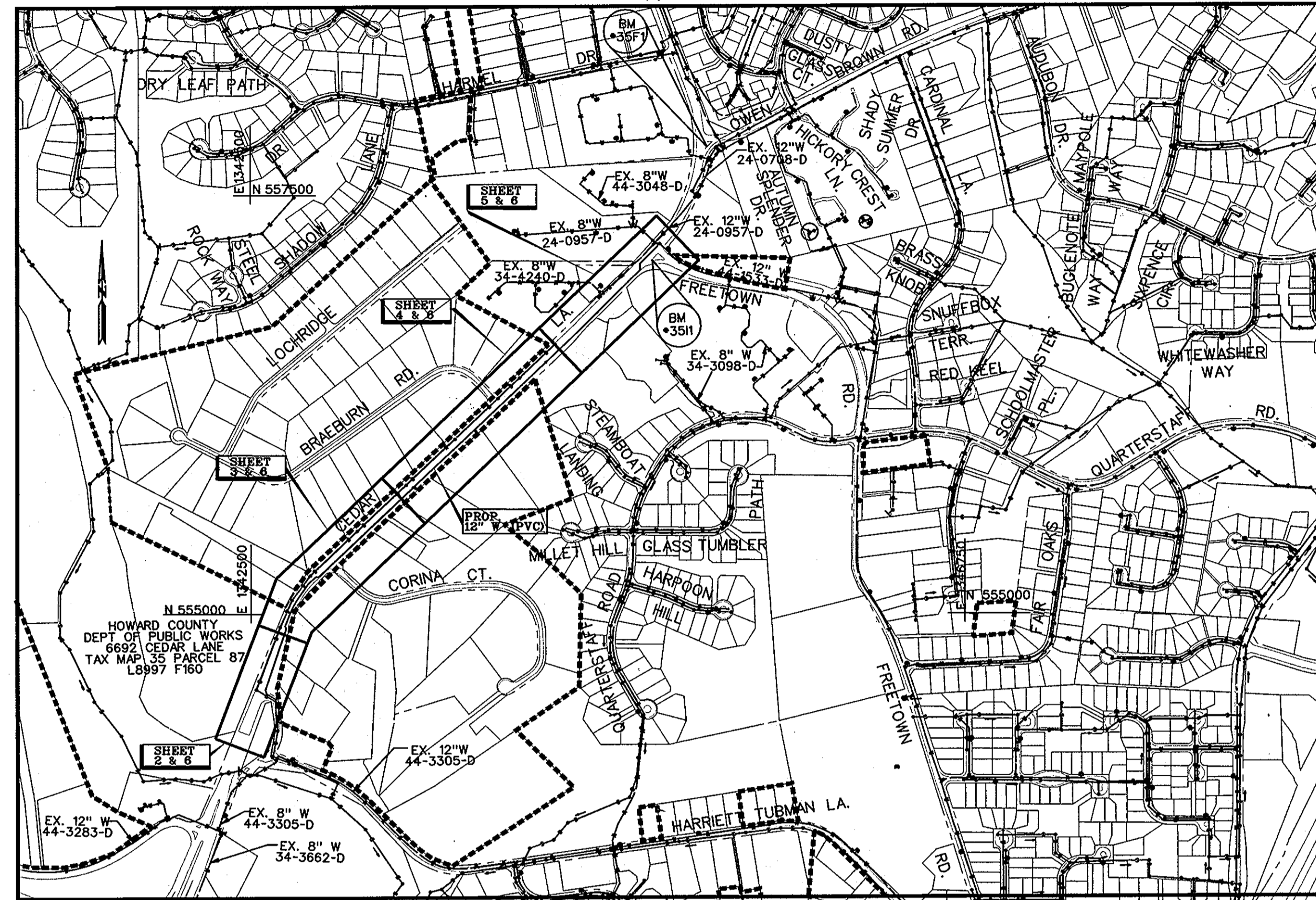


GENERAL NOTES

- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR EXPENSE.
- TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON NOVEMBER 2007 BY KCI TECHNOLOGIES, INC.
- HORIZONTAL AND VERTICAL SURVEY CONTROLS:
THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD 83/91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 0057 & 41CA. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE IRON BARS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12". CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES. ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
AT&T.....1-800-252-1133
BG&E (CONSTRUCTION SERVICES).....410-850-4620
BG&E (EMERGENCY).....410-685-1400
BUREAU OF UTILITIES (DPW).....410-313-4900
COLONIAL PIPELINE CO.410-795-1390
MISS UTILITY.....1-800-257-7777
STATE HIGHWAY ADMINISTRATION.....410-531-5533
VERIZON.....1-800-743-0033 / 410-224-9210
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)313-7450 AT LEAST FIVE WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(c) OF THE HOWARD COUNTY CODE.
- C-900 PVC PIPE WILL BE USED AS WATER MAIN MATERIAL FOR CONSTRUCTION UNLESS SPECIFIED OTHERWISE.
- TOPS OF WATER MAIN SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR AN OUTSIDE METER SETTING UNLESS OTHERWISE SPECIFIED AND CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD DETAIL. ALL FIRE HYDRANT LEADS SHALL BE POLYVINYL CHLORIDE (PVC) PIPE MEETING THE REQUIREMENTS OF AWWA C900 DR18 AND CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME IV- STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- ALL WATER MAINS CONSTRUCTED IN FILL AREAS SHALL BE RESTRAINED DUCTILE IRON PIPE CLASS 54 MEETING THE REQUIREMENTS OF AND CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME IV-STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- THE FOLLOWING NOTE IS ADDED TO HOWARD COUNTY STANDARD DETAIL W2.22, BUTTRESSES AND ANCHORAGE'S FOR VERTICAL BENDS. WHEN ANCHORING PVC PIPE, THE STRAPPING IN CONTACT WITH THE PIPE SURFACE SHALL BE 1-INCH WIDE BY 1/2-INCH THICK STEEL. THE REMAINING PORTION OF THE STRAP SHALL BE REINFORCING BAR SIZED IN ACCORDANCE WITH THE PERTINENT CHART SHOWN ON THE DETAIL.
- EXCEPT AS INDICATED ON THE PLANS AND NOTED ABOVE. ALL PUBLIC WATER MAINS SHALL BE POLYVINYLCHLORIDE (PVC) PIPE MEETING THE REQUIREMENTS OF AWWA C900 DR18, PRESSURE CLASS 150 AND THE HOWARD COUNTY DESIGN MANUAL VOLUME IV-STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AND ALL SUBSEQUENT AMENDMENTS THERETO.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF UTILITIES HOWARD COUNTY, 15 DAYS PRIOR TO WATER MAIN SHUT DOWNS.
- CONTINUITY TEST STATION SHALL BE PLACED ADJACENT TO EACH FIRE HYDRANT AND ANCHORAGES SHALL BE INSTALLED UNDER WATER VALVES IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATION AND DETAILS.
- WATER MAINS SHALL BE FILLED WITH WATER AND BROUGHT TO 150psi FOR 2 HOURS.
- THE CONTRACTOR SHALL PROVIDE SURVEY CONSTRUCTION STAKEOUT FOR ALL NECESSARY LINES, GRADES AND ELEVATION OF THE PROPOSED FACILITIES.

CEDAR LANE WATER MAIN HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS

CAPITAL PROJECT No. W-8273
CONTRACT No. 44-4566



LOCATION MAP

SCALE: 1" = 600'

TYPE OF BUILDING:	N.A.	HORIZONTAL AND VERTICAL CONTROL BASED ON MARYLAND NAD83(91) (HORIZONTAL) AND NAVD88 (VERTICAL) DATUM. HOWARD COUNTY GEODETIC SURVEY CONTROL NUMBERS:	
NUMBER OF WATER HOUSE CONNECTIONS:	N.A.	NO. 35F1	NO. 35I1
DRAINAGE AREA:	MIDDLE PATUXENT	N 557787.36	N 557110.36
PRESSURE ZONE:	550	E 1345217.30	E 1344893.64
WATER TEST GRADIENT	700	ELEV. 400.47	ELEV. 400.06

LEGEND

- | | | | |
|--|---------------------------|--|------------------------------|
| | TRAVERSE POINT | | DECIDUOUS TREE |
| | WATER MAIN | | CONIFEROUS TREE |
| | FIRE HYDRANT | | EXISTING FIRE HYDRANT |
| | VALVE | | EXISTING VALVE |
| | SEWER MAIN | | EXISTING WATER MAIN |
| | MANHOLE | | EXISTING GAS MAIN |
| | LIMIT OF DISTURBANCE | | EXISTING OVERHEAD ELECTRIC |
| | WATER HOUSE CONNECTION | | EXISTING UNDERGROUND SERVICE |
| | SEWER HOUSE CONNECTION | | BOUNDARY OF WETLAND BUFFER |
| | TEST STATION | | BOUNDARY OF WETLAND |
| | NOT WITHIN METRO DISTRICT | | |

INDEX OF SHEETS

SHEET No.	DESCRIPTION
1	TITLE SHEET
2	CEDAR LANE 12" WATER PLAN AND PROFILE
3	CEDAR LANE 12" WATER PLAN AND PROFILE
4	CEDAR LANE 12" WATER PLAN AND PROFILE
5	CEDAR LANE 12" WATER PLAN AND PROFILE
6	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
7	TRAFFIC CONTROL
8	12" PVC WATER MAIN CORROSION CONTROL LAYOUT 1
9	12" PVC WATER MAIN CORROSION CONTROL LAYOUT 2
10	CORROSION CONTROL DETAILS 1
11	CORROSION CONTROL DETAILS 2

ITEM	UNIT	ESTIMATE	AS-BUILT	MATERIAL SUPPLIER
12" PVC	L.F.	4,080	4080	HD SUPPLY
8" PVC	L.F.	170	173	HD SUPPLY
FH	EA	8	8	HD SUPPLY
6" V	EA	8	8	HD SUPPLY
8" V	EA	3	3	HD SUPPLY
12" V	EA	4	4	HD SUPPLY
12" TS & VALVE	EA	1	1	HD SUPPLY
TEST STATION	EA	8	8	HD SUPPLY
TRACER WIRE	L.F.	4,250	4250	HD SUPPLY

NAME OF UTILITY CONTRACTOR: BURGIMISTER/BELL

CHECKBOX
AS-BUILT DATE:
SURVEY AND DRAFTING DIVISION

RESTORATION SCHEDULE		
LOCATION	DISTANCE	TYPE
HARRIETT TUBMAN LANE	450'	BIT. CONCRETE
CEDAR LANE	3,770'	BIT. CONCRETE

PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND
LICENSE NO. 15528

EXPIRATION DATE: 9/12/09

AS-BUILT
DATE: 8-27-09

PLOTTED: 11:11 AM on Monday, June 23, 2008
By: Chander, Kanta Division: 0102 Environment of Engineering
FILE: M:\2007\09\27\2007\09\27\0102.dwg

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 7/2/09
DIRECTOR OF PUBLIC WORKS
BUREAU OF UTILITIES

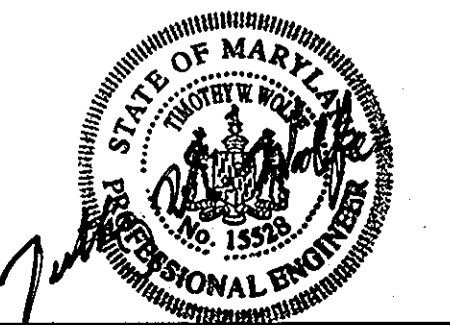
[Signature] 7/1/08
CHIEF, BUREAU OF ENGINEERING

[Signature] 7-1-08
CHIEF, UTILITY DESIGN DIVISION

ENGINEERS
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KCI
TECHNOLOGIES

10 NORTH PARK DRIVE
HENTZ VALLEY, MD 21030
PHONE: (410) 316-7800
FAX: (410) 316-7817
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DES: GW					
DRN: CK					
CHK: TW					
DATE: DEC. 07	LFN	AS BUILT			8/27/09
BY	NO.	REVISION			DATE

TITLE SHEET

600' SCALE MAP NO. 35 BLOCK NO. 17

CEDAR LANE WATER MAIN

CAPITAL PROJECT No. W-8273
CONTRACT No. 44-4566

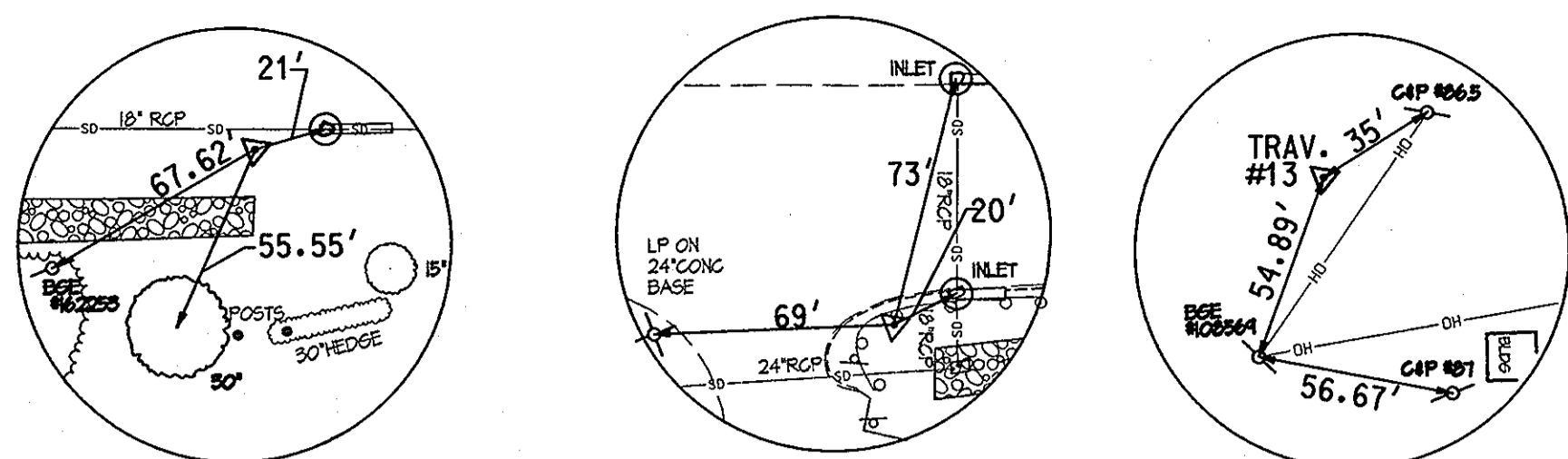
ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 11

HOWARD COUNTY MARYLAND
DEPARTMENT OF PUBLIC WORKS
6892 CEDAR LANE
TAX MAP 35 PARCEL 87
L.8997 F.160

**CEDAR LN
(VARIABLE R/W)**

MATCHLINE STA. 8+00 SHEET 3 OF 11

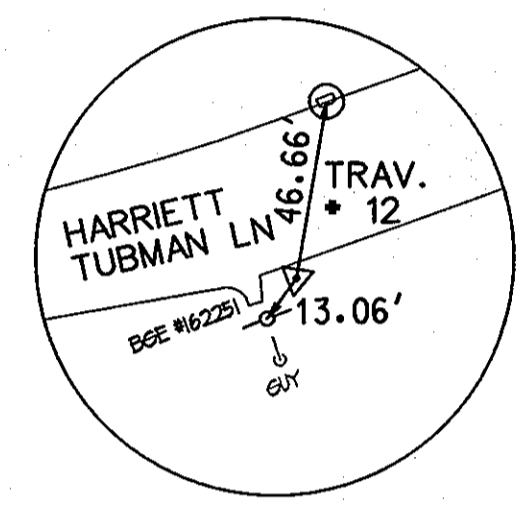


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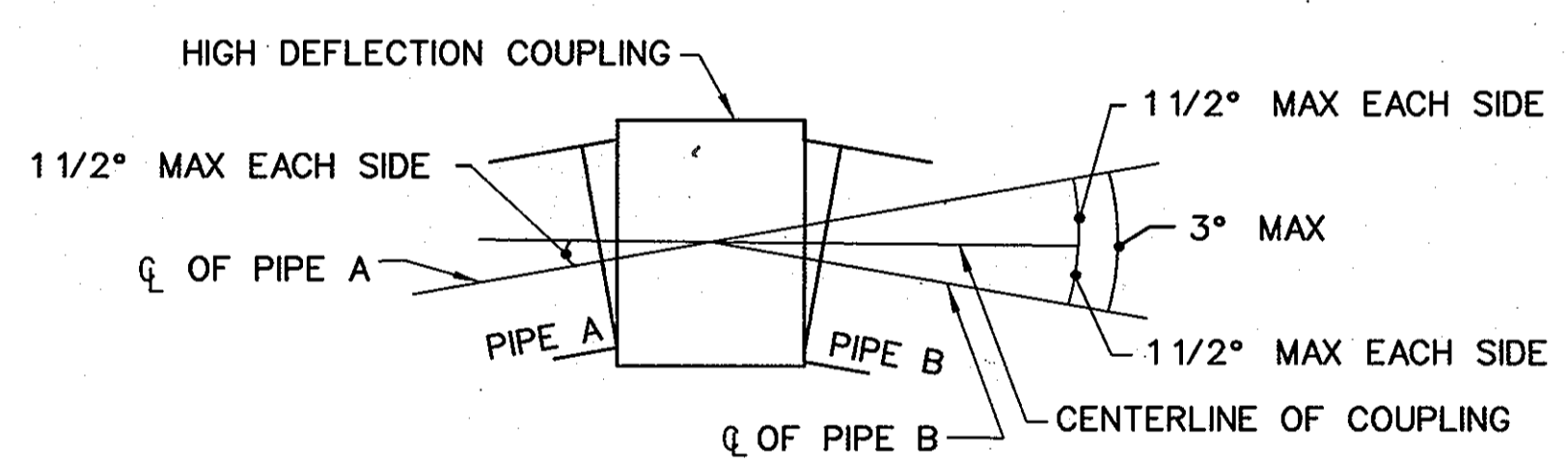
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TRAV. #13
SCALE=N.T.S

TRAVERSE COORDINATE SCHEDULE				
NUMBER	DESCRIPTION	NORTHING	EASTING	ELEVATION
TRAV.#10	PIN & CAP	554823.09	1342690.51	316.68
TRAV.#11	PIN & CAP	554540.28	1342596.48	303.73
TRAV.#12	PIN & CAP	554357.51	1342675.92	285.48
TRAV.#13	PK	554151.35	1342596.11	271.76

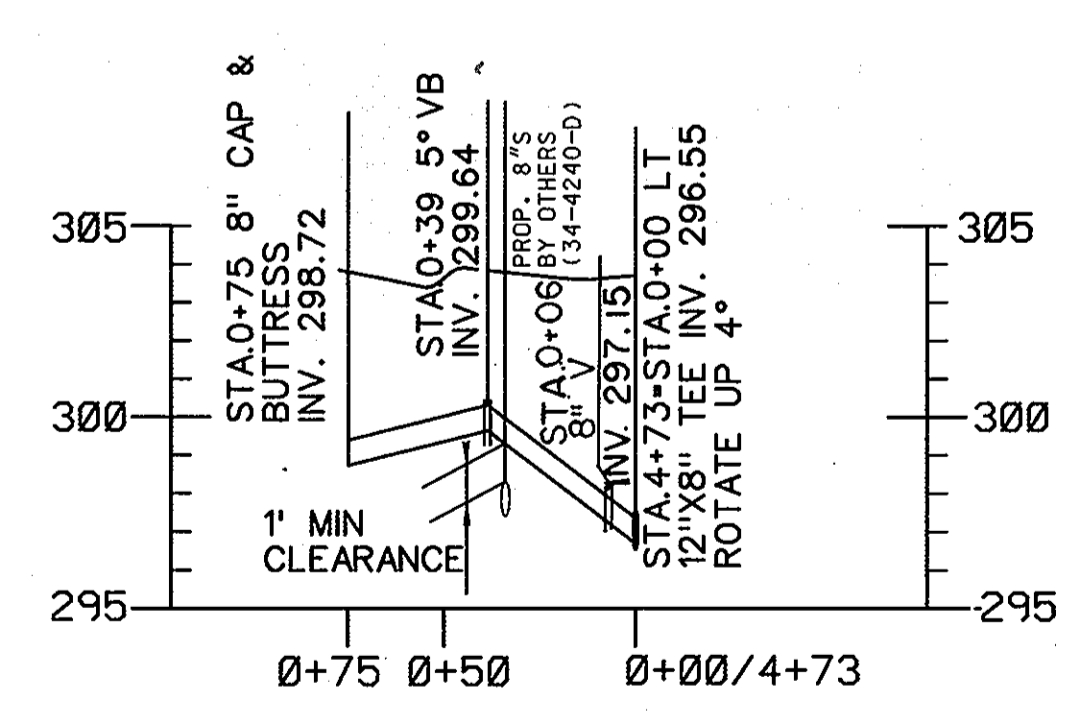


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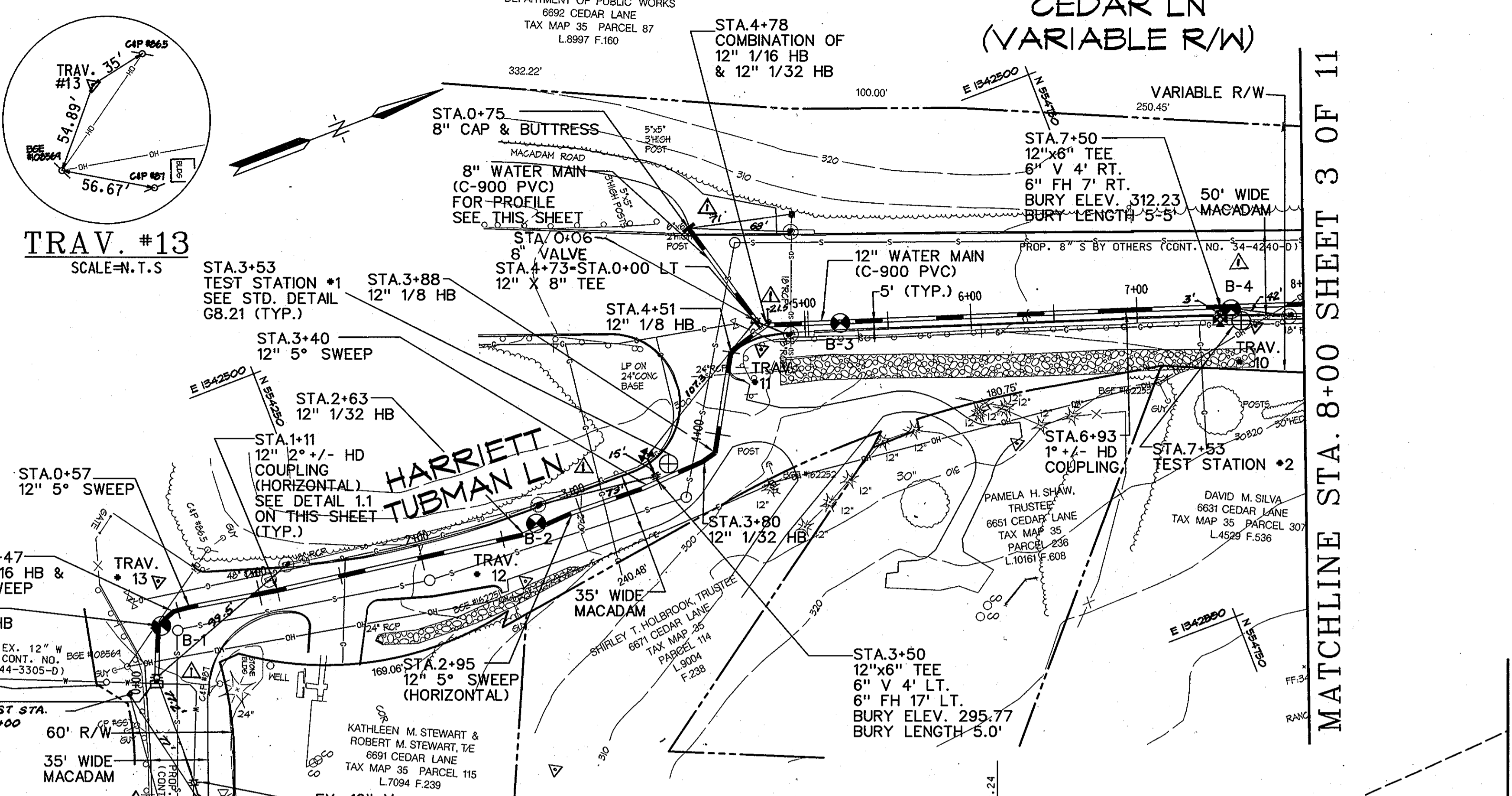


NOTE:
1. THE MAXIMUM ALLOWED DEFLECTION AT THE HIGH DEFLECTION COUPLING IS 3° WITH 1.5" ON EACH SIDE.

