

# CEDAR ACRES WATER MAIN UPGRADE CAPITAL PROJECT W-8223 CONTRACT NO. 24-3811

ITEM	QUANTITIES		TYPE MATERIAL	SUPPLIER
	ESTIMATED	AS BUILT		
8" WATER	3620 L.F.	3627 L.F.	DIP	U.S. PIPE AND FOUNDRY COMPANY
8" VALVE	8 EA.	8 EA.	RESILIENT SEAT GATE VALVE	U.S. PIPE AND FOUNDRY COMPANY
8" x 8" TAPPING SLEEVE & VALVE	1 EA.	1 EA.	RESILIENT SEAT GATE VALVE	U.S. PIPE AND FOUNDRY COMPANY
6" VALVE	6 EA.	5 EA.	RESILIENT SEAT GATE VALVE	U.S. PIPE AND FOUNDRY COMPANY
AIR RELEASE VALVE & VAULT	3 EA.	5 EA.		ATLANTIC CONCRETE PRODUCTS, INC.
FIRE HYDRANT	5 EA.	5 EA.	AWWA C-502	U.S. PIPE AND FOUNDRY COMPANY
3/4" WATER	1270 L.F.	451.5 L.F.	TYPE "K" COPPER TUBE	BELAIR ROAD SUPPLY
4" WHC	25 L.F.		D.I.P.	U.S. PIPE AND FOUNDRY COMPANY

**NOTE:**  
\*SEDIMENT CONTROL TO BE IMPLEMENTED IN ACCORDANCE WITH VOLUME 4, ARTICLE 15 OF THE HOWARD COUNTY DESIGN MANUAL AND THESE PLANS.\*

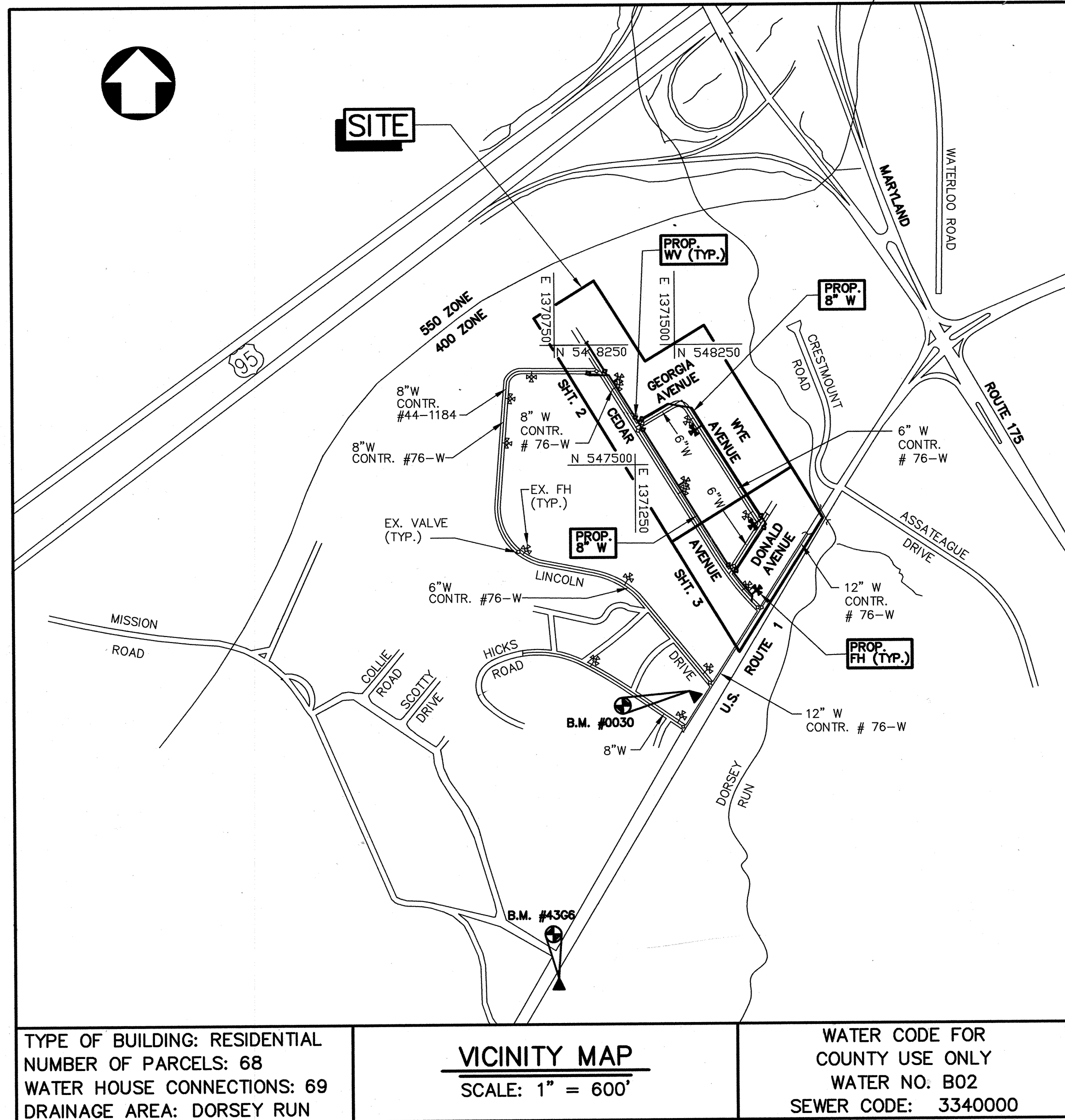
**ENGINEER'S CERTIFICATION**  
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
  
*John G. Lepson* DATE 12-12-00  
WALLACE, MONTGOMERY & ASSOCIATES  
110 WEST ROAD - SUITE 345  
TOWSON, MARYLAND 21204  
(410) 494-9093

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.  
*J. H. Wayfield* 12/14/00  
U.S.D.A.-NATURAL RESOURCES CONSERVATION SERVICE DATE  
  
THIS DEVELOPMENT PLAN IS APPROVED FOR THE SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*John R. Roberts* 12/14/00  
APPROVED DATE  
HOWARD SOIL CONSERVATION DISTRICT

**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 COUNTY SOIL CONSERVATION DISTRICT."  
  
*John G. Lepson* 12/13/00  
SIGNATURE OF DEVELOPER DATE  
PRINT NAME BELOW SIGNATURE  
JOHN G. LEPSON

MDE PERMIT NO.

BENCHMARKS				
NO.	ELEV.	NORTHING	EASTING	DESCRIPTION
0030	217.502	545924.889	1371561.666	LOCATED ON THE NORTHWEST CORNER OF HICKS ROAD AND US ROUTE 1, 28.3' FROM A FIRE HYDRANT LOCATED ON THE NORTH SIDE OF HICKS ROAD AND 16.1' FROM A 6" DIA. STEEL POLE.
4366	220.115	544117.545	1370550.824	LOCATED APPROXIMATELY 0.39 MILES SOUTH OF BENCHMARK # 0030 ON THE EAST SIDE OF US ROUTE 1, 18.8' FROM THE NORTHWEST CORNER OF THE CHAIN LINK FENCE ON THE PROPERTY OF 8205 WASHINGTON BLVD. AND 68.8' FROM THE FIRE HYDRANT.



TYPE OF BUILDING: RESIDENTIAL  
NUMBER OF PARCELS: 68  
WATER HOUSE CONNECTIONS: 69  
DRAINAGE AREA: DORSEY RUN

**VICINITY MAP**  
SCALE: 1" = 600'

WATER CODE FOR COUNTY USE ONLY  
WATER NO. B02  
SEWER CODE: 3340000

INDEX OF SHEETS			
SHEET	DESCRIPTION	SHEET	DESCRIPTION
1	TITLE SHEET	8	CATHODIC PROTECTION LAYOUT
2	PLAN	9	CATHODIC PROTECTION DETAILS-1
3	PLAN	10	CATHODIC PROTECTION DETAILS-2
4	PROFILE	11	CATHODIC PROTECTION DETAILS-3
5	PROFILE	12	SEDIMENT CONTROL NOTES
6	PROFILE		RESTORATION & ABANDONMENT SCHEDULES
7	PROFILE	13	SEDIMENT CONTROL DETAILS

**GENERAL NOTES:**

**PART I**

- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES, NAD 83/91.
- ALL VERTICAL CONTROLS ARE BASED ON NAVD 29.
- 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 UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE 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 LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:  

AT&T.....	1-800-526-2000
BGE(CONTRACTOR SERVICES).....	410-850-4620
BGE(UNDERGROUND DAMAGE CONTROL).....	410-787-9068
BUREAU OF UTILITIES.....	410-313-4900
BELL ATLANTIC MARYLAND, INC.....	1-800-621-9900
COLONIAL PIPELINE CO.....	410-795-1390
MISS UTILITY.....	1-800-257-7777
STATE HIGHWAY ADMINISTRATION.....	410-531-5533
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(a) OF THE HOWARD COUNTY CODE.

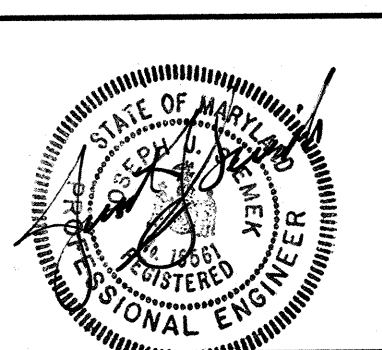
**PART II WATER**

- ALL WATER MAINS SHALL BE D.I.P. CLASS 52 WITH RESTRAINED JOINTS UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- FIVE DAYS PRIOR TO TIE-IN CONNECTIONS, CONTACT THE HOWARD COUNTY BUREAU OF UTILITIES, 410-313-4900, FOR ASSISTANCE.
- REPLACEMENT WATER SERVICES SHALL MATCH EXISTING SIZE OF 3/4-INCH UNLESS OTHERWISE NOTED.
- ALL EXISTING FIRE HYDRANTS TO BE ABANDONED SHALL BE RETURNED TO THE BUREAU OF UTILITIES, 8270 OLD MONTGOMERY ROAD, COLUMBIA, MD.

**AS-BUILT**

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
*James J. Lewis* 12/21/00  
DIRECTOR OF PUBLIC WORKS DATE  
*John G. Lepson* 12/13/00  
CHIEF, BUREAU OF ENGINEERS DATE  
*John G. Lepson* 12-20-00  
CHIEF, BUREAU OF UTILITIES DATE  
*John G. Lepson* 12-13-00  
CHIEF, UTILITY DESIGN DIVISION DATE

**WALLACE, MONTGOMERY & ASSOCIATES**  
CIVIL AND STRUCTURAL ENGINEERS  
110 WEST ROAD  
TOWSON, MARYLAND 21204



DES: L.A.F.			
DRN: K.J.P.			
CHK: J.J.S.			
DATE: DEC. 2000	BY: NO.	REVISION	DATE

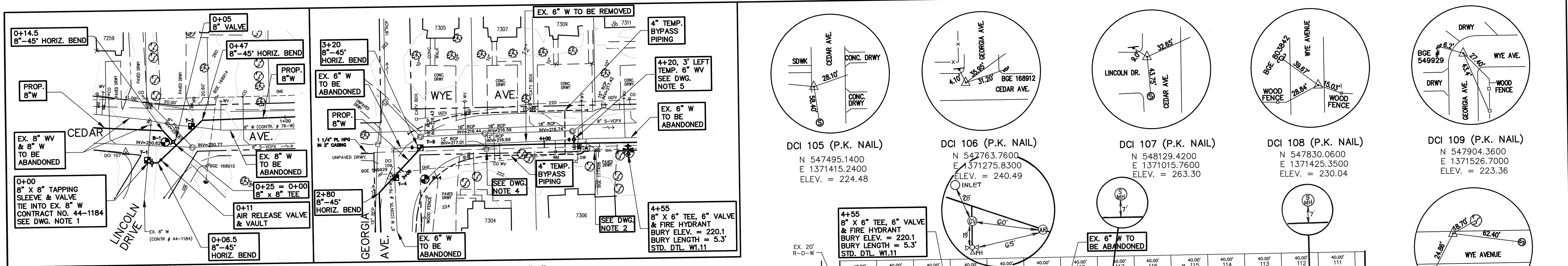
TITLE SHEET

600' SCALE MAP NO. 43 BLOCK NO. 8

CEDAR ACRES  
CAPITAL PROJECT W-8223  
CONTRACT NO. 24-3811  
ELECTION DISTRICT NO. 6  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 1 OF 13



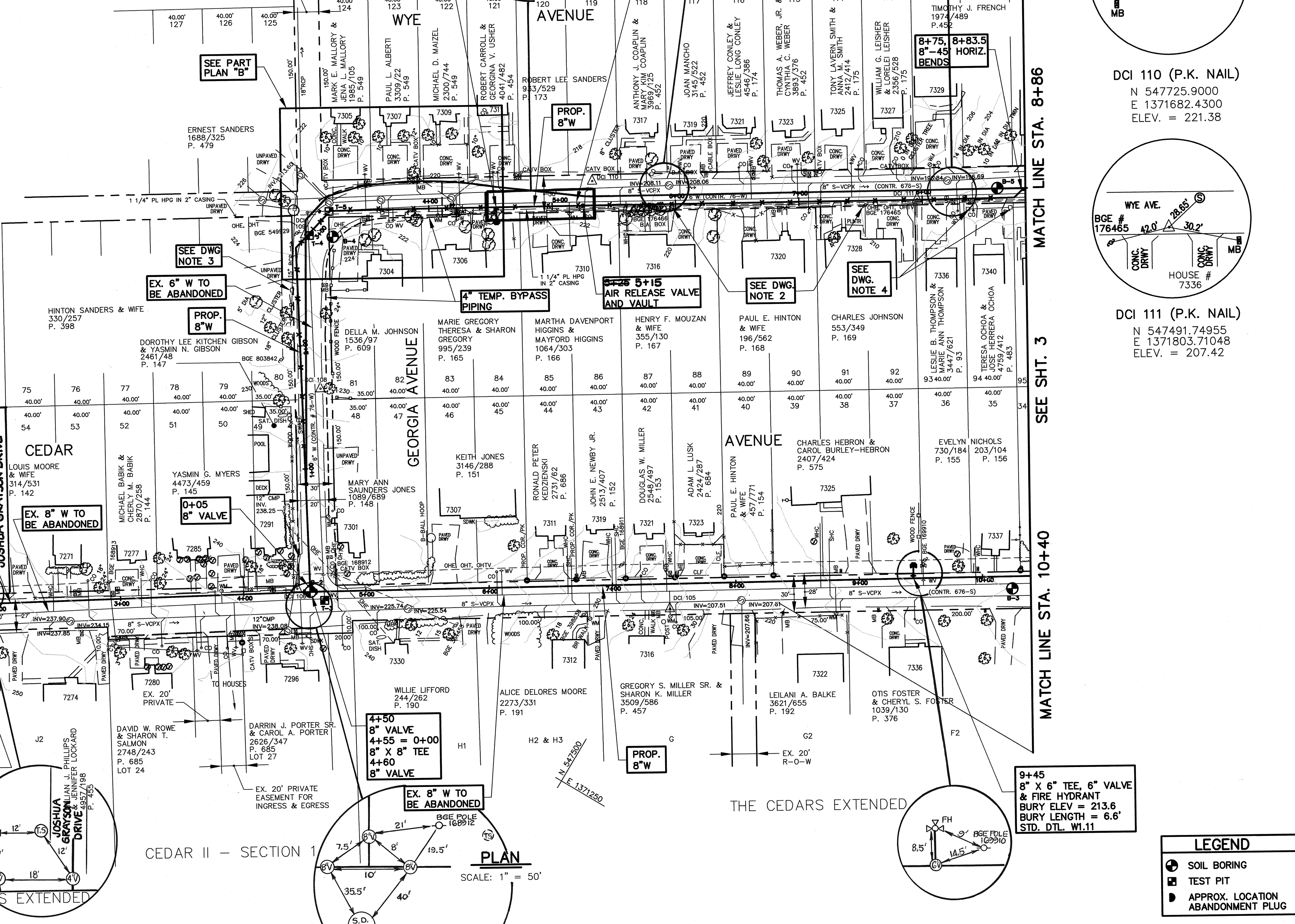


**PART PLAN "A"**  
SCALE: 1" = 30'

**PART PLAN "B"**  
SCALE: 1" = 30'

**DRAWING NOTES:**

1. PROVIDE INSULATED COUPLING BETWEEN TAPPING VALVE AND 45° HORIZONTAL BEND. SEE CATHODIC PROTECTION DETAIL CP-5, SHEET 8.
2. PROVIDE BRACING FOR EXISTING UTILITY POLE. CALL BGE (410-855-6959) TO COORDINATE AT LEAST THREE WEEKS PRIOR TO CONSTRUCTION.
3. PROVIDE STANDARD INLET PROTECTION. SEE DETAIL SHEET 13.
4. PROVIDE AT-GRADE INLET PROTECTION. SEE DETAIL SHEET 13.
5. REMOVE AND SALVAGE TEMPORARY VALVE AFTER PROPOSED WATER MAIN SYSTEM IS COMPLETE. INSTALL PLUG ON EACH OPEN END OF EXISTING 6" PIPE.
6. LIMIT OF DISTURBANCE SHALL BE IN ACCORDANCE WITH STANDARD DETAIL G 2.02-A UNLESS OTHERWISE DIRECTED BY THE ENGINEER.



**PLAN**  
SCALE: 1" = 50'

**LEGEND**

- SOIL BORING
- TEST PIT
- APPROX. LOCATION ABANDONMENT PLUG

**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND

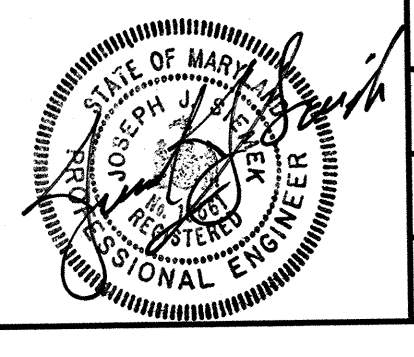
*James P. Shaw* 12/21/04  
DIRECTOR OF PUBLIC WORKS DATE

*Robert J. Spang* 12/13/00  
CHIEF, BUREAU OF ENGINEERING DATE

*Robert J. Spang* 12-20-00  
CHIEF, BUREAU OF UTILITIES DATE

*Ol' Deakin* 12-13-00  
CHIEF, UTILITY DESIGN DIVISION DATE

**WALLACE, MONTGOMERY & ASSOCIATES**  
CIVIL AND STRUCTURAL ENGINEERS  
110 WEST ROAD  
TOWSON, MARYLAND 21284



DES:	L.A.F.	BY:	NO.	REVISION	DATE
DRN:	K.J.P.	BY:	NO.	REVISION	DATE
CHK:	J.J.S.	BY:	NO.	REVISION	DATE
DATE:	DEC. 2000	BY:	NO.	REVISION	DATE

**PLAN**

600' SCALE MAP NO. 43 BLOCK NO. 8

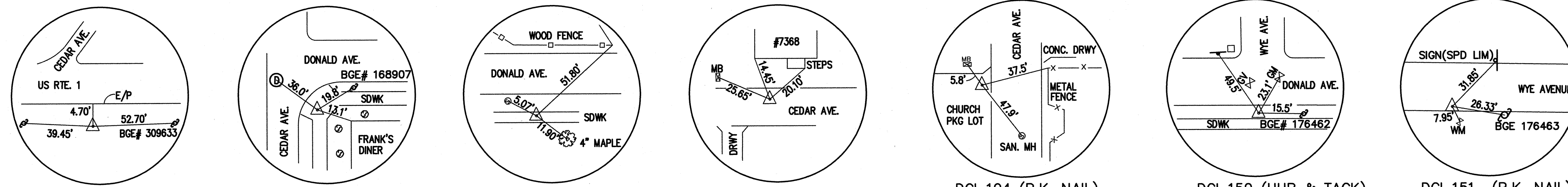
**CEDAR ACRES**  
CAPITAL PROJECT W-8223  
CONTRACT NO. 24-3811  
ELECTION DISTRICT NO. 6  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 2 OF 13



**WATER MAIN PROCEDURES**

- A. GENERAL**
1. INSTALL MAINTENANCE OF TRAFFIC DEVICES IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
  2. BRACE EXISTING UTILITY POLES WHERE INDICATED.
- B. CEDAR AND DONALD AVENUES**
1. INSTALL 8"x 8" TAPPING SLEEVE AND VALVE.
  2. INSTALL PROPOSED 8" WATER MAINS AND FIRE HYDRANTS. CONSTRUCT BUTTRESSES AND ANCHORS IN ACCORDANCE WITH THE HOWARD COUNTY STANDARD DETAILS.
  3. PERFORM HYDROSTATIC TESTING AND DISINFECTION PROCEDURES IN ACCORDANCE WITH THE HOWARD COUNTY SPECIFICATIONS.
  4. TIE INTO EXISTING 8" WATER MAIN WITH INSULATED COUPLINGS.
  5. CONNECT EXISTING WATER HOUSE CONNECTIONS TO THE PROPOSED 8" WATER MAINS.
- C. GEORGIA AND WYE AVENUES**
1. CLOSE EXISTING 6" VALVES AT WEST ENDS OF GEORGIA AND DONALD AVENUES.
  2. INSTALL TEMPORARY 6" VALVE AT STA. 4+20.
  3. OPEN THE EXISTING 6" VALVES IN DONALD AND GEORGIA AVENUES.
  4. INSTALL 4" TEMPORARY BYPASS PIPING IN ACCORDANCE WITH THE SPECIFICATIONS.
  5. INSTALL TEMPORARY WATER HOUSE CONNECTIONS.
  6. CLOSE THE 6" TEMPORARY VALVE AT STA. 4+20 AND THE EXISTING 6" VALVE AT THE WEST END OF GEORGIA AVENUE.
  7. INSTALL PROPOSED 8" WATER MAINS AND FIRE HYDRANTS. CONSTRUCT BUTTRESSES AND ANCHORS IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAILS.
  8. PERFORM HYDROSTATIC TESTING AND DISINFECTION PROCEDURES IN ACCORDANCE WITH HOWARD COUNTY SPECIFICATIONS.
  9. CONNECT EXISTING WATER HOUSE CONNECTIONS TO THE PROPOSED 8" WATER MAINS.
  10. REMOVE TEMPORARY BYPASS PIPING.
- D. GENERAL**
1. ABANDON EXISTING WATER MAINS, VALVES & HYDRANTS. REFER TO ABANDONMENT SCHEDULE AND NOTES ON SHEET 12.
  2. REMOVE AND SALVAGE TEMPORARY 6" VALVE AT STA. 4+20 ON WYE AVENUE. INSTALL PLUGS ON OPEN ENDS OF PIPE.
  3. RESTORE TRENCHES TO THEIR ORIGINAL CONDITION WITH TEMPORARY PAVING IN ACCORDANCE WITH HOWARD COUNTY STANDARDS AND SPECIFICATIONS.
  4. INSTALL PERMANENT PAVING PATCH OVER TRENCH. REFER TO RESTORATION SCHEDULE AND NOTES ON SHEET 12.



DCI 100 (REBAR & CAP)  
N 546663.82149  
E 1372104.36290  
ELEV. = 195.5111

DCI 101 (X-CUT IN SDWK)  
N 546817.4300  
E 1371870.5200  
ELEV. = 201.76

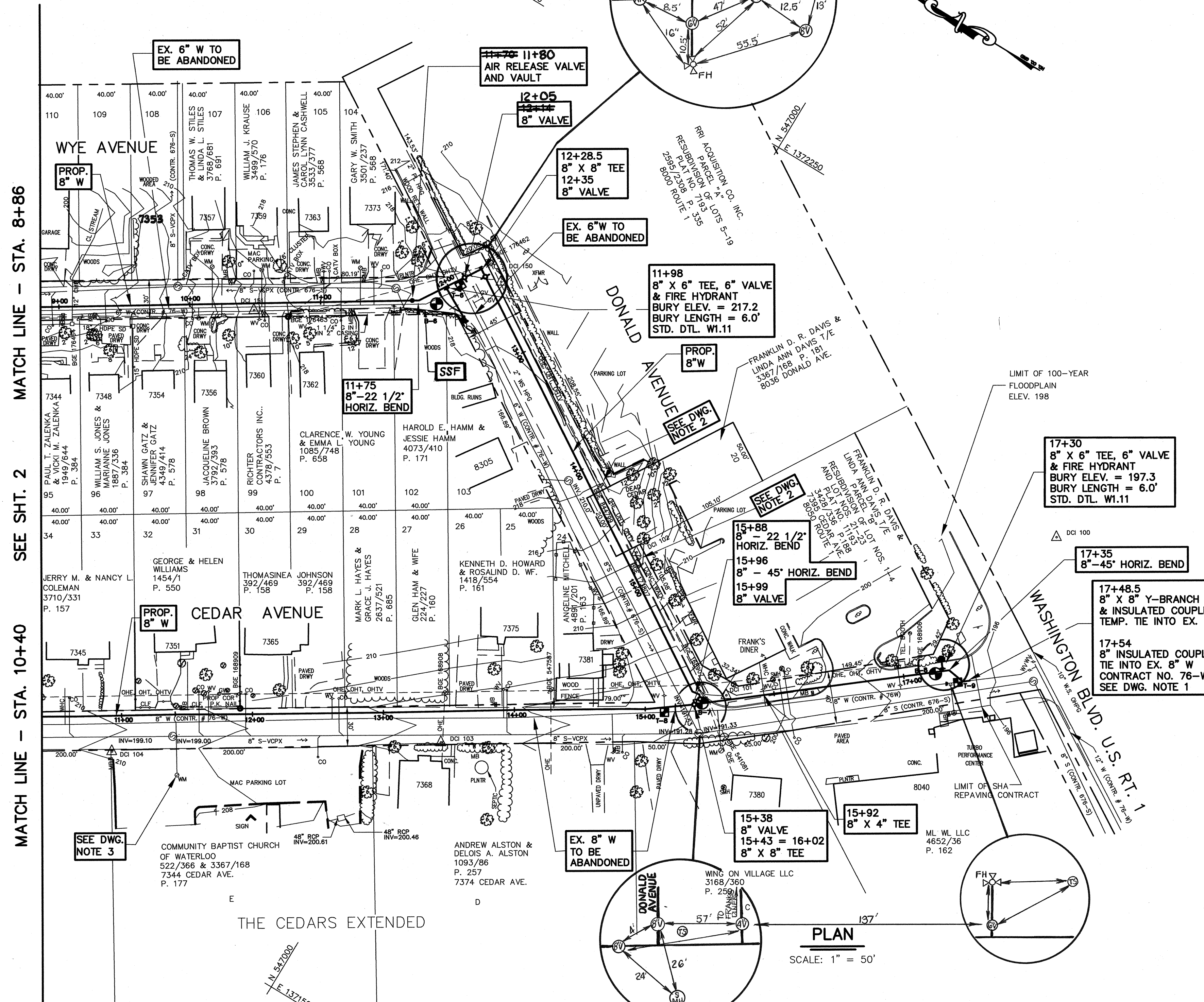
DCI 102 (X-CUT IN SDWK)  
N 546932.6300  
E 1371928.7500  
ELEV. = 215.28

DCI 103 (P.K. NAIL)  
N 546985.6000  
E 1371727.1700  
ELEV. = 205.15

DCI 104 (P.K. NAIL)  
N 547197.3000  
E 1371591.6200  
ELEV. = 209.35

DCI 150 (HUB & TACK)  
N 547128.35184  
E 1372052.79493  
ELEV. = 216.76

DCI 151 (P.K. NAIL)  
N 547278.1300  
E 1371936.6400  
ELEV. = 215.35



**DRAWING NOTES:**

1. FOR INSULATED COUPLING SEE CATHODIC PROTECTION DETAIL CP-5, SHEET 8.
2. PROVIDE BRACING FOR EXISTING UTILITY POLE. CALL BGE (410-855-6959) TO COORDINATE AT LEAST THREE WEEKS PRIOR TO CONSTRUCTION.
3. CONFIRM SIZE OF EXISTING WATER SERVICE PRIOR TO CONSTRUCTION.
4. LIMIT OF DISTURBANCE SHALL BE IN ACCORDANCE WITH STANDARD DETAIL 02.02-A UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

**STAKEOUT TABLE: 8" WATER MAIN SHEET 2**

STATION	DESCRIPTION	PROFILE	NORTH	EAST
<b>LINCOLN DRIVE</b>				
0+00	8" x 8" TAPPING SLEEVE & VALVE	SHT. 4	548113.69	1371016.96
0+06.5	8" - 45° HORIZ. BEND	SHT. 4	548107.85	1371020.51
0+11	AIR RELEASE VALVE & VAULT	SHT. 4	548107.14	1371023.19
0+25 = 0+00	8" x 8" TEE	SHT. 4	548103.37	1371036.40
<b>CEDAR AVENUE - NORTH OF LINCOLN DRIVE</b>				
0+00 = 0+25	8" x 8" TEE	SHT. 4	548103.37	1371036.40
0+05	8" VALVE	SHT. 4	548106.24	1371037.28
0+14.5	8" - 45° HORIZ. BEND	SHT. 4	548116.98	1371040.56
1+96	POINT OF DEFLECTION	SHT. 4	548277.04	1370955.84
2+50	AIR RELEASE VALVE & VAULT	SHT. 4	548322.63	1370926.97
2+55	8" CAP	SHT. 4	548328.85	1370924.22
<b>CEDAR AVENUE</b>				
0+47	8" - 45° HORIZ. BEND	SHT. 4	548066.99	1371056.04
1+65	8" x 6" TEE, 6" VALVE, & F.H.	SHT. 4	547996.77	1371123.15
4+50	8" VALVE	SHT. 4	547757.56	1371276.18
4+55 = 0+00	8" x 8" TEE	SHT. 4	547753.29	1371278.92
4+80	8" VALVE	SHT. 4	547749.03	1371281.55
9+45	8" x 6" TEE, 6" VALVE, & F.H.	SHT. 4	547337.75	1371536.69
<b>GEORGIA AVENUE</b>				
0+00 = 4+55	8" x 8" TEE	SHT. 6	547753.29	1371278.92
0+05	8" VALVE	SHT. 6	547756.01	1371283.11
2+80	8" - 45° HORIZ. BEND	SHT. 6	547905.33	1371513.80
<b>WYE AVENUE</b>				
3+20	8" 45° HORIZ. BEND	SHT. 6	547896.61	1371553.66
4+55	8" x 6" TEE, 6" VALVE, & F.H.	SHT. 6	547782.16	1371624.61
5+25	AIR RELEASE VALVE & VAULT	SHT. 6	547722.27	1371661.34

**STAKEOUT TABLE: 8" WATER MAIN SHEET 3**

STATION	DESCRIPTION	PROFILE	NORTH	EAST
<b>CEDAR AVENUE</b>				
15+00	8" PIPE DEFLECTION	SHT. 5	548665.02	1371829.38
15+38	8" VALVE	SHT. 5	548634.78	1371851.80
15+43 = 18+02	8" x 8" TEE	SHT. 5	548630.91	1371854.98
15+92	8" x 4" TEE	SHT. 5	546792.90	1371885.53
17+30	8" x 6" TEE, 6" VALVE, & F.H.	SHT. 5	546685.33	1371971.55
17+35	8" - 45° HORIZ. BEND	SHT. 5	546681.47	1371974.72
17+48.5	8" x 8" Y-BRANCH	SHT. 5	546668.08	1371972.70
17+54	8" INSULATED COUPLING	SHT. 5	546663.77	1371976.11
<b>WYE AVENUE</b>				
11+70	AIR RELEASE VALVE & VAULT	SHT. 7	547179.07	1372005.30
11+75	8" - 22 1/2° HORIZ. BEND	SHT. 7	547174.76	1372008.00
11+98	8" x 6" TEE, 6" VALVE, & F.H.	SHT. 7	547162.48	1372027.46
12+14	8" VALVE	SHT. 7	547153.96	1372040.99
12+28.5	8" x 8" TEE	SHT. 7	547146.22	1372053.28
<b>DONALD AVENUE</b>				
12+28.5	8" x 8" TEE	SHT. 7	547146.22	1372053.28
12+35	8" VALVE	SHT. 7	547140.70	1372049.76
15+88	8" - 22 1/2° HORIZ. BEND	SHT. 7	546841.11	1371858.55
15+96	8" - 45° HORIZ. BEND	SHT. 7	546835.38	1371860.36
15+99	8" VALVE	SHT. 7	546833.15	1371857.67
16+02 = 15+43	8" x 8" TEE	SHT. 7	546830.91	1371854.98

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

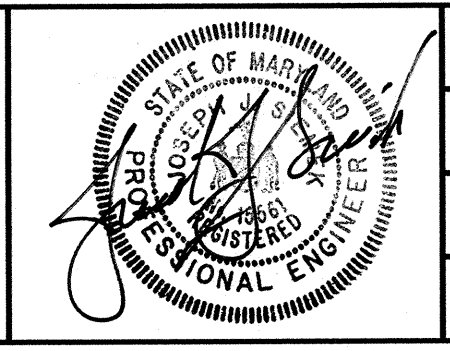
*James M. Alston* 12/15/00  
DIRECTOR OF PUBLIC WORKS DATE

*Robert M. Reinger* 12-20-00  
CHIEF, BUREAU OF UTILITIES DATE

*Wallace Montgomery* 12/15/00  
CHIEF, BUREAU OF ENGINEERING DATE

*Oliver Deaton* 12-13-00  
CHIEF, UTILITY DESIGN DIVISION DATE

**WALLACE, MONTGOMERY & ASSOCIATES**  
CIVIL AND STRUCTURAL ENGINEERS  
110 WEST ROAD  
TOWSON, MARYLAND 21204



DES: L.A.F.					
DRN: K.J.P.					
CHK: J.J.S.					
APRIL DATE: 2000					
BY: NO.		REVISION		DATE	

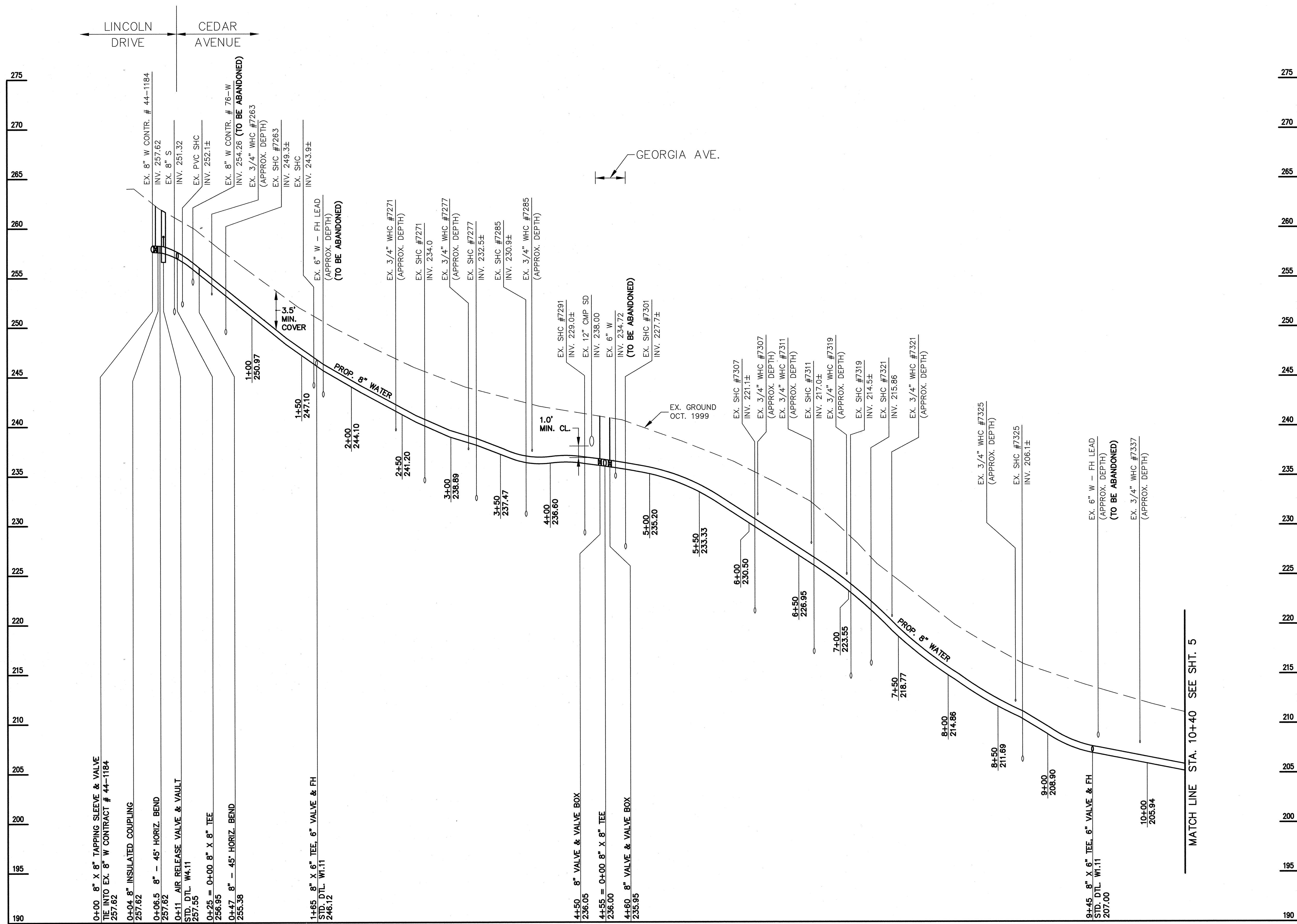
60' SCALE MAP NO. 43 BLOCK NO. 8

**CEDAR ACRES  
CAPITAL PROJECT W-8223  
CONTRACT NO. 24-3811  
ELECTION DISTRICT NO. 6  
HOWARD COUNTY, MARYLAND**

SCALE AS SHOWN

SHEET 3 OF 13





**8" WATER: CEDAR AVENUE**

SCALE: 1"=50' HORIZ.  
1"=5' VERT.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

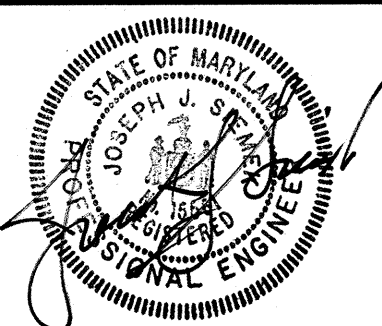
*James P. Lewis* 12/13/00  
DIRECTOR OF PUBLIC WORKS DATE

*Robert M. Beninger* 12-20-00  
CHIEF, BUREAU OF UTILITIES DATE

*Paul J. Johnson* 12/13/00  
CHIEF, BUREAU OF ENGINEERING DATE

*D. J. [Signature]* 12-13-00  
CHIEF, UTILITY DESIGN DIVISION DATE

**WALLACE, MONTGOMERY & ASSOCIATES**  
CIVIL AND STRUCTURAL ENGINEERS  
110 WEST ROAD  
TOWSON, MARYLAND 21204



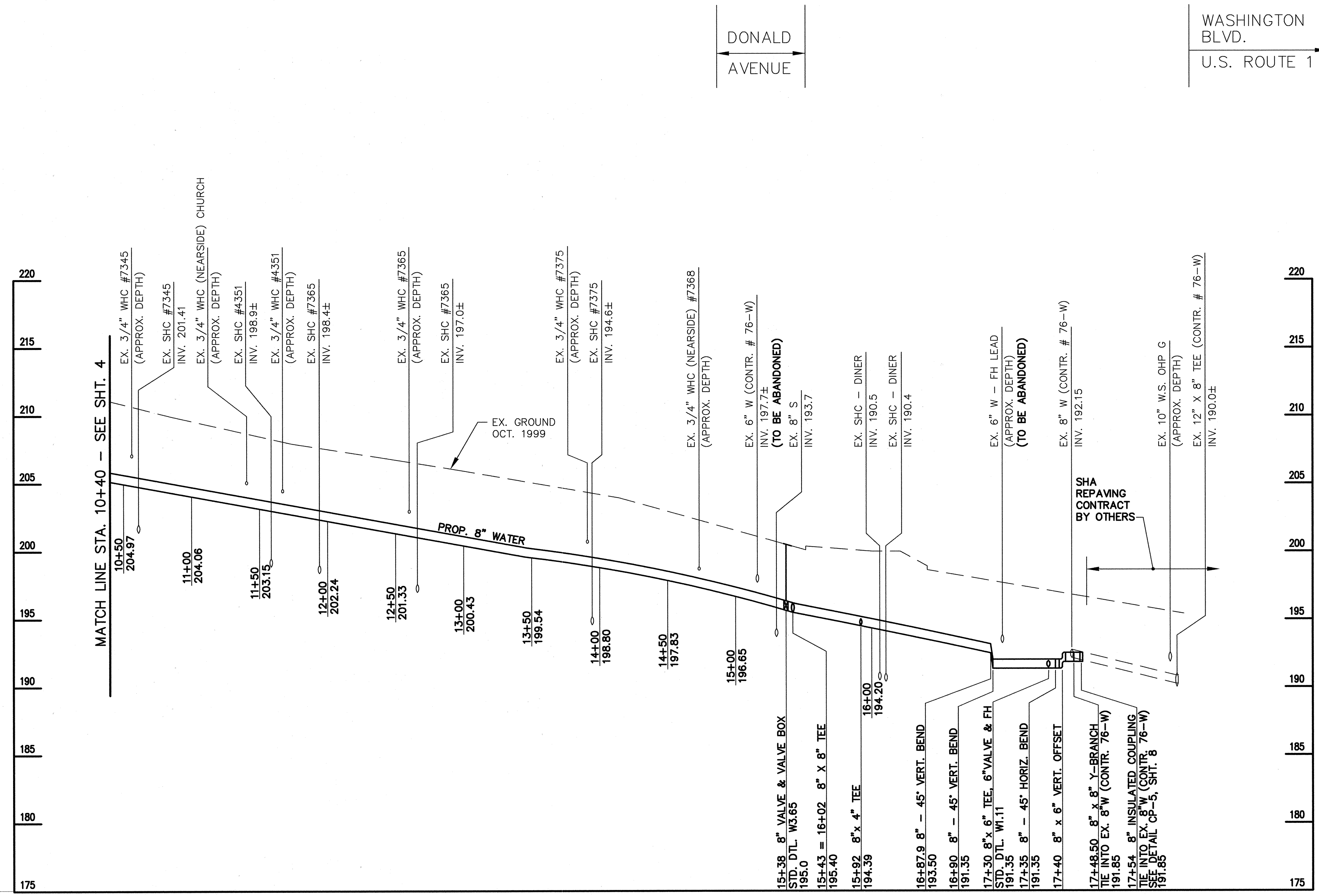
DES:	L.A.F.			
DRN:	K.J.P.			
CHK:	J.J.S.			
DATE:	DEC. 2000			
BY:		NO.		REVISION

**PROFILE**

600' SCALE MAP NO. 43 BLOCK NO. 8

CEDAR ACRES  
CAPITAL PROJECT W-8223  
CONTRACT NO. 24-3811  
ELECTION DISTRICT NO. 6  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 4 OF 13



DONALD AVENUE

WASHINGTON BLVD.  
U.S. ROUTE 1

**8" WATER: CEDAR AVENUE**

SCALE: 1"=50' HORIZ.  
1"=5' VERT.

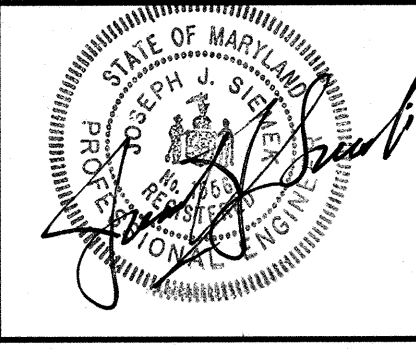
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Robert M. Beringer* 12-20-00  
DIRECTOR OF PUBLIC WORKS DATE

*Robert J. Sporn* 12/13/00  
CHIEF, BUREAU OF ENGINEERING DATE

*Dianna Kim* 12-13-00  
CHIEF, UTILITY DESIGN DIVISION DATE

**WALLACE, MONTGOMERY & ASSOCIATES**  
CIVIL AND STRUCTURAL ENGINEERS  
110 WEST ROAD  
TOWSON, MARYLAND 21204



DES:	L.A.F.
DRN:	K.J.P.
CHK:	J.J.S.
DATE:	DEC. 2000
BY:	NO.
REVISION:	

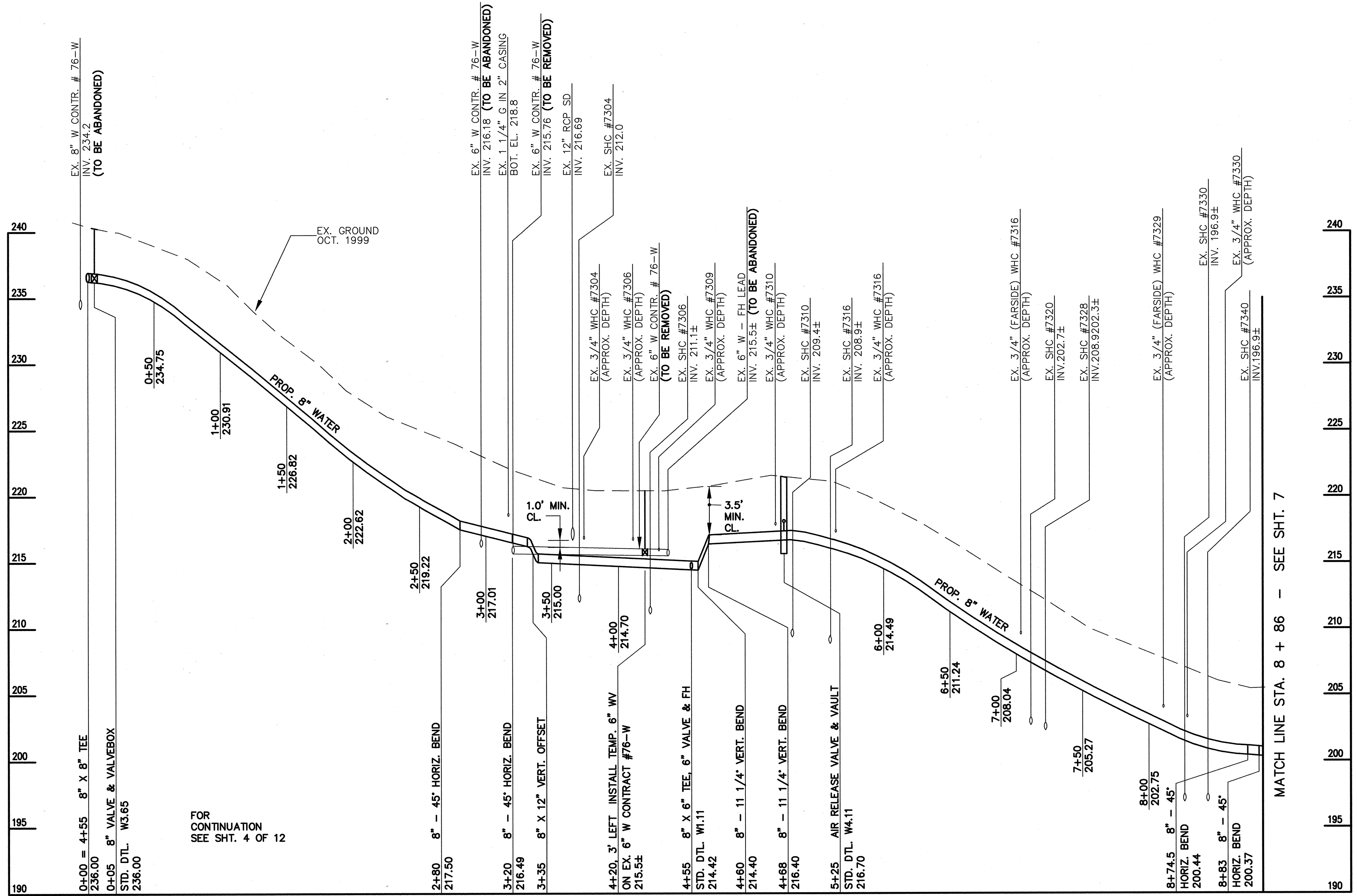
PROFILE

600' SCALE MAP NO. 43 BLOCK NO. 8

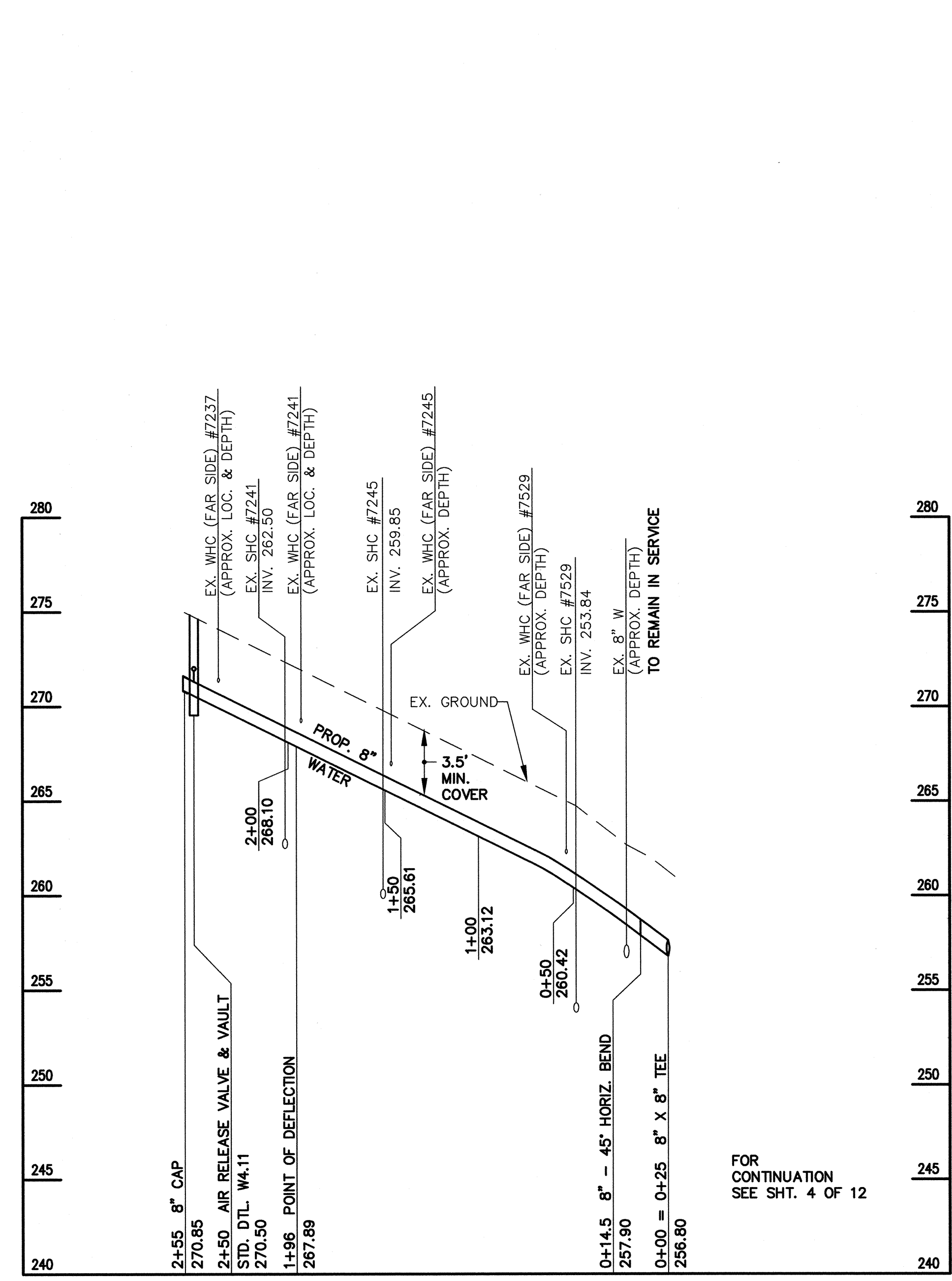
CEDAR ACRES  
CAPITAL PROJECT W-8223  
CONTRACT NO. 24-3811  
ELECTION DISTRICT NO. 6  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 5 OF 13

CEDAR AVE.                      GEORGIA AVE.                      WYE AVE.



**8" WATER: GEORGIA AVENUE & WYE AVENUE**  
 SCALE: 1"=50' HORIZ.  
 1"=5' VERT.



**8" WATER: CEDAR AVENUE - NORTH OF LINCOLN DR.**  
 SCALE: 1"=50' HORIZ.  
 1"=5' VERT.

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

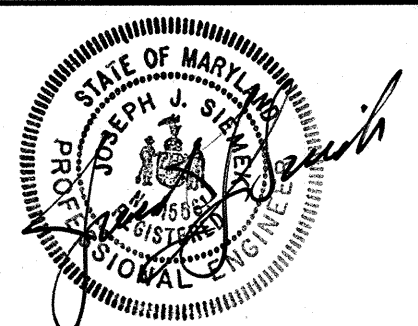
*James P. Han* 12/13/00  
 DIRECTOR OF PUBLIC WORKS DATE

*Robert M. Benjamin* 12-20-00  
 CHIEF, BUREAU OF UTILITIES DATE

*Paul M. Jopson* 12/13/00  
 CHIEF, BUREAU OF ENGINEERING DATE

*D. J. ...* 12-13-00  
 CHIEF, UTILITY DESIGN DIVISION DATE

**WALLACE, MONTGOMERY & ASSOCIATES**  
 CIVIL AND STRUCTURAL ENGINEERS  
 110 WEST ROAD  
 TOWSON, MARYLAND 21204



DES:	L.A.F.				
DRN:	K.J.P.				
CHK:	J.J.S.				
DATE:	DEC. 2000				
BY:	NO.	REVISION	DATE	600' SCALE MAP NO. 43	BLOCK NO. 8

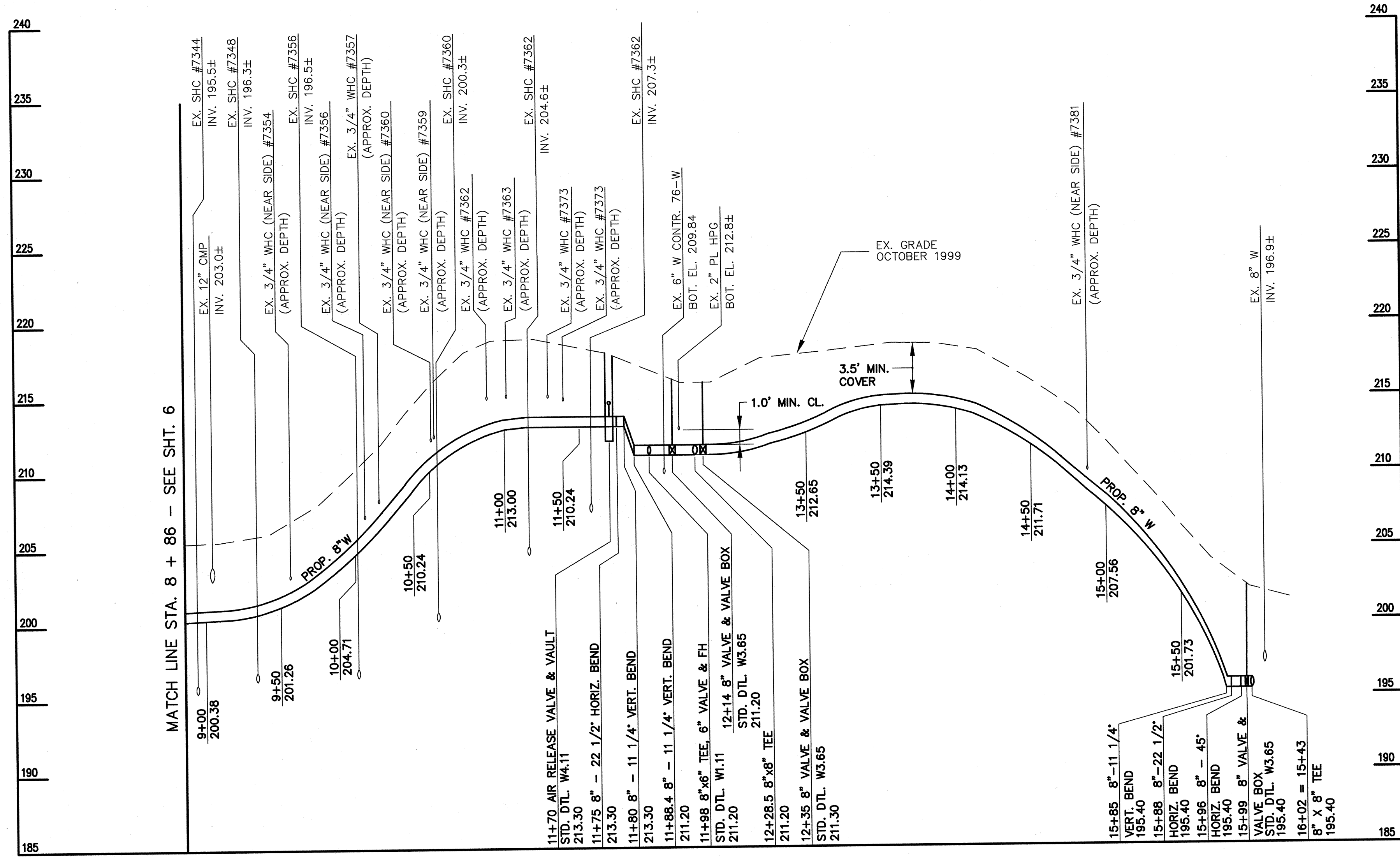
PROFILE

CEDAR ACRES  
 CAPITAL PROJECT W-8223  
 CONTRACT NO. 24-3811  
 ELECTION DISTRICT NO. 6  
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
 SHEET 6 OF 13



← WYE AVE. DONALD AVE. →



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James M. New* 12/13/00  
DIRECTOR OF PUBLIC WORKS DATE

*Ronald J. Seaman* 12/13/00  
CHIEF, BUREAU OF ENGINEERING DATE

*Robert Bauman* 12-20-00  
CHIEF, BUREAU OF UTILITIES DATE

*Debra D. Quinn* 12-13-00  
CHIEF, UTILITY DESIGN DIVISION DATE

**WALLACE, MONTGOMERY & ASSOCIATES**  
CIVIL AND STRUCTURAL ENGINEERS  
110 WEST ROAD  
TOWSON, MARYLAND 21204



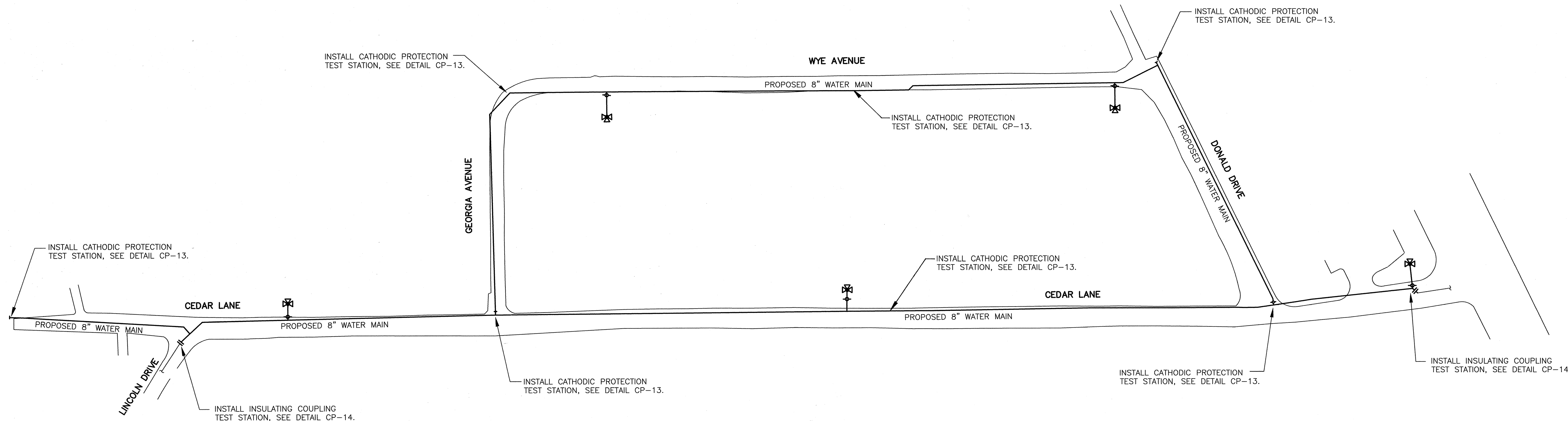
DES:	L.A.F.
DRN:	K.J.P.
CHK:	J.J.S.
DEC. DATE:	2000
BY:	NO.
REVISION:	
DATE:	

PROFILE

600' SCALE MAP NO. 43 BLOCK NO. 8

CEDAR ACRES  
CAPITAL PROJECT W-8223  
CONTRACT NO. 24-3811  
ELECTION DISTRICT NO. 6  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 7 OF 13



**CATHODIC PROTECTION LAYOUT**  
NOT TO SCALE

**NOTES:**

1. WATER SERVICES NOT SHOWN.
2. ALL WATER SERVICE CONNECTIONS MUST BE ELECTRICALLY ISOLATED FROM WATER MAIN. SEE DETAIL CP-6. PLASTIC SERVICES DO NOT REQUIRE ISOLATION.
3. ELECTRICAL ISOLATION IS REQUIRED FOR ALL CONNECTIONS TO NEW DUCTILE IRON WATER MAIN. SEE DETAILS CP-5 AND CP-6.
4. INSTALL SEPARATOR MESH ON WATER MAIN AT EXISTING UTILITY CROSSINGS IF THERE IS LESS THAN 12 INCHES OF SPACING BETWEEN THEM. SEE DETAIL CP-7.
5. COAT ALL NEW DUCTILE IRON PIPING WITH POLYURETHANE IN ACCORDANCE WITH THE SPECIFICATIONS.
6. COAT ALL JOINTS AND FITTINGS IN ACCORDANCE WITH THE SPECIFICATIONS.
7. BOND ALL NEW DUCTILE IRON PIPE JOINTS EXCEPT THOSE THAT ARE SPECIFIED TO BE ELECTRICALLY ISOLATED. SEE DETAILS CP-1, CP-2, CP-3 AND CP-4.

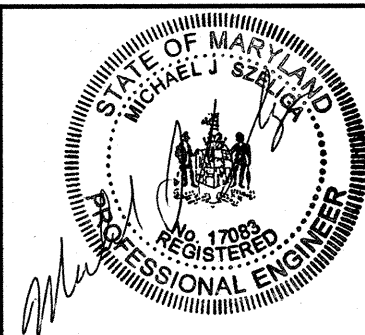
**LEGEND:**

- PROPOSED WATER MAIN
- INSULATING COUPLING

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<b>DEPARTMENT OF PUBLIC WORKS</b> HOWARD COUNTY, MARYLAND	
<i>James J. Sullivan</i> DIRECTOR OF PUBLIC WORKS DATE 12/21/00	<i>Michael J. Szymanski</i> CHIEF, BUREAU OF ENGINEERING DATE 12/13/00
<i>Robert M. Bunker</i> CHIEF, BUREAU OF UTILITIES DATE 12-20-00	<i>Debra D. Quinn</i> CHIEF, UTILITY DESIGN DATE 12-13-00

**RUSSELL CORROSION CONSULTANTS, INC.**  
 5405 TWIN KNOLLS RD., SUITE 3  
 COLUMBIA, MD 21045



DES: MJS			
DRN: ZGS			
CHK: MJS/DMS			
DATE: 8/00	BY	NO.	REVISION

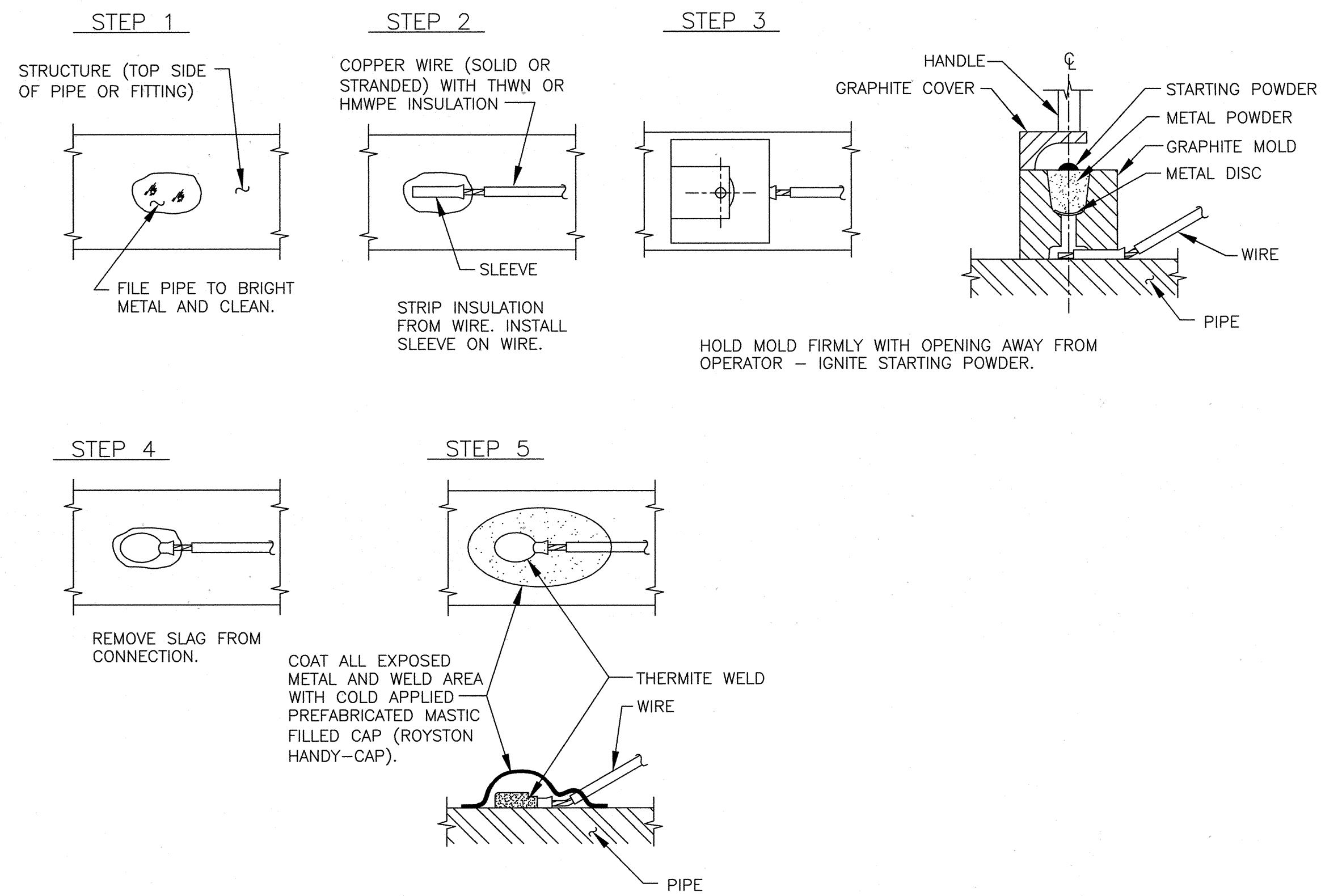
CATHODIC PROTECTION LAYOUT	
NO. 600' SCALE MAP NO. 43	BLOCK NO. 8

CEDAR ACRES  
 CAPITAL PROJECT W-8223  
 CONTRACT NO. 24-3811  
 ELECTION DISTRICT NO. 6  
 HOWARD COUNTY, MARYLAND

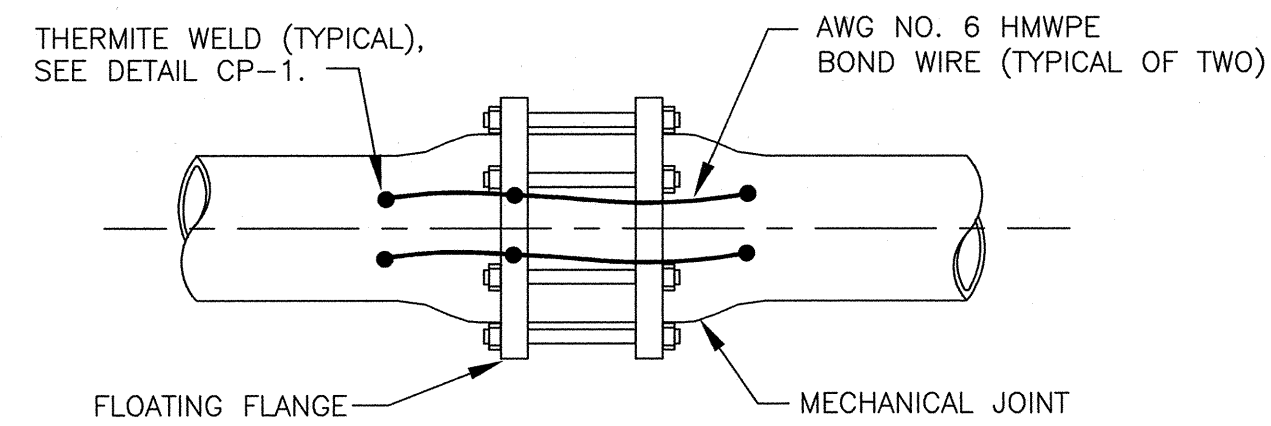
SCALE:  
NONE

SHEET  
8 OF 13

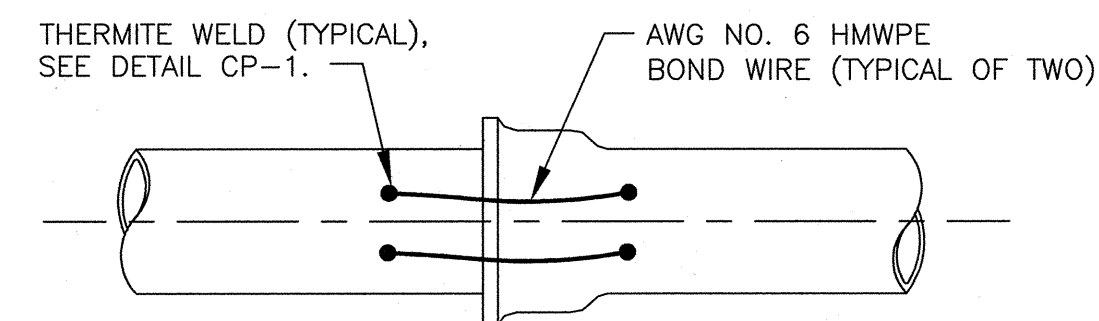




CP-1: TYPICAL THERMITE WELD

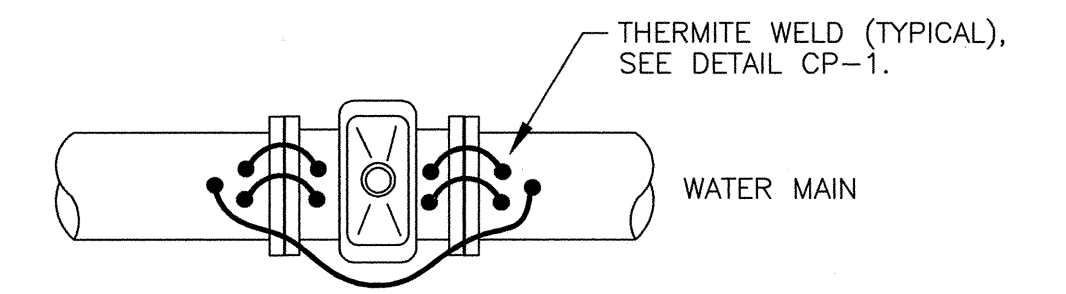


MECHANICAL JOINT

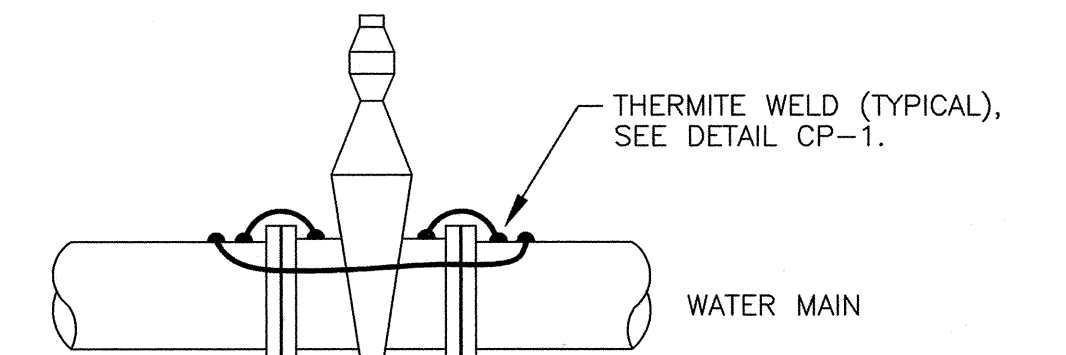


BELL AND SPIGOT JOINT

CP-2: TYPICAL PIPE JOINT BOND

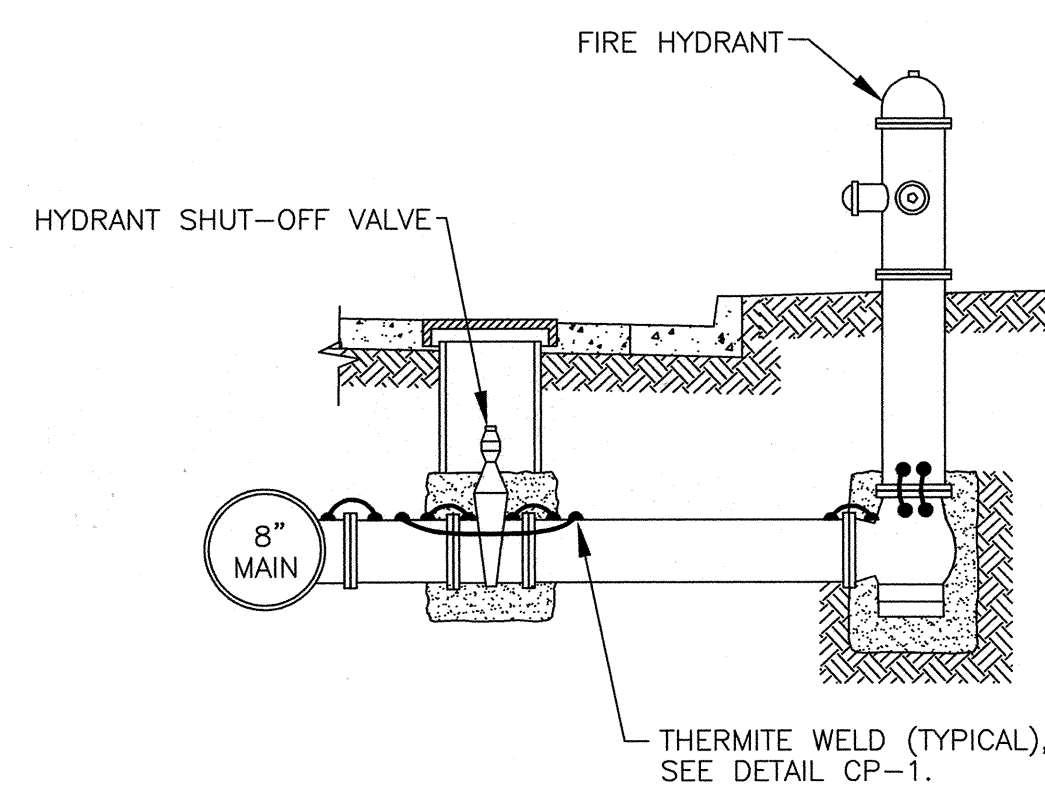


PLAN VIEW



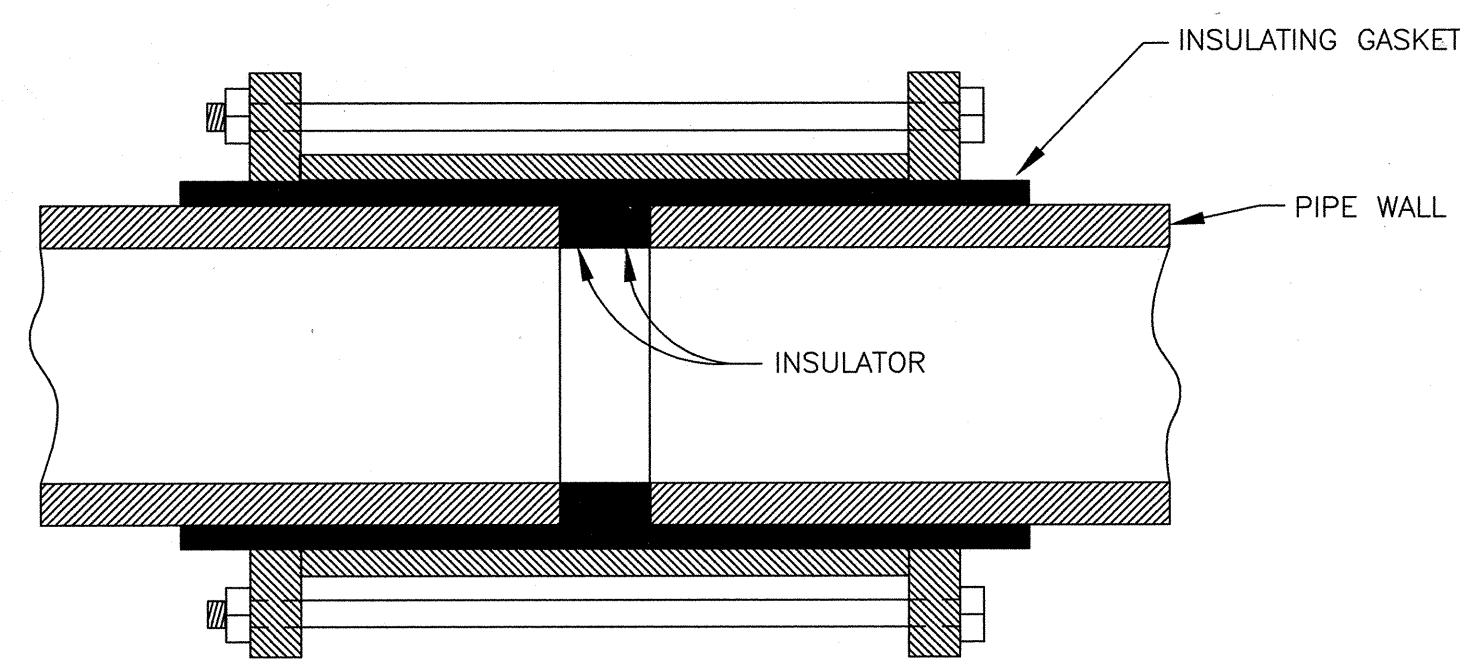
PROFILE

CP-3: BONDING OF VALVES



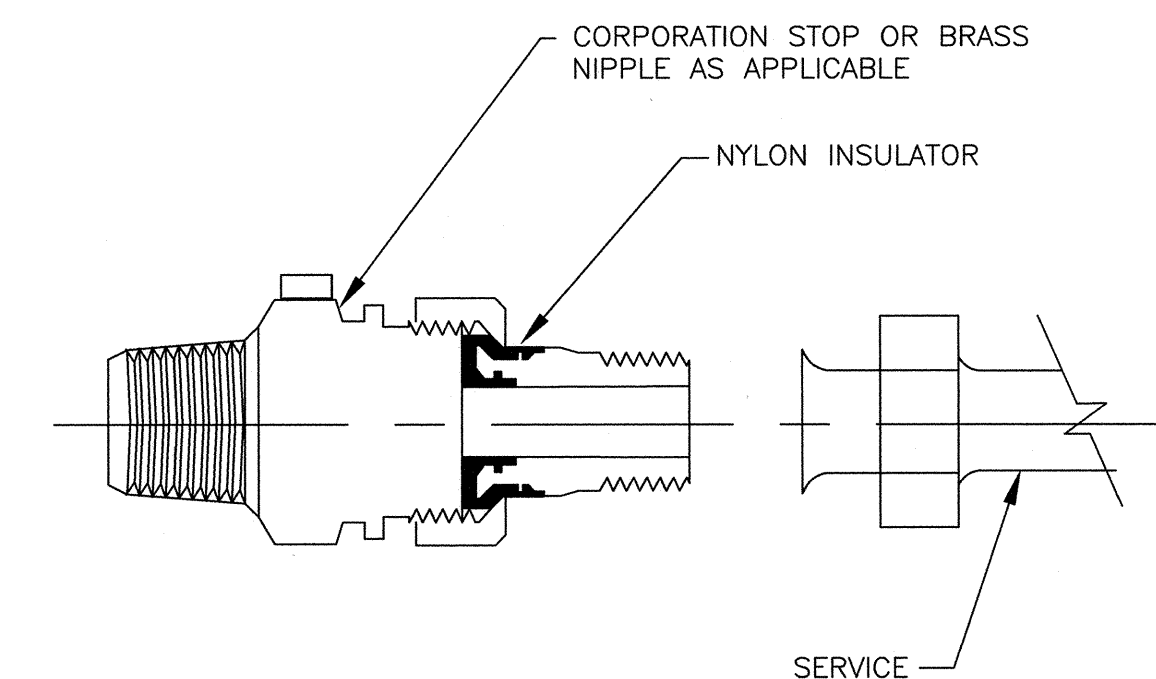
- NOTES:
1. BOND ALL DUCTILE IRON COMPONENTS TOGETHER WITH AWG NO. 6 HMWPE WIRES.
  2. INSTALL BOND WIRES ON TOP OF PIPE OR FITTING WHERE POSSIBLE.
  3. INSTALL A MINIMUM OF TWO BOND CABLES ACROSS EACH PIPE JOINT.
  4. SEE DETAIL CP-3 FOR BONDING OF VALVE.

CP-4: ELECTRICAL BONDING OF HYDRANT PIPING



- NOTE:
1. COAT INSULATING COUPLING WITH TWO LAYERS OF TAPE COATING. SEE DETAIL CP-10.

CP-5: INSULATING COUPLING



- NOTES:
1. INSTALL ELECTRICAL ISOLATION ON ALL WATER SERVICE CONNECTIONS TO DUCTILE IRON MAIN.
  2. COAT EXTERIOR OF SERVICE PIPING WITH TWO COATS OF COAL TAR MASTIC (20 MILS TOTAL) FOR A DISTANCE OF 12 INCHES ON EITHER SIDE OF INSULATOR.
  3. ELECTRICAL ISOLATION NOT REQUIRED IF WATER SERVICE PIPING IS PLASTIC.

CP-6: ELECTRICAL ISOLATION FOR SERVICE

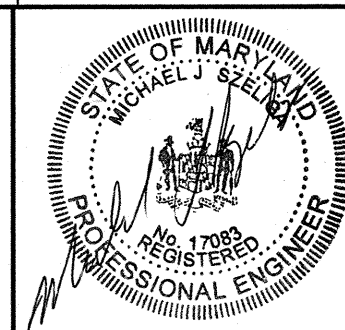
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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James P. Lewis* 12/21/00  
DIRECTOR OF PUBLIC WORKS DATE

*Russell P. Johnson* 12/13/00  
CHIEF, BUREAU OF ENGINEERING DATE

RUSSELL CORROSION CONSULTANTS, INC.  
5405 TWIN KNOLLS RD., SUITE 3  
COLUMBIA, MD 21045



DES:	MJS				
DRN:	ZGS				
CHK:	MJS/DMS				
DATE:	8/00	BY	NO.	REVISION	NO.

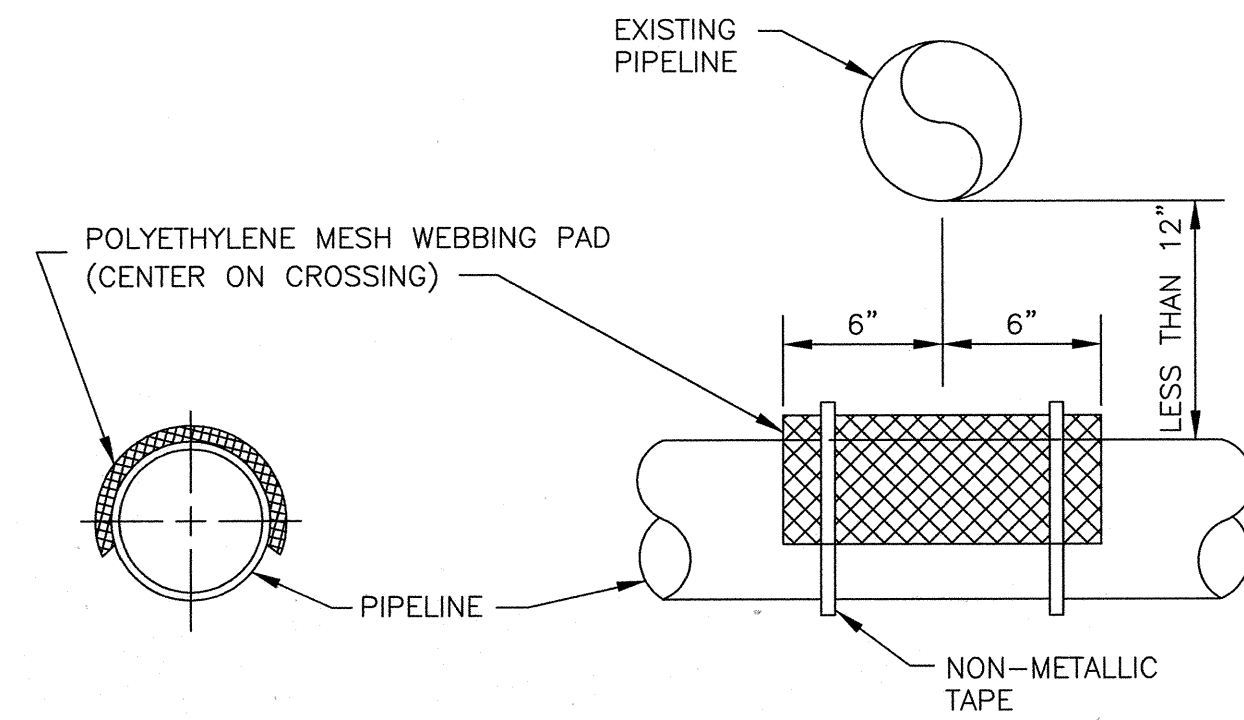
CATHODIC PROTECTION DETAILS-1

600' SCALE MAP NO. 43 BLOCK NO. 8

CEDAR ACRES  
CAPITAL PROJECT W-8223  
CONTRACT NO. 24-3811  
ELECTION DISTRICT NO. 6  
HOWARD COUNTY, MARYLAND

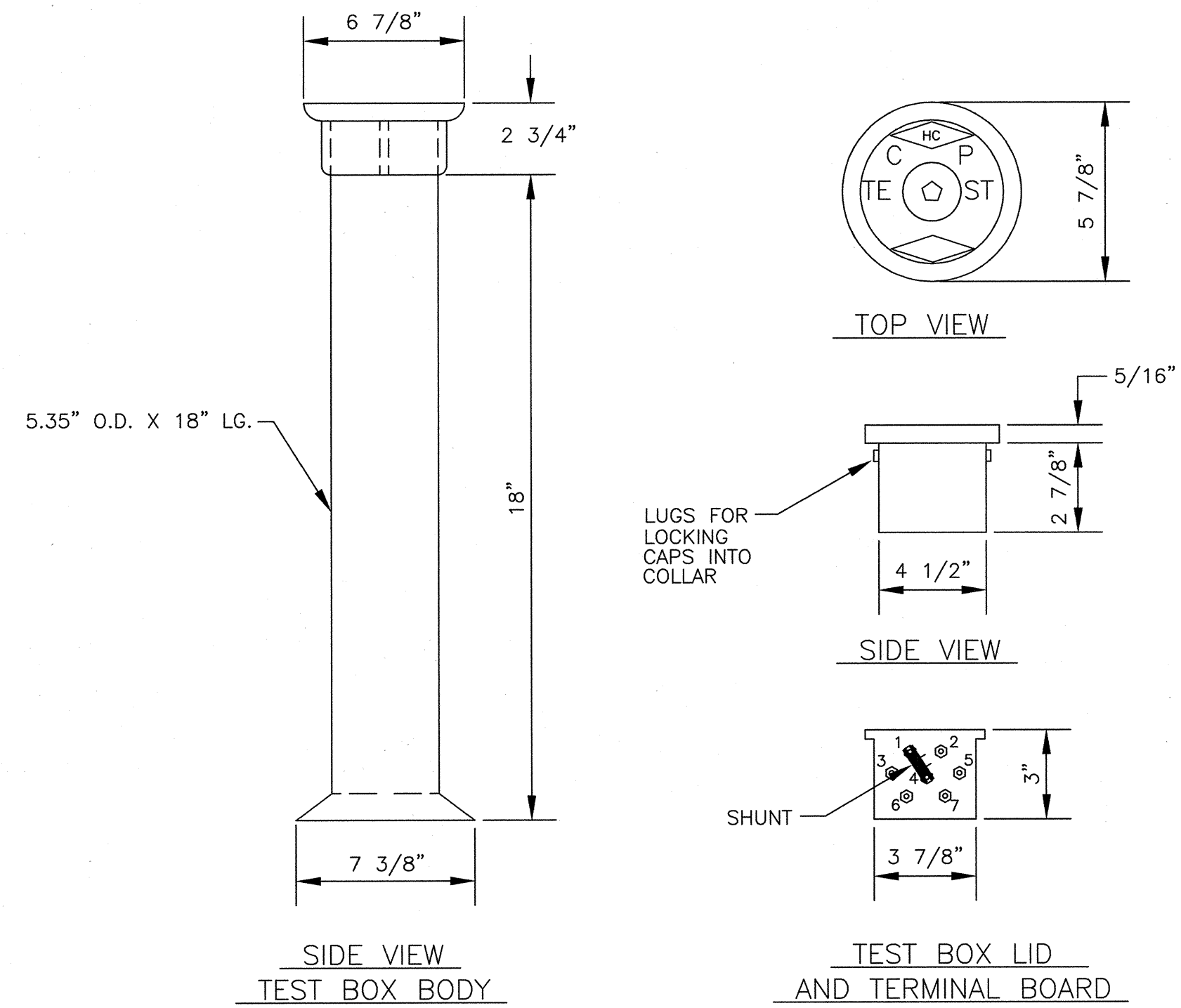
SCALE:  
NONE

SHEET  
9 OF 13

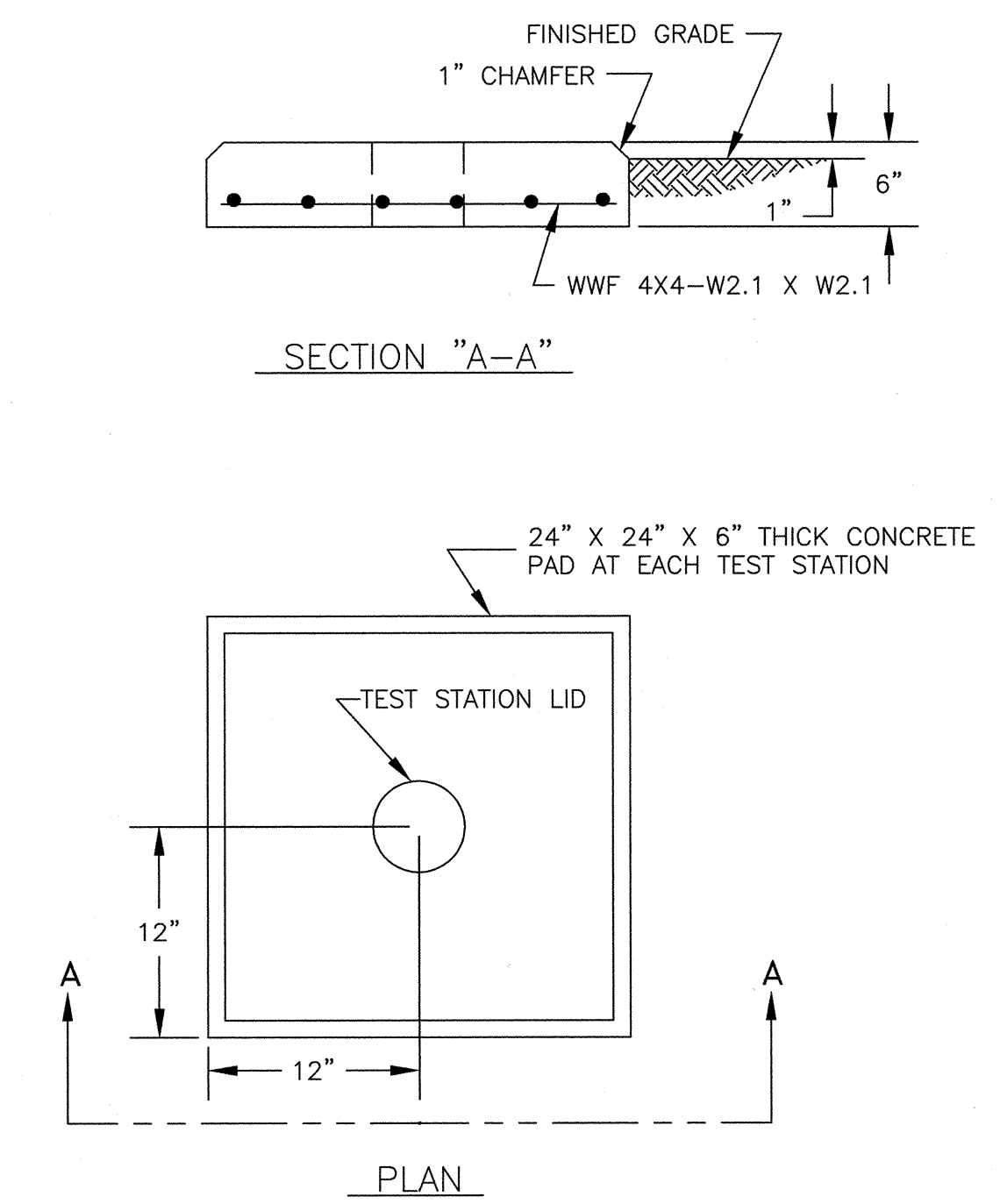


NOTE:  
USE ONLY WHEN PIPES ARE LESS THAN 12" APART.

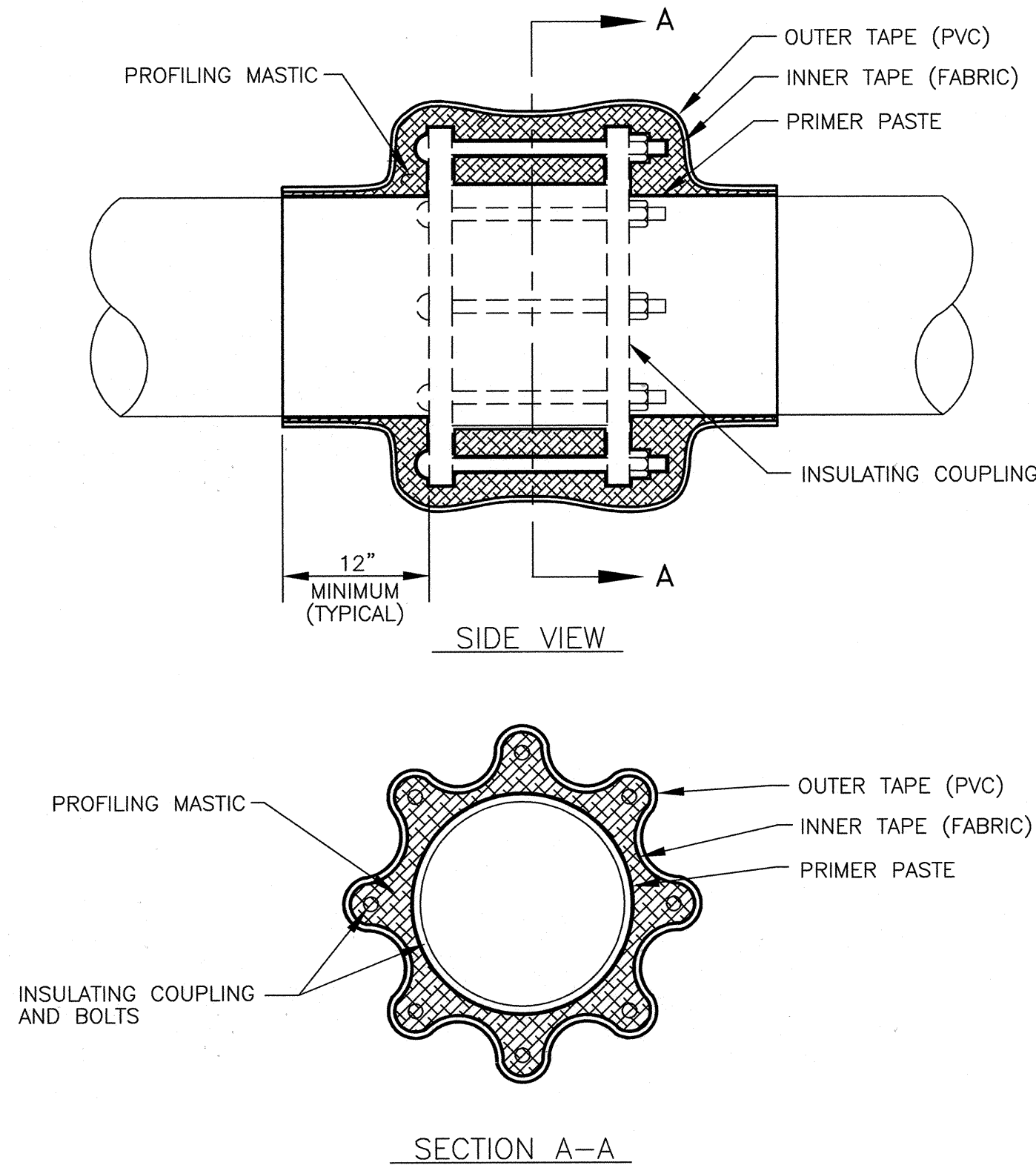
CP-7: SEPARATOR TO AVOID ELECTRICAL CONTACT



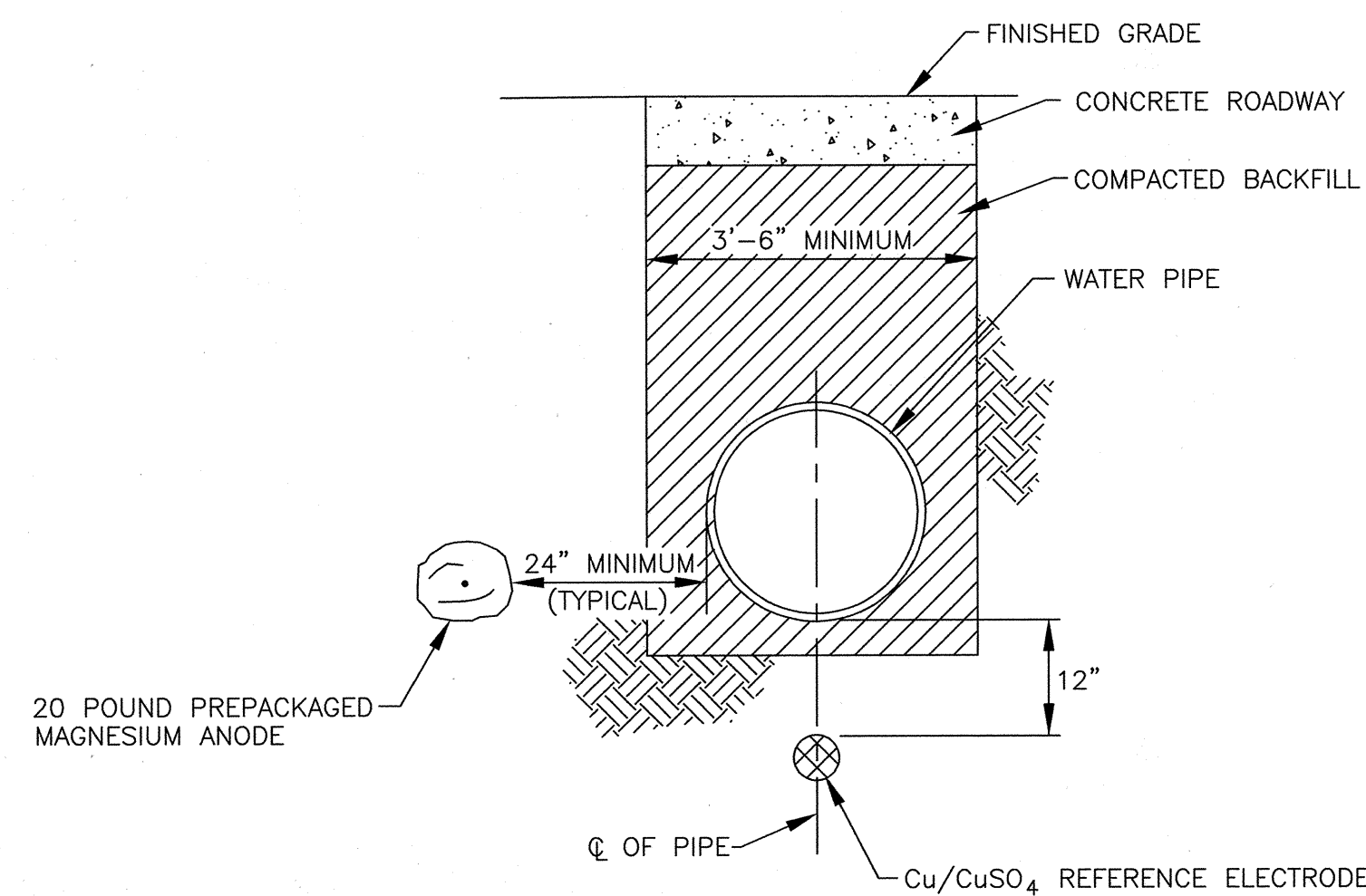
CP-8: TEST BOX



CP-9: TEST STATION PAD

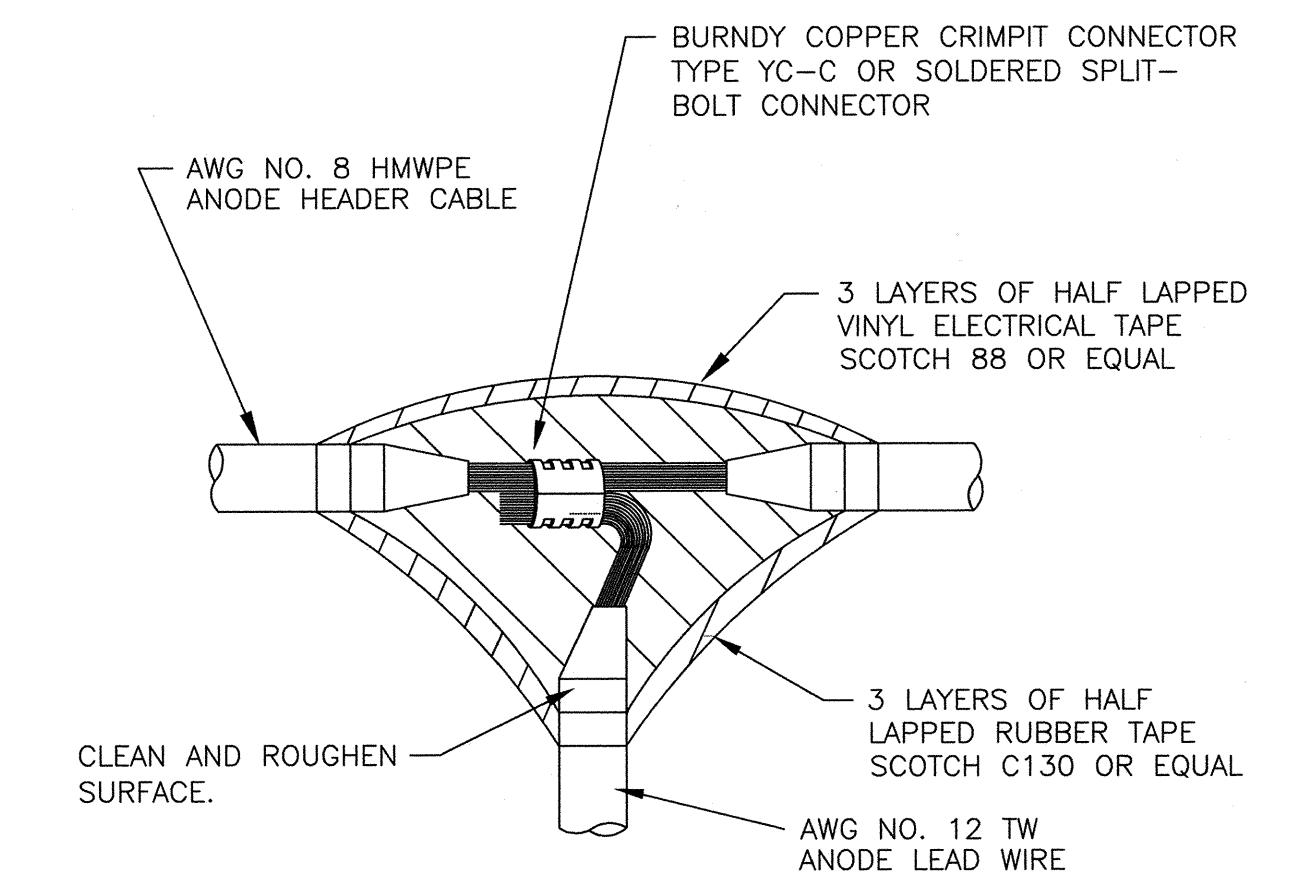


CP-10 : COATING OF INSULATING COUPLING



NOTE:  
THREE ANODES ARE TO BE INSTALLED ON ONE SIDE OF PIPE AND SHALL BE SPICED TO A COMMON LOOPED HEADER CABLE THAT IS TERMINATED IN TEST BOX.

CP-11 : ANODE AND REFERENCE ELECTRODE PLACEMENT



CP-12 : ANODE SPLICE

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Robert M. Bennett*  
DIRECTOR OF PUBLIC WORKS  
DATE 12-20-00  
CHIEF, BUREAU OF UTILITIES

*Robert M. Bennett*  
CHIEF, BUREAU OF ENGINEERING  
DATE 12/13/00  
*Robert M. Bennett*  
CHIEF, UTILITY DESIGN  
DATE 12-13-00

RUSSELL CORROSION CONSULTANTS, INC.  
5405 TWIN KNOLLS RD., SUITE 3  
COLUMBIA, MD 21045



DES:	MJS			
DRN:	ZGS			
CHK:	MJS/DMS			
DATE:	8/00			
BY	NO.	REVISION	NO.	

CATHODIC PROTECTION DETAILS-2

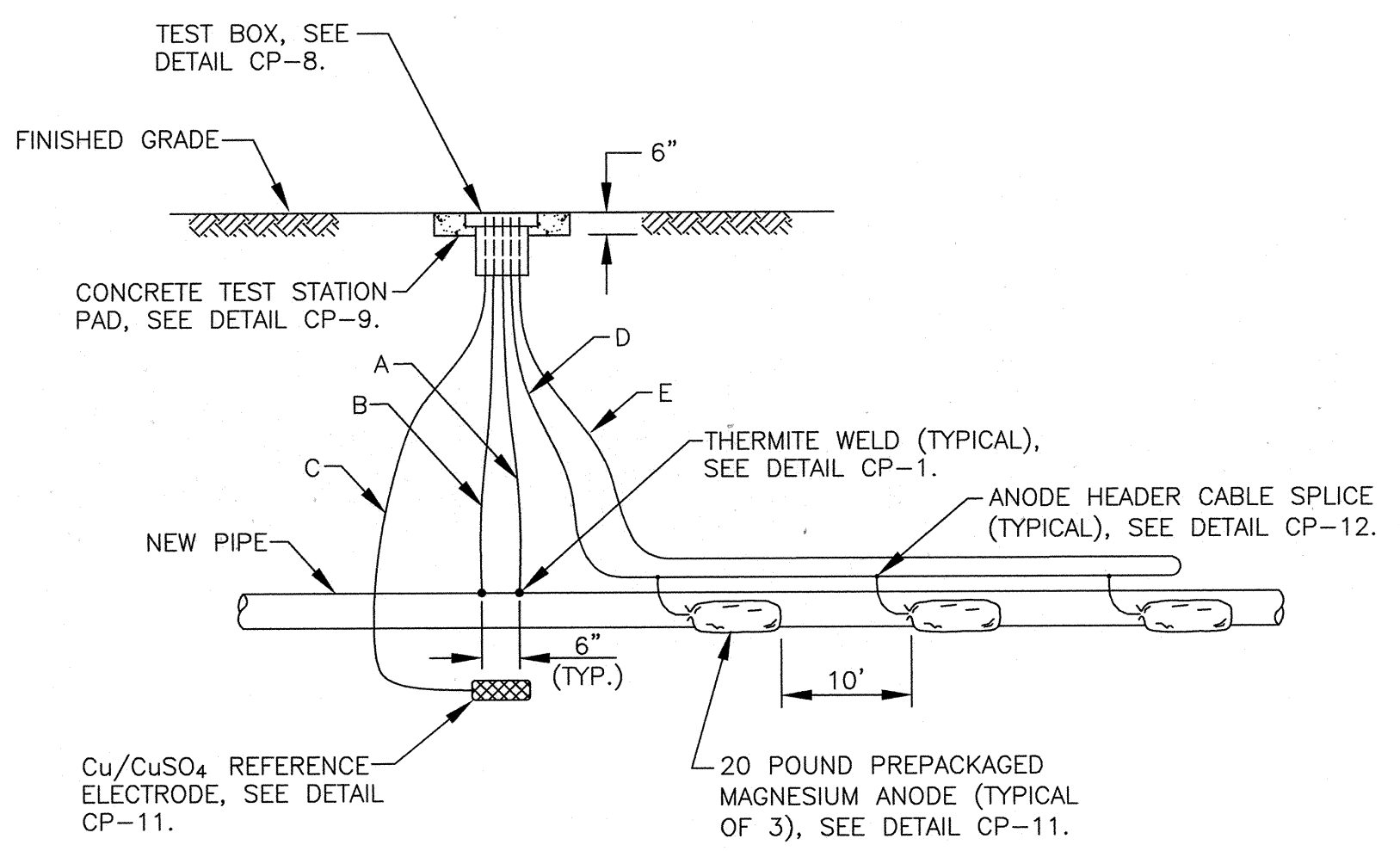
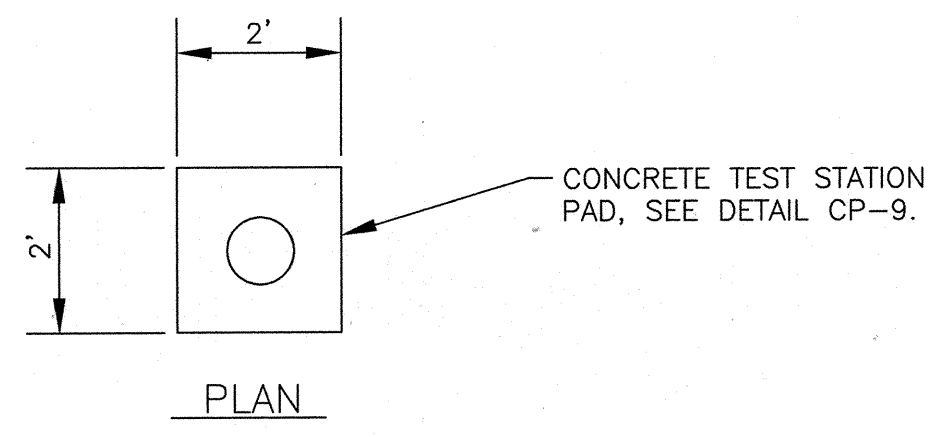
600' SCALE MAP NO. 43 BLOCK NO. 8

CEDAR ACRES  
CAPITAL PROJECT W-8223  
CONTRACT NO. 24-3811  
ELECTION DISTRICT NO. 6  
HOWARD COUNTY, MARYLAND

SCALE:  
NONE

SHEET  
10 OF 13





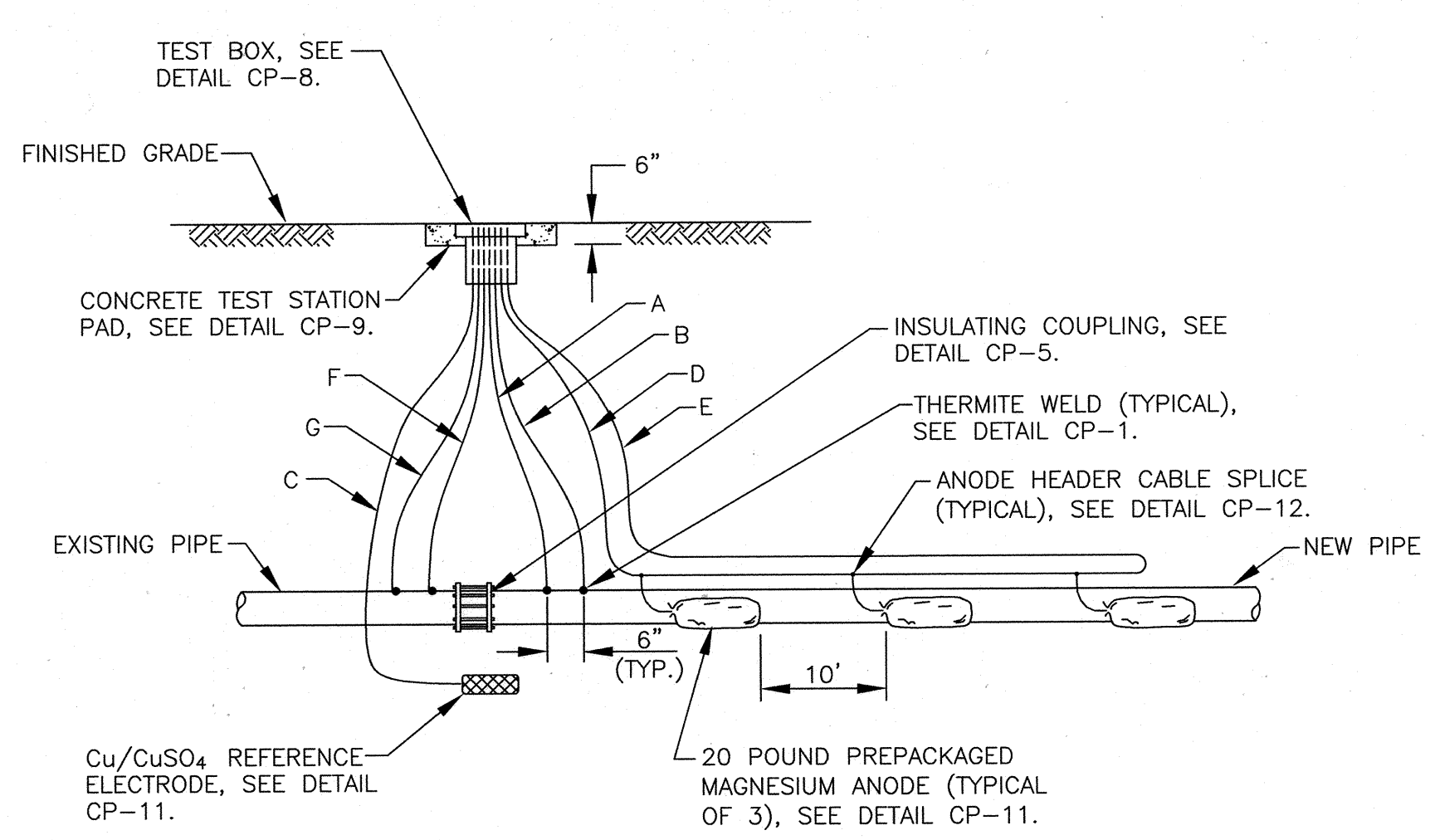
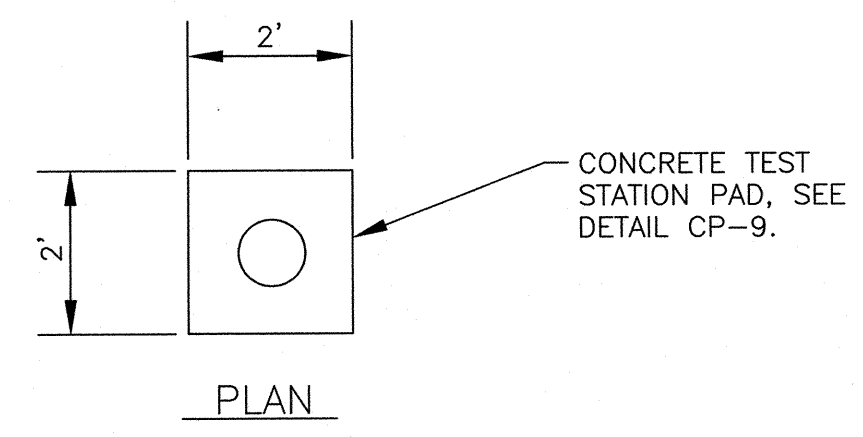
WIRING SCHEDULE					
DESCRIPTION	WIRE	TEST STATION TERMINAL	AWG WIRE SIZE	TYPE INSULATION	COLOR INSULATION
NEW PIPE	A B	1 3	#10 #10	THWN THWN	BLUE BLUE
PERMANENT REFERENCE ELECTRODE	C	6	#14	HMWPE	BLACK
MAGNESIUM ANODE HEADER CABLE	D E	4 4	#8 #8	HMWPE HMWPE	BLACK BLACK

- NOTES:
1. ANODES TO BE PLACED AT SAME DEPTH AS THE BOTTOM OF THE PIPE AND AT A MINIMUM OF 24" FROM EDGE OF PIPE. ANODES SHALL BE INSTALLED IN NATIVE EARTH AND NOT IN GRAVEL. SEE DETAIL CP-11 FOR PLACEMENT REQUIREMENTS.
  2. DO NOT SET TEST STATION IN ROADWAY. PLACE TEST BOX IN NON-PAVED AREA NEXT TO ROADWAY. ROUTE ALL WIRES TO FINAL TEST BOX LOCATION.
  3. INSTALL 0.01 OHM/8 AMPERE SHUNT BETWEEN TERMINALS 1 AND 4.

CP-13: CATHODIC PROTECTION TEST STATION

CATHODIC PROTECTION TEST STATION SCHEDULE CEDAR ACRES		
LOCATION	TEST STATION TYPE	DETAIL NUMBER
NORTHWEST END OF PIPE IN CEDAR LANE	CATHODIC PROTECTION	CP-13
CONNECTION TO EXISTING PIPING IN LINCOLN DRIVE	INSULATING COUPLING	CP-14
TEE AT CEDAR LANE AND GEORGIA AVENUE	CATHODIC PROTECTION	CP-13
WYE AVENUE AT GEORGIA AVENUE	CATHODIC PROTECTION	CP-13
WYE AVE AT DONALD DRIVE	CATHODIC PROTECTION	CP-13
TEE AT CEDAR LANE AND DONALD DRIVE	CATHODIC PROTECTION	CP-13
CONNECTION TO EXISTING PIPING AT EAST END OF CEDAR LANE	INSULATING COUPLING	CP-14
WYE AVENUE BETWEEN DONALD DRIVE AND GEORGIA AVENUE	CATHODIC PROTECTION	CP-13
CEDAR LANE BETWEEN DONALD DRIVE AND GEORGIA AVENUE	CATHODIC PROTECTION	CP-13

CP-15: TEST STATION SCHEDULE



WIRING SCHEDULE					
DESCRIPTION	WIRE	TEST STATION TERMINAL	AWG WIRE SIZE	TYPE INSULATION	COLOR INSULATION
NEW PIPE	A B	1 3	#10 #10	THWN THWN	BLUE BLUE
PERMANENT REFERENCE ELECTRODE	C	6	#14	HMWPE	BLACK
MAGNESIUM ANODE HEADER CABLE	D E	4 4	#8 #8	HMWPE HMWPE	BLACK BLACK
EXISTING PIPE	F G	2 5	#10 #10	THWN THWN	WHITE WHITE

- NOTES:
1. ANODES TO BE PLACED AT SAME DEPTH AS THE BOTTOM OF THE PIPE AND AT A MINIMUM OF 24" FROM EDGE OF PIPE. ANODES SHALL BE INSTALLED IN NATIVE EARTH AND NOT IN GRAVEL. SEE DETAIL CP-11 FOR PLACEMENT REQUIREMENTS.
  2. DO NOT SET TEST STATION IN ROADWAY. PLACE TEST BOX IN NON-PAVED AREA NEXT TO ROADWAY. ROUTE ALL WIRES TO FINAL TEST BOX LOCATION.
  3. INSTALL 0.01 OHM/8 AMPERE SHUNT BETWEEN TERMINALS 1 AND 4.

CP-14: INSULATING COUPLING TEST STATION

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DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>James P. Blum</i> 12/13/00 Chief, Bureau of Engineering: <i>Robert D. Swain</i> 12-20-00 Chief, Bureau of Utilities: <i>Robert D. Swain</i> 12-20-00 Chief, Utility Design: <i>Robert D. Swain</i> 12-13-00		RUSSELL CORROSION CONSULTANTS, INC. 5405 TWIN KNOLLS RD., SUITE 3 COLUMBIA, MD 21045	DES: MJS DRN: ZGS CHK:MJS/DMS DATE: 8/00	STATE OF MARYLAND PROFESSIONAL ENGINEER [Seal]	CATHODIC PROTECTION DETAILS-3	CEDAR ACRES CAPITAL PROJECT W-8223 CONTRACT NO. 24-3811 ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND	SCALE: NONE SHEET 11 OF 13
			BY NO. REVISION NO.	600' SCALE MAP NO. 43 BLOCK NO. 8			

Mon, Dec 11 13:23:56 2000



### STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (410-313-1855).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITH: A.) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, B.) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING AND MULCHING (SEC. G). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. 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.
7. SITE ANALYSIS:  
 TOTAL AREA OF SITE = 16.31 ACRES  
 AREA DISTURBED = 0.26 ACRES  
 AREA TO BE ROOFED OR PAVED = 0.25 ACRES  
 AREA TO BE VEGETATIVELY STABILIZED = 0.01 ACRES  
 TOTAL CUT = N/A CU. YDS.  
 TOTAL FILL = N/A CU. YDS.  
 OFF SITE WASTE/BORROW AREA LOCATION: SITE WITH AN ACTIVE GRADING PERMIT AS APPROVED BY ENGINEER
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
12. PLACE EXCAVATED SOIL ON THE UPHILL SIDE OF THE TRENCHES.

### 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 LOOSENEED.

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

- 1) **PREFERRED** - APPLY 2 TONS PER ACRES DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/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 UREA FORM FERTILIZER (9 LBS/1000 SQ. FT.)
- 2) **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 (0.05 LBS/1000 SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, 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

1. CONTACT HOWARD COUNTY BUREAU OF CONSTRUCTION INSPECTION DIVISION (410-313-1870) PRIOR TO STARTING DATE. (4 DAYS)
2. INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS PER SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL VOL. IV. (4 DAYS)
3. EXCAVATE AND INSTALL PROPOSED 8" WATER MAINS. EXCAVATE AND CONNECT EXISTING WATER HOUSE CONNECTIONS TO PROPOSED 8" WATER MAINS. (90 DAYS)
4. RESTORE TRENCHES TO THEIR ORIGINAL CONDITION WITH TEMPORARY PAVING AS PER HOWARD COUNTY STANDARDS AND SPECIFICATIONS. (4 DAYS)
5. UPON PERMISSION FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTION, REMOVE SEDIMENT CONTROL DEVICES. (3 DAYS)
6. INSTALL PERMANENT PAVING PATCH OVER TRENCHES. (5 DAYS)

STATION	TO STATION	DISTANCE	MATERIAL
<b>CEDAR AVE. - NORTH OF LINCOLN DRIVE</b>			
0+00	2+50	250'	BITUMINOUS PAVING
2+50	2+55	5'	CONCRETE DRIVEWAY
<b>CEDAR AVENUE - SOUTH OF LINCOLN DRIVE</b>			
0+00	15+50	1550'	BITUMINOUS PAVING
1+65, 2.5' LT.	1+65, 11' LT.	8.5'	PERMANENT SEEDING
2+80, 2.5' LT.	4+40, 2' LT.	180'	BITUMINOUS CURB
9+45, 4' LT.	9+45, 15' LT.	11'	PERMANENT SEEDING
13+63, 3.5' LT.	14+86, 4' LT.	123'	PERMANENT SEEDING
15+50	15+51	1'	CONC. CURB & GUTTER
15+51	16+40	89'	CONC. SIDEWALK
15+92, 2.5' LT.	15+92, 8' LT.	5.5'	PERMANENT SEEDING
16+40	16+41	1'	CONC. CURB & GUTTER
16+41	17+54	113'	BITUMINOUS PAVING
17+30, 7' LT.	17+30, 8' LT.	1'	CONC. CURB & GUTTER
17+30, 8' LT.	17+30, 15' LT.	7'	PERMANENT SEEDING
<b>GEORGIA AVENUE</b>			
0+00	3+13	313'	BITUMINOUS PAVING
1+80, 3' LT.	2+50, 3' LT.	90'	PERMANENT SEEDING
2+74, 3' LT.	2+84, 3' LT.	10'	PERMANENT SEEDING
<b>WYE AVENUE</b>			
3+13	12+03	890'	BITUMINOUS PAVING
3+80	4+36	76'	PERMANENT SEEDING
4+36	4+48	12'	BITUMINOUS DRIVEWAY
4+48	4+88	40'	PERMANENT SEEDING
4+55, 1' RT.	4+55, 10' RT.	9'	PERMANENT SEEDING

STATION	TO STATION	DISTANCE	MATERIAL
<b>WYE AVENUE (CONTINUED)</b>			
4+88	4+96	8'	BITUMINOUS DRIVEWAY
4+96	5+12	16'	CONCRETE DRIVEWAY
5+12	5+60	48'	PERMANENT SEEDING
5+60	5+63.5	3.5'	CONCRETE SIDEWALK
5+63.5	5+98	34.5'	PERMANENT SEEDING
5+98	6+12	14'	CONCRETE DRIVEWAY
6+12	6+52	40'	PERMANENT SEEDING
6+56	6+85	19'	PERMANENT SEEDING
6+88	7+15	27'	PERMANENT SEEDING
7+15	7+29	14'	CONCRETE DRIVEWAY
7+29	7+34	5'	PERMANENT SEEDING
7+34	7+37.5	3.5'	CONCRETE SIDEWALK
7+37.5	7+64	26.5'	PERMANENT SEEDING
7+64	7+88	24'	CONCRETE DRIVEWAY
7+88	8+00	12'	PERMANENT SEEDING
8+00	8+24	24'	CONCRETE DRIVEWAY
8+24	8+42	18'	PERMANENT SEEDING
8+42	8+69	27'	BITUMINOUS DRIVEWAY
8+69	8+75	6'	PERMANENT SEEDING
<b>DONALD AVENUE</b>			
12+03	16+02	399'	BITUMINOUS PAVING
11+98	11+98, 25' RT.	25'	BITUMINOUS PAVING
11+98, 25' RT.	11+98, 35' RT.	10'	PERMANENT SEEDING

### RESTORATION NOTES:

1. SAW CUT THE EXISTING BITUMINOUS PAVING, CURBS, GUTTERS, DRIVEWAYS, AND SIDEWALKS.
2. REPAIR BITUMINOUS PAVING IN ACCORDANCE WITH STANDARD DETAIL G4.01.
3. REPAIR CURB AND GUTTER IN ACCORDANCE WITH STANDARD DETAIL R 3.01 AND MATCH EXISTING CONDITIONS.
4. REPAIR BITUMINOUS CURBS IN ACCORDANCE WITH STANDARD DETAIL R 3.03.
5. REPAIR BITUMINOUS DRIVEWAYS IN ACCORDANCE WITH STANDARD DETAIL R 6.06.
6. REPAIR CONCRETE DRIVEWAYS IN ACCORDANCE WITH STANDARD DETAIL R 6.10.
7. REPAIR CONCRETE SIDEWALK IN ACCORDANCE WITH STANDARD DETAIL R 3.05 AND MATCH EXISTING CONDITIONS.

ABANDONMENT SCHEDULE			
STATION	TO STATION	DESCRIPTION	NOTE
<b>CEDAR AVENUE - NORTH OF LINCOLN DRIVE</b>			
0+21 3.5' RT.	-----	8" VALVE	2
0+21 5' RT.	2+41 3' RT.	220 LF 8" W	1
<b>CEDAR AVENUE - SOUTH OF LINCOLN DRIVE</b>			
0+00 28' LT.	17+45 3' RT.	1755 LF 8" W	1
1+72 8' LT.	-----	6" FIRE HYDRANT	3
4+85 0'	4+85 6' RT.	6 LF 6" W	1
4+76 6' RT.	-----	8" VALVE	2
9+82 10' LT.	-----	6" FIRE HYDRANT	3
15+15 1.5' LT.	15+14 4' RT.	5 LF 6" W	1
15+92 0' RT.	15+92 8' RT.	8 LF 4" W	1
16+98 8' LT.	-----	6" FIRE HYDRANT	3
<b>GEORGIA AVENUE</b>			
0+00 12' RT.	3+07 14' LT.	310 LF 6" W	1
0+13.6 11' RT.	-----	6" VALVE	2
<b>WYE AVENUE</b>			
3+07 14' LT.	3+15 6' LT.	15 LF 6" W	1
3+15 6' LT.	4+45 3' LT.	130 LF 8" W	5
4+27 3' RT.	-----	6" FIRE HYDRANT	3
4+45 3' LT.	12+08.5 6' RT.	782 LF 6" W	1
4+20 3' LT.	-----	6" TEMP. VALVE	4
11+56 9' RT.	-----	6" FIRE HYDRANT	3
<b>DONALD AVENUE</b>			
12+08.5 35' LT.	15+88 24' RT.	388 LF 6" W	1
15+83 20' RT.	-----	6" VALVE	2

### ABANDONMENT NOTES:

1. INSTALL PLUG ON EACH OPEN END OF PIPE SECTION TO BE ABANDONED.
2. WATER VALVES: CLOSE VALVE; REMOVE RISER STEM AND VALVE BOX.
3. FIRE HYDRANTS: REMOVE HYDRANT BARREL AND ELBOW. INSTALL PLUG ON OPEN END OF PIPE. RETURN HYDRANT TO THE BUREAU OF UTILITIES, 8270 OLD MONTGOMERY ROAD, COLUMBIA, MD. FOR HYDRANT VALVE, SEE NOTE 2.
4. TEMPORARY VALVES: REMOVE AND SALVAGE ENTIRE VALVE. INSTALL PLUG ON EACH OPEN END OF 6" x 4" TEE.
5. REMOVE EXISTING WATER MAIN. INSTALL PLUG ON OPEN ENDS OF ADJACENT PIPE.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

James P. Ream 12/20/00  
DIRECTOR OF PUBLIC WORKS DATE

Ronald E. Johnson 12/13/00  
CHIEF, BUREAU OF ENGINEERING DATE

WALLACE, MONTGOMERY & ASSOCIATES  
CIVIL AND STRUCTURAL ENGINEERS  
110 WEST ROAD  
TOWSON, MARYLAND 21204



DES:	L.A.F.					
DRN:	K.J.P.					
CHK:	J.J.S.					
DATE:	DEC. 2000					
BY	NO.	REVISION	DATE			

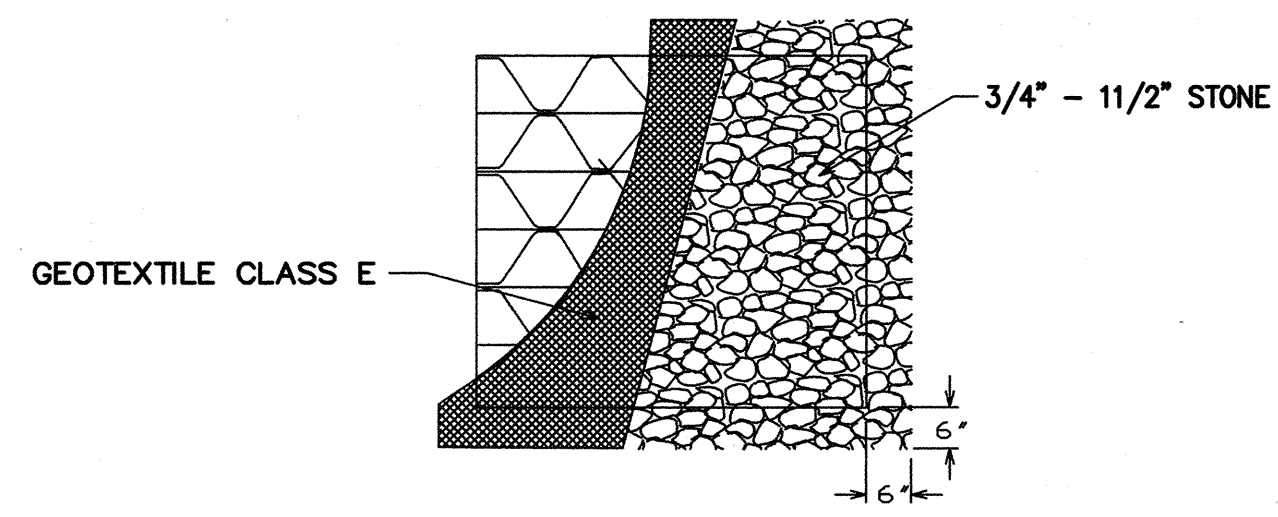
SEDIMENT CONTROL NOTES  
RESTORATION & ABANDONMENT  
SCHEDULES

600' SCALE MAP NO. 43 BLOCK NO. 8

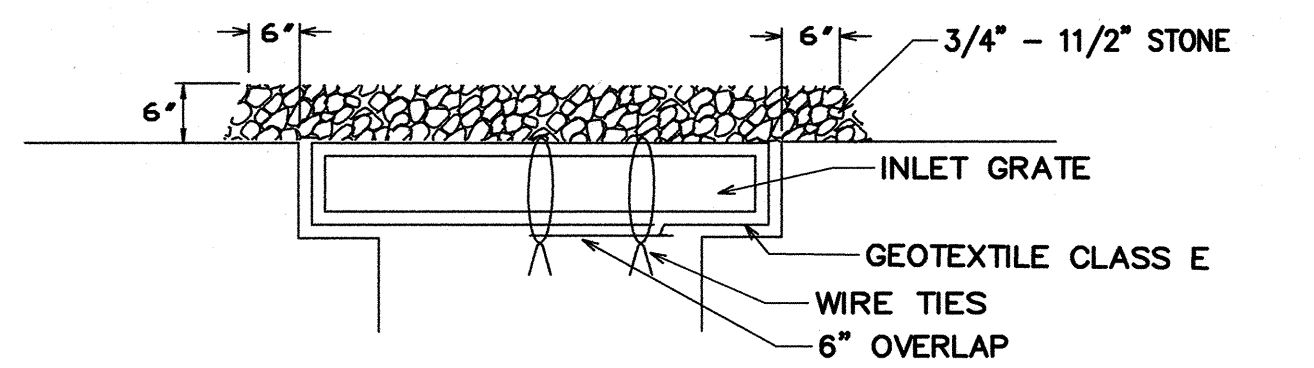
CEDAR ACRES  
CAPITAL PROJECT W-8223  
CONTRACT NO. 24-3811  
ELECTION DISTRICT NO. 6  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 12 OF 13

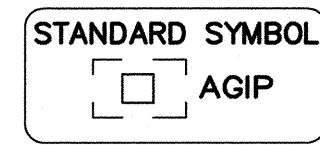




PLAN/CUT AWAY VIEW



CROSS SECTION MAX. DRAINAGE AREA = 1/4 ACRE

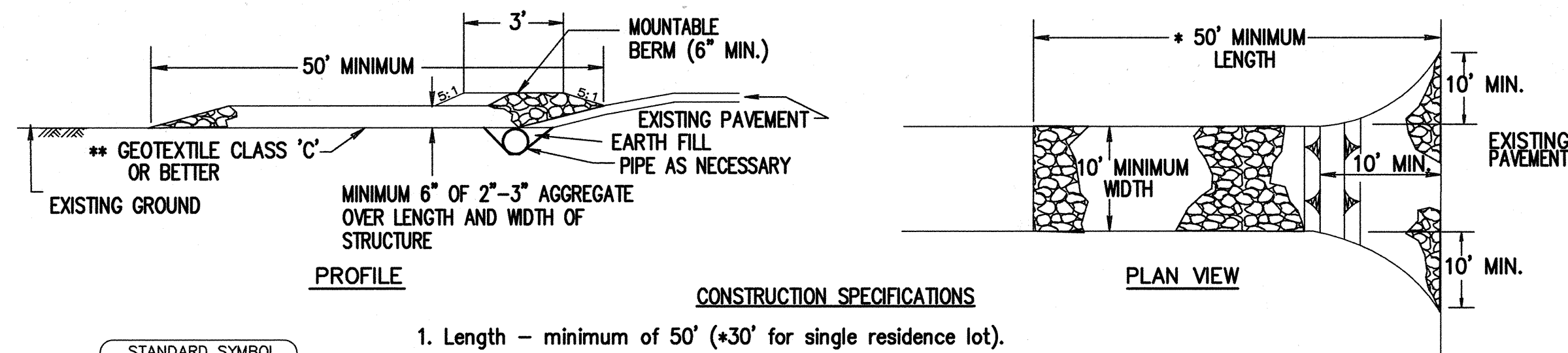


CONSTRUCTION SPECIFICATIONS

- LIFT GRATE AND WRAP WITH GEOTEXTILE CLASS E TO COMPLETELY COVER ALL OPENINGS, THEN SET GRATE BACK IN PLACE.
- PLACE 3/4" TO 1 1/2" STONE, 4"-6" THICK ON THE GRATE TO SECURE THE FABRIC AND PROVIDE ADDITIONAL FILTRATION.

**AT-GRADE INLET PROTECTION**

NOT TO SCALE

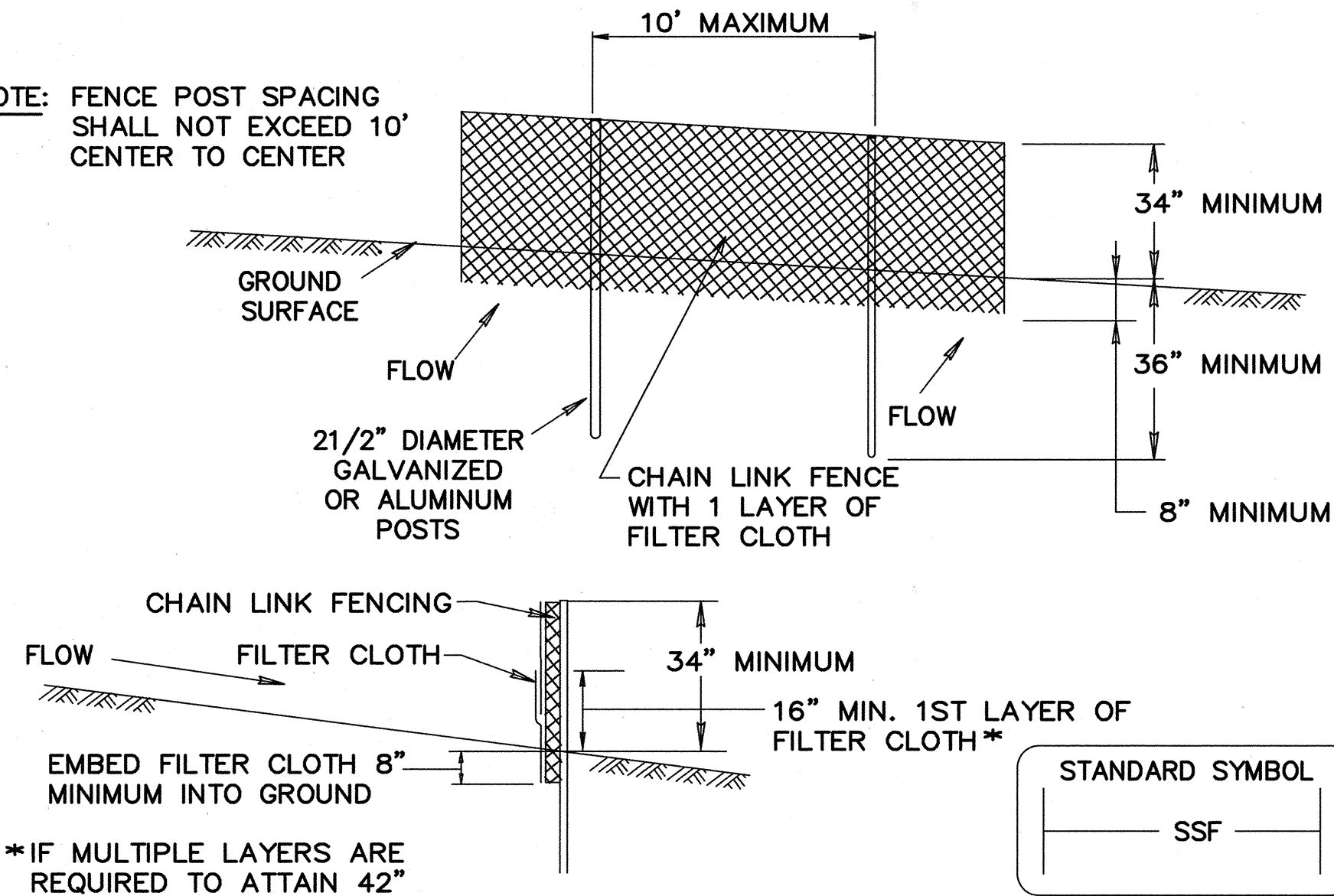


CONSTRUCTION SPECIFICATIONS

- Length - minimum of 50' (\*30' for single residence lot).
- Width - 10' minimum, should be flared at the existing road to provide a turning radius.
- Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. \*\*The plan approval authority may not require single family residences to use geotextile.
- Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
- Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
- Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

**STABILIZED CONSTRUCTION ENTRANCE**

NOTE: FENCE POST SPACING SHALL NOT EXCEED 10' CENTER TO CENTER



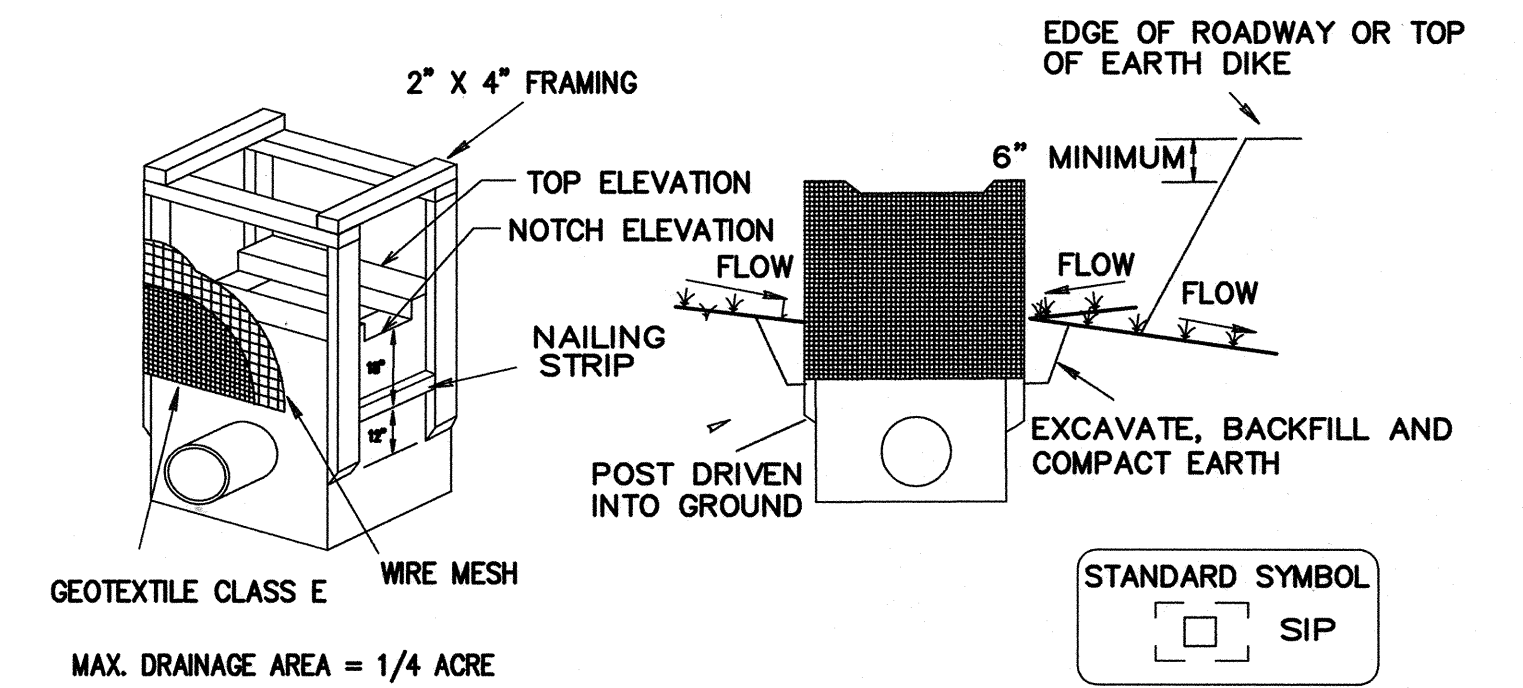
CONSTRUCTION SPECIFICATIONS

- FENCING SHALL BE 42" IN HEIGHT AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY DETAILS FOR CHAIN LINK FENCING. THE SPECIFICATION FOR A 6' FENCE SHALL BE USED, SUBSTITUTING 42" FABRIC AND 6' LENