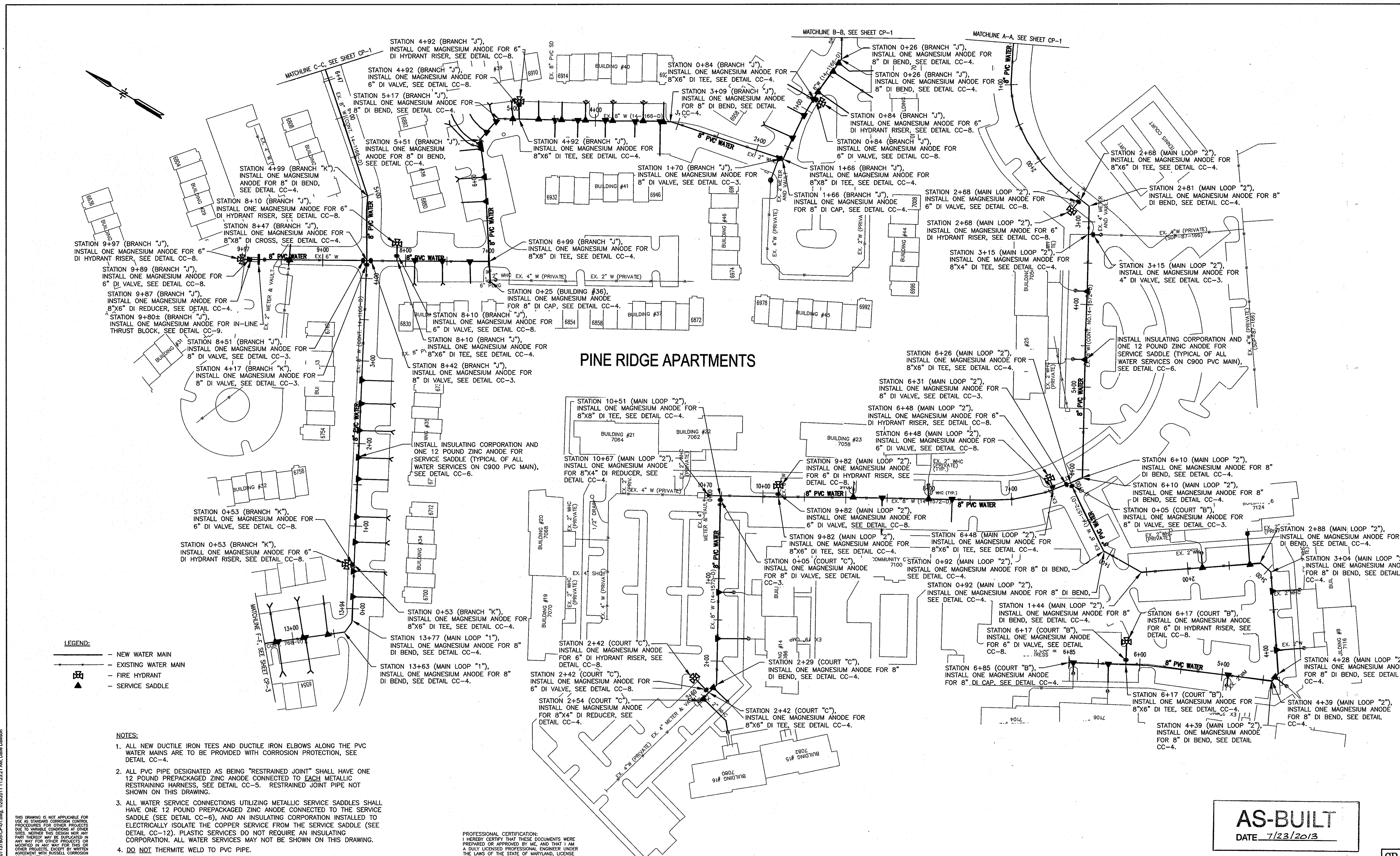
DES:	MJS				
DRN:	DJD				
CHK:	MJS				
DATE:	JAN. 2011	BY:	AS-BUILT	DATE:	7/23/13
		NO.:		REVISION:	

CORROSION CONTROL LAYOUT 1

DUCKETTS LANE WATER MAIN REPLACEMENT
CAPITAL PROJECT No. W-8286
CONTRACT No. 44-4677
ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

CP-1
SCALE AS SHOWN
SHEET 24 OF 29

F:\C31\00100107\137505-CP-01.dwg, 1/25/2011 11:18:08 AM, Dave Dawson



PINE RIDGE APARTMENTS

- LEGEND:**
- NEW WATER MAIN
 - EXISTING WATER MAIN
 - FIRE HYDRANT
 - SERVICE SADDLE

- NOTES:**
1. ALL NEW DUCTILE IRON TEES AND DUCTILE IRON ELBOWS ALONG THE PVC WATER MAINS ARE TO BE PROVIDED WITH CORROSION PROTECTION, SEE DETAIL CC-4.
 2. ALL PVC PIPE DESIGNATED AS BEING "RESTRAINED JOINT" SHALL HAVE ONE 12 POUND PREPACKAGED ZINC ANODE CONNECTED TO EACH METALLIC RESTRAINING HARNESS, SEE DETAIL CC-5. RESTRAINED JOINT PIPE NOT SHOWN ON THIS DRAWING.
 3. ALL WATER SERVICE CONNECTIONS UTILIZING METALLIC SERVICE SADDLES SHALL HAVE ONE 12 POUND PREPACKAGED ZINC ANODE CONNECTED TO THE SERVICE SADDLE (SEE DETAIL CC-6), AND AN INSULATING CORPORATION INSTALLED TO ELECTRICALLY ISOLATE THE COPPER SERVICE FROM THE SERVICE SADDLE (SEE DETAIL CC-12). PLASTIC SERVICES DO NOT REQUIRE AN INSULATING CORPORATION. ALL WATER SERVICES MAY NOT BE SHOWN ON THIS DRAWING.
 4. DO NOT THERMITE WELD TO PVC PIPE.

PROFESSIONAL CERTIFICATION:
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17083, EXPIRATION DATE 9/27/2012

AS-BUILT
 DATE 7/23/2013

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

J. P. De... 1/25/11
 DIRECTOR OF PUBLIC WORKS DATE

... 1/25/11
 CHIEF, BUREAU OF ENGINEERING DATE

... 1/25/11
 CHIEF, BUREAU OF UTILITIES DATE

... 1/25/11
 ACT. CHIEF, UTILITY DESIGN DIVISION DATE

PSD DATE

RUSSELL CORROSION CONSULTANTS, INC.
 Columbia, Maryland



DES:	MJS				
DRN:	DJD				
CHK:	MJS				
DATE:	JAN. 2011	BY:	NO.	REVISION	DATE
				AS-BUILT	7/23/13

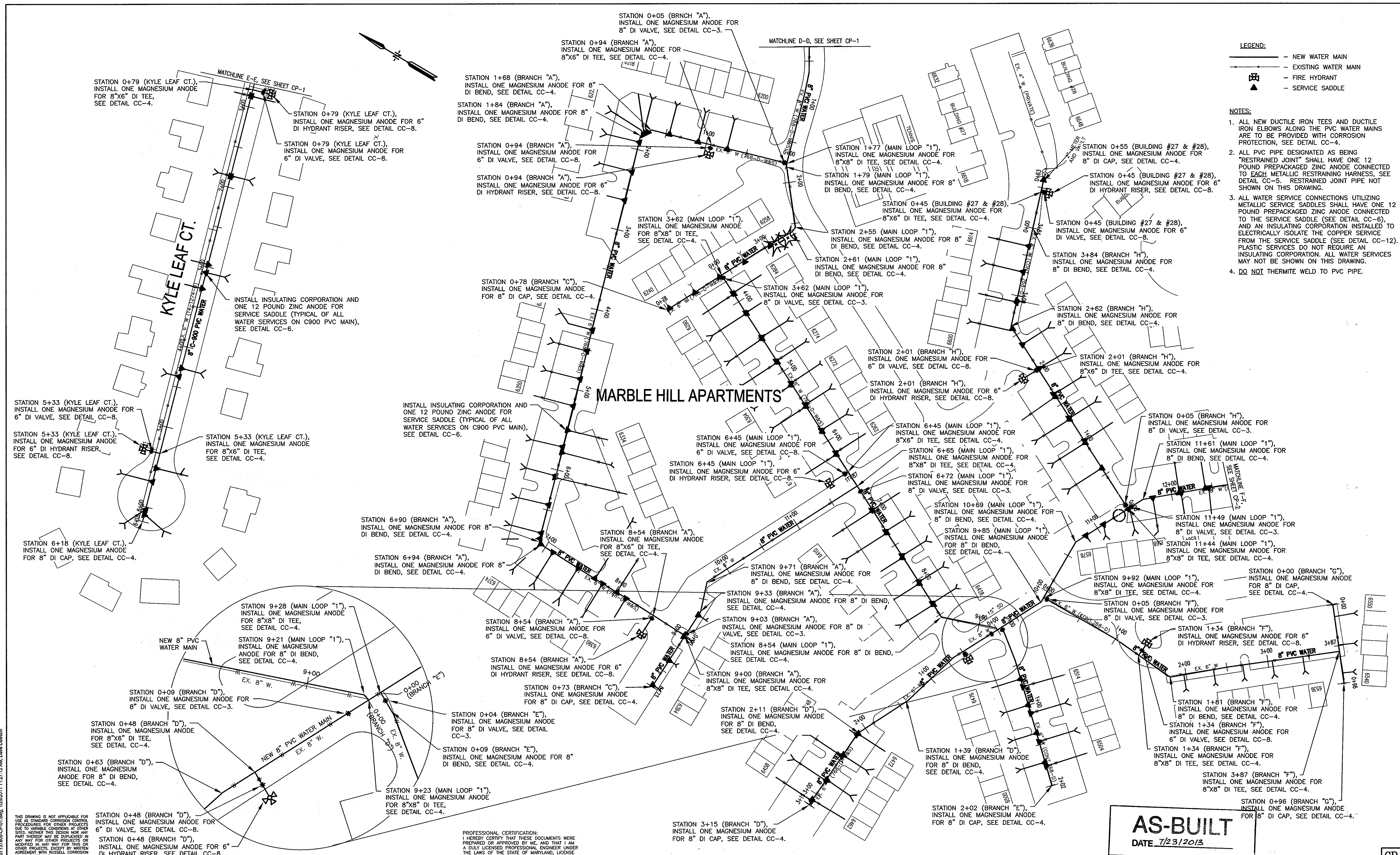
CORROSION CONTROL LAYOUT 2

600' SCALE MAP NO. 37 BLOCK NO. 18

DUCKETTS LANE WATER MAIN REPLACEMENT
 CAPITAL PROJECT No. W-8286
 CONTRACT No. 44-4677

ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

CP-2
 SCALE AS SHOWN
 SHEET 25 OF 29



- LEGEND:**
- NEW WATER MAIN
 - - - EXISTING WATER MAIN
 - ⊠ FIRE HYDRANT
 - ▲ SERVICE SADDLE

- NOTES:**
1. ALL NEW DUCTILE IRON TEES AND DUCTILE IRON ELBOWS ALONG THE PVC WATER MAINS ARE TO BE PROVIDED WITH CORROSION PROTECTION, SEE DETAIL CC-4.
 2. ALL PVC PIPE DESIGNATED AS BEING "RESTRAINED JOINT" SHALL HAVE ONE 12 POUND PREPACKAGED ZINC ANODE CONNECTED TO EACH METALLIC RESTRAINING HARNESS, SEE DETAIL CC-5. RESTRAINED JOINT PIPE NOT SHOWN ON THIS DRAWING.
 3. ALL WATER SERVICE CONNECTIONS UTILIZING METALLIC SERVICE SADDLES SHALL HAVE ONE 12 POUND PREPACKAGED ZINC ANODE CONNECTED TO THE SERVICE SADDLE (SEE DETAIL CC-6), AND AN INSULATING CORPORATION INSTALLED TO ELECTRICALLY ISOLATE THE COPPER SERVICE FROM THE SERVICE SADDLE (SEE DETAIL CC-12). PLASTIC SERVICES DO NOT REQUIRE AN INSULATING CORPORATION. ALL WATER SERVICES MAY NOT BE SHOWN ON THIS DRAWING.
 4. DO NOT THERMITE WELD TO PVC PIPE.

MARBLE HILL APARTMENTS

AS-BUILT
DATE 7/23/2013

THIS DRAWING IS NOT APPLICABLE FOR USE AS STANDARD CORROSION CONTROL PROCEDURES FOR OTHER PROJECTS DUE TO VARYING CONDITIONS AT OTHER SITES. NEITHER THIS DESIGN NOR ANY PART THEREOF MAY BE DUPLICATED OR MODIFIED IN ANY WAY FOR THIS OR OTHER PROJECTS, EXCEPT BY WRITTEN AGREEMENT WITH RUSSELL CORROSION CONSULTANTS, INC.

PROFESSIONAL CERTIFICATION:
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. 17083, EXPIRATION DATE 9/27/2012

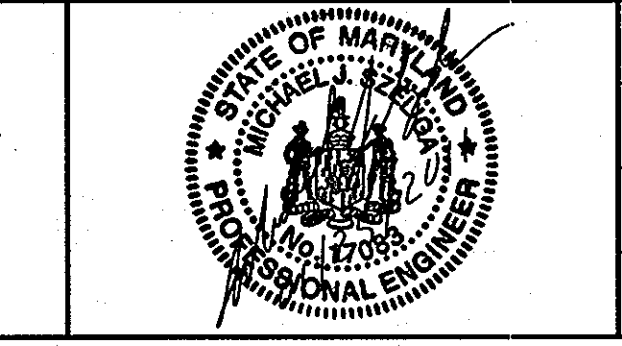
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Jay L. ... 1/26/11
DIRECTOR OF PUBLIC WORKS DATE

... 1/25/11
AS-CHIEF, BUREAU OF ENGINEERING DATE

... 1/25/11
AS-CHIEF, UTILITY DESIGN DIVISION DATE

RUSSELL CORROSION CONSULTANTS, INC.
Columbia, Maryland



DES:	MJS				
DRN:	DJD				
CHK:	MJS				
DATE:	JAN. 2011	BY:	NO.	REVISION	DATE
				AS-BUILT	7/23/13

CORROSION CONTROL LAYOUT 3

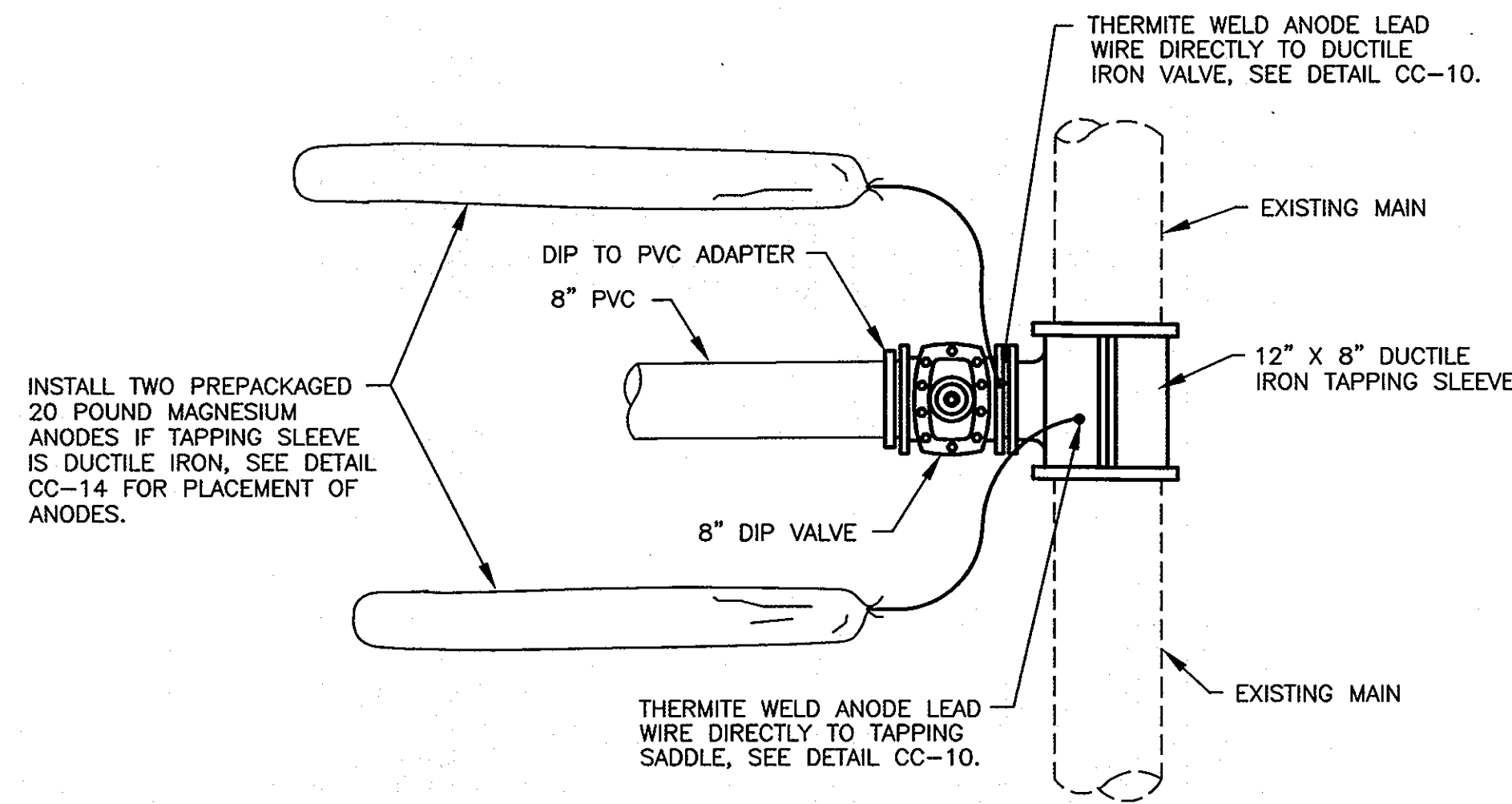
600' SCALE MAP NO. 37 BLOCK NO. 18

DUCKETTS LANE WATER MAIN REPLACEMENT

CAPITAL PROJECT No. W-8286
CONTRACT No. 44-4677

ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

CP-3
SCALE AS SHOWN
SHEET 28 OF 29



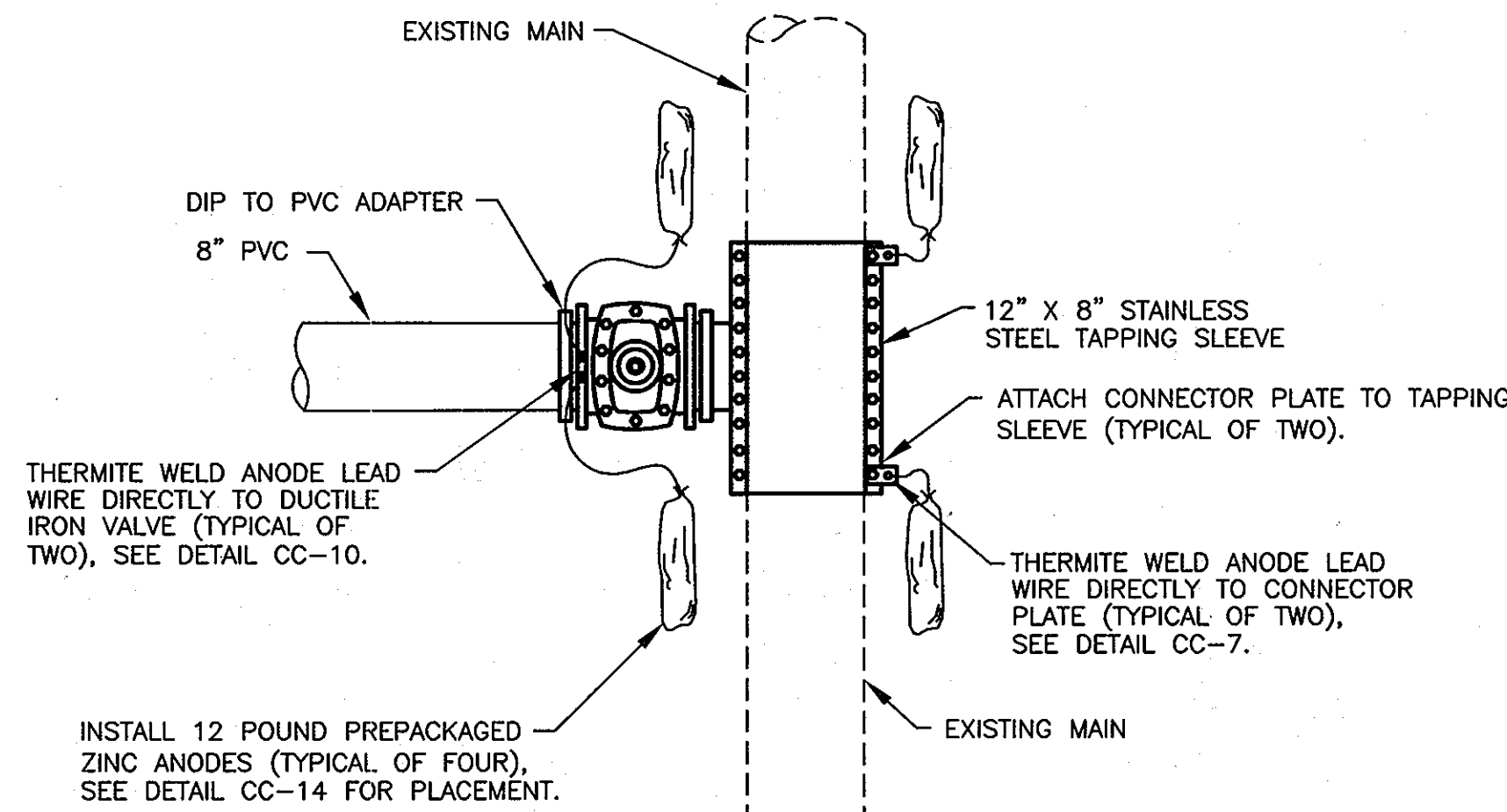
INSTALL TWO PREPACKAGED 20 POUND MAGNESIUM ANODES IF TAPPING SLEEVE IS DUCTILE IRON, SEE DETAIL CC-14 FOR PLACEMENT OF ANODES.

NOTES:

1. ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12" FROM EDGE OF PIPE, SEE DETAIL CC-14.
2. DO NOT THERMITE WELD TO PVC PIPE.

DETAIL CC-1: CORROSION PROTECTION OF DUCTILE IRON TAPPING SLEEVE AND VALVE

SCALE: NONE



THERMITE WELD ANODE LEAD WIRE DIRECTLY TO DUCTILE IRON VALVE (TYPICAL OF TWO), SEE DETAIL CC-10.

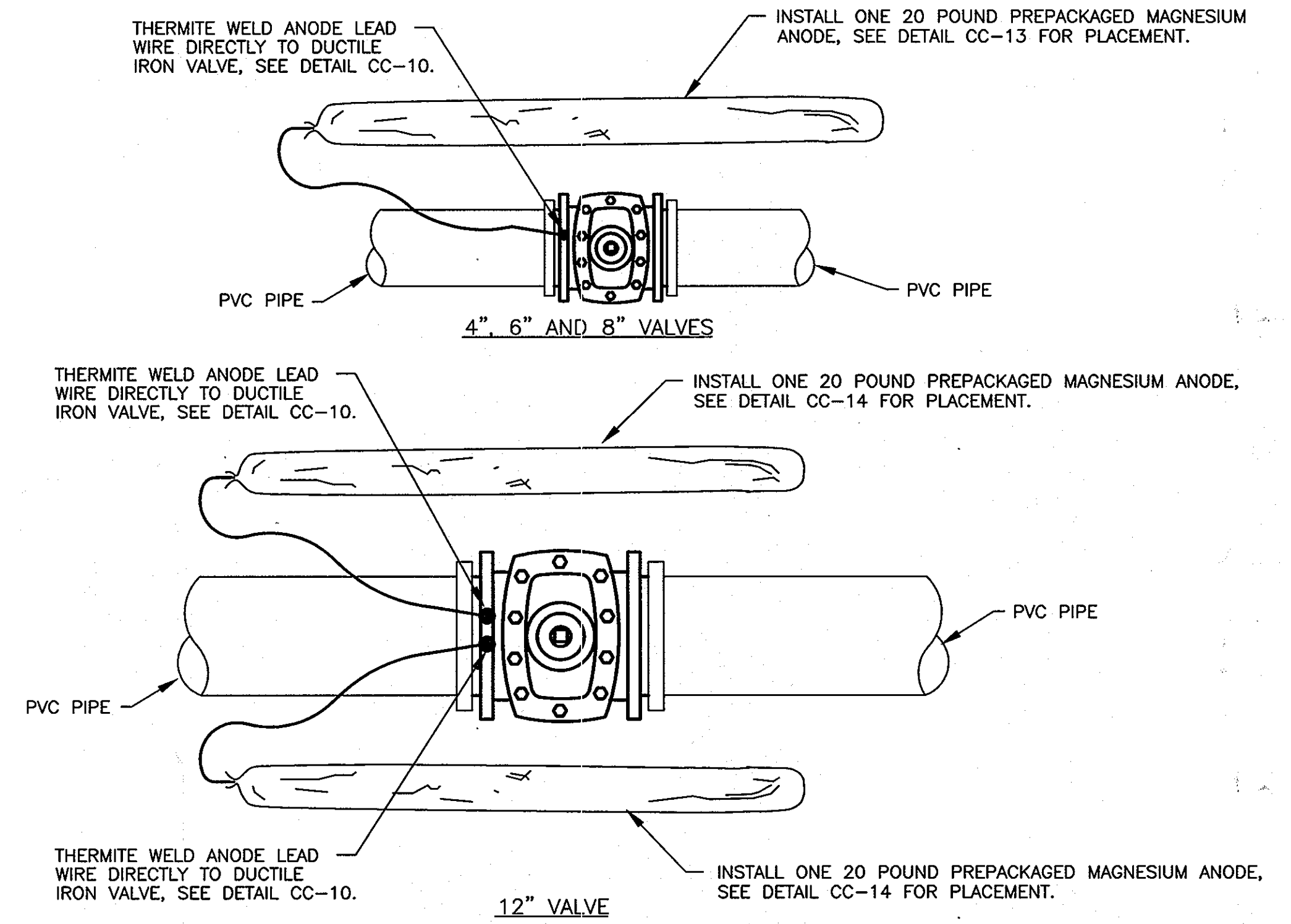
INSTALL 12 POUND PREPACKAGED ZINC ANODES (TYPICAL OF FOUR), SEE DETAIL CC-14 FOR PLACEMENT.

NOTES:

1. ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12" FROM EDGE OF PIPE, SEE DETAIL CC-14.
2. DO NOT THERMITE WELD TO PVC PIPE.

DETAIL CC-2: CORROSION PROTECTION OF STAINLESS STEEL TAPPING SLEEVE AND VALVE

SCALE: NONE



THERMITE WELD ANODE LEAD WIRE DIRECTLY TO DUCTILE IRON VALVE, SEE DETAIL CC-10.

INSTALL ONE 20 POUND PREPACKAGED MAGNESIUM ANODE, SEE DETAIL CC-14 FOR PLACEMENT.

THERMITE WELD ANODE LEAD WIRE DIRECTLY TO DUCTILE IRON VALVE, SEE DETAIL CC-10.

INSTALL ONE 20 POUND PREPACKAGED MAGNESIUM ANODE, SEE DETAIL CC-14 FOR PLACEMENT.

THERMITE WELD ANODE LEAD WIRE DIRECTLY TO DUCTILE IRON VALVE, SEE DETAIL CC-10.

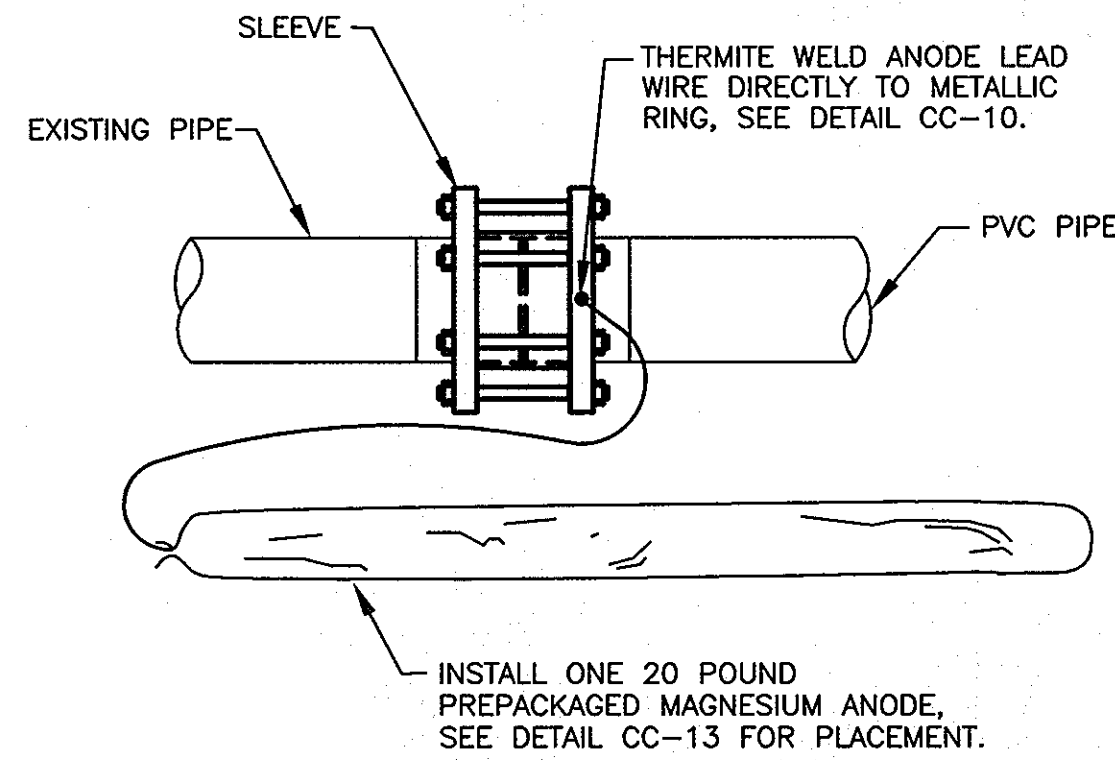
INSTALL ONE 20 POUND PREPACKAGED MAGNESIUM ANODE, SEE DETAIL CC-14 FOR PLACEMENT.

NOTES:

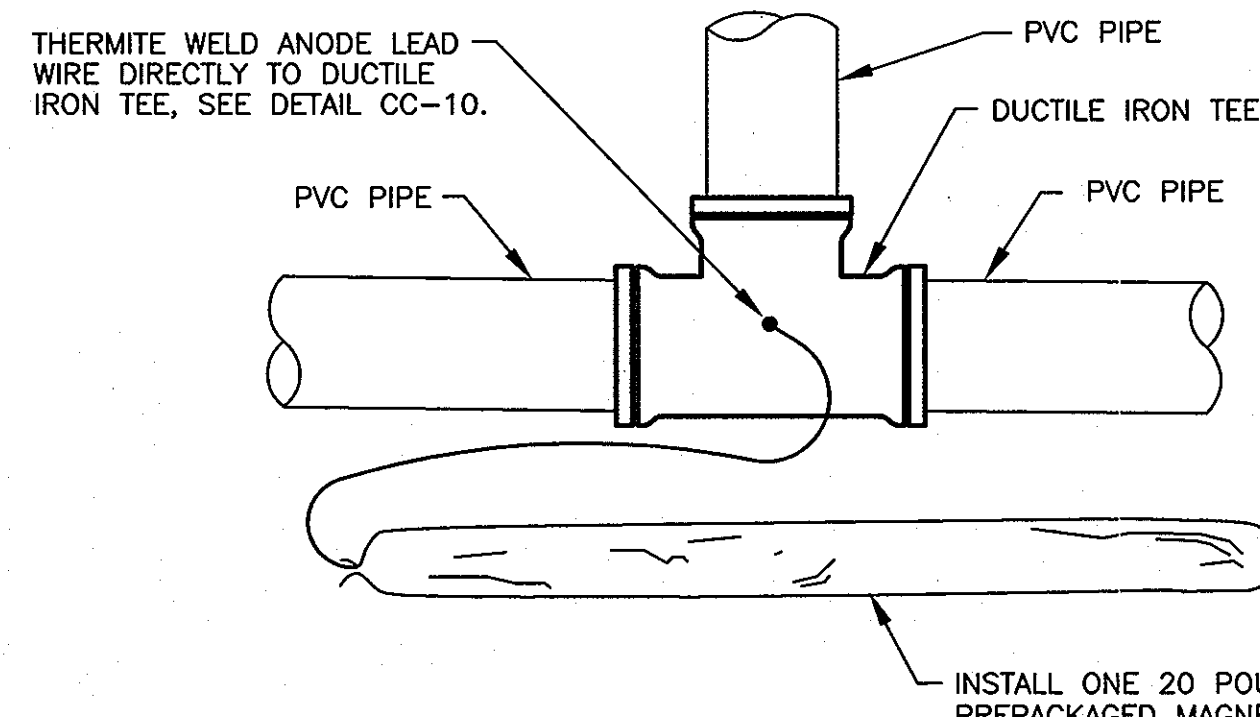
1. ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12" FROM EDGE OF PIPE, SEE DETAILS CC-13 AND CC-14.
2. DO NOT THERMITE WELD TO PVC PIPE.

CC-3: CORROSION PROTECTION OF DUCTILE IRON VALVES (4", 6", 8" AND 12")

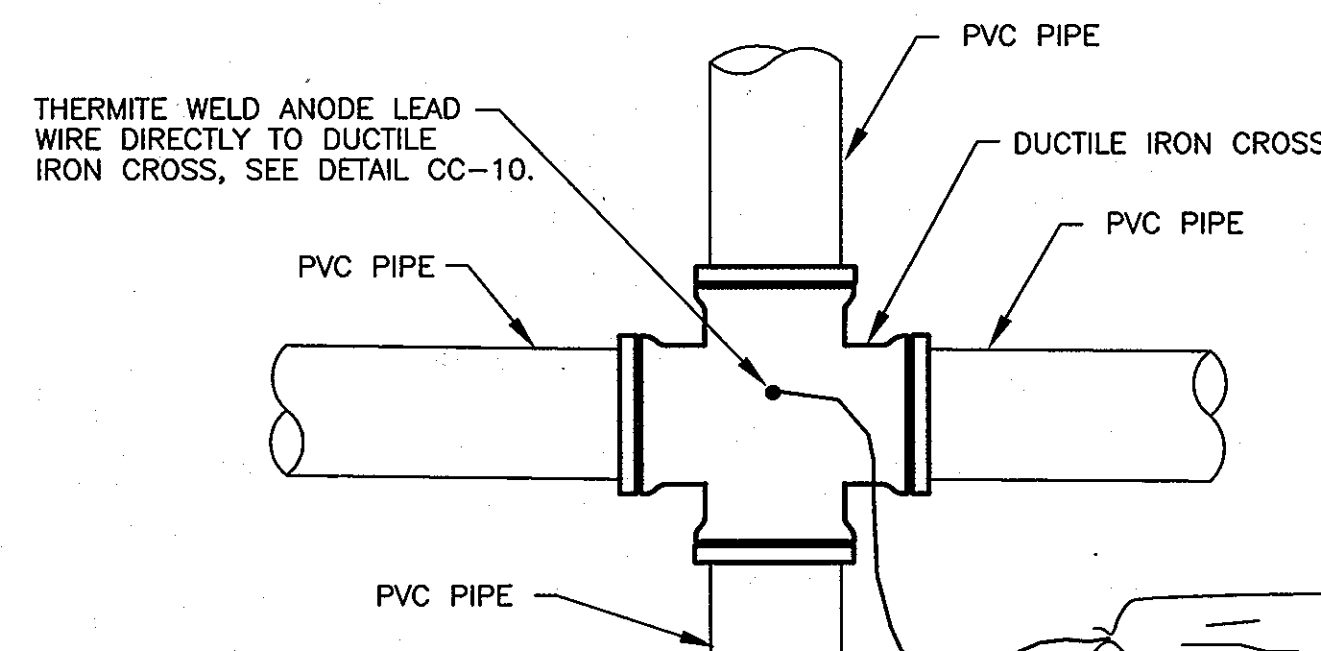
NOT TO SCALE



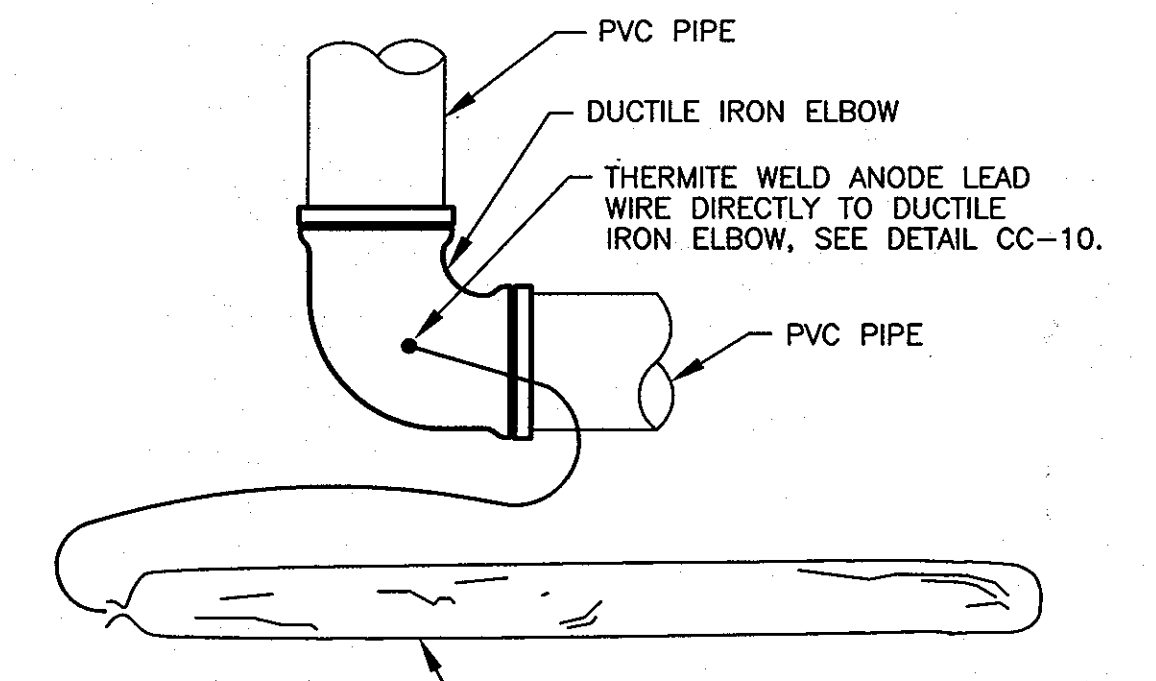
INSTALL ONE 20 POUND PREPACKAGED MAGNESIUM ANODE, SEE DETAIL CC-13 FOR PLACEMENT.



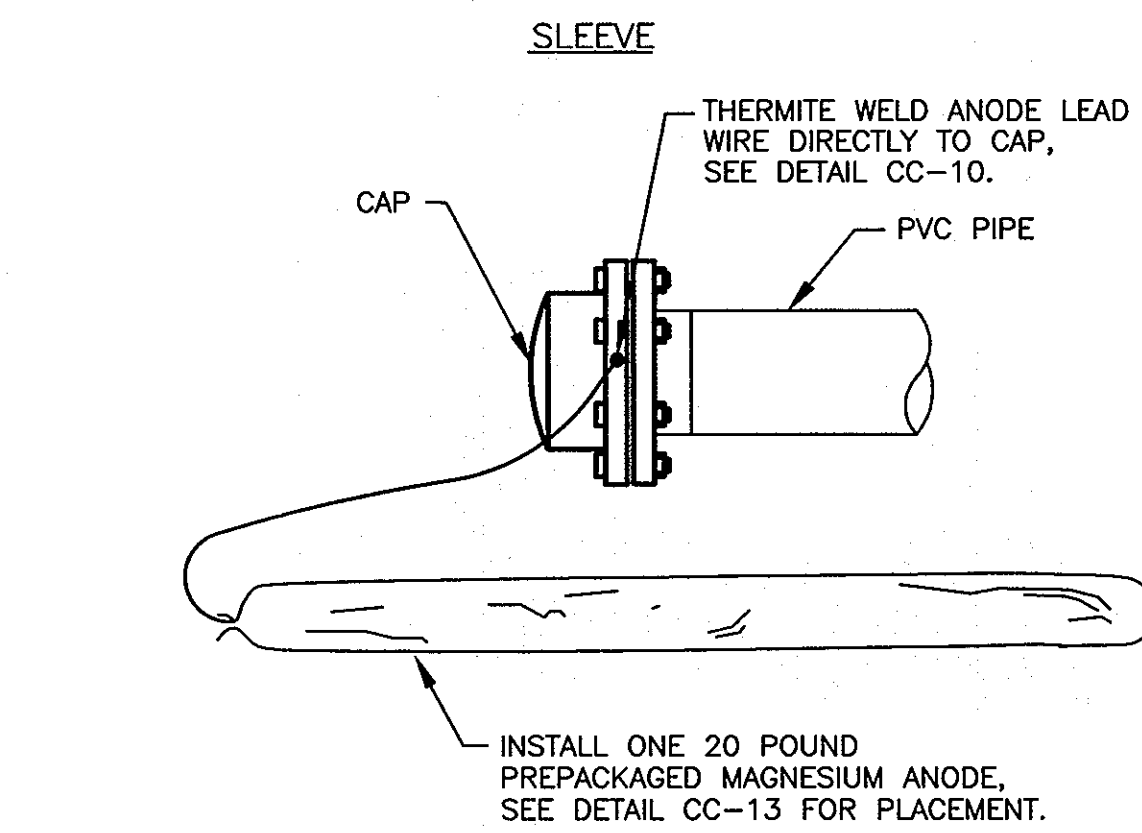
INSTALL ONE 20 POUND PREPACKAGED MAGNESIUM ANODE, SEE DETAIL CC-13 FOR PLACEMENT.



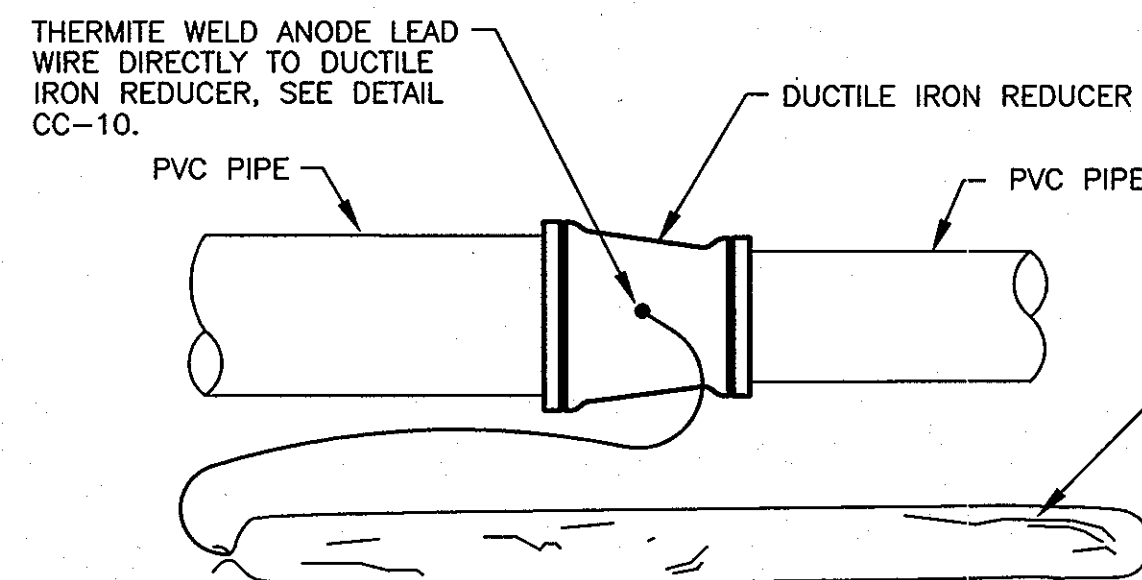
INSTALL ONE 20 POUND PREPACKAGED MAGNESIUM ANODE, SEE DETAIL CC-13 FOR PLACEMENT.



INSTALL ONE 20 POUND PREPACKAGED MAGNESIUM ANODE, SEE DETAIL CC-13 FOR PLACEMENT.



INSTALL ONE 20 POUND PREPACKAGED MAGNESIUM ANODE, SEE DETAIL CC-13 FOR PLACEMENT.



INSTALL ONE 20 POUND PREPACKAGED MAGNESIUM ANODE, SEE DETAIL CC-13 FOR PLACEMENT.

NOTES:

1. ANODES REQUIRED ONLY IF TEE, CROSS, CAP, REDUCER, OR ELBOW IS DUCTILE IRON.
2. ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12" FROM EDGE OF PIPE, SEE DETAIL CC-13.
3. DO NOT THERMITE WELD TO PVC PIPE.

CC-4: CORROSION PROTECTION OF DUCTILE IRON FITTINGS

NOT TO SCALE

THIS DRAWING IS NOT APPLICABLE FOR USE AS STANDARD CORROSION CONTROL PROCEDURES FOR OTHER PROJECTS DUE TO VARIABLE CONDITIONS AT OTHER SITES. NEITHER THIS DESIGN NOR ANY PART THEREOF MAY BE DUPLICATED IN ANY WAY FOR OTHER PROJECTS OR MODIFIED IN ANY WAY FOR THIS OR OTHER PROJECTS, EXCEPT BY WRITTEN AGREEMENT WITH RUSSELL CORROSION CONSULTANTS, INC.

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17083, EXPIRATION DATE 9/27/2012

AS-BUILT
DATE 7/23/2013

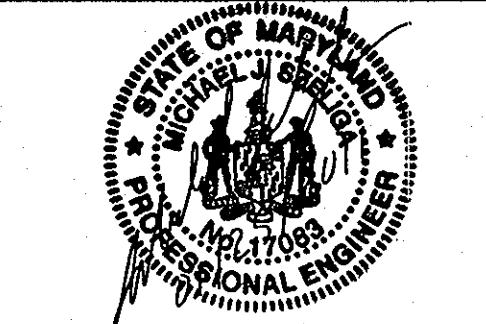
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Jan D. ... 1/25/11
DIRECTOR OF PUBLIC WORKS DATE

Robert ... 1/25/11
CHIEF, BUREAU OF UTILITIES DATE

... 1/25/11
CHIEF, UTILITY DESIGN DIVISION DATE

RUSSELL CORROSION CONSULTANTS, INC.
Columbia, Maryland



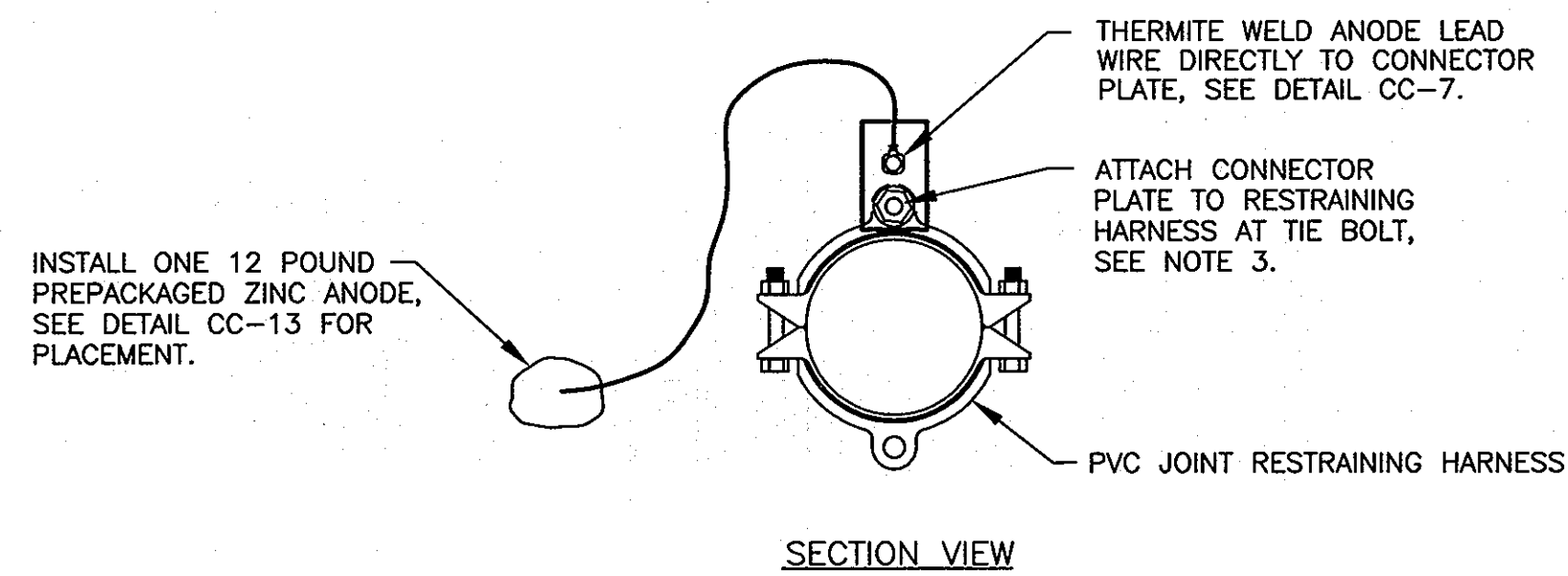
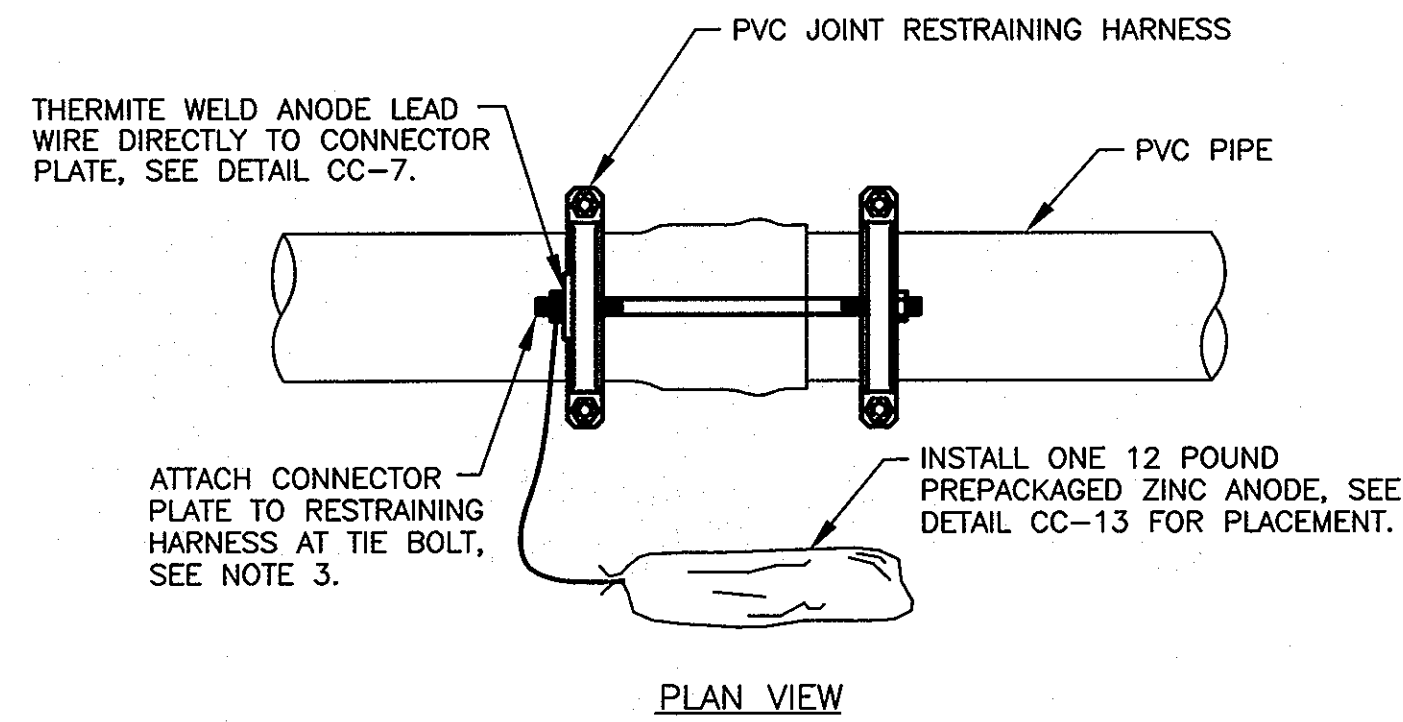
DES:	MJS			
DRN:	DJD			
CHK:	MJS			
DATE:	JAN. 2011	BY:	NO.	
				AS-BUILT
				7/23/13

CORROSION CONTROL DETAILS 1

60' SCALE MAP NO. 37 BLOCK NO. 18

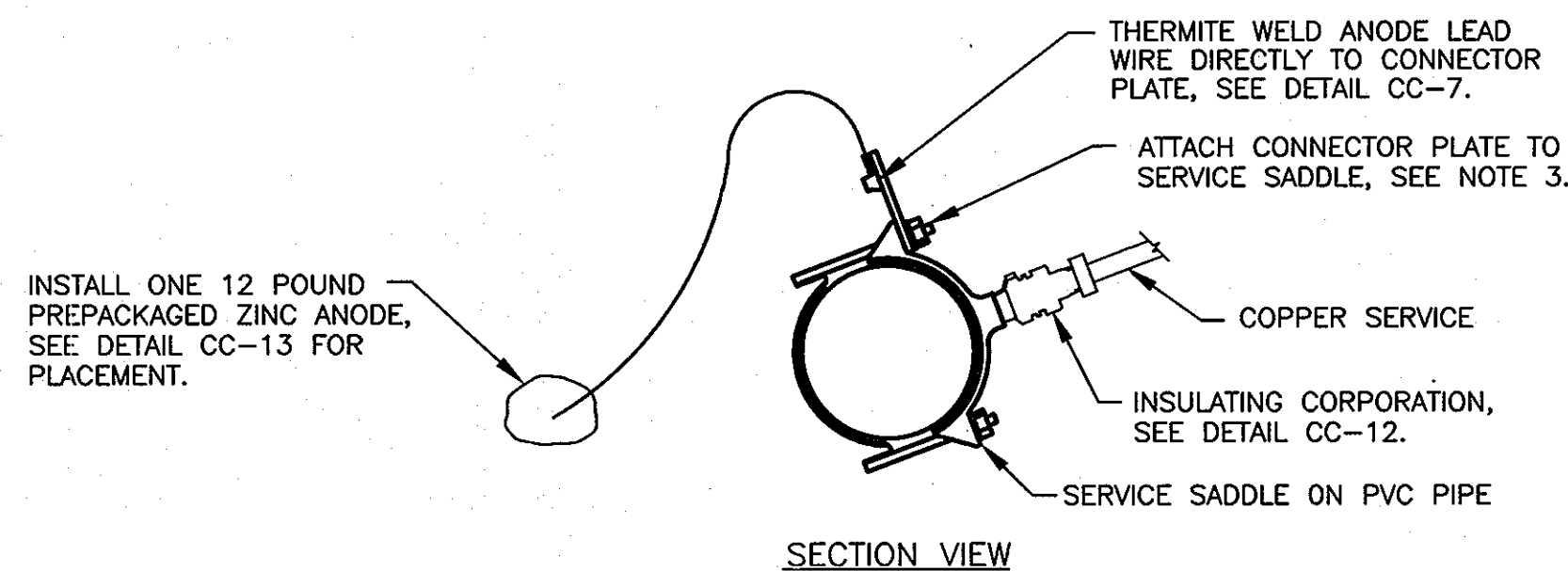
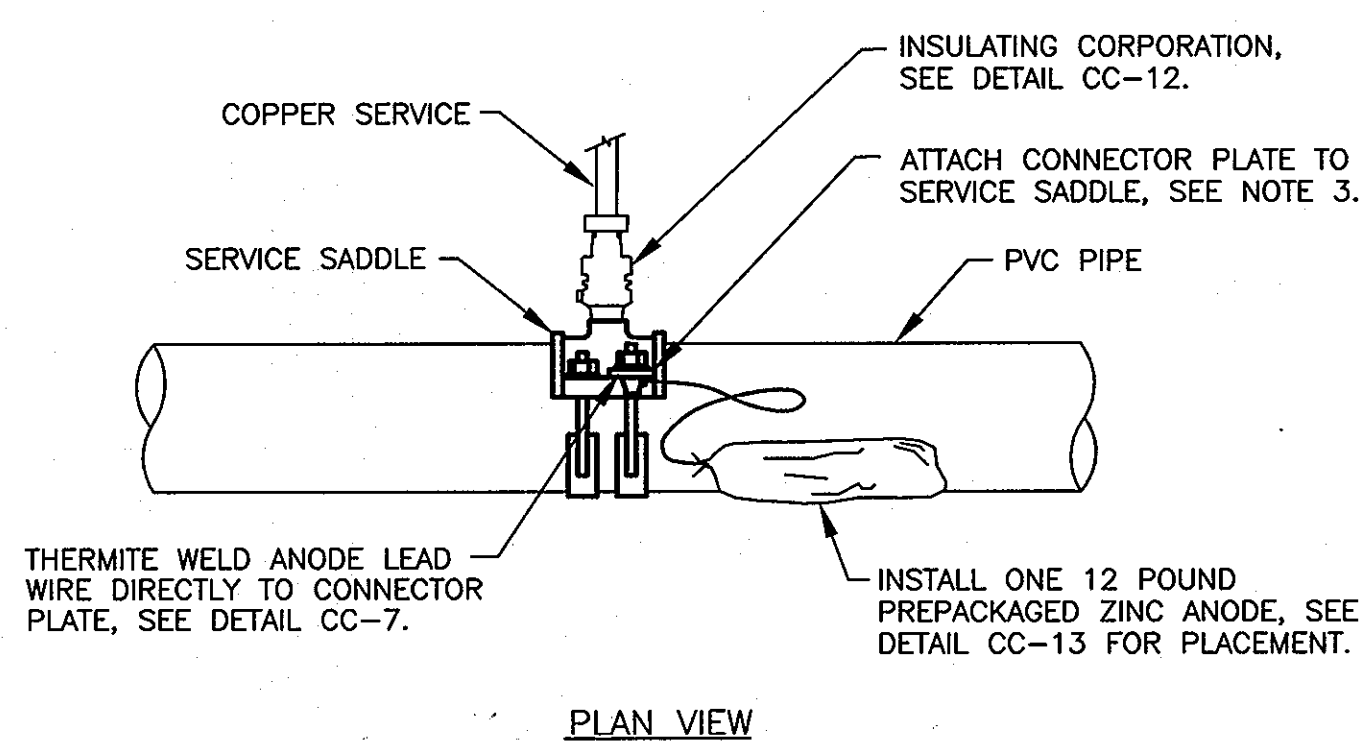
DUCKETTS LANE WATER MAIN REPLACEMENT
CAPITAL PROJECT No. W-8286
CONTRACT No. 44-4677
ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

CP-4
SCALE AS SHOWN
SHEET 27 OF 29



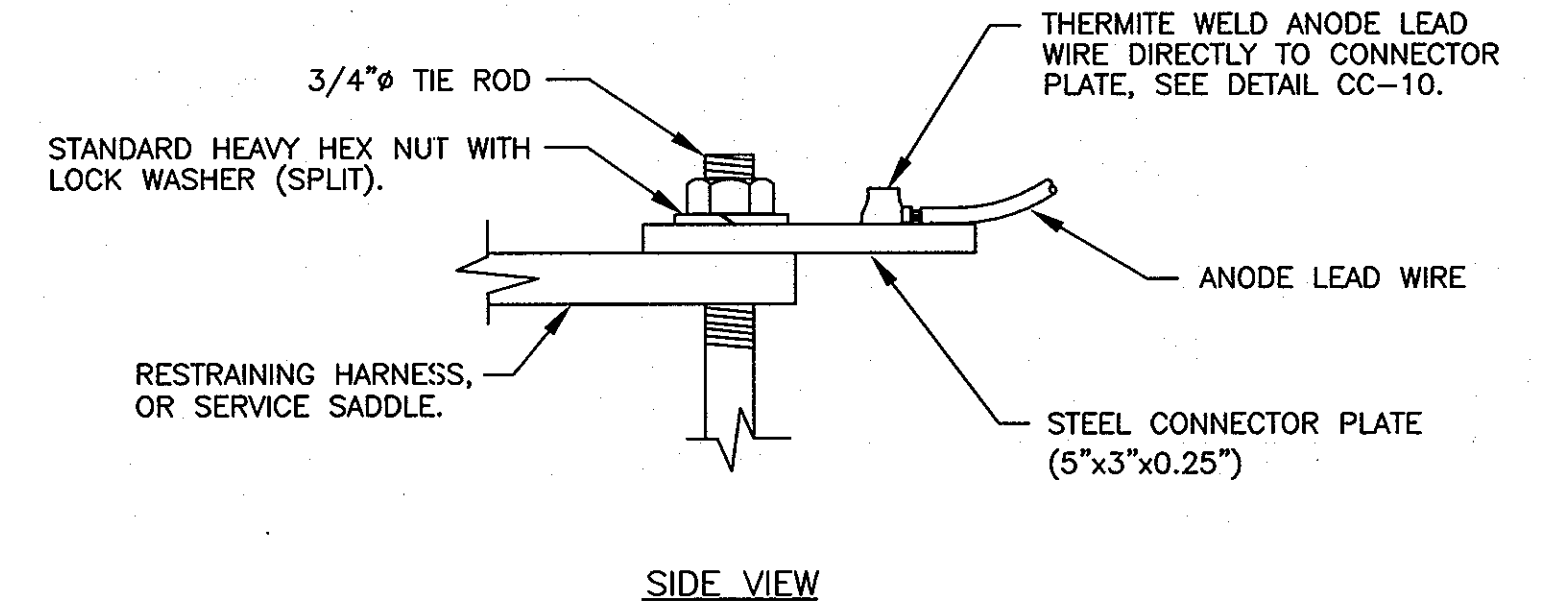
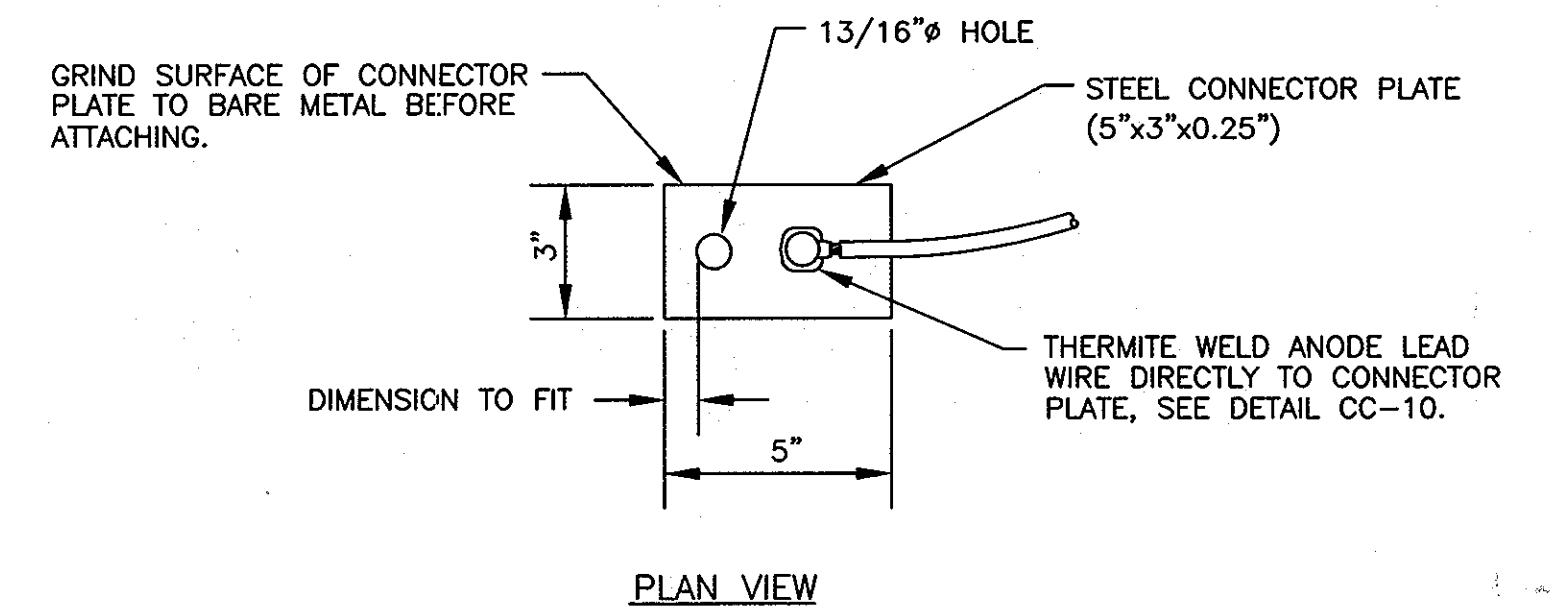
- NOTES:
- CONNECTOR PLATE TO BE THERMITE WELDED TO ANODE LEAD WIRE PRIOR TO ATTACHING CONNECTOR PLATE TO RESTRAINING HARNESS.
 - ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12" FROM EDGE OF PIPE, SEE DETAIL CC-13.
 - REMOVE COATING FROM RESTRAINING HARNESS WHERE CONNECTOR PLATE IS TO BE MOUNTED. REMOVE COATING IMMEDIATELY PRIOR TO ATTACHING THE CONNECTOR PLATE.
 - DO NOT THERMITE WELD TO PVC PIPE.

CC-5: CORROSION PROTECTION OF RESTRAINING HARNESS
NOT TO SCALE



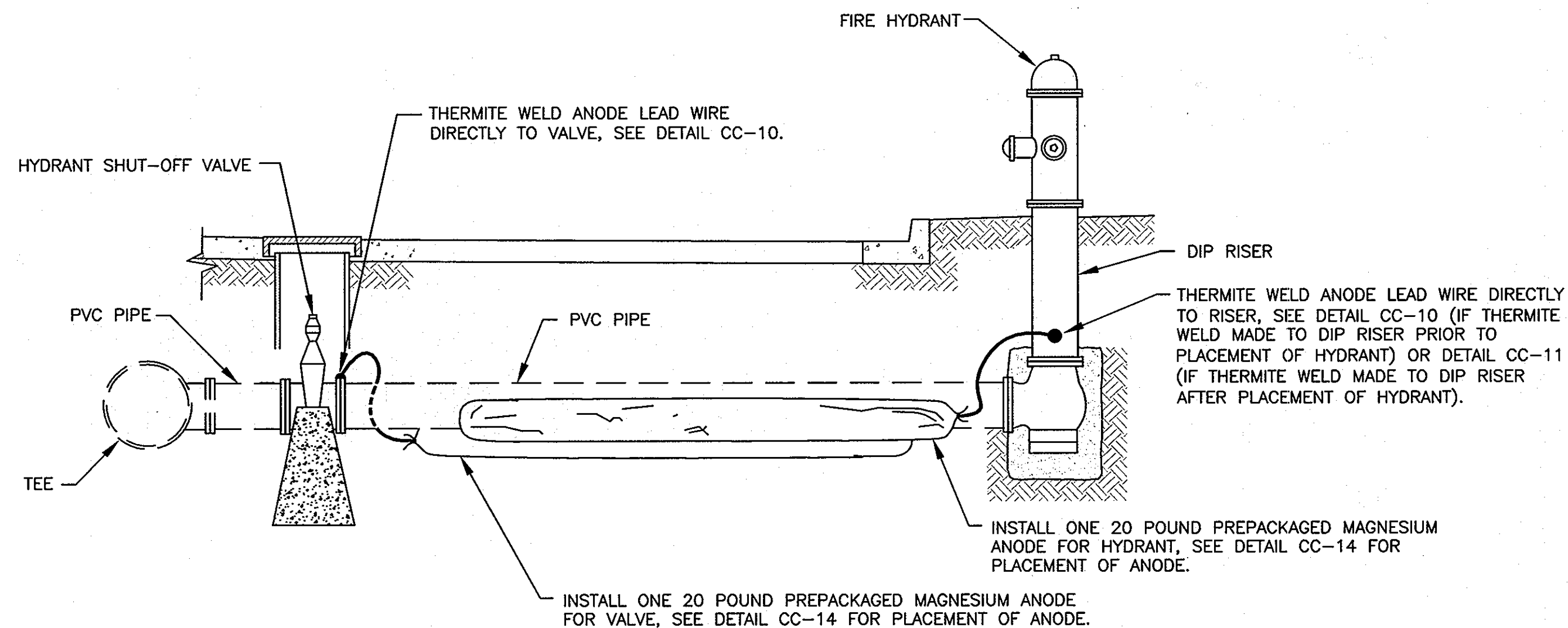
- NOTES:
- CONNECTOR PLATE TO BE THERMITE WELDED TO ANODE LEAD WIRE PRIOR TO ATTACHING CONNECTOR PLATE TO SERVICE SADDLE.
 - ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12" FROM EDGE OF PIPE, SEE DETAIL CC-13.
 - REMOVE COATING FROM SERVICE SADDLE WHERE CONNECTOR PLATE IS TO BE MOUNTED. REMOVE COATING IMMEDIATELY PRIOR TO ATTACHING THE CONNECTOR PLATE.
 - PLASTIC SERVICE PIPING DOES NOT REQUIRE AN INSULATING CORPORATION, A NON-INSULATING CORPORATION MAY BE USED.
 - DO NOT THERMITE WELD TO PVC PIPE.

CC-6: CORROSION PROTECTION OF SERVICE SADDLE
NOT TO SCALE



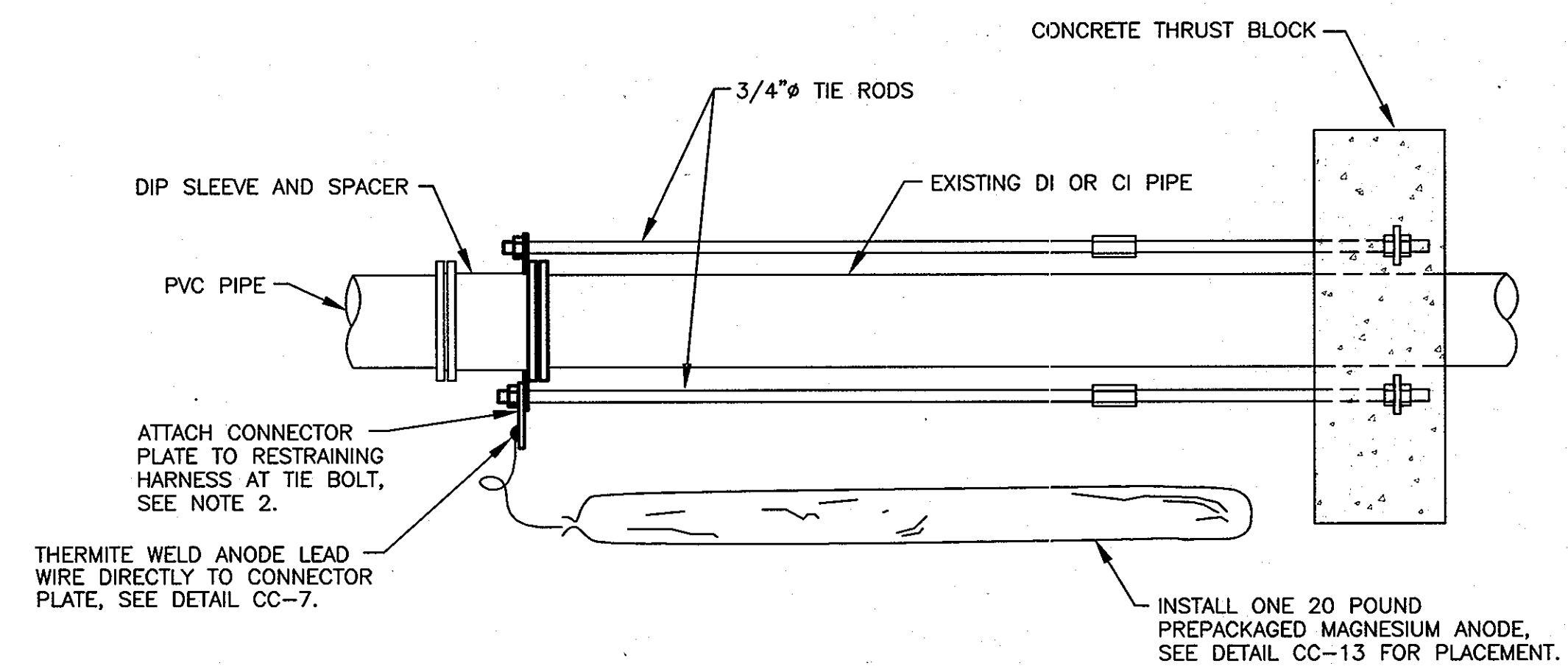
- NOTES:
- CONNECTOR PLATE TO BE THERMITE WELDED TO ANODE LEAD WIRE PRIOR TO ATTACHING CONNECTOR PLATE TO RESTRAINING HARNESS, OR SERVICE SADDLE.
 - THERMITE WELDS SHALL BE COATED WITH A PREFABRICATED ONE PIECE PLASTIC CAP FILLED WITH ELASTOMERIC MATERIAL, ROYSTON HANDY-CAP OR APPROVED EQUAL.

CC-7: CONNECTION PLATE DETAIL
NOT TO SCALE



- NOTES:
- ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12" FROM EDGE OF PIPE, SEE DETAIL CC-14.
 - DO NOT THERMITE WELD TO PVC PIPE.

CC-8: CORROSION PROTECTION AT FIRE HYDRANT
NOT TO SCALE



- NOTES:
- ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12" FROM EDGE OF PIPE, SEE DETAIL CC-13.
 - REMOVE COATING FROM RESTRAINING HARNESS WHERE CONNECTOR PLATE IS TO BE MOUNTED. REMOVE COATING IMMEDIATELY PRIOR TO ATTACHING THE CONNECTOR PLATE.
 - DO NOT THERMITE WELD TO PVC PIPE.

CC-9: CORROSION PROTECTION AT IN-LINE THRUST BLOCK
NOT TO SCALE

THIS DRAWING IS NOT APPLICABLE FOR USE AS STANDARD CORROSION CONTROL PROCEDURES FOR OTHER PROJECTS DUE TO VARIABLE CONDITIONS AT OTHER SITES. NEITHER THIS DESIGN NOR ANY PART THEREOF MAY BE DUPLICATED IN ANY WAY FOR OTHER PROJECTS OR MODIFIED IN ANY WAY FOR THIS OR OTHER PROJECTS, EXCEPT BY WRITTEN AGREEMENT WITH RUSSELL CORROSION CONSULTANTS, INC.

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17083, EXPIRATION DATE 9/27/2012

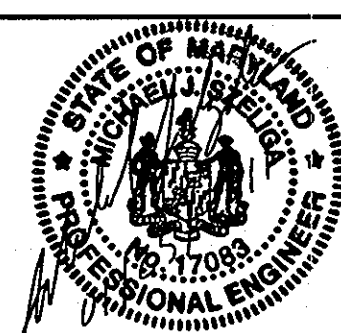
AS-BUILT
DATE 7/23/2013

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 1/25/11
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 1/25/11
ACT. CHIEF, BUREAU OF ENGINEERING DATE

RUSSELL CORROSION CONSULTANTS, INC.
Columbia, Maryland



DES:	MJS				
DRN:	DJD				
CHK:	MJS				
DATE:	JAN. 2011	BY:	GS	NO.	AS-BUILT
REVISION:		DATE:	7/23/13		

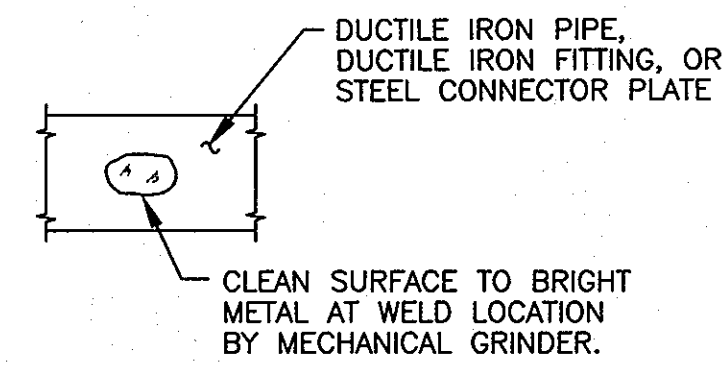
**CORROSION CONTROL
DETAILS 2**

DUCKETTS LANE
WATER MAIN REPLACEMENT

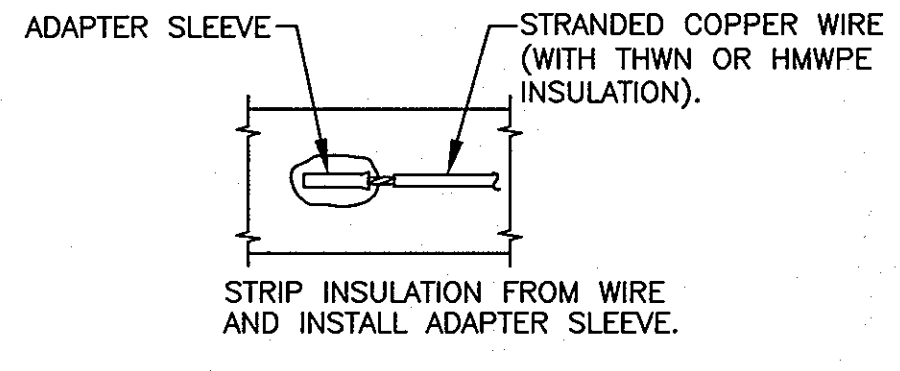
CAPITAL PROJECT No. W-8286
CONTRACT No. 44-4677

ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

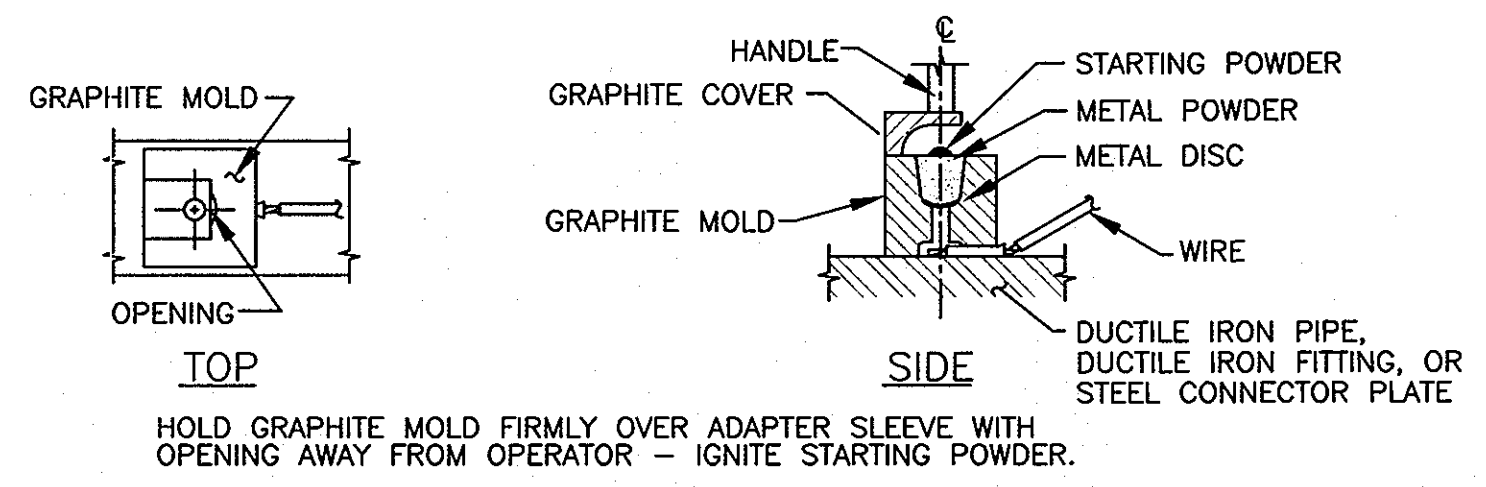
CP-5
SCALE
AS SHOWN
SHEET
28 OF 28



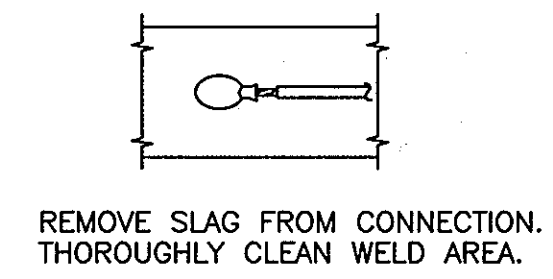
STEP 1



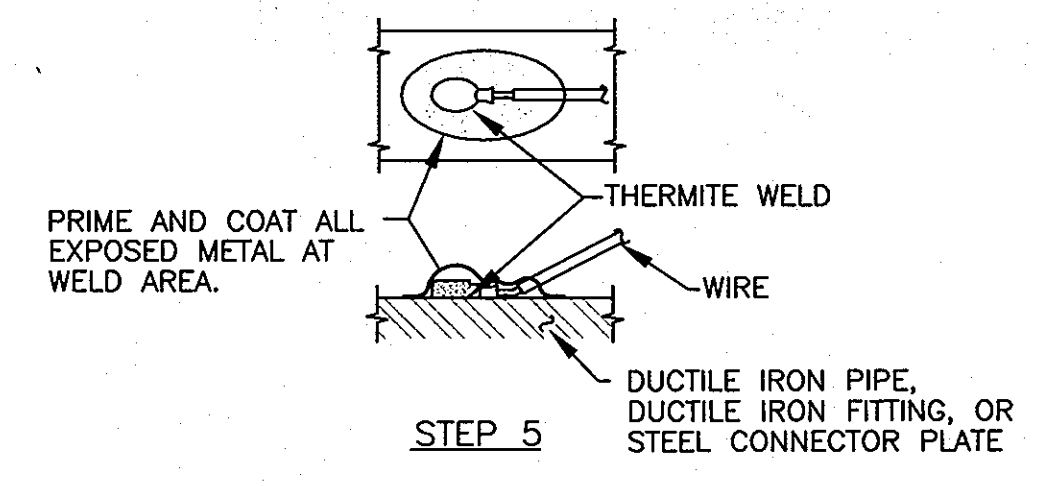
STEP 2



STEP 3



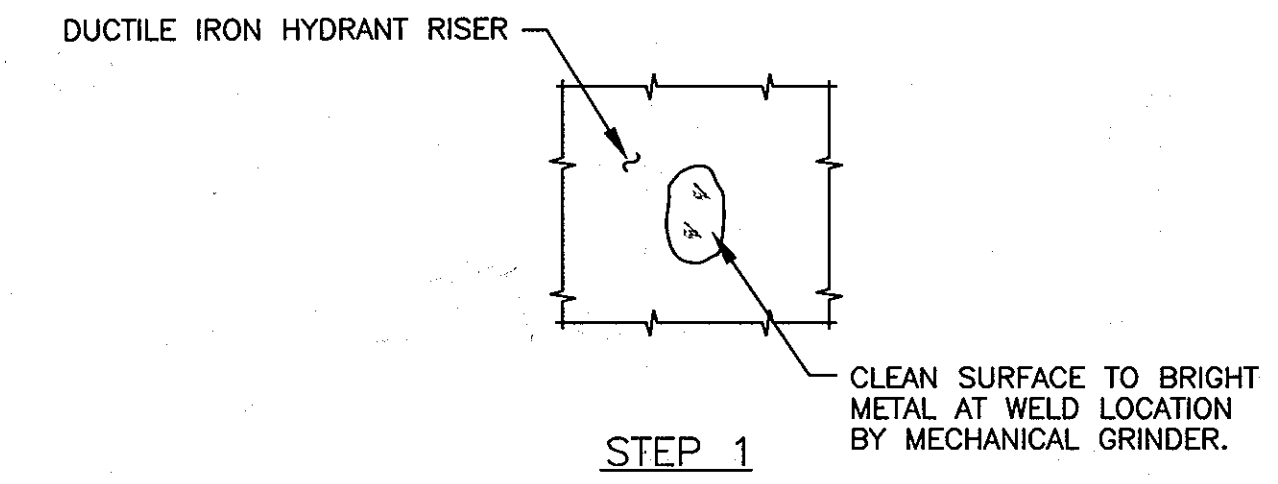
STEP 4



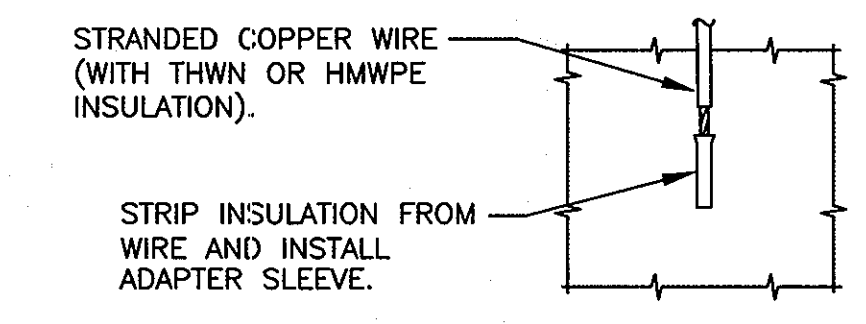
STEP 5

CC-10: HORIZONTAL THERMITE WELD
SCALE: NONE

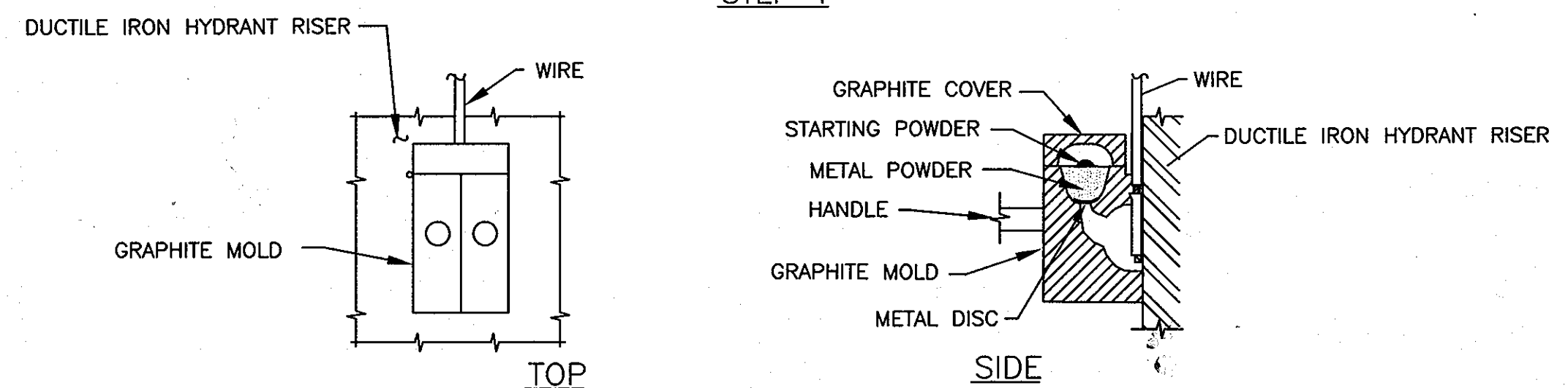
- NOTES:
1. THERMITE WELDS SHALL BE COATED WITH A PREFABRICATED ONE PIECE PLASTIC CAP FILLED WITH ELASTOMERIC MATERIAL, ROYSTON HANDY-CAP OR APPROVED EQUAL.
 2. DO NOT THERMITE WELD TO PVC PIPE.



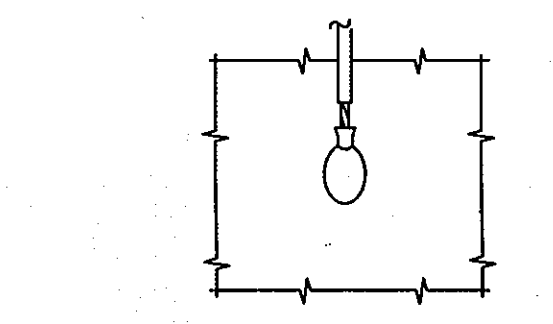
STEP 1



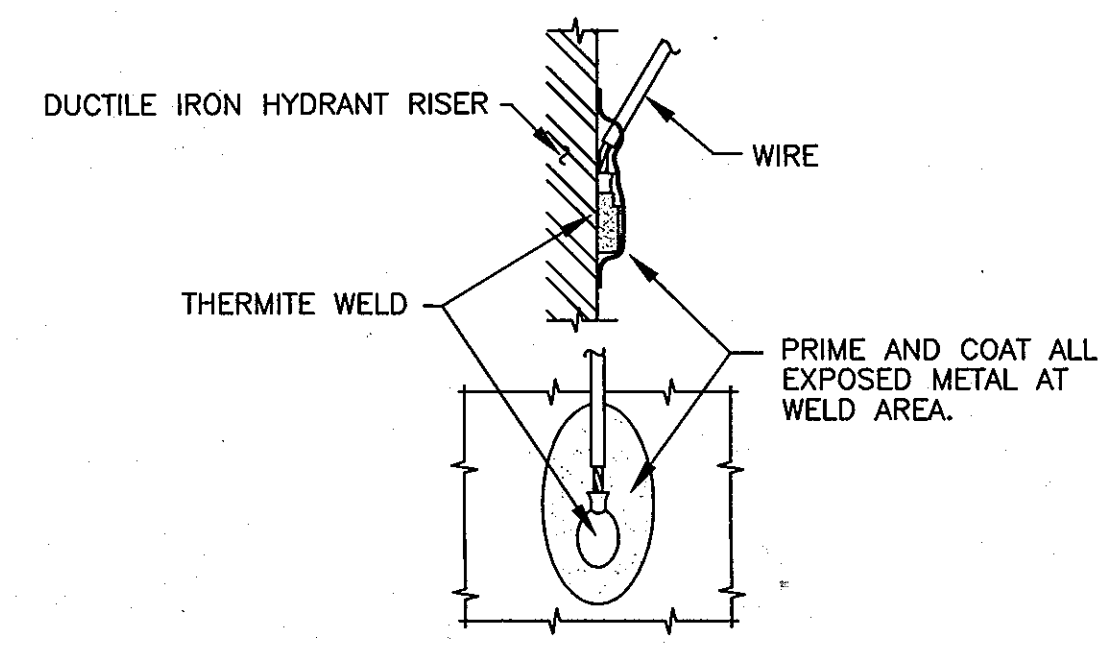
STEP 2



STEP 3



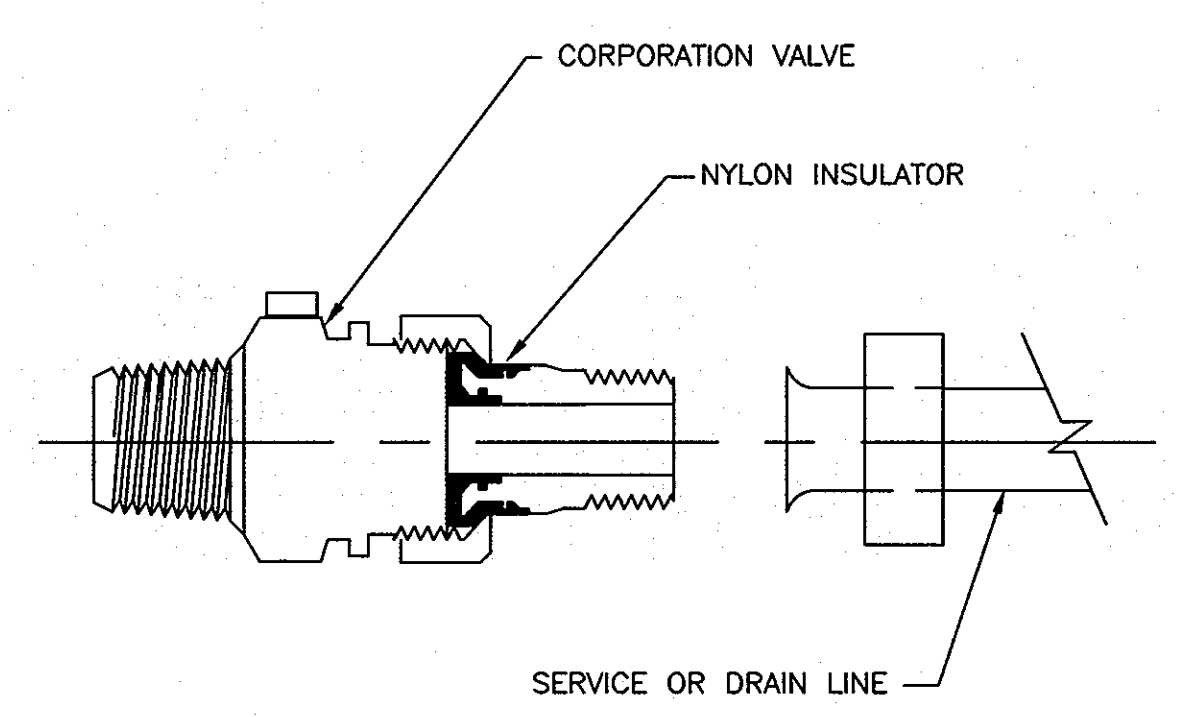
STEP 4



STEP 5

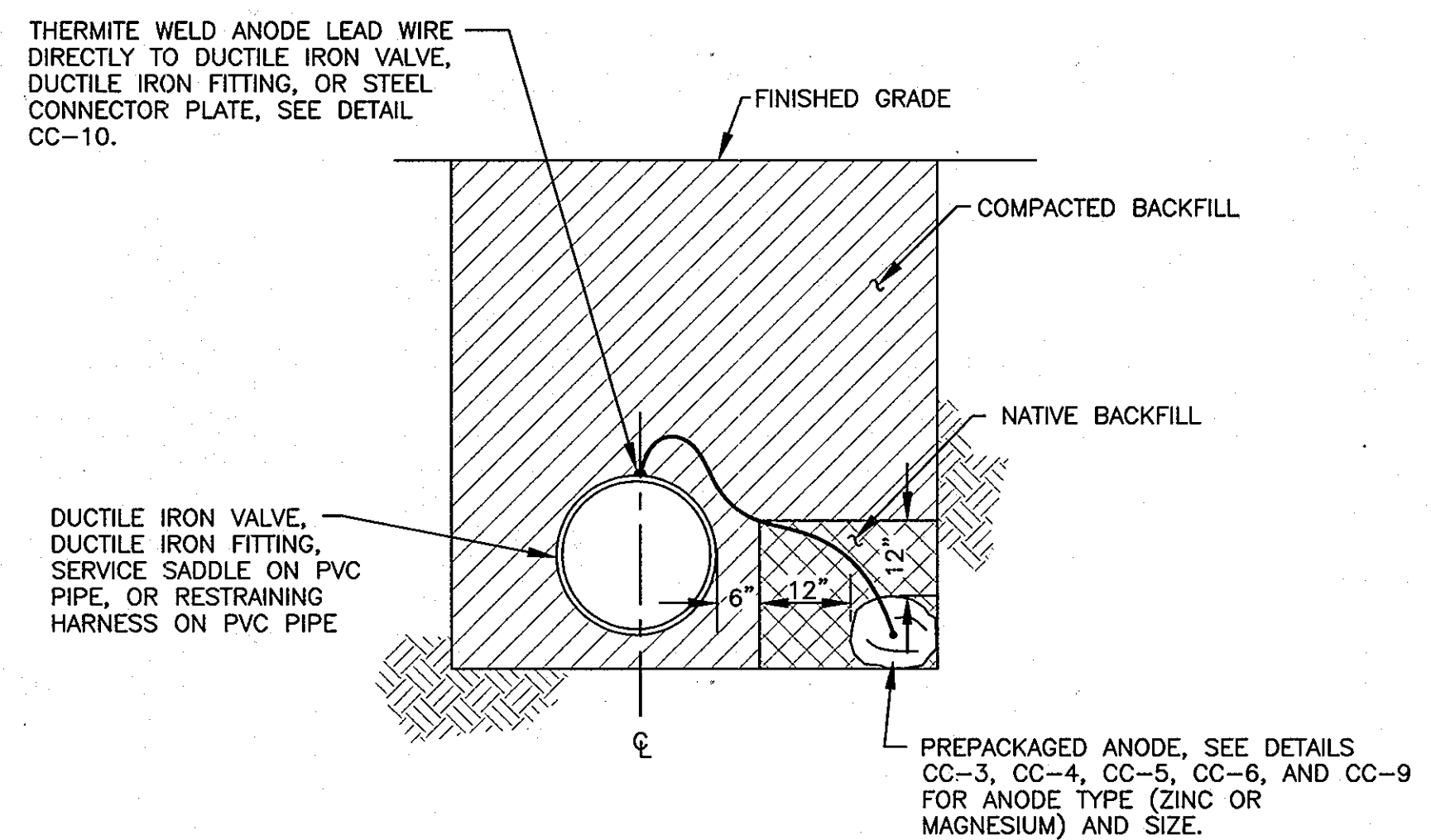
CC-11: VERTICAL THERMITE WELD
NOT TO SCALE

- NOTES:
1. THERMITE WELDS SHALL BE COATED WITH A PREFABRICATED ONE PIECE PLASTIC CAP FILLED WITH ELASTOMERIC MATERIAL, ROYSTON HANDY-CAP OR APPROVED EQUAL.
 2. DO NOT THERMITE WELD TO PVC PIPE.



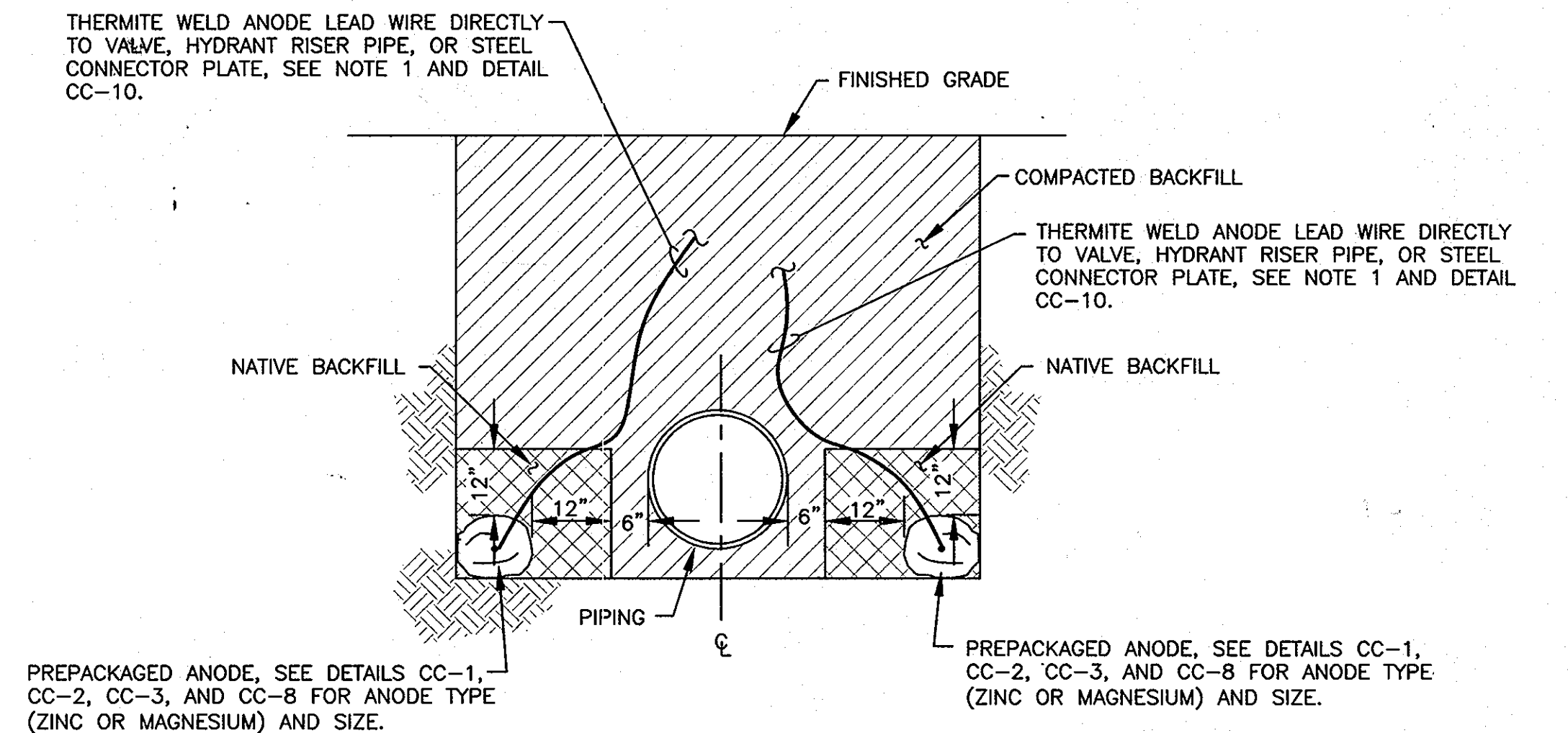
- NOTES:
1. INSTALL ELECTRICAL ISOLATION ON ALL WATER SERVICE AND DRAIN LINE CONNECTIONS TO MAIN.
 2. COAT EXTERIOR OF CORPORATION STOP, AND SERVICE PIPING AND/OR DRAIN LINE FOR A DISTANCE OF 12 INCHES WITH MASTIC COATING (ROYSTON ROSKOTE R28). MASTIC COATING TO BE MINIMUM OF 20 MILS IN THICKNESS.
 3. INSULATED CORPORATION NOT REQUIRED FOR PLASTIC SERVICES.

CC-12: INSULATING CORPORATION
NOT TO SCALE



- NOTES:
1. INSTALL ANODE IN NATIVE SOIL. DO NOT BACKFILL ANODE WITH SAND OR STONE.
 2. DO NOT THERMITE WELD TO PVC PIPE.

CC-13: SINGLE ANODE PLACEMENT
NOT TO SCALE



PREPACKAGED ANODE, SEE DETAILS CC-1, CC-2, CC-3, AND CC-8 FOR ANODE TYPE (ZINC OR MAGNESIUM) AND SIZE.

- NOTES:
1. WHEN INSTALLING ANODES AT HYDRANTS, ATTACH ONE ANODE LEAD TO SHUT-OFF VALVE, AND ONE ANODE LEAD TO HYDRANT RISER PIPE, SEE DETAIL CC-8.
 2. INSTALL ANODES A MINIMUM OF 12 INCHES FROM PIPE.
 3. BACKFILL ANODES WITH NATIVE SOIL FOR A MINIMUM OF 12 INCHES ON ALL SIDES. DO NOT BACKFILL ANODES WITH SAND OR STONE.
 4. DO NOT THERMITE WELD TO PVC PIPE.

CC-14: DOUBLE ANODE PLACEMENT
NOT TO SCALE

AS-BUILT
DATE 7/23/2013

THIS DRAWING IS NOT APPLICABLE FOR USE AS STANDARD CORROSION CONTROL PROCEDURES FOR OTHER PROJECTS DUE TO VARIABLE CONDITIONS AT OTHER SITES. NEITHER THIS DESIGN NOR ANY PART THEREOF MAY BE DUPLICATED IN ANY WAY FOR OTHER PROJECTS OR MODIFIED IN ANY WAY FOR THIS OR OTHER PROJECTS, EXCEPT BY WRITTEN AGREEMENT WITH RUSSELL CORROSION CONSULTANTS, INC.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 1/25/11
 Chief, Bureau of Utilities: *[Signature]* 1/25/11
 Chief, Bureau of Engineering: *[Signature]* 1/25/11
 Act. Chief, Utility Design Division: *[Signature]* 1/25/11

RUSSELL CORROSION CONSULTANTS, INC.
Columbia, Maryland

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17083, EXPIRATION DATE 9/27/2012

DES:	MJS			
DRN:	DJD			
CHK:	MJS			
DATE:	JAN. 2011	BY:	NO.	AS-BUILT
REVISION:		DATE:	7/23/13	

CORROSION CONTROL
DETAILS 3

DUCKETT'S LANE
WATER MAIN REPLACEMENT
CAPITAL PROJECT No. W-8286
CONTRACT No. 44-4677
ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

CP-6
SCALE
AS SHOWN
SHEET
29 OF 29