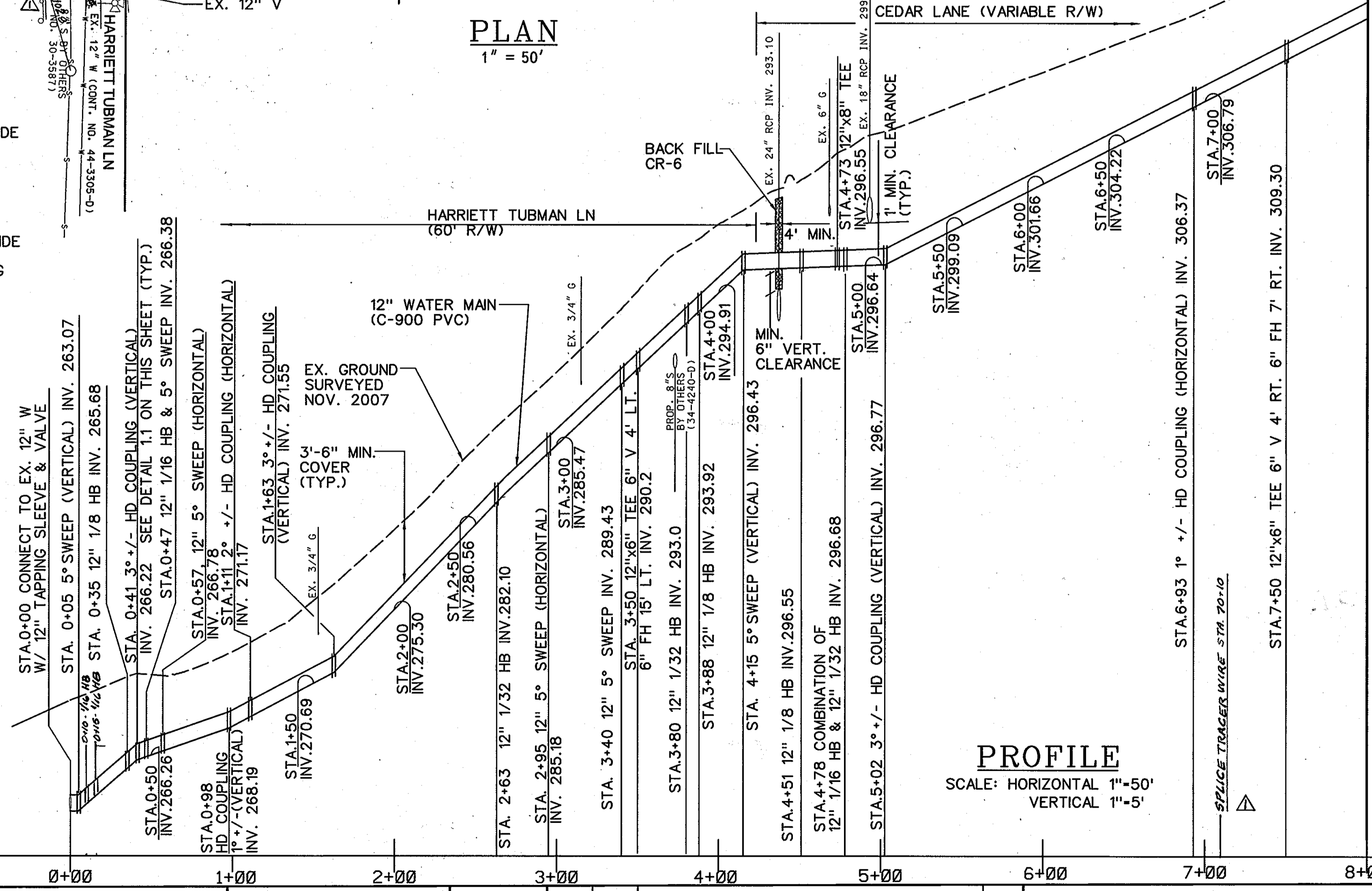
**DETAIL 1.1
HIGH DEFLECTION COUPLING INSTALLATION
FOR HORIZONTAL AND VERTICAL DEFLECTION**
NOT TO SCALE



8" WM STA. 4+73
STA. 4+73 WM & STA. 0+00 LT.
SCALE: HORIZONTAL 1"=50'
VERTICAL 1"=5'



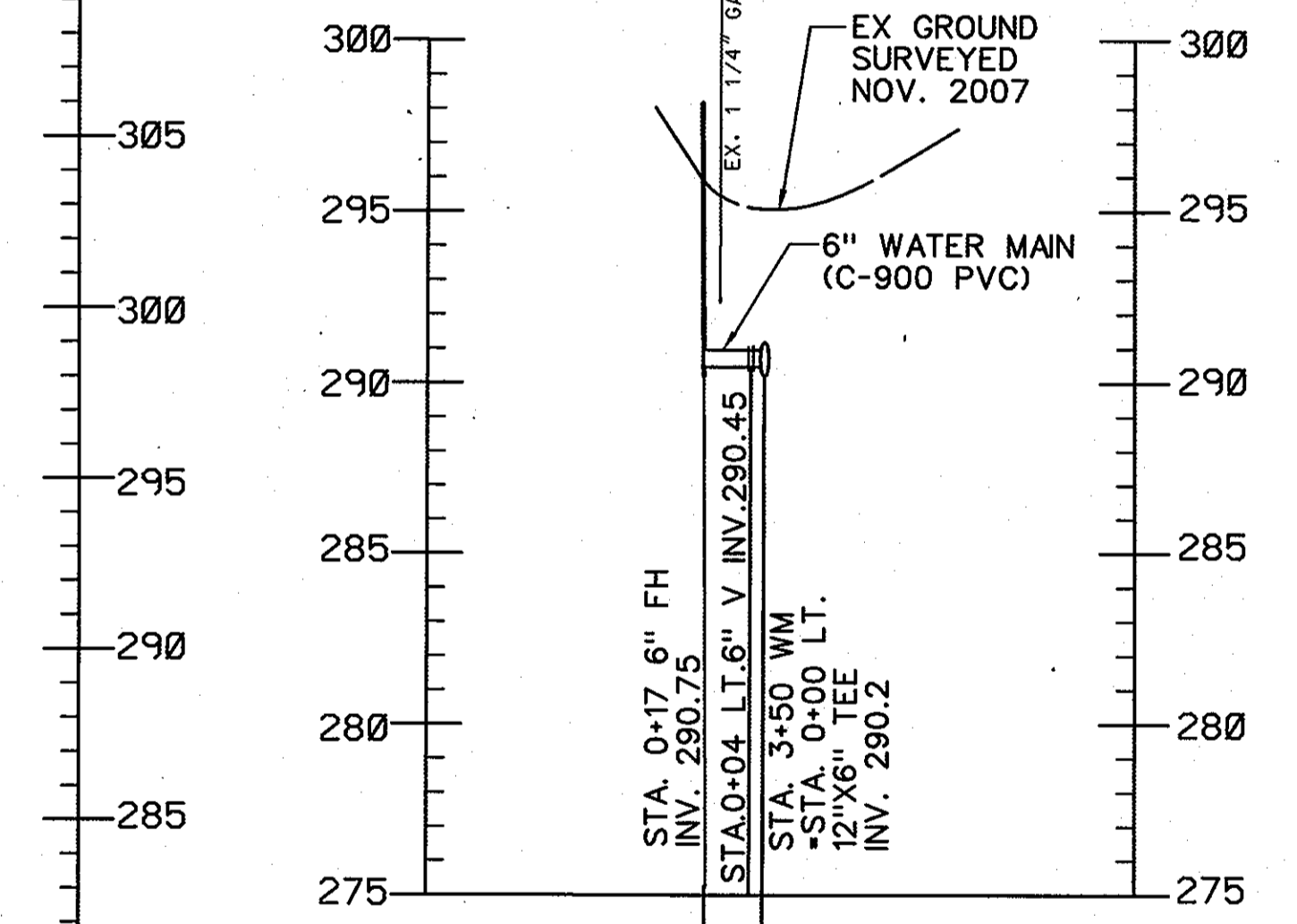
PLAN
1" = 50'



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

MATCHLINE STA. 8+00 SHEET 3 OF 11

WATER MAIN STAKEOUT COORDINATE SCHEDULE			
STATION	FITTING	NORTHING	EASTING
0+00	12" TS & V	554128.16	1342653.47
0+05	12" 5° SWEEP (VERTICAL)	554130.15	1342648.85
0+35	12" 1/8 HB	554141.71	1342621.28
0+41	3° HD +/- COUPLING (VERTICAL)	554147.53	1342619.13
0+47	12" 1/16 HB & 5° SWEEP	554153.13	1342616.61
0+57	12" 5° SWEEP (HORIZONTAL)	554162.93	1342617.52
0+98	1" +/- HD COUPLING (HORIZONTAL)	554203.53	1342627.24
1+11	2" +/- HD COUPLING (HORIZONTAL)	554216.38	1342633.59
1+63	3" +/- HD COUPLING (VERTICAL)	554267.69	1342634.72
2+63	12" 1/32 HB	554366.32	1342649.24
2+95	12" 5° SWEEP (HORIZONTAL)	554397.88	1342647.58
3+40	12" 5° SWEEP (HORIZONTAL)	554442.88	1342649.26
3+50	12" x 6" TEE	554453.66	1342648.64
3+80	12" 1/32 HB	554483.33	1342646.90
3+88	12" 1/8 HB	554491.96	1342644.71
4+15	12" 5° SWEEP (VERTICAL)	554505.18	1342621.79
4+51	12" 1/8 HB	554522.94	1342591.01
4+73	12"x8" TEE	554545.16	1342585.06
4+73-75' LT	8" CAP & BUTTRESS	554525.68	1342512.47
4+78	COMBINATION OF 12" 1/16 HB & 12" 1/32 HB	554548.75	1342584.09
5+02	3" +/- HD COUPLING (VERTICAL)	554572.34	1342592.16
6+93	1" +/- HD COUPLING (HORIZONTAL)	554753.24	1342653.43
7+50	12" x 6" TEE	554807.11	1342672.07
4+73=6' LT	8" V	554543.69	1342579.23



FH STA. 3+50
STA. 3+50 WM - STA. 0+00 LT.
SCALE: HORIZONTAL 1"=50'
VERTICAL 1"=5'

PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND
LICENSE NO. 15528

AS-BUILT
EXPIRATION DATE: 9/12/09
DATE: 8-27-09

PLOTTED: 10:52 AM on Monday, June 23, 2008
BY: Chandler, Kenton Division: 0102 Environmental Engineering
FILE: M:\2007\01071575\Drawings\C-001W.dgn

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John A. Webb 7/1/08
DIRECTOR OF PUBLIC WORKS DATE

Paul J. Ryan 7-1-08
CHIEF, BUREAU OF ENGINEERING DATE

Raymond S. Green 7-1-08
CHIEF, UTILITY DESIGN DIVISION DATE

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI
TECHNOLOGIES

10 North Park Drive
Hunt Valley, MD 21030
Phone: (410) 316-7800
Fax: (410) 316-7817
www.kci.com

STATE OF MARYLAND
PROFESSIONAL ENGINEER

William J. Ryan
LICENSE NO. 15528

DES: GW
DRN: CK
CHK: TW
DATE: DEC. 07

LFN
BY NO. AS BUILT

REVISION

DATE: 8/27/09

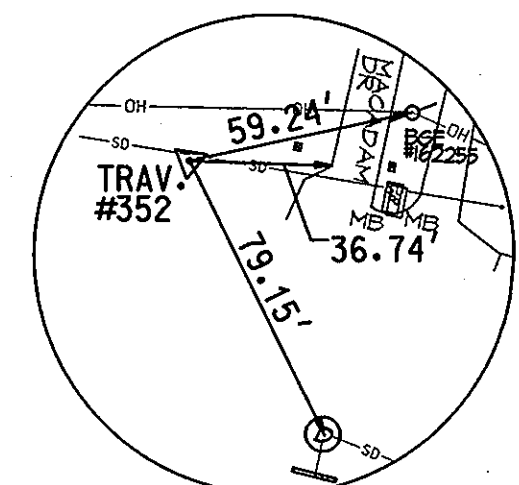
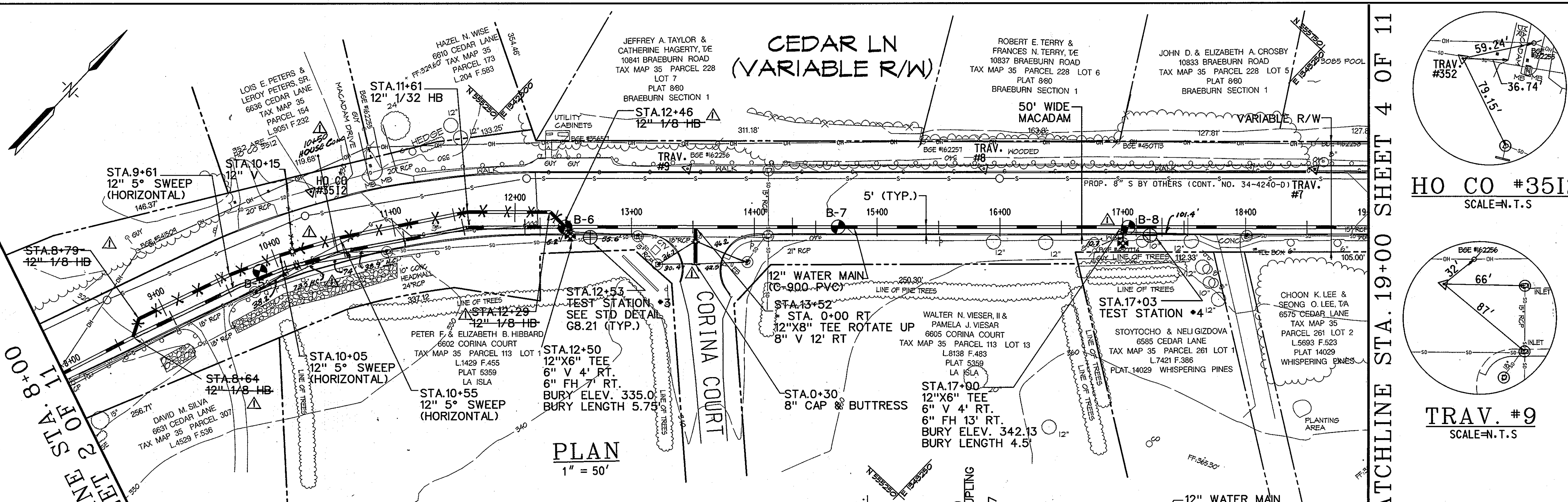
600' SCALE MAP NO. 35 BLOCK NO. 17

CEDAR LANE
12" WATER MAIN
PLAN AND PROFILE

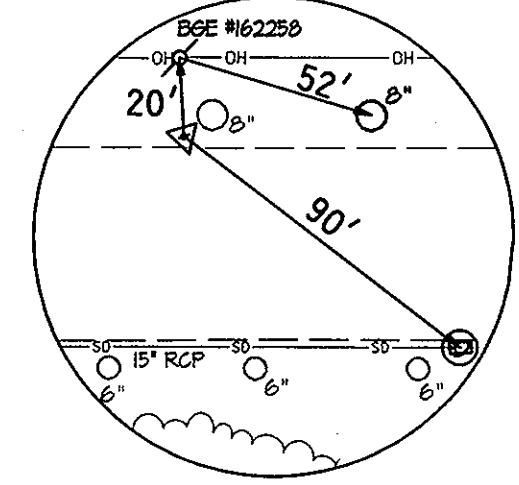
CEDAR LANE WATER MAIN
CAPITAL PROJECT No. W-8273
CONTRACT No. 44-4566

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

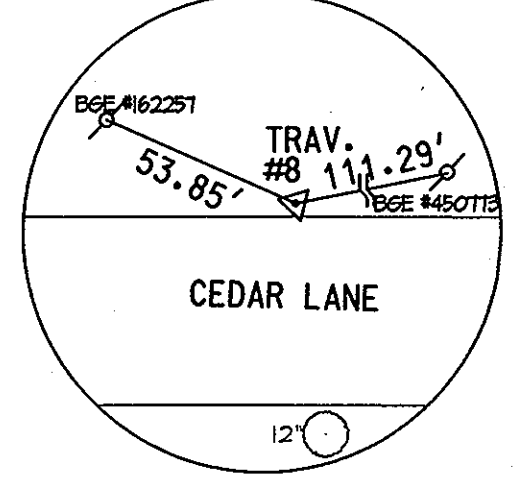
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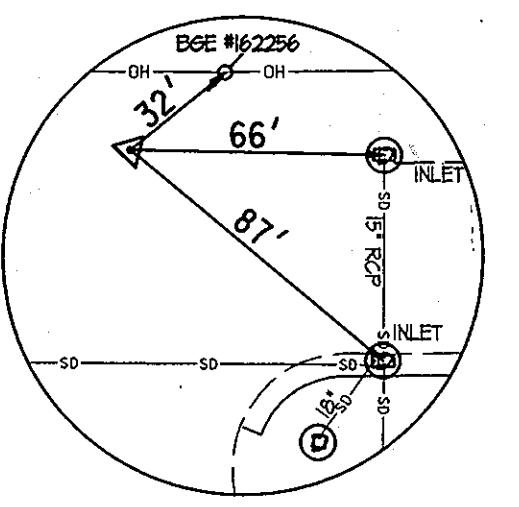
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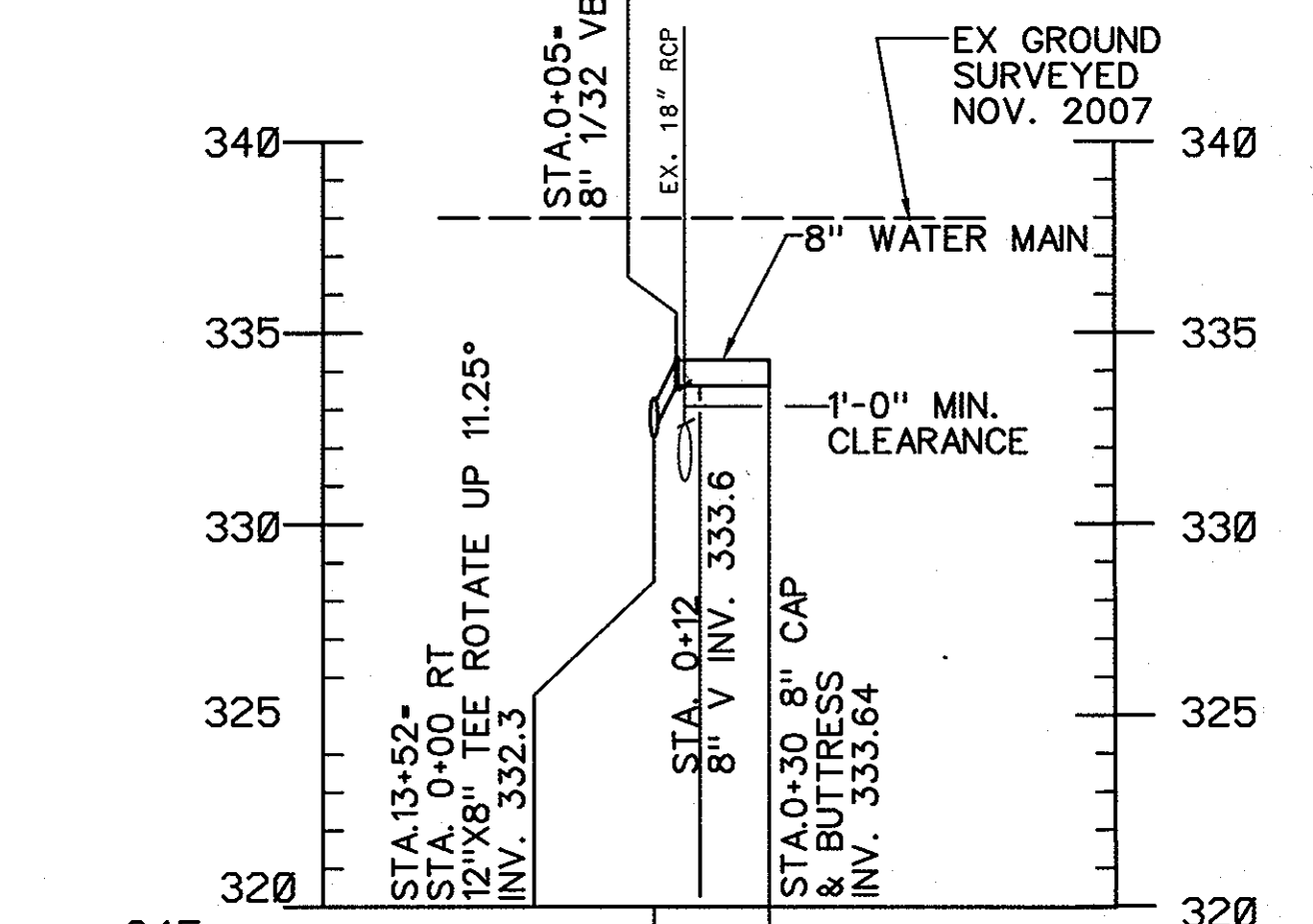
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TRAV. #8
SCALE=N.T.S

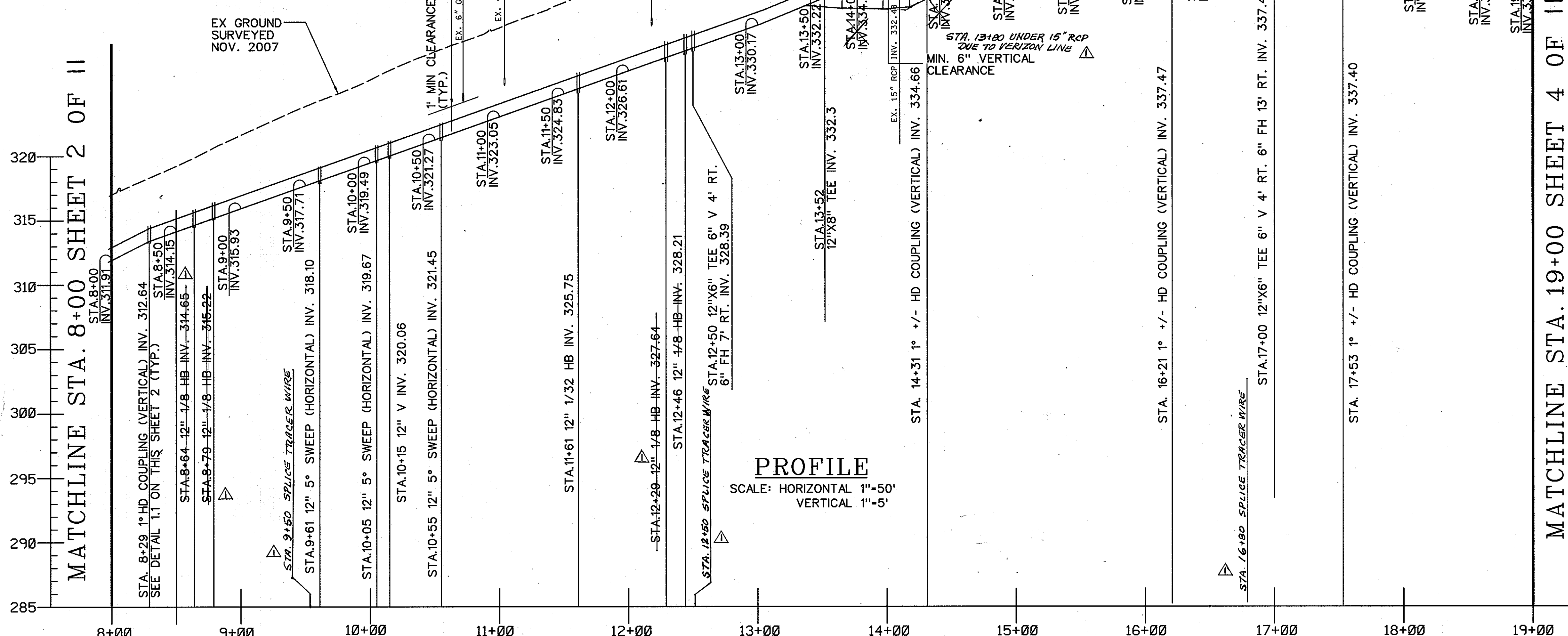


TRAV. #9
SCALE=N.T.S



TRAVERSE COORDINATE SCHEDULE				
NUMBER	DESCRIPTION	NORTHING	EASTING	ELEVATION
HO CO #3512	BENCH MARK	555100.82	1342733.03	329.78
TRAV.#7	X-CUT	555675.78	1343313.51	341.08
TRAV.#8	X-CUT	555490.85	1343117.68	342.13
TRAV.#9	X-CUT	555324.85	1342942.46	338.06

WATER MAIN STAKEOUT COORDINATE SCHEDULE				
STATION	FITTING	NORTHING	EASTING	
8+29	1" +/- HD COUPLING (VERTICAL)	554881.77	1342697.92	
8+64	12" 1/8 HB	554914.64	1342709.29	
8+79	12" 1/8 HB	554928.72	1342702.46	
9+61	12" 5" SWEEP (HORIZONTAL)	555005.30	1342731.46	
10+05	12" 5" SWEEP (HORIZONTAL)	555045.35	1342750.20	
10+15	12" V	555054.44	1342755.44	
10+55	12" 5" SWEEP (HORIZONTAL)	555089.36	1342775.70	
11+61	12" 1/32 HB	555175.87	1342836.48	
12+29	12" 1/8 HB	555222.42	1342885.69	
12+46	12" 1/8 HB	555221.94	1342902.80	
12+50	12" X6" TEE	555224.67	1342905.69	
13+52	12" X8" TEE	555294.77	1342979.79	
13+52	8" 1/32 VB	555291.22	1342983.32	
13+52	8" V	555286.16	1342988.12	
13+52	8" CAP & BUTTRESS	555272.50	1343001.08	
14+09	3" +/- HD COUPLING (VERTICAL)	555333.94	1343021.20	
14+31	1" +/- HD COUPLING (VERTICAL)	555349.06	1343037.18	
16+21	1" +/- HD COUPLING (VERTICAL)	555479.62	1343175.22	
17+00	12" X6" TEE	555533.92	1343232.62	
17+53	1" +/- HD COUPLING (VERTICAL)	555570.33	1343271.11	



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

PROFESSIONAL CERTIFICATION.
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BY: Chandler, Kaito Division: 0102 Environmental Engineering
FILE: M:\2007\09\27\2007\Howard County, MD\0220.dgn

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 7/1/08
DIRECTOR OF PUBLIC WORKS DATE

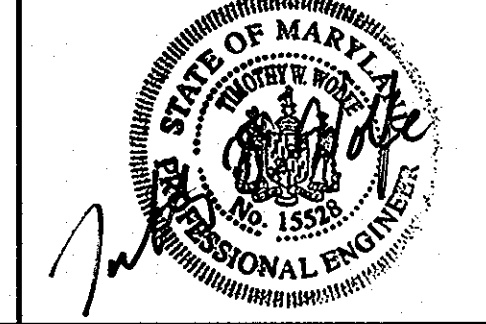
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DES: GW			
DRN: CK			
CHK: TW			
DATE: LFN	AS BUILT	8-27-09	
DEC. 07	BY NO.	REVISION	DATE

CEDAR LANE
12" WATER MAIN
PLAN AND PROFILE

600' SCALE MAP NO. 35
BLOCK NO. 17

CEDAR LANE WATER MAIN
CAPITAL PROJECT No. W-8273
CONTRACT No. 44-4566

ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

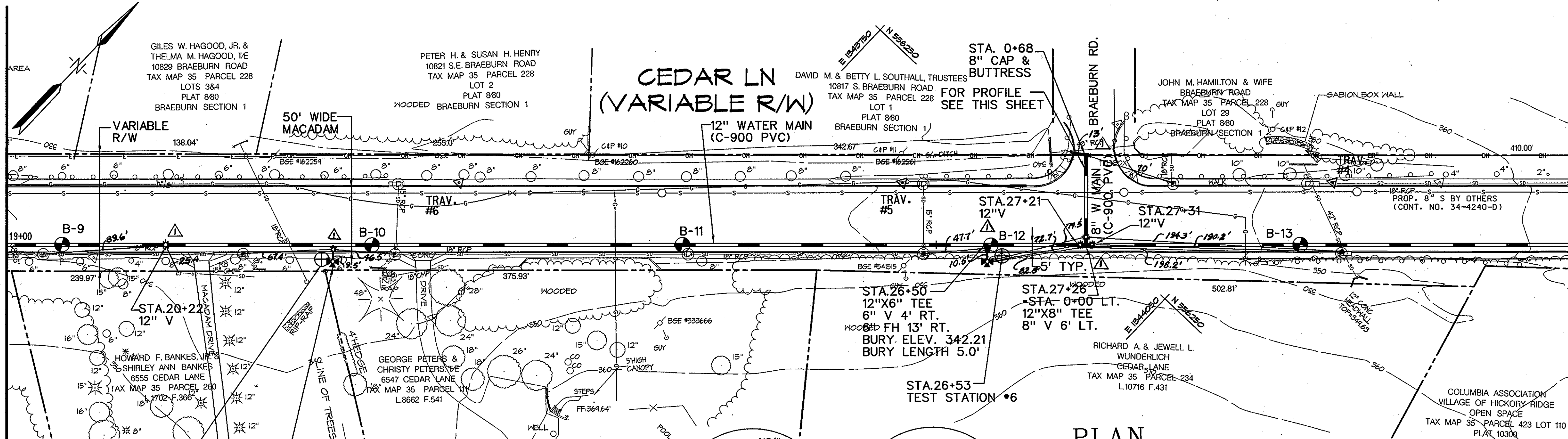
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SHEET 3 OF 11

MATCHLINE STA. 19+00 SHEET 3 OF 11

MATCHLINE STA. 19+00 SHEET 3 OF 11

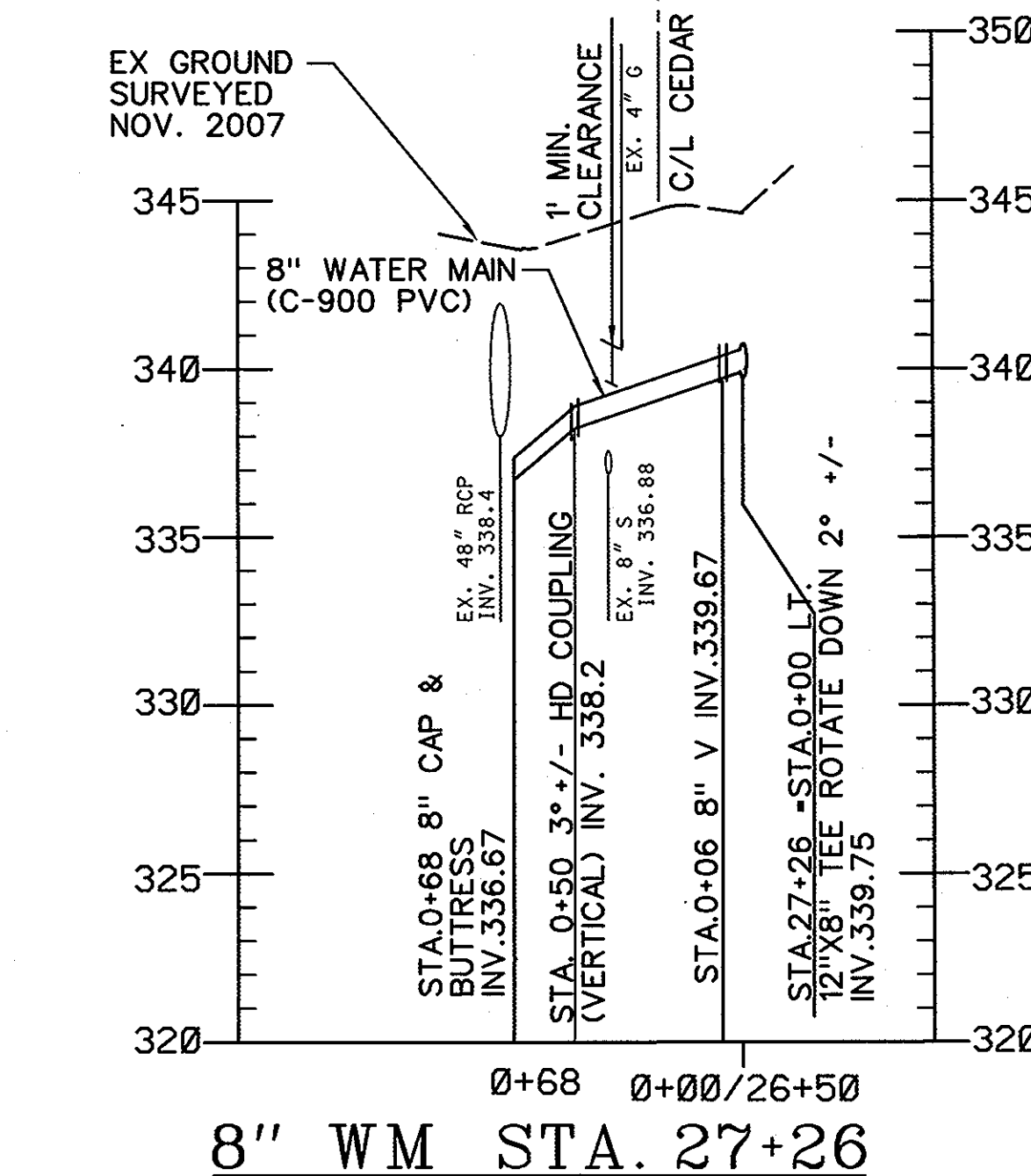
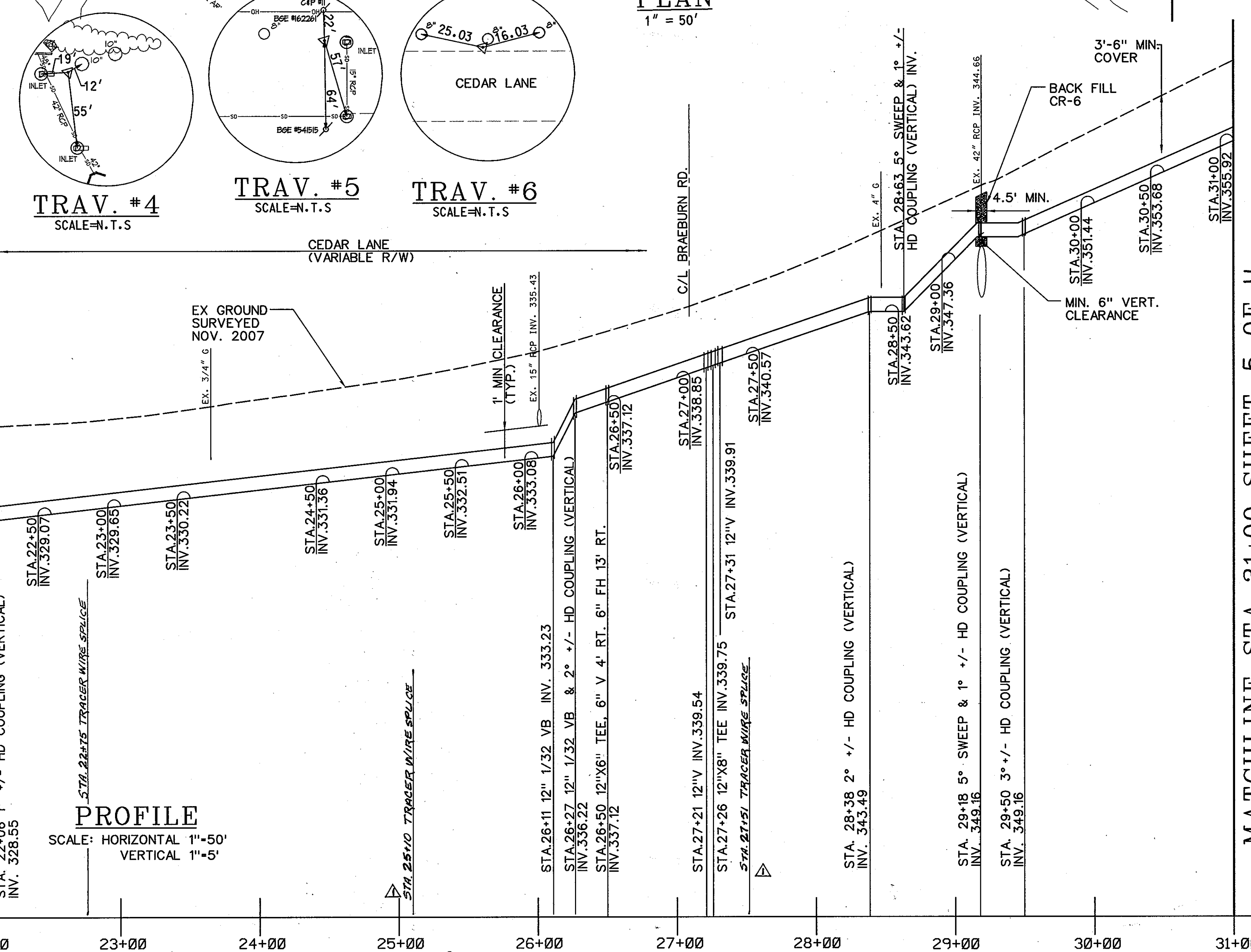
MATCHLINE STA. 31+00 SHEET 5 OF 11

MATCHLINE STA. 31+00 SHEET 5 OF 11



WATER MAIN STAKEOUT COORDINATE SCHEDULE

STATION	FITTING	NORTHING	EASTING
20+22	12" V	555755.09	1343466.36
21+50	12"X6" TEE	555843.14	1343559.52
21+88	1° +/- HD COUPLING (VERTICAL)	555869.25	1343587.13
22+06	1° +/- HD COUPLING (VERTICAL)	555881.62	1343600.20
26+11	12" 1/32 VB	556159.93	1343894.43
26+27	12" 1/32 VB	556170.92	1343906.05
26+50	12"X6" TEE	556186.75	1343922.79
27+21	12" V	556235.67	1343474.57
27+26	12"X8" TEE	556238.73	1343977.74
27+26 = 6' LT.	8" V	556243.00	1343973.46
27+26 = 50' LT.	3° +/- HD COUPLING (VERTICAL)	556275.06	1343943.38
27+26 = 68' LT.	8" CAP & BUTTRESS	556288.82	1343930.37
27+31	12" V	556241.87	1343981.11
28+38	2° +/- HD COUPLING (VERTICAL)	556315.92	1344059.34
28+63	5° SWEEP & 1° +/- HD COUPLING (VERTICAL)	556333.10	1344077.50
29+18	5° SWEEP & 1° +/- HD COUPLING (VERTICAL)	556370.90	1344117.46
29+50	3° +/- HD COUPLING (VERTICAL)	556392.89	1344140.71



PLOTTED: 08:54 AM on Monday, June 23, 2008
BY: Chandler, Kenton Division: CID2 Environmental Engineering
FILE: W-8273-00-19-27-26-00.dwg

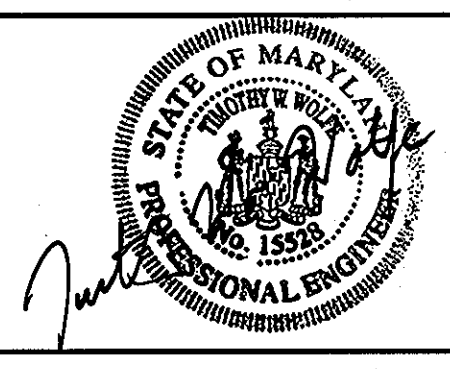
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

7/1/08
7-1-08

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI TECHNOLOGIES

10 North Park Drive
Hunt Valley, MD 21030
Phone: (410) 316-7800
Fax: (410) 316-7817
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DES: GW	
DRN: CK	
CHK: TW	
DATE: 8-27-09	
DEC: 07	

CEAR LN
12" WATER MAIN
PLAN AND PROFILE

600' SCALE MAP NO. 35 BLOCK NO. 17

CEAR LN WATER MAIN
CAPITAL PROJECT No. W-8273
CONTRACT No. 44-4566

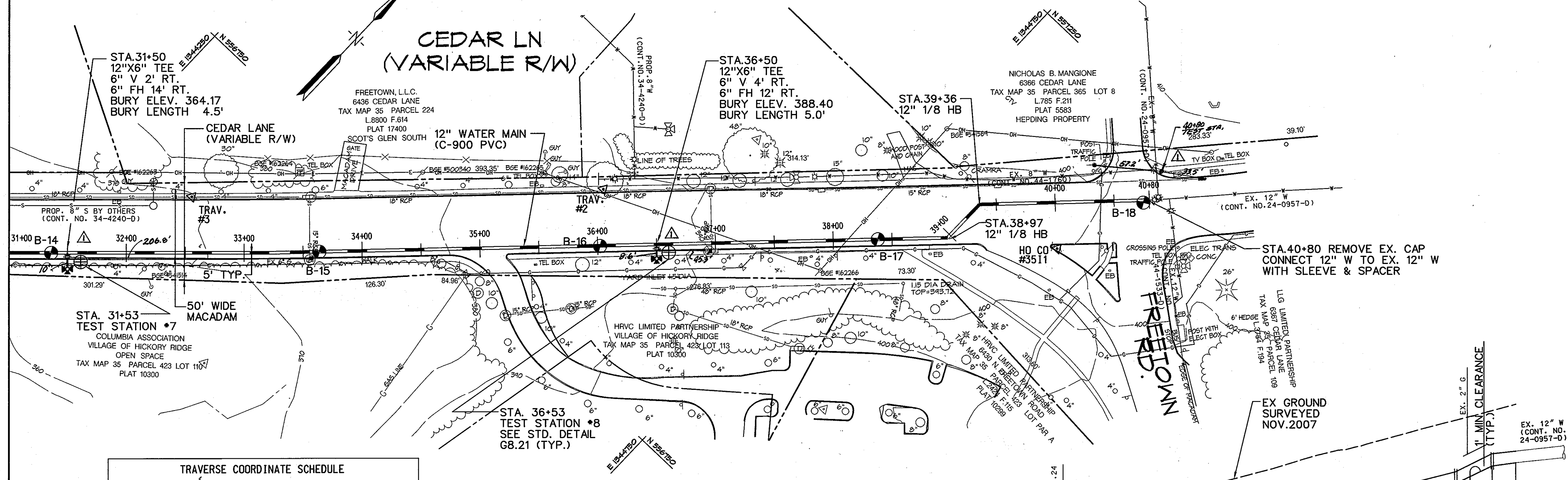
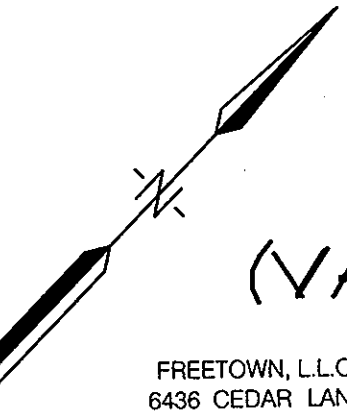
ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN SHEET 4 OF 11

AS-BUILT
DATE: 8-27-09
EXPIRATION DATE: 9/12/09

MATCHLINE STA. 31+00 SHEET 4 OF 11

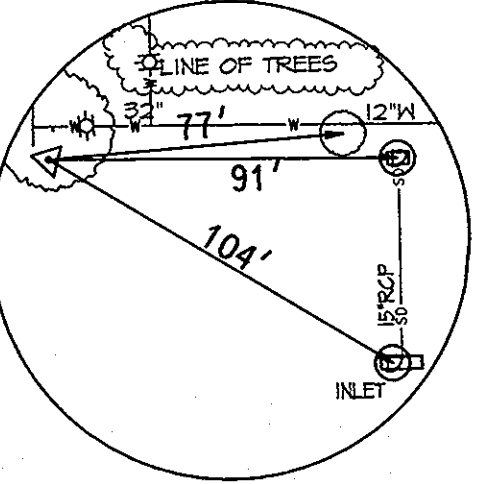
**CEDAR LN
(VARIABLE R/W)**



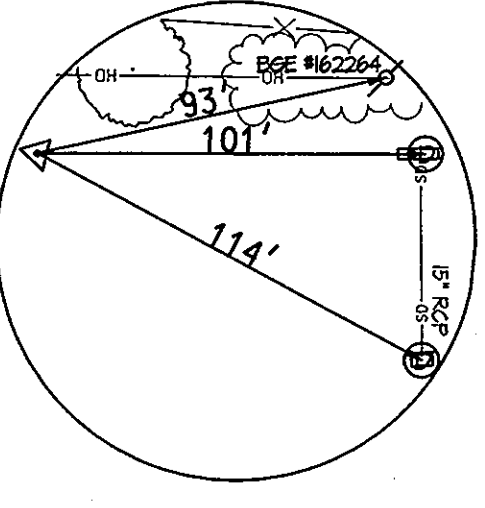
WATER MAIN STAKEOUT COORDINATE SCHEDULE			
STATION	FITTING	NORTHING	EASTING
31+50	12"X6" TEE	556530.32	1344286.00
31+60	1° +/- HD COUPLING (VERTICAL)	556537.20	1344293.27
33+27	3° +/- HD COUPLING (VERTICAL)	556652.05	1344414.50
33+53	5° SWEEP (VERTICAL)	556670.33	1344433.00
33+77	3° +/- HD COUPLING (VERTICAL)	556687.21	1344450.00
36+35	3° +/- HD COUPLING (VERTICAL)	556868.59	1344633.53
36+50	12"X6" TEE	556879.17	1344644.16
37+06	12" 1/8 VB	556918.59	1344683.94
37+10	12" 1/8 VB & 1° +/- HD COUPLING (VERTICAL)	556921.41	1344686.78
38+97	12" 1/8 HB	557053.15	1344819.73
39+36	12" 1/8 HB	557092.42	1344819.91
40+29	1° +/- HD COUPLING (VERTICAL)	557158.22	1344885.90
40+60	2° +/- HD COUPLING (VERTICAL)	557180.10	1344907.85

TRAVERSE COORDINATE SCHEDULE				
NUMBER	DESCRIPTION	NORTHING	EASTING	ELEVATION
TRAV.#2	X-CUT	556882.37	1344578.93	387.01
TRAV.#3	X-CUT	556637.57	1344329.85	369.81
HO CO #3511	BENCH MARK	557110.40	1344893.65	400.07

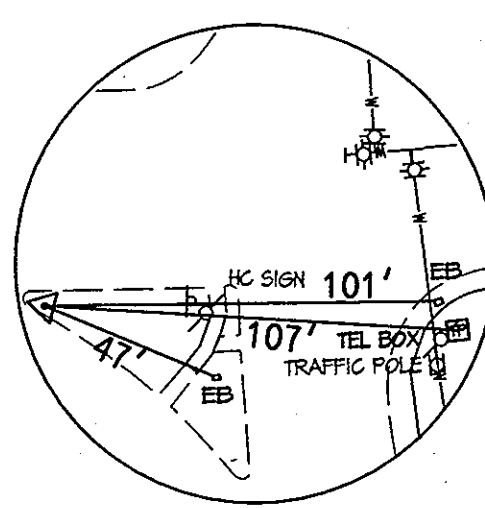
PLAN
1" = 50'



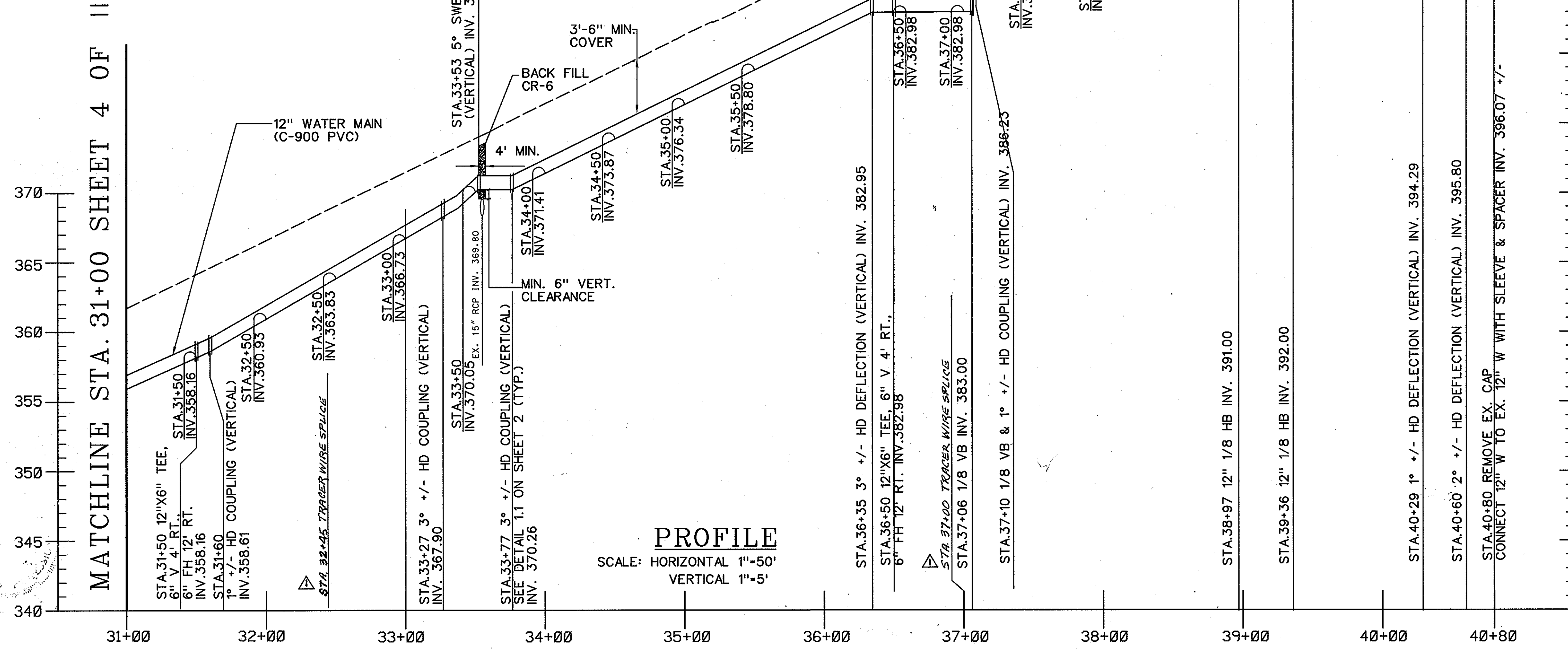
TRAV. #2
SCALE=N.T.S



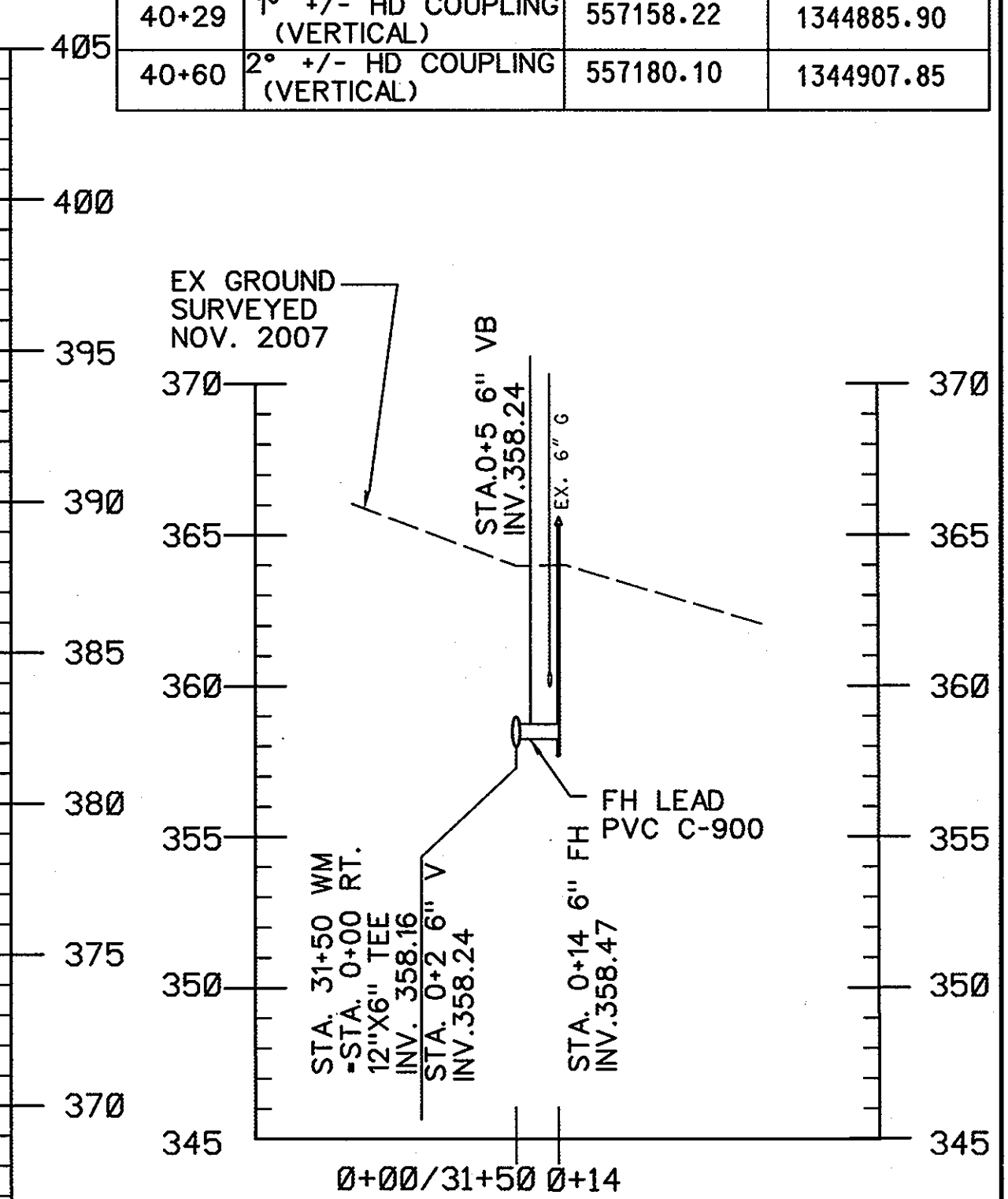
TRAV. #3
SCALE=N.T.S



HO CO. #3511
SCALE=N.T.S



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



FH STA. 31+50

STA. 31+50 WM - STA. 0+00 RT.
SCALE: HORIZONTAL 1"=50'
VERTICAL 1"=5'

AS-BUILT
DATE 6-27-09

PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND
LICENSE NO. 15528
EXPIRATION DATE: 9/12/09

PLOTTED: 08:55 AM on Monday, June 23, 2009
BY: Chandler, Kenio Division: 0102 Environmental/Engineering
FILE: J:\HW\2009\1002\1002\1002\1002\1002.dwg

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Jan d 7/1/09
DIRECTOR OF PUBLIC WORKS

Paul R. Spurgeon 7/1/09
CHIEF, BUREAU OF ENGINEERING

Steve G. Smith 7-1-08
BUREAU OF UTILITIES

PSD CHIEF, UTILITY DESIGN DIVISION

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HART VILLAGE, MD 21030
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DRN: CK			
CHK: TW			
DATE:	LFN	AS BUILT	
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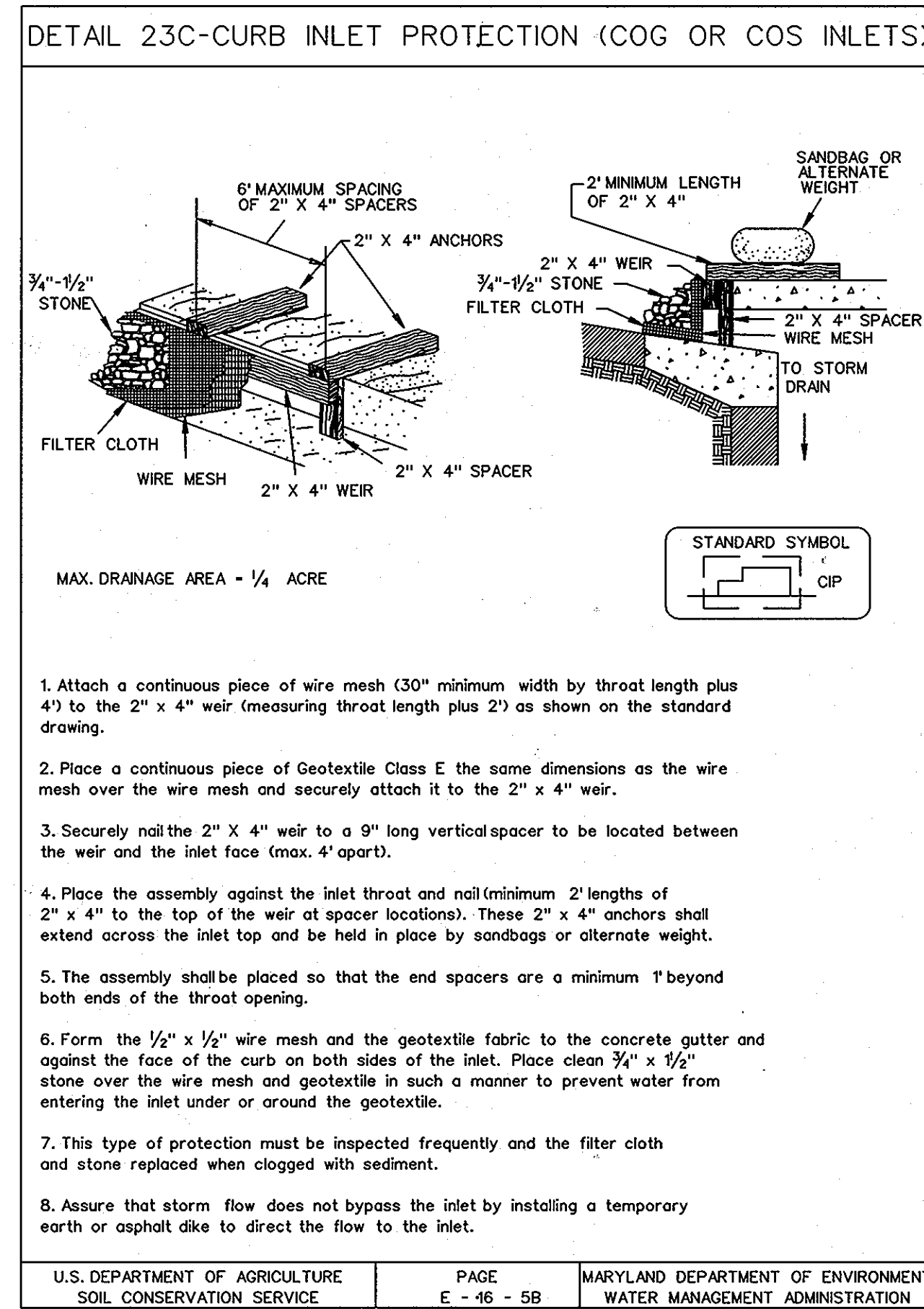
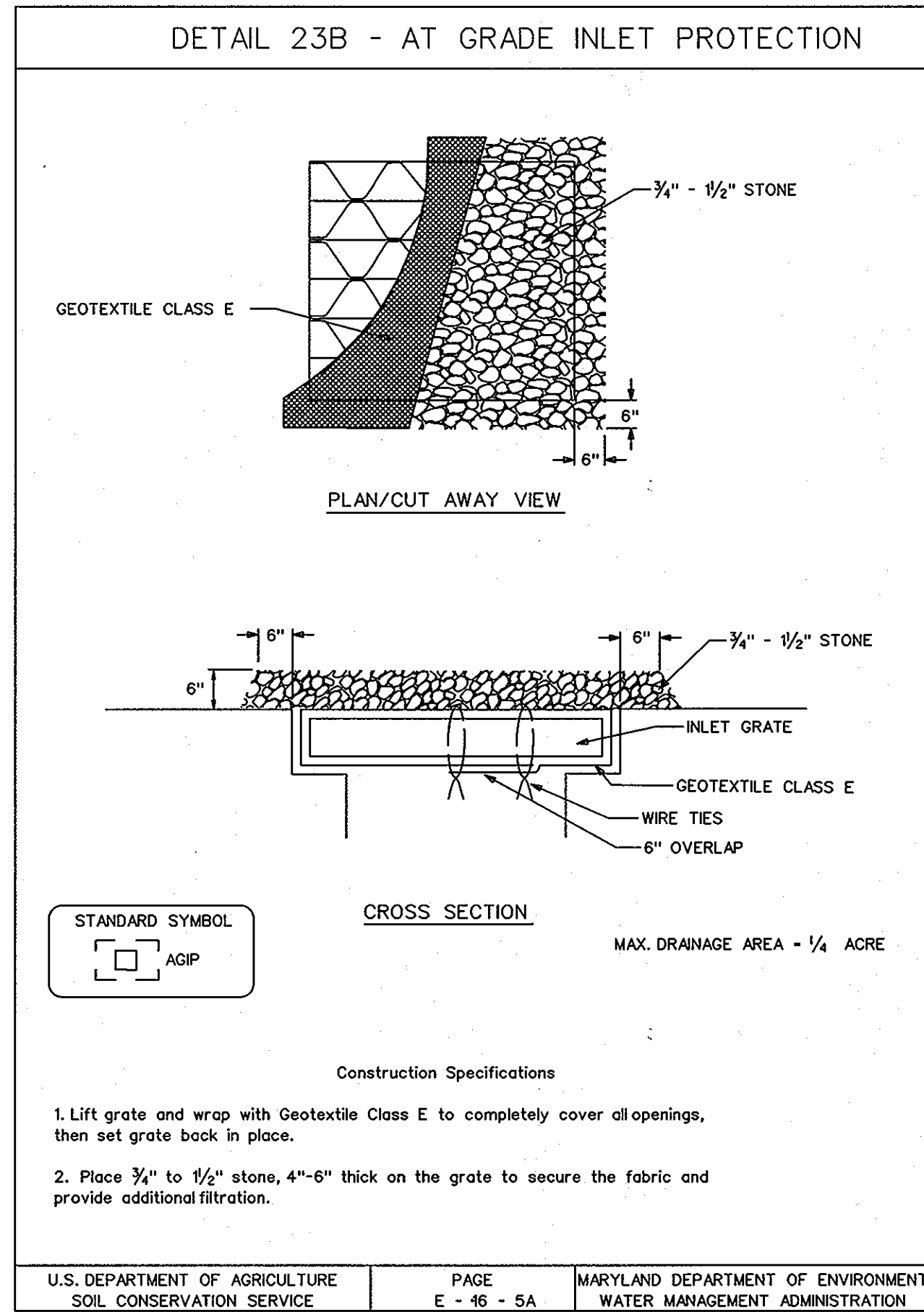
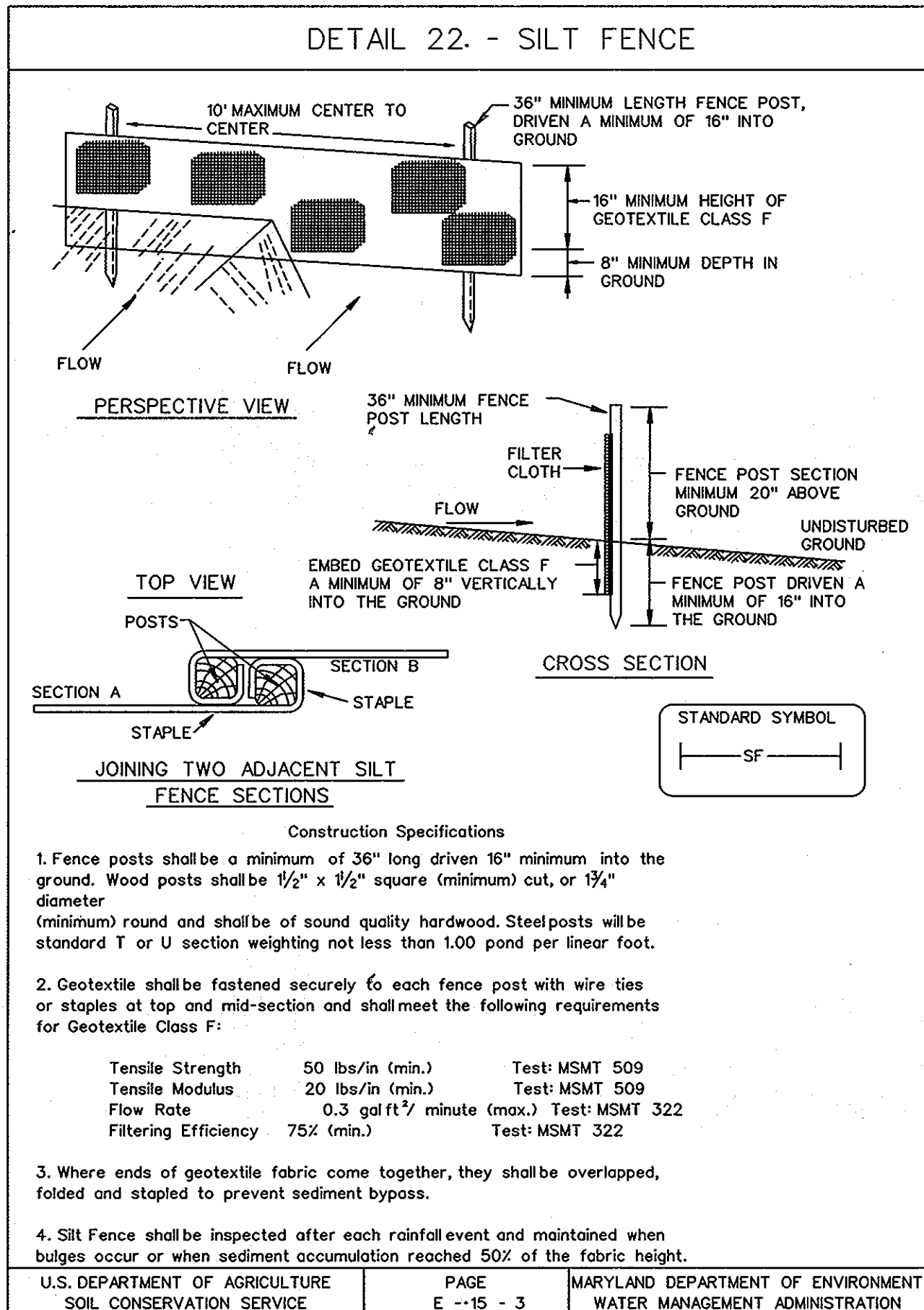
**CEDAR LANE
12" WATER MAIN
PLAN AND PROFILE**

CEDAR LANE WATER MAIN

CAPITAL PROJECT No. W-8273
CONTRACT No. 44-4566

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 5 OF 11



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. G20.0) FOR PERMANENT SEEDINGS, SOIL 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	0.2 ACRES	
AREA DISTURBED	0.2 ACRES	
AREA TO BE ROOFED OR PAVED		0.18 ACRES
AREA TO BE VEGETATIVELY STABILIZED		0.02 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.

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT.
- 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)

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.

DEVELOPER'S CERTIFICATION

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

Paul J. Soren 7/1/08
BUREAU OF ENGINEERING
DEPARTMENT OF PUBLIC WORKS
DATE

ENGINEER'S CERTIFICATION

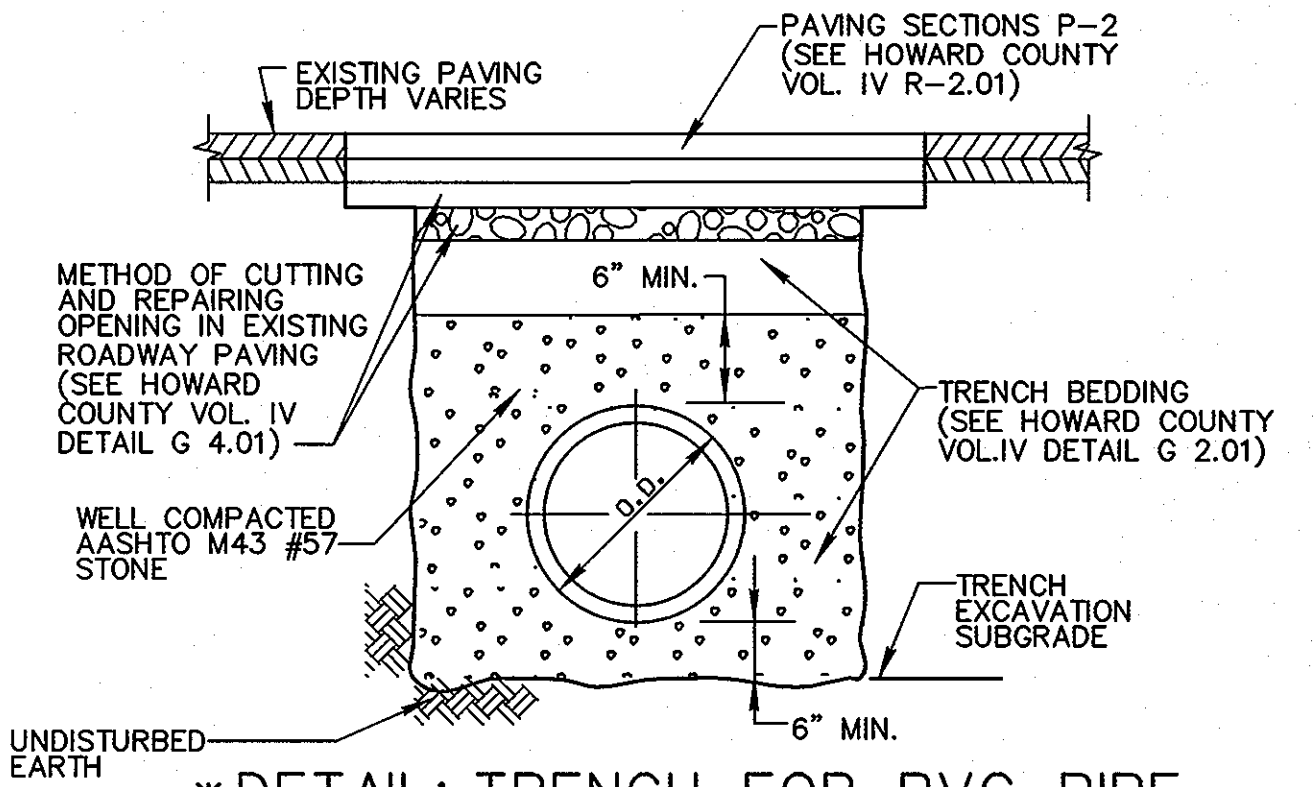
I/WE CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Timothy W. Wolfe 6/23/09
TIMOTHY W. WOLFE
KCI TECHNOLOGIES
10 NORTH PARK DRIVE
HUNT VALLEY, MARYLAND 21030
DATE

AS-BUILT
DATE 8-27-09

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

John K. Blanton 7/9/08
APPROVED DATE
HOWARD S.C.D.



PLOTED: 0855 AM on Monday, June 23, 2008
By: C. Chandra, District Director, Division 0102 Environmental Engineering
File: H:\031\031001\031001.dwg, User: C. Chandra, Plot: 031001.dwg

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Paul J. Soren 7/1/08
DIRECTOR OF PUBLIC WORKS
DATE

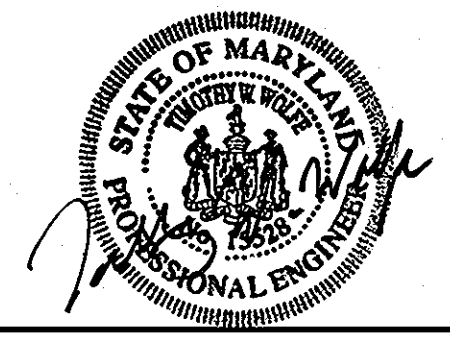
John Soren 7-1-08
CHIEF, BUREAU OF ENGINEERING
DATE

John Soren 7/1/08
CHIEF, UTILITY DESIGN DIVISION
DATE

ENGINEERS
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SCIENTISTS
CONSTRUCTION MANAGERS

KCI
TECHNOLOGIES

10 NORTH PARK DRIVE
HUNT VALLEY, MD 21030
PHONE: (410) 316-7800
FAX: (410) 316-7817
WWW.KCI.COM



DES: GW					
DRN: CK					
CHK: TW					
DATE: DEC. 07	BY	NO.	REVISION	DATE	600' SCALE MAP NO. 35

**EROSION AND
SEDIMENT CONTROL
NOTES AND DETAILS**

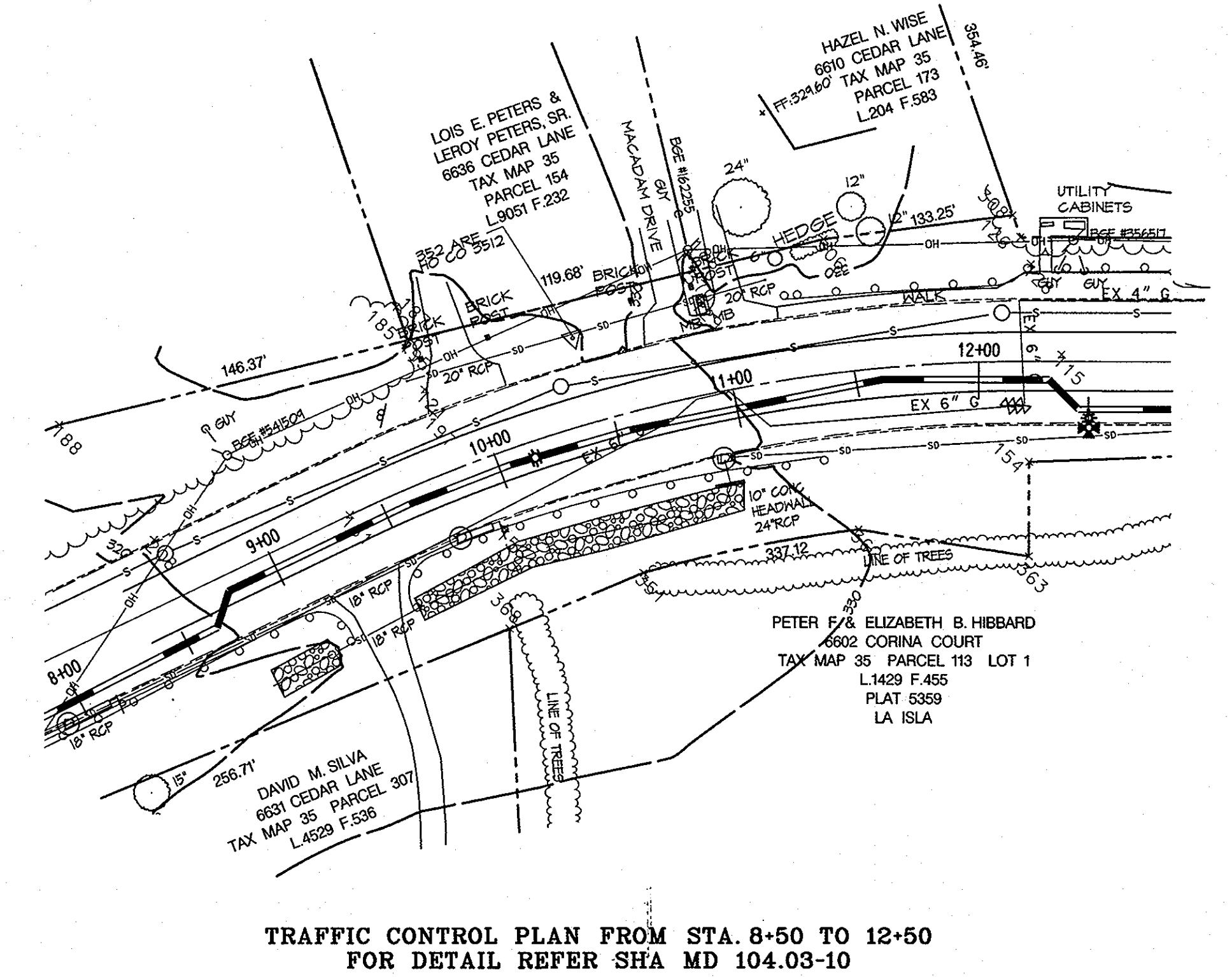
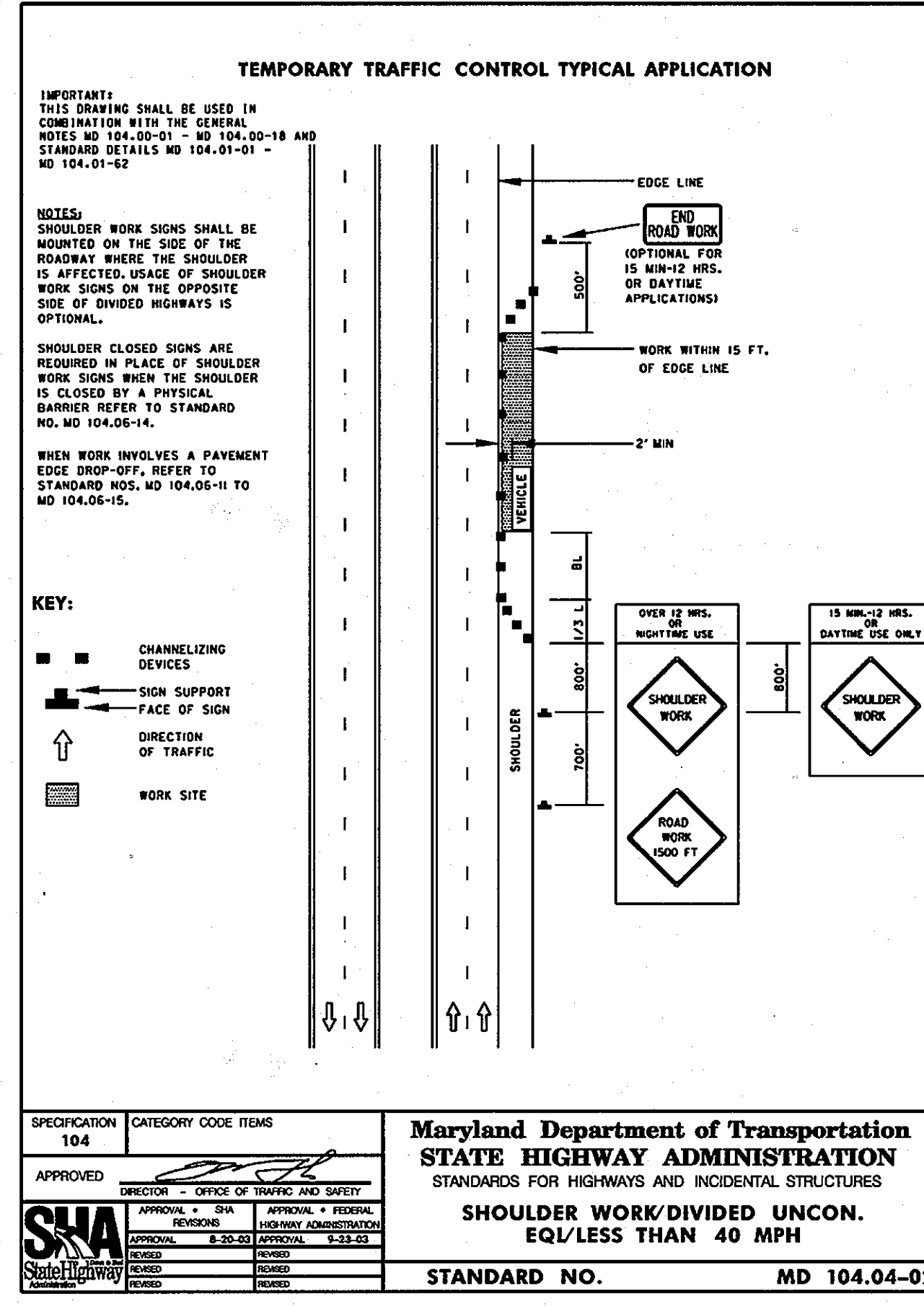
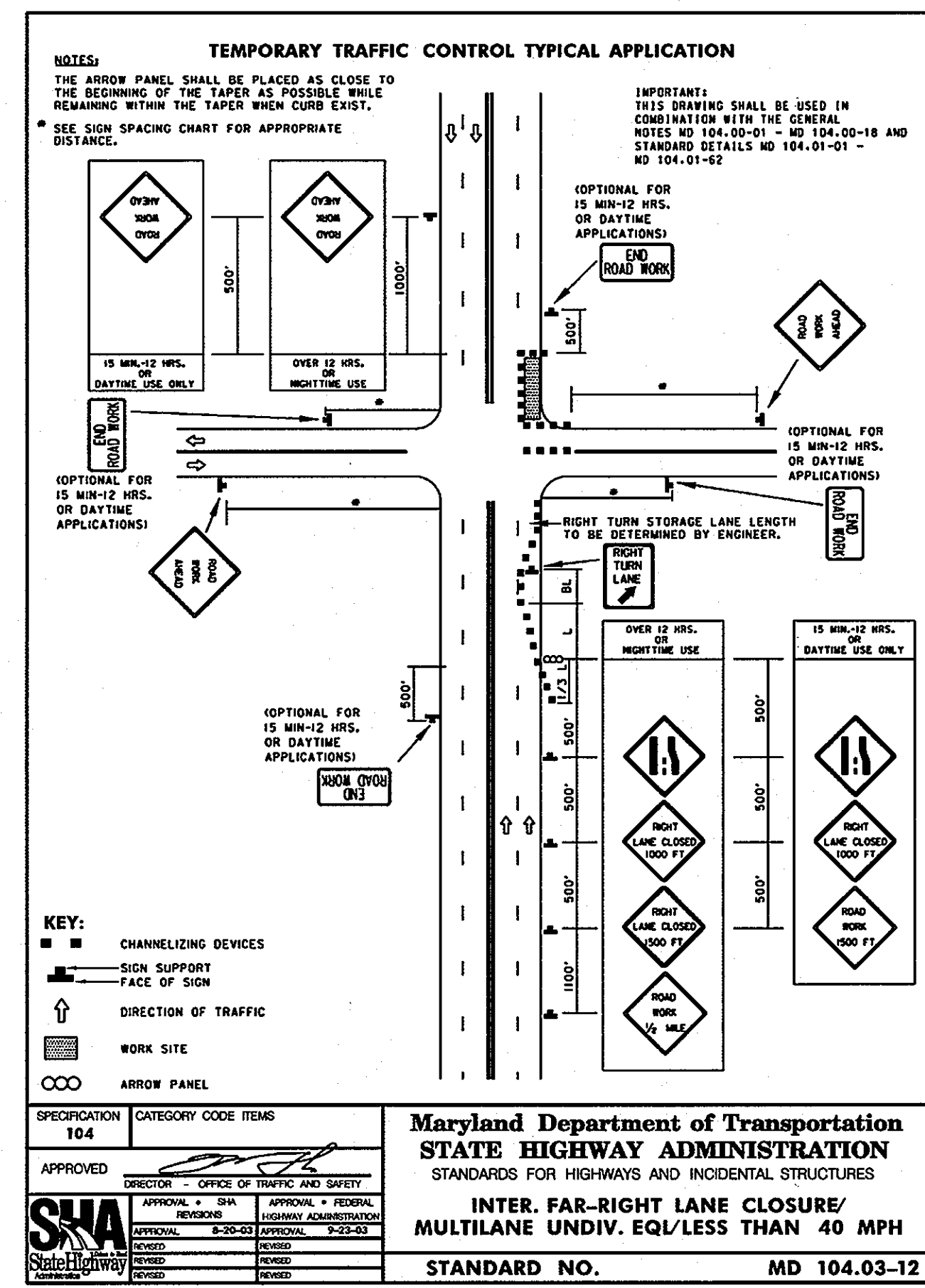
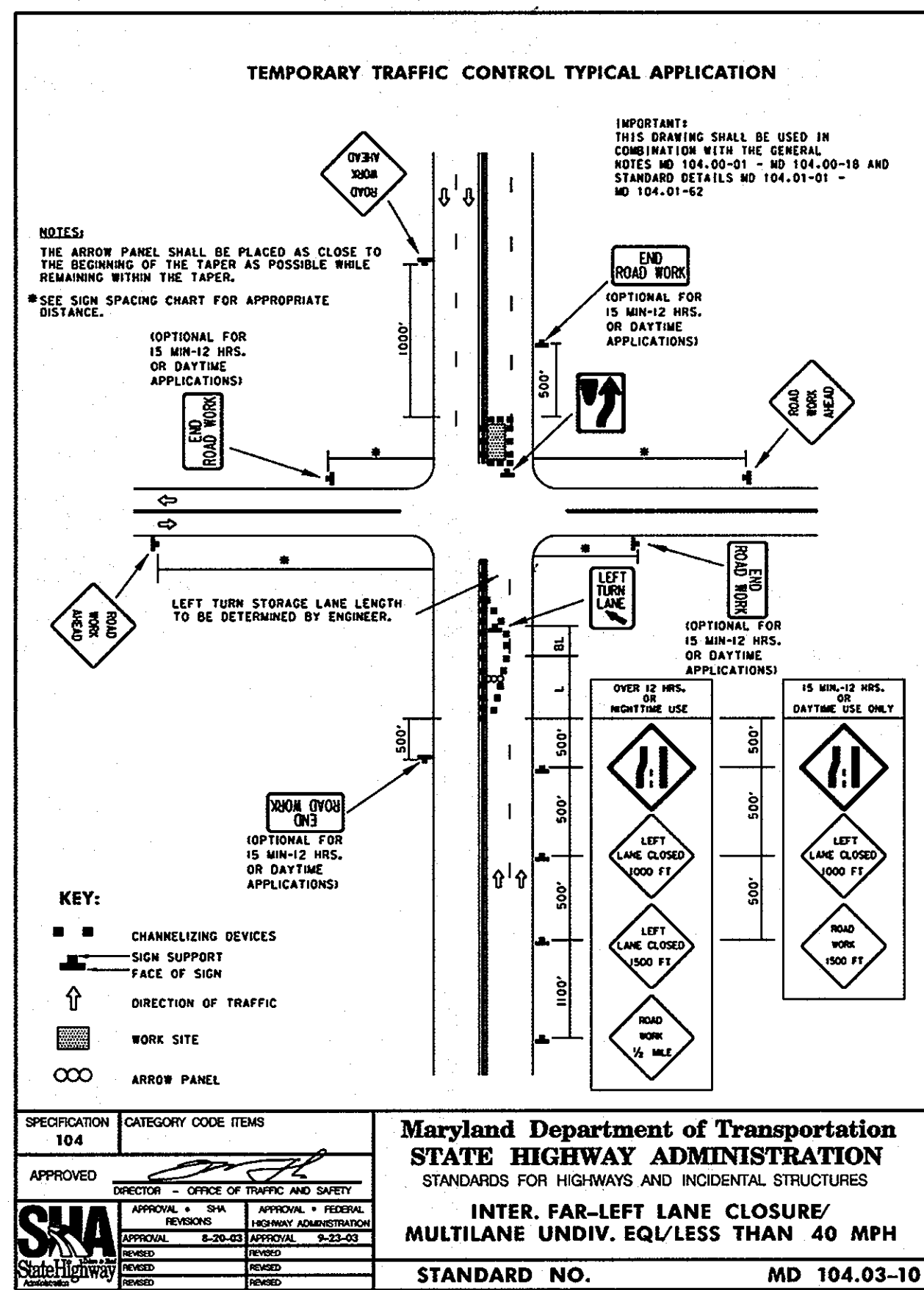
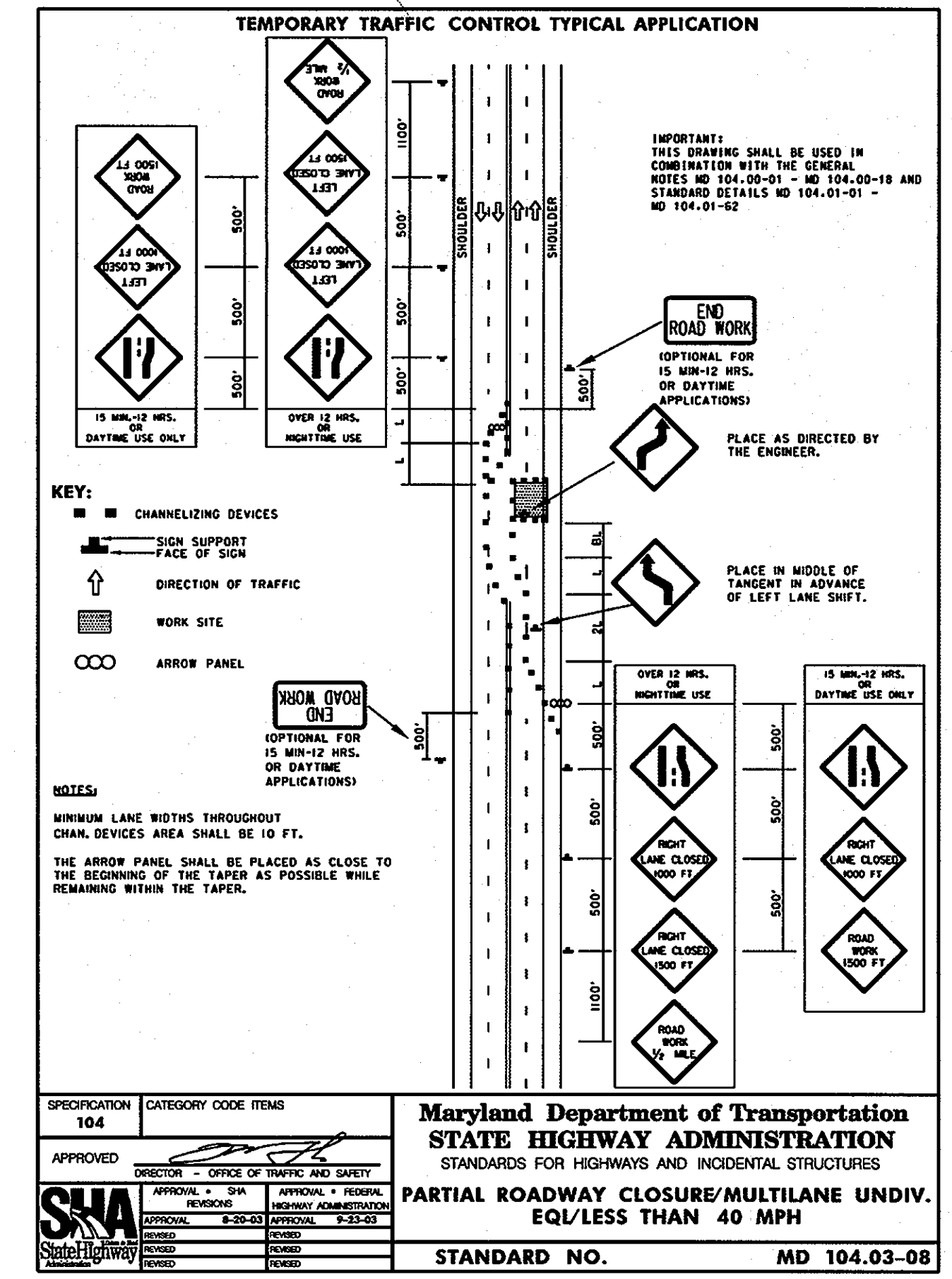
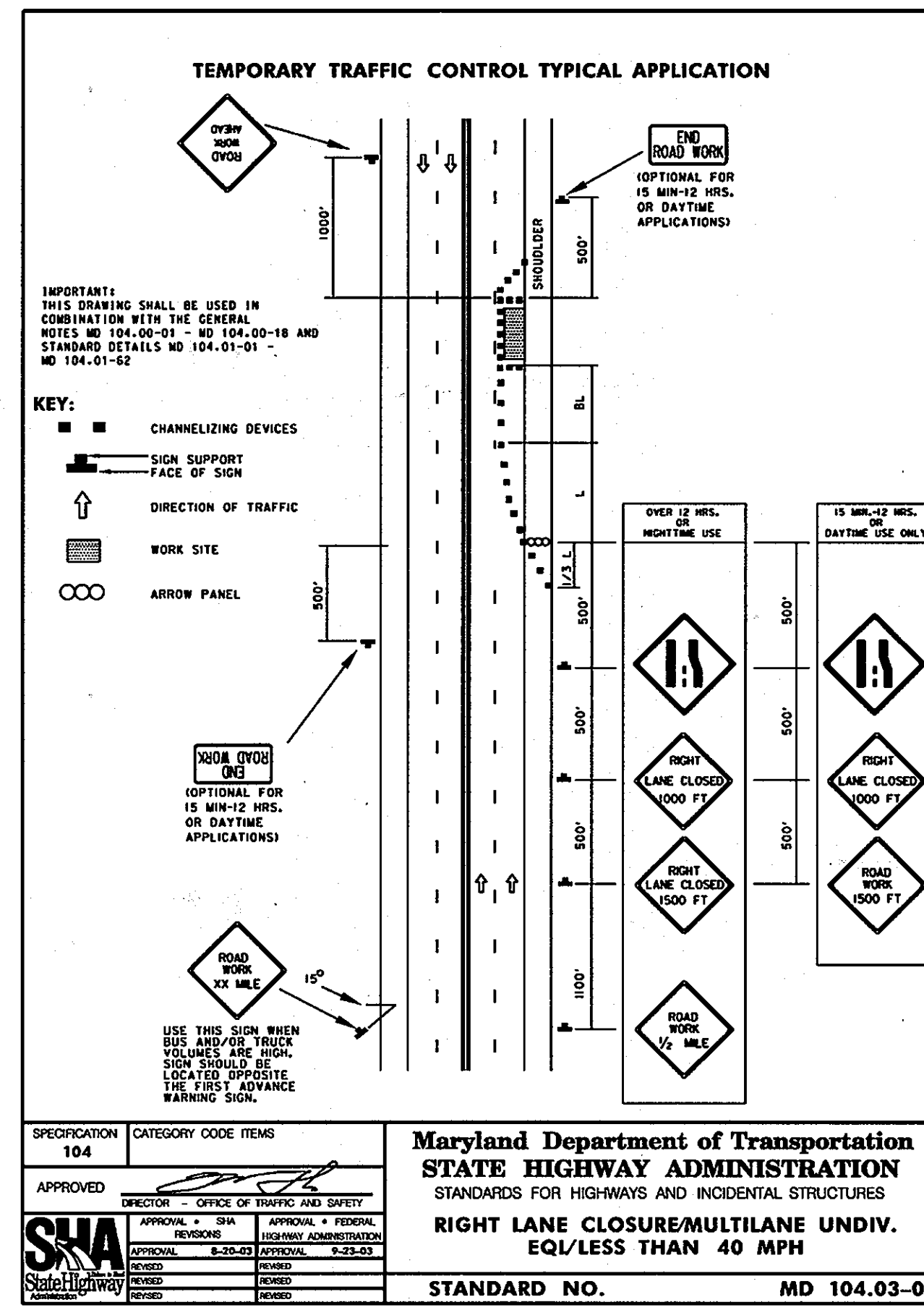
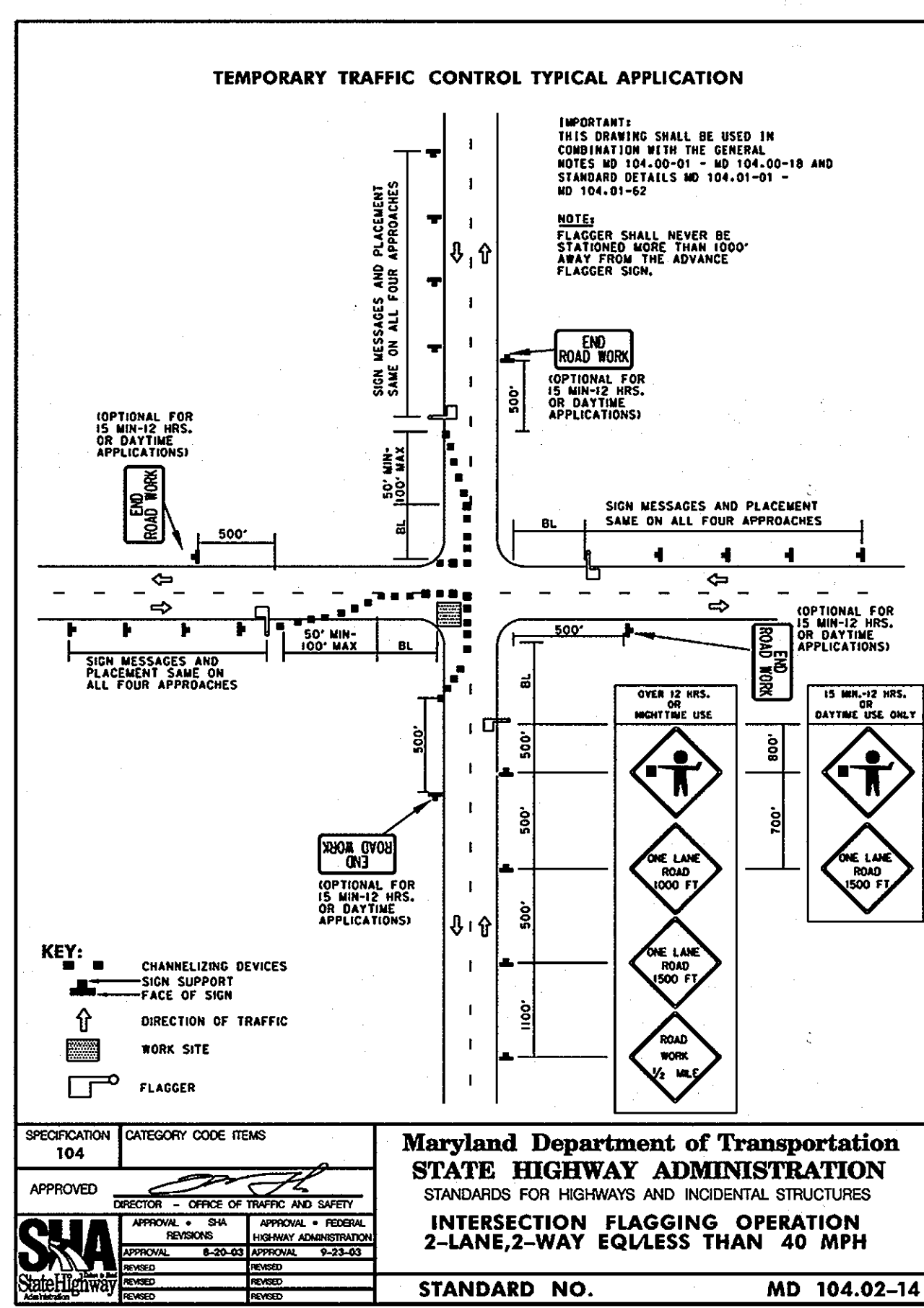
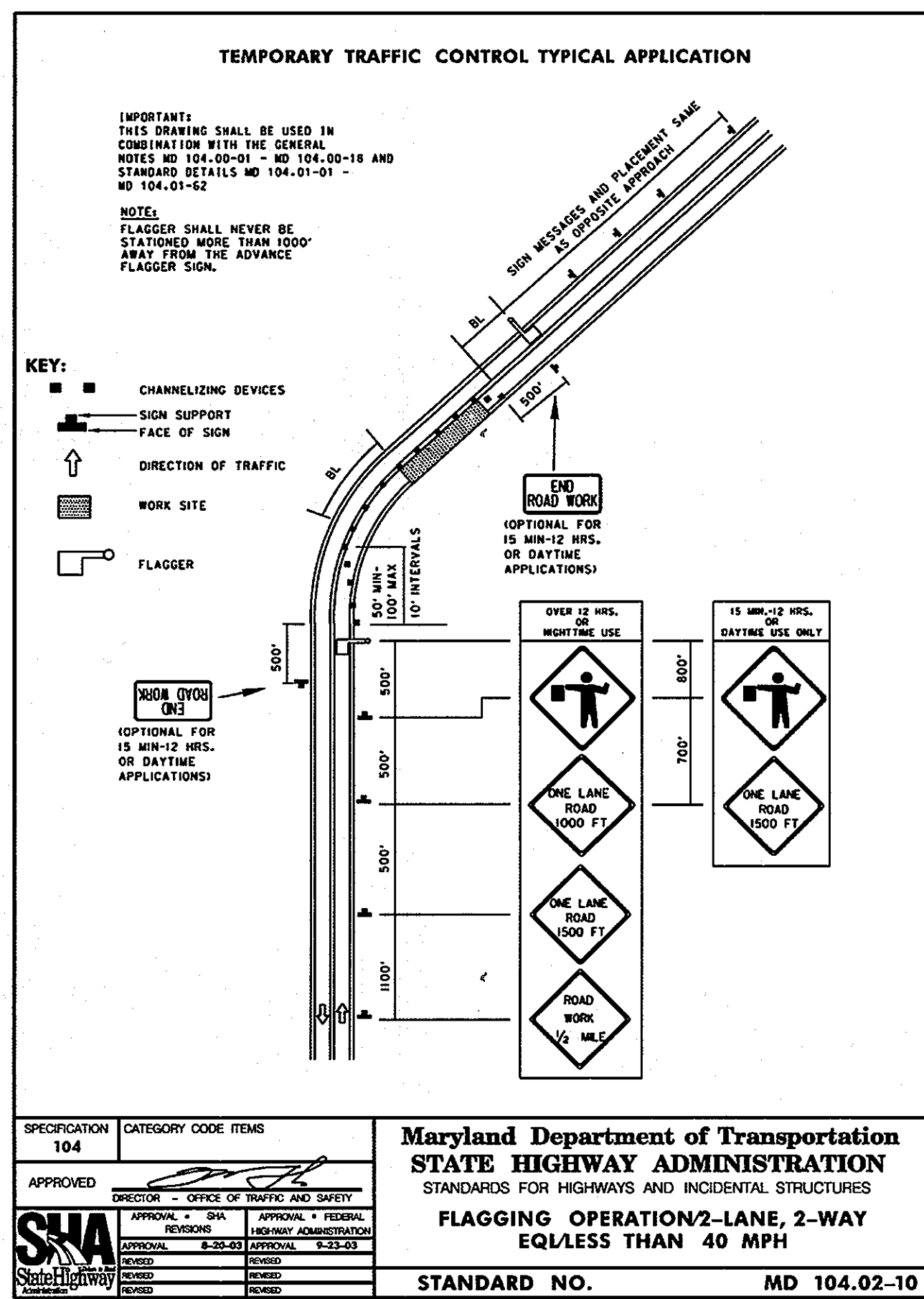
CEDAR LANE WATER MAIN

CAPITAL PROJECT No. W-8273
CONTRACT No. 44-4566

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE
AS SHOWN

SHEET
6 OF 11



AS-BUILT
DATE 8-27-09

PLOTTED: 09:56 AM on Monday, June 23, 2008
File Name: C:\Users\jgibson\Documents\104.03-10.dwg
Plot Device: HP DesignJet 5000 Series

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 7/1/08
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 7-1-08
CHIEF OF UTILITY DESIGN DIVISION DATE

KCI TECHNOLOGIES

ENGINEERS
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DES: GW					
DRN: CK					
CHK: TW					
DATE: DEC. 07					
BY NO.		REVISION		DATE	

CEDAR LANE
12" WATER MAIN
TRAFFIC CONTROL

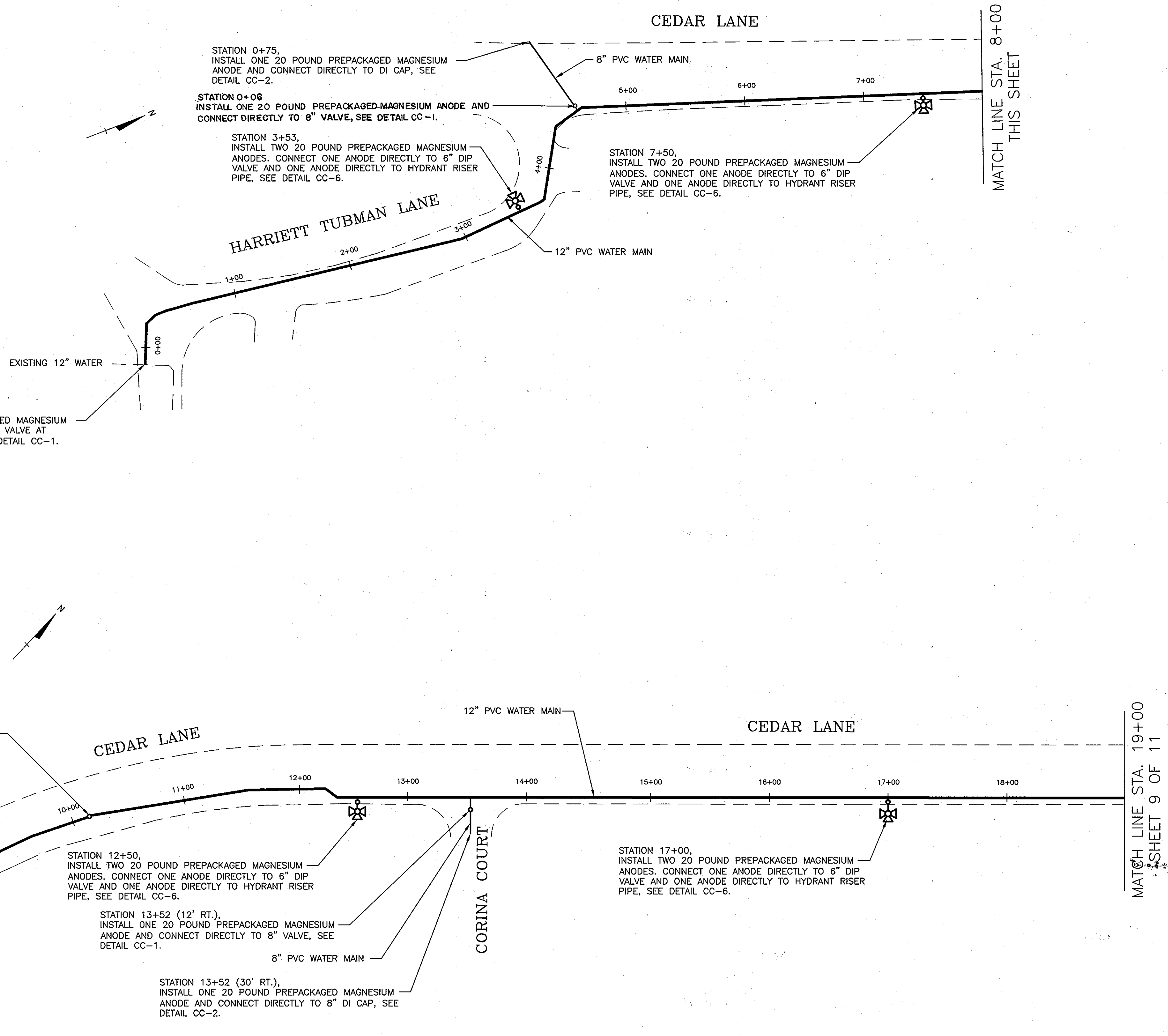
600' SCALE MAP NO. 35
BLOCK NO. 17

CEDAR LANE WATER MAIN

CAPITAL PROJECT No. W-8273
CONTRACT No. 44-4566

ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 7 OF 11



- 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 (DUCTILE IRON TEES AND ELBOWS NOT SHOWN ON THIS DRAWING), SEE DETAIL CC-2.
 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-3. RESTRAINED JOINT PIPE NOT SHOWN ON THIS DRAWING.
 3. ALL IN-LINE THRUST BLOCKS SHALL HAVE ONE 20 POUND PREPACKAGED MAGNESIUM ANODE CONNECTED TO THE RESTRAINING HARNESS, SEE DETAIL CC-7. IN-LINE THRUST BLOCKS NOT SHOWN ON THIS DRAWING.
 4. ALL WATER SERVICE OR AIR RELEASE PIPING CONNECTIONS UTILIZING METALLIC SERVICE SADDLES SHALL HAVE ONE 12 POUND PREPACKAGED ZINC ANODE CONNECTED TO THE SERVICE SADDLE (SEE DETAIL CC-4), AND AN INSULATING CORPORATION INSTALLED TO ELECTRICALLY ISOLATE THE COPPER SERVICE OR AIR RELEASE PIPING FROM THE SERVICE SADDLE (SEE DETAIL CC-8). PLASTIC SERVICE PIPING DOES NOT REQUIRE AN INSULATING CORPORATION, A NON-INSULATING CORPORATION MAY BE USED. WATER SERVICES AND AIR RELEASE PIPING NOT SHOWN ON THIS DRAWING.
 5. DO NOT THERMITE WELD TO PVC PIPE.

CORROSION CONTROL LAYOUT
SCALE: 1"=50'

AS-BUILT
DATE 8-27-09



"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: 9/27/2008"

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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 7/3/08
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 7/1/08
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 7-1-08
CHIEF, UTILITY DESIGN DIVISION DATE

PSD

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HAGERSTOWN, MD 21330
PHONE (410) 316-7800
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WWW.KCI.COM



DES: MJS			
DRN: DJD			
CHK: MJS			
DATE: JUNE 08	BY	NO.	REVISION

DATE	600' SCALE MAP NO.	35	BLOCK NO.	17
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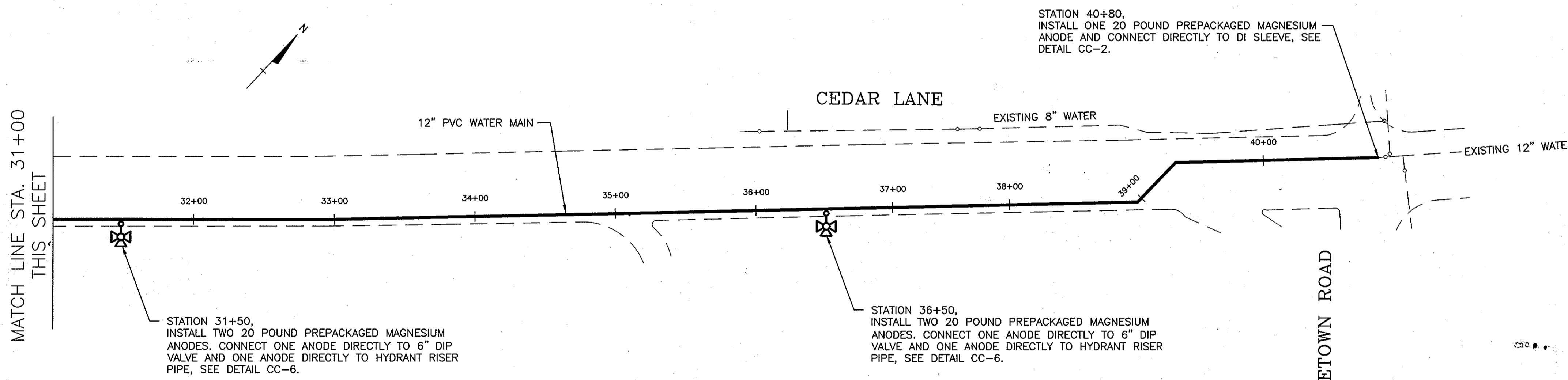
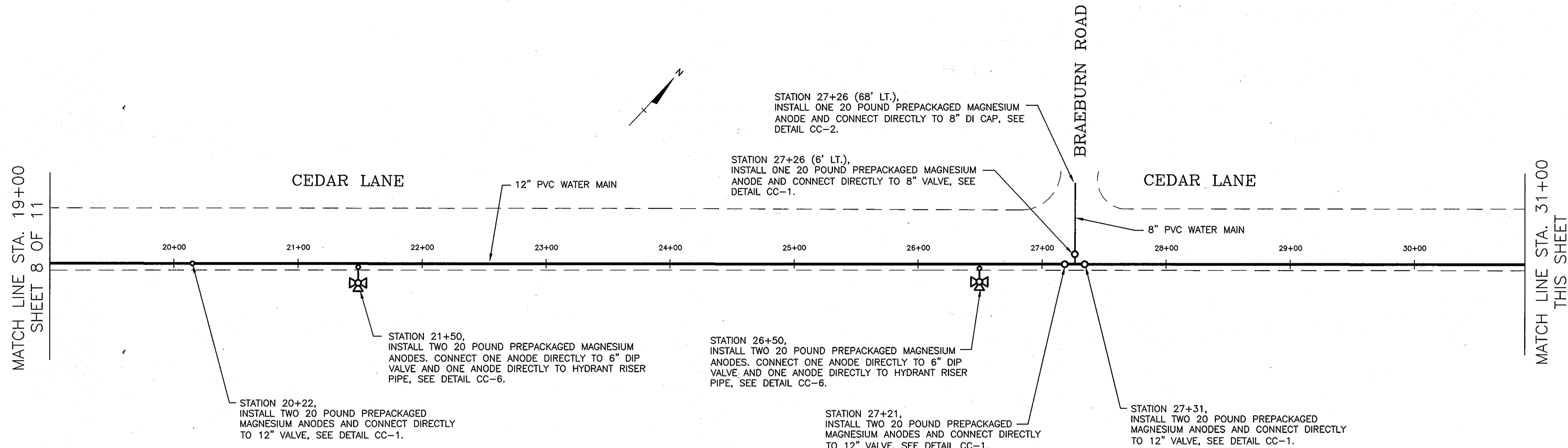
**12" PVC WATER MAIN
CORROSION CONTROL
LAYOUT 1**

CEDAR LANE WATER MAIN

CAPITAL PROJECT No. W-8273
CONTRACT No. 44-4566

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE 1"=50'
SHEET 8 OF 11



- 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 (DUCTILE IRON TEES AND ELBOWS NOT SHOWN ON THIS DRAWING), SEE DETAIL CC-2.
 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-3. RESTRAINED JOINT PIPE NOT SHOWN ON THIS DRAWING.
 3. ALL IN-LINE THRUST BLOCKS SHALL HAVE ONE 20 POUND PREPACKAGED MAGNESIUM ANODE CONNECTED TO THE RESTRAINING HARNESS, SEE DETAIL CC-7. IN-LINE THRUST BLOCKS NOT SHOWN ON THIS DRAWING.
 4. ALL WATER SERVICE OR AIR RELEASE PIPING CONNECTIONS UTILIZING METALLIC SERVICE SADDLES SHALL HAVE ONE 12 POUND PREPACKAGED ZINC ANODE CONNECTED TO THE SERVICE SADDLE (SEE DETAIL CC-4), AND AN INSULATING CORPORATION INSTALLED TO ELECTRICALLY ISOLATE THE COPPER SERVICE OR AIR RELEASE PIPING FROM THE SERVICE SADDLE (SEE DETAIL CC-8). PLASTIC SERVICE PIPING DOES NOT REQUIRE AN INSULATING CORPORATION, A NON-INSULATING CORPORATION MAY BE USED. WATER SERVICES AND AIR RELEASE PIPING NOT SHOWN ON THIS DRAWING.
 5. DO NOT THERMITE WELD TO PVC PIPE.

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CORROSION CONTROL LAYOUT
SCALE: 1"=50'

AS-BUILT
DATE: 8-27-09



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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *John S. Gandy* 7/1/08
 Chief, Bureau of Utilities: *John S. Gandy* 7/1/08
 Chief, Utility Design Division: *John S. Gandy* 7-1-08

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DATE: JUNE 08	BY: NO.	REVISION:	DATE:

**12" PVC WATER MAIN
CORROSION CONTROL
LAYOUT 2**

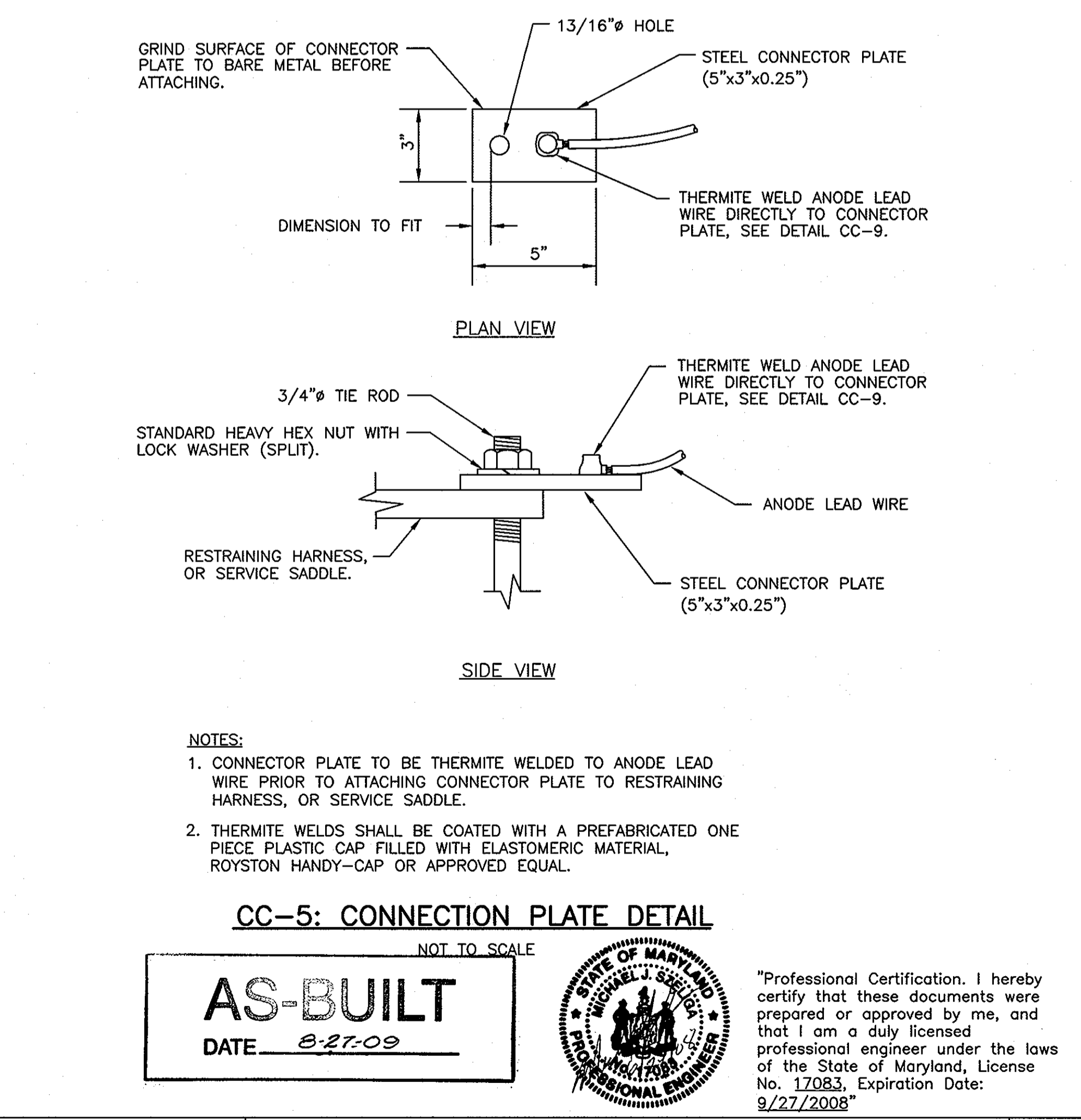
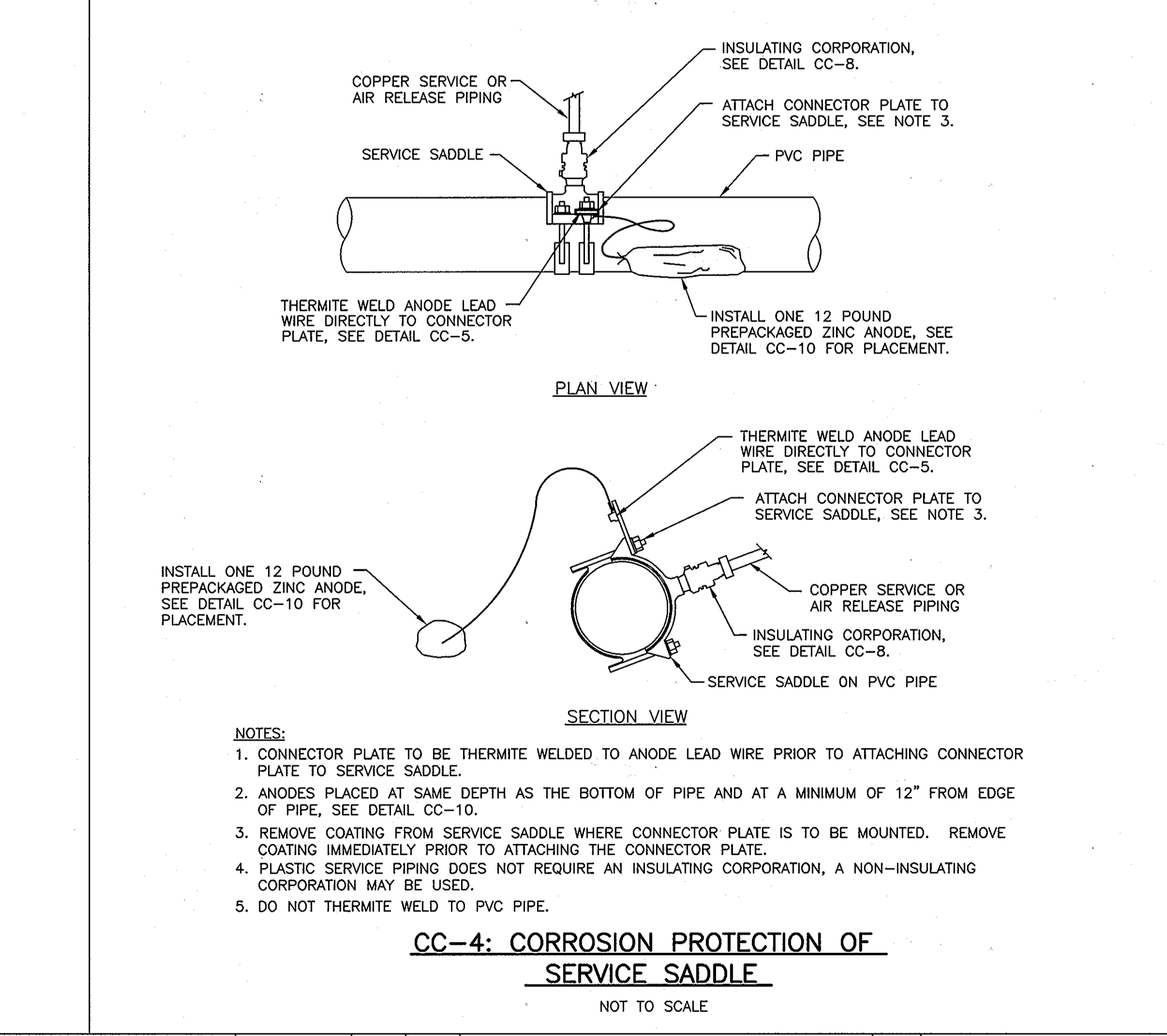
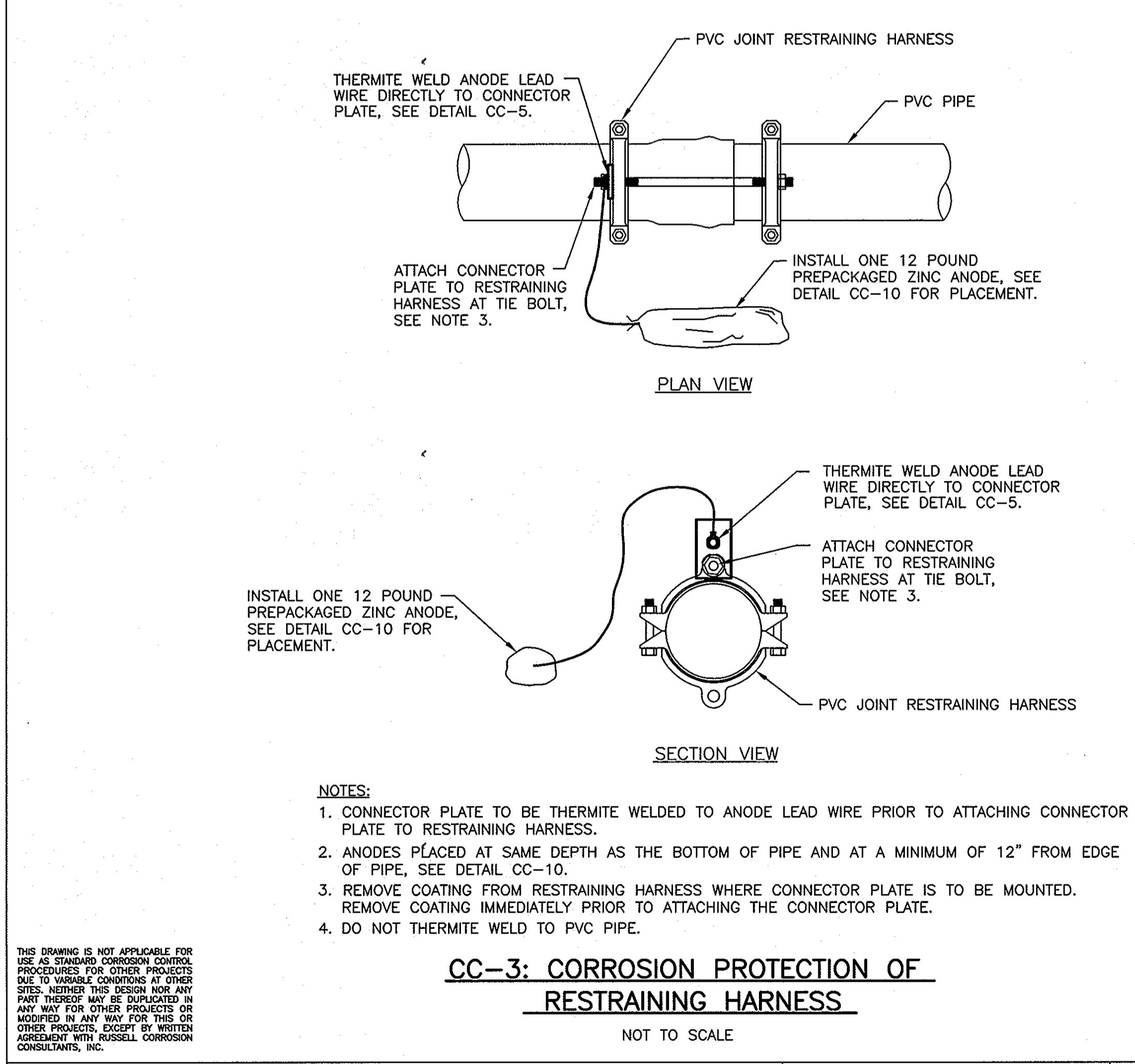
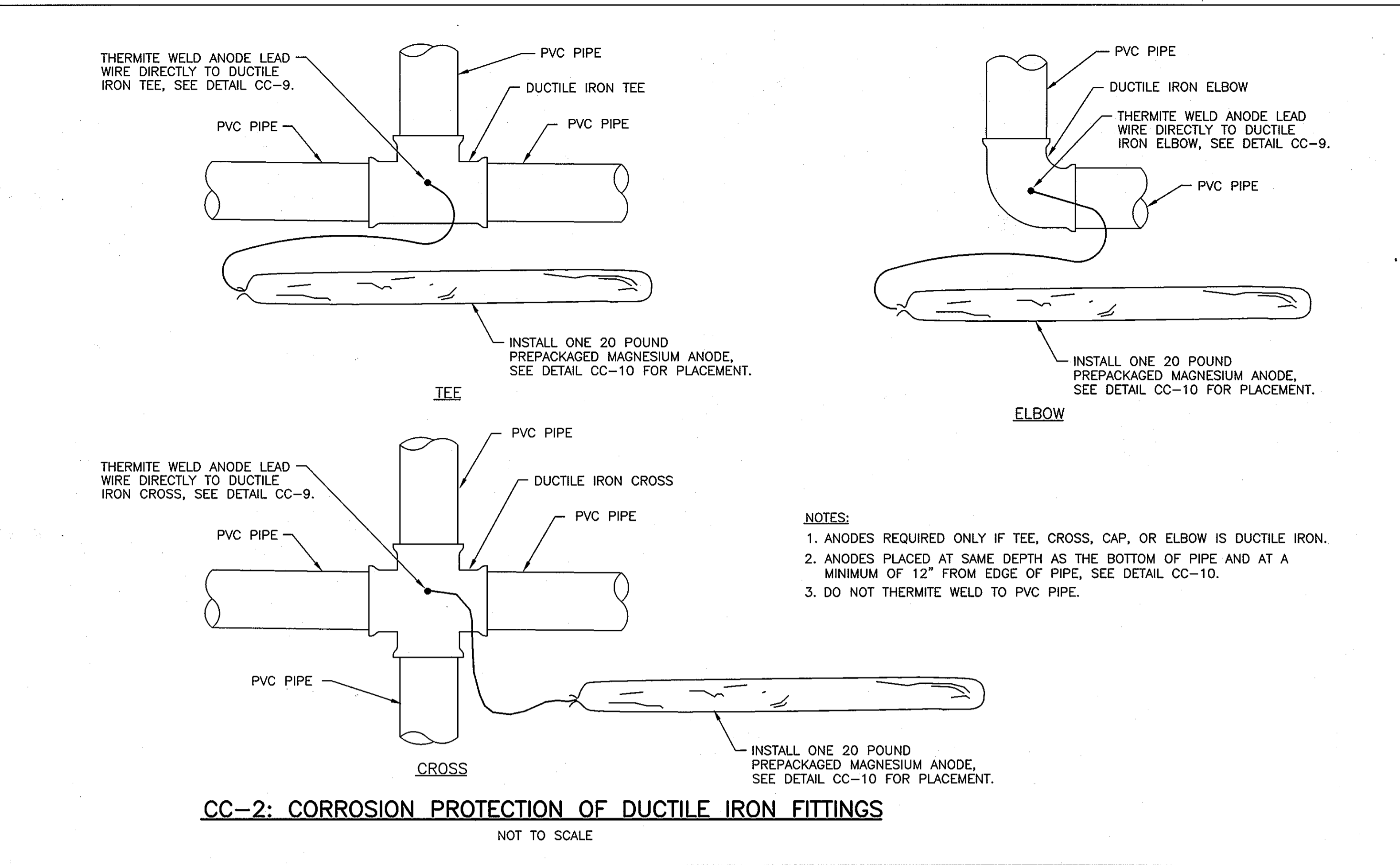
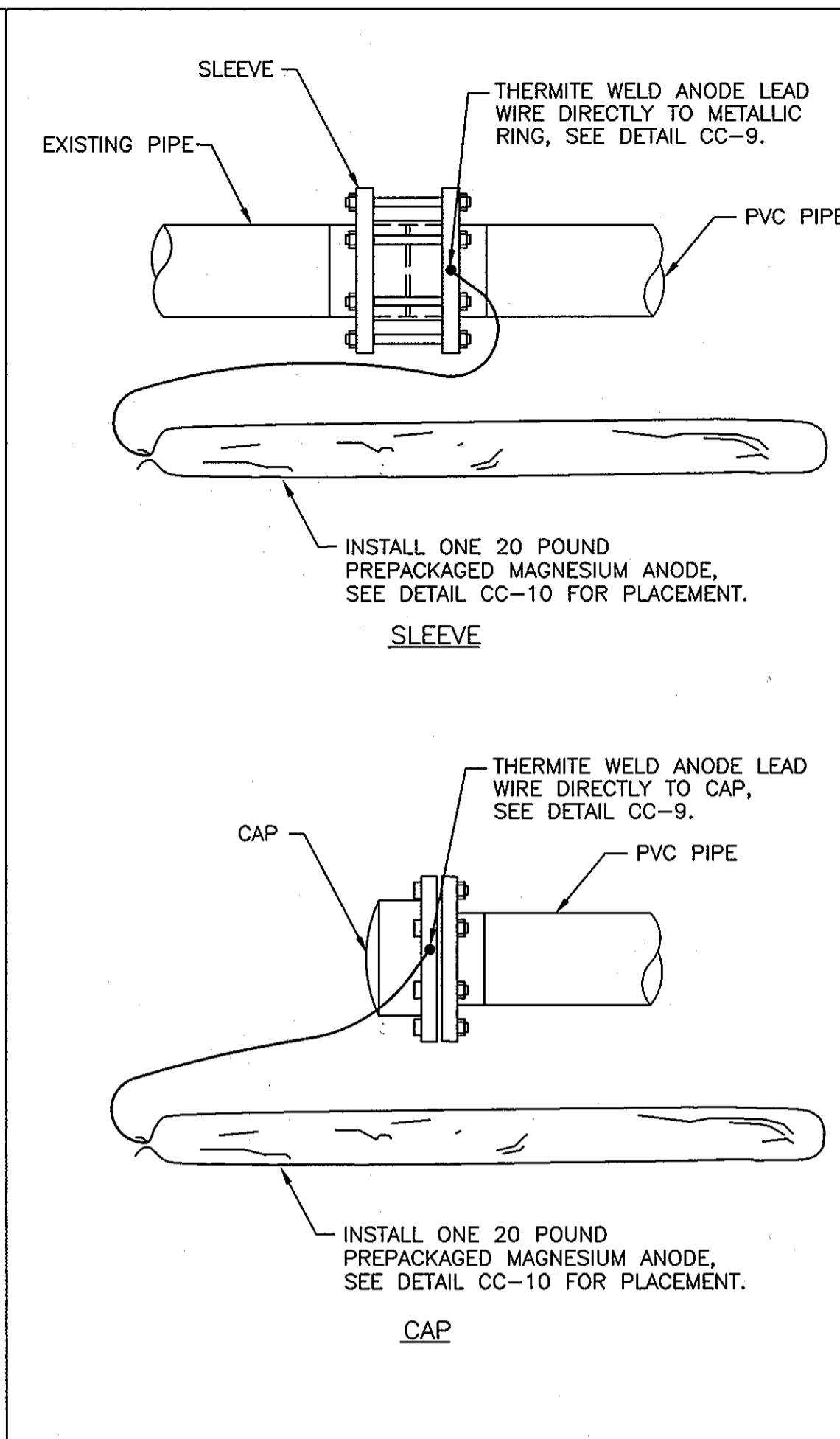
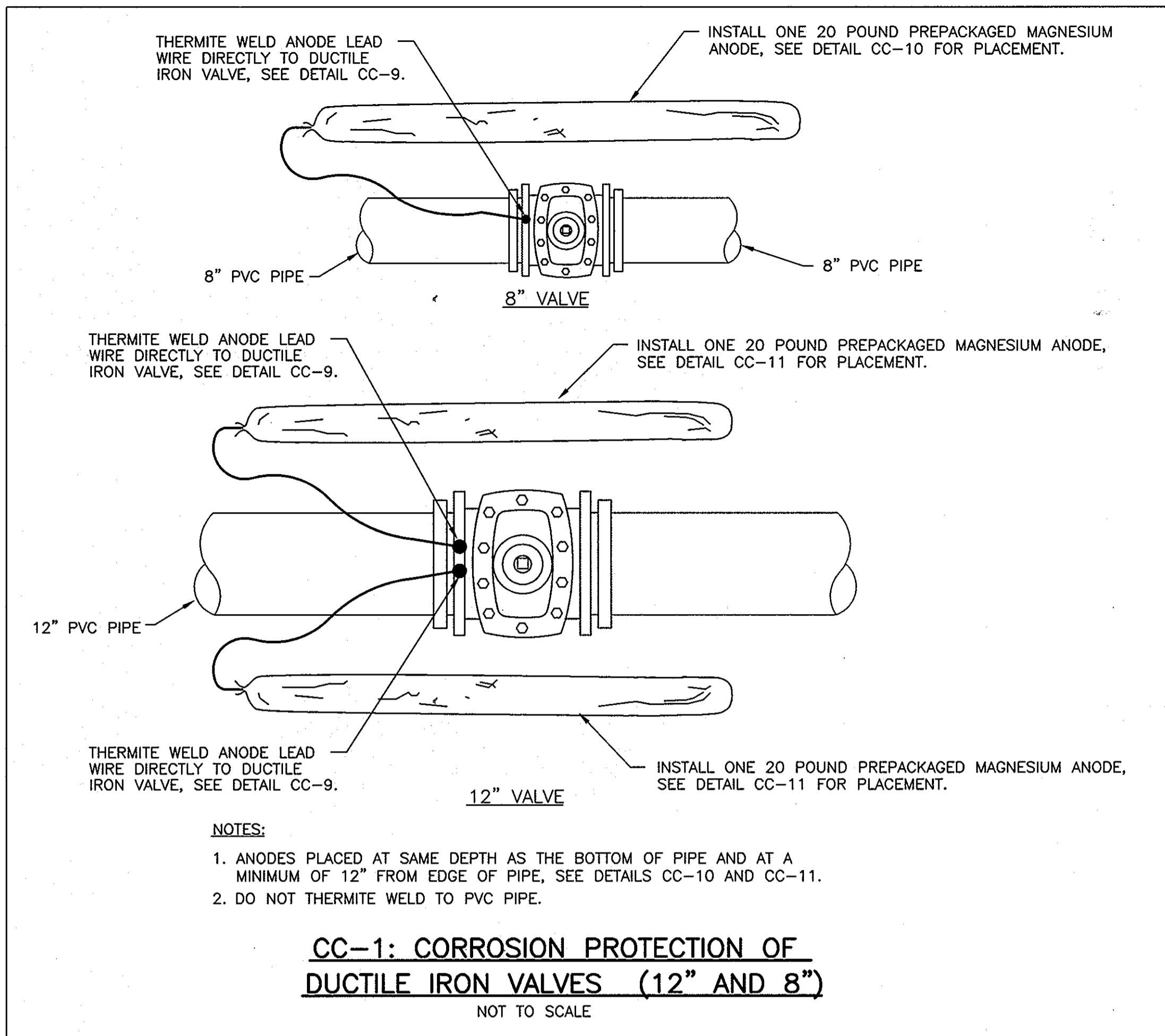
600' SCALE MAP NO. 35 BLOCK NO. 17

CEDAR LANE WATER MAIN

CAPITAL PROJECT No. W-8273
CONTRACT No. 44-4566

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE: 1"=50'
SHEET: 9 OF 11



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 7/1/08
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 7/1/08
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 7-1-08
CHIEF, UTILITY DESIGN DIVISION DATE

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RUSSELL CORROSION CONSULTANTS, INC.
Columbia, Maryland

DES: MJS				
DRN: DJD				
CHK: MJS				
DATE: JUNE 08	BY: NO.	REVISION:	DATE:	600' SCALE MAP NO. 35 BLOCK NO. 17

**CORROSION CONTROL
DETAILS 1**

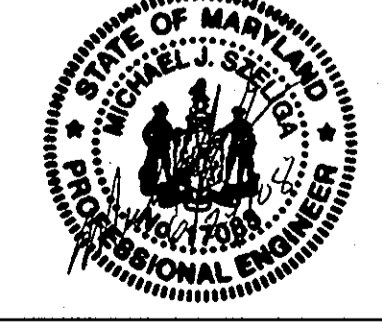
CEDAR LANE WATER MAIN

CAPITAL PROJECT No. W-8273
CONTRACT No. 44-4566

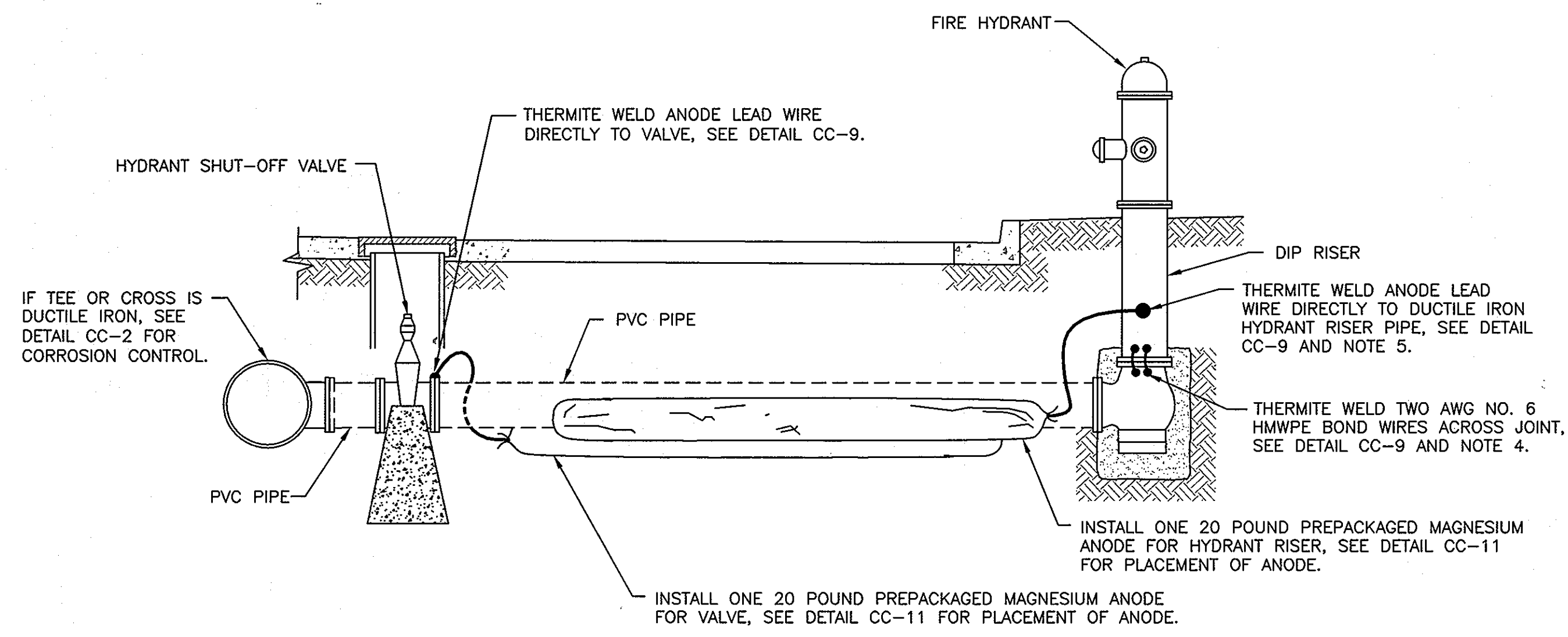
ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE NONE
SHEET 10 OF 11

AS-BUILT
DATE 8-27-09

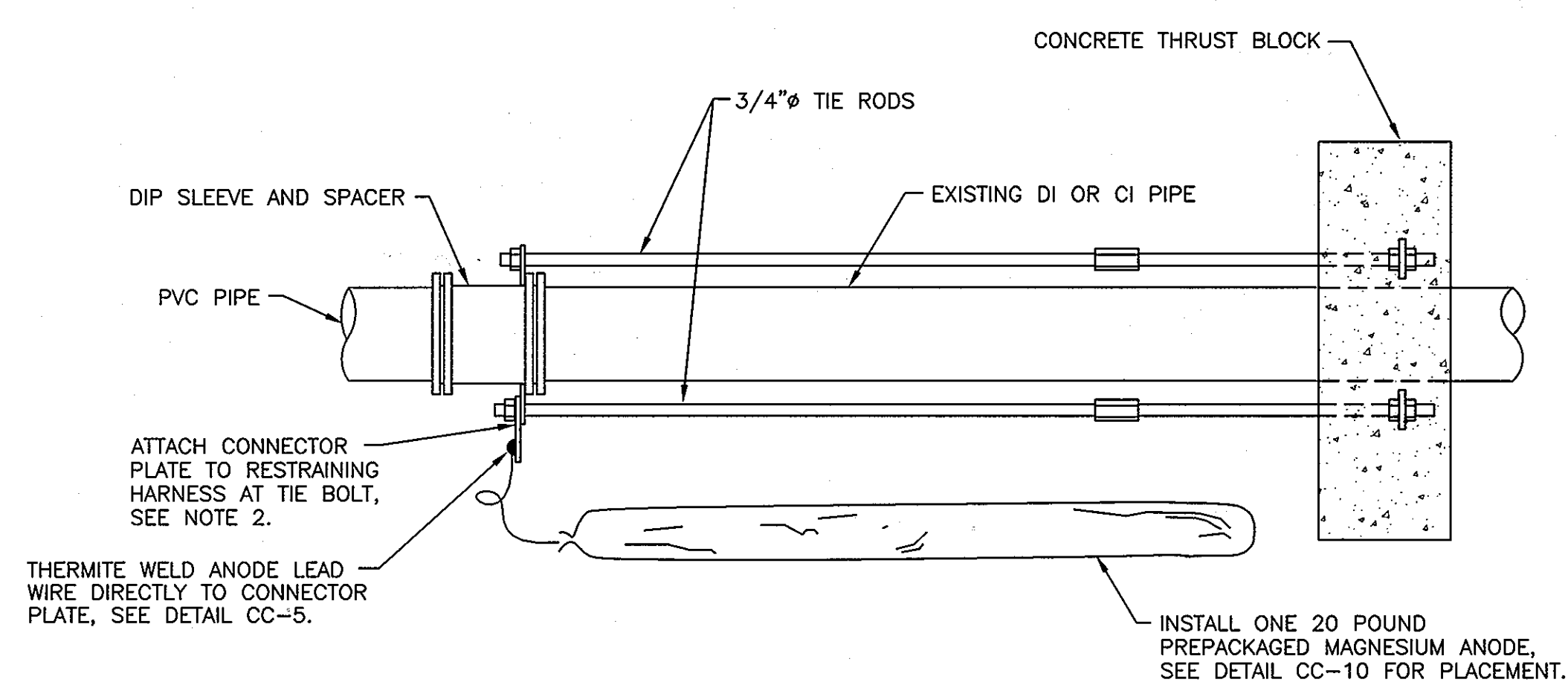


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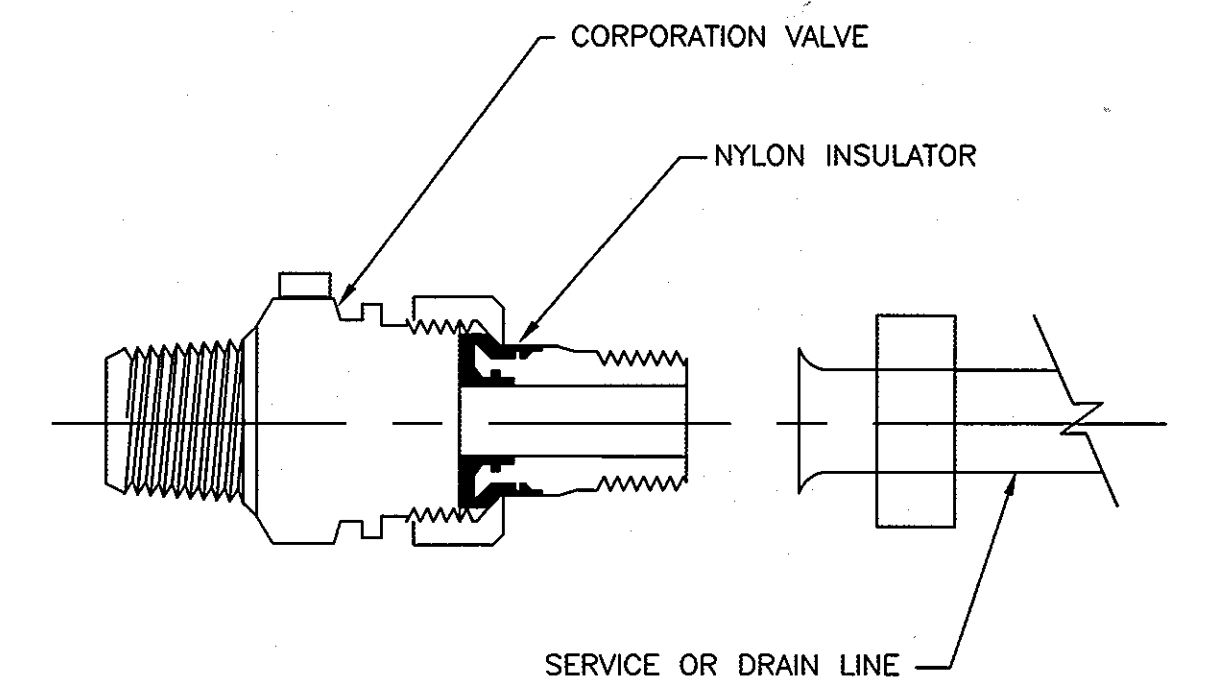
- NOTES:**
1. BOND ALL DUCTILE IRON COMPONENTS TOGETHER WITH AWG NO. 6 HMWPE CABLES. INSTALL A MINIMUM OF TWO BOND CABLES ACROSS EACH DUCTILE IRON PIPE JOINT.
 2. INSTALL BOND WIRES ON TOP OF DUCTILE IRON PIPE OR DUCTILE IRON FITTING WHERE POSSIBLE.
 3. ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12 INCHES FROM EDGE OF PIPE, SEE DETAIL CC-11.
 4. INSTALL BOND CABLES ON HYDRANT RISER PIPE AND RISER ELBOW BEFORE INSTALLING HYDRANT.
 5. THERMITE WELD ANODE LEAD TO DUCTILE IRON HYDRANT RISER PIPE BEFORE INSTALLING HYDRANT.
 6. DO NOT THERMITE WELD TO PVC PIPE.

CC-6: CORROSION PROTECTION AT FIRE HYDRANT
NOT TO SCALE



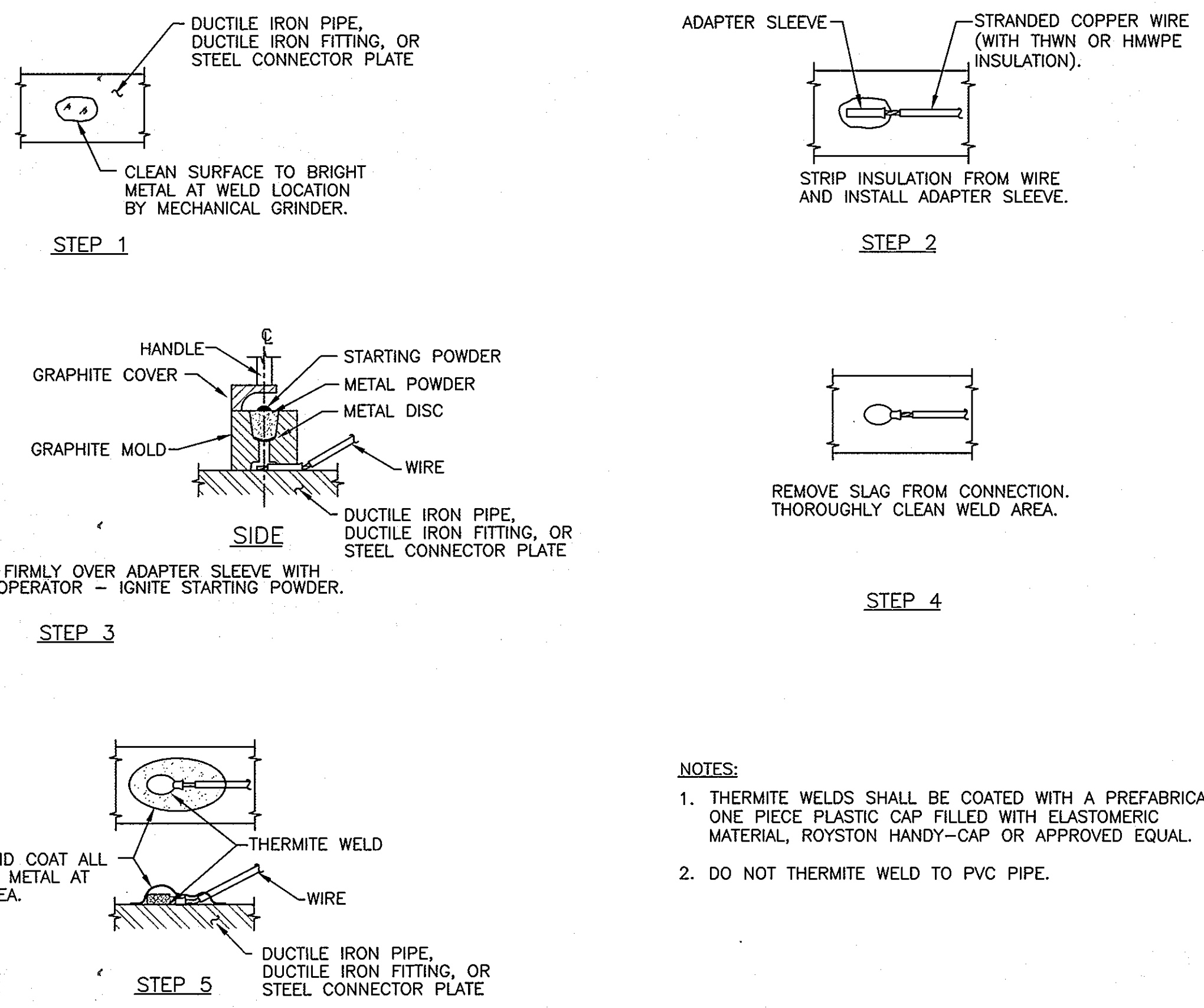
- NOTES:**
1. ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12" FROM EDGE OF PIPE, SEE DETAIL CC-10.
 2. REMOVE COATING FROM RESTRAINING HARNESS WHERE CONNECTOR PLATE IS TO BE MOUNTED. REMOVE COATING IMMEDIATELY PRIOR TO ATTACHING THE CONNECTOR PLATE.
 3. DO NOT THERMITE WELD TO PVC PIPE.

CC-7: CORROSION PROTECTION AT IN-LINE THRUST BLOCK
NOT TO SCALE



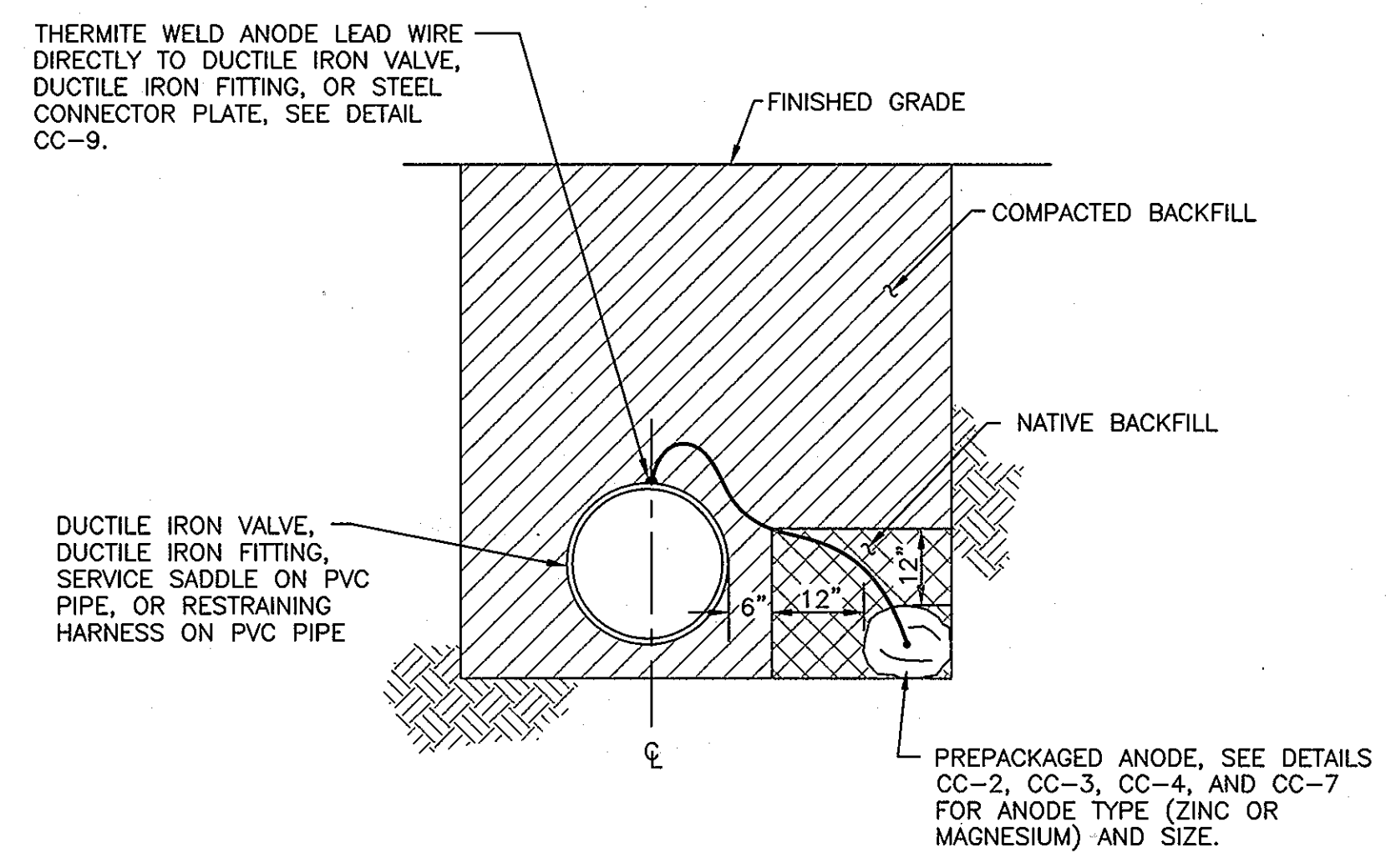
- NOTES:**
1. INSTALL ELECTRICAL ISOLATION ON ALL WATER SERVICE AND DRAIN LINE CONNECTIONS TO MAIN.
 2. COAT EXTERIOR OF CORPORATION STOP, AND SERVICE PIPING AND/OR DRAIN LINE FOR A DISTANCE OF 12 INCHES WITH MASTIC COATING (ROYSTON ROSKOTE R28). MASTIC COATING TO BE MINIMUM OF 20 MILS IN THICKNESS.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

CC-8: INSULATING CORPORATION
NOT TO SCALE



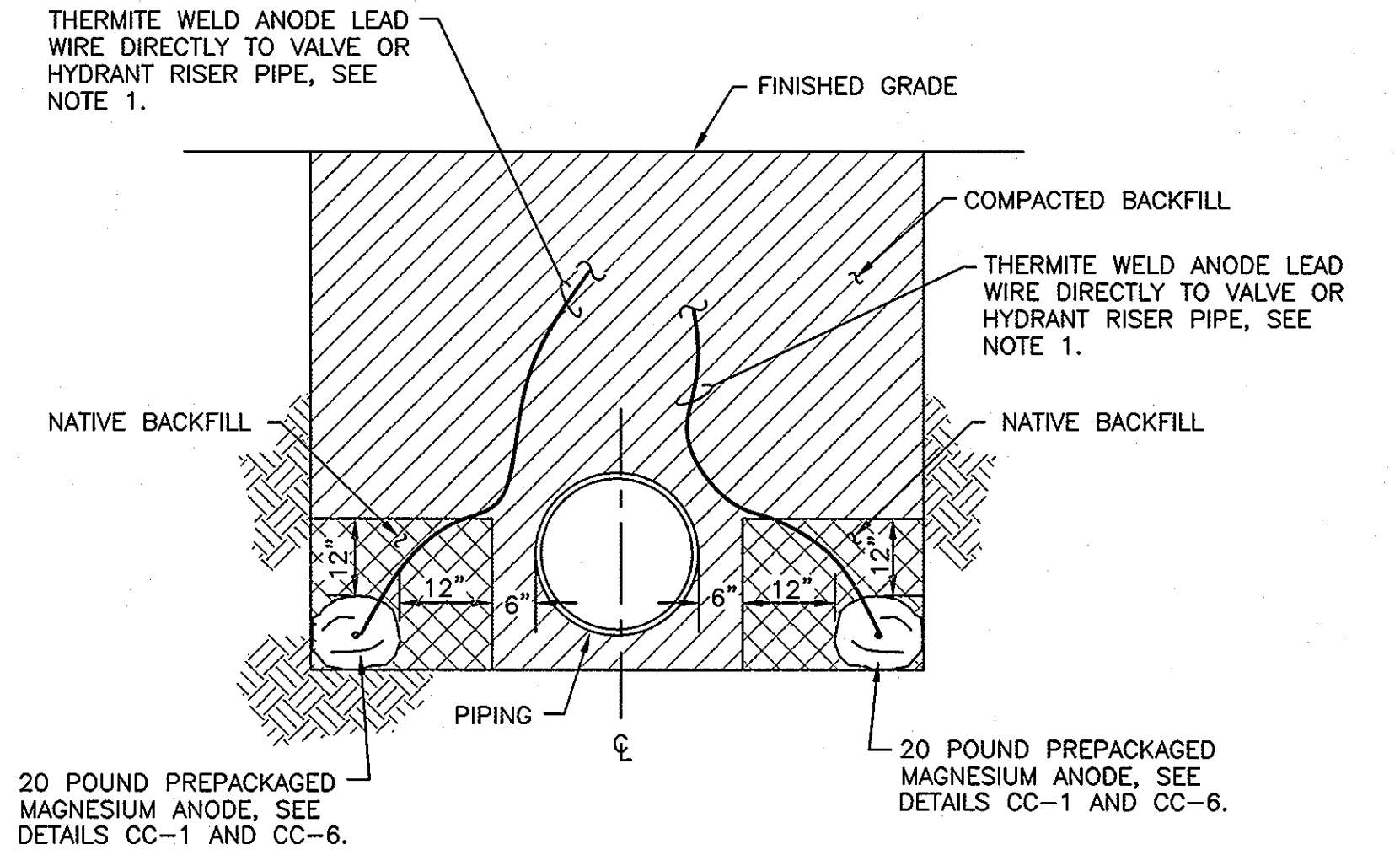
- NOTES:**
1. THERMITE WELDS SHALL BE COATED WITH A PREFABRICATED ONE PIECE PLASTIC CAP FILLED WITH ELASTOMERIC MATERIAL, ROYSTON HANDY-CAP OR APPROVED EQUAL.
 2. DO NOT THERMITE WELD TO PVC PIPE.

CC-9: TYPICAL THERMITE WELD
SCALE: NONE



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

CC-10: SINGLE ANODE PLACEMENT
NOT TO SCALE



- 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-6.
 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-11: DOUBLE ANODE PLACEMENT
NOT TO SCALE

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[Signature] 7/6/08
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BUREAU OF UTILITIES

[Signature] 7/1/08
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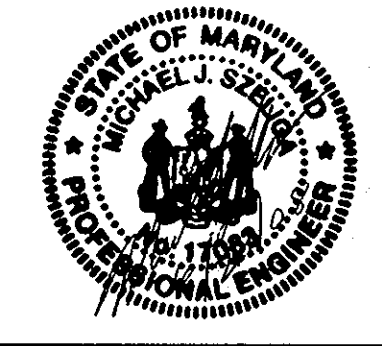
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Columbia, Maryland

DES: MJS					
DRN: DJD					
CHK: MJS					
DATE: JUNE 08	BY	NO.	REVISION	DATE	600' SCALE MAP NO. 35 BLOCK NO. 17

**CORROSION CONTROL
DETAILS 2**

AS-BUILT
DATE: 8-27-09



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CEDAR LANE WATER MAIN

CAPITAL PROJECT No. W-8273
CONTRACT No. 44-4566

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE: NONE
SHEET: 11 OF 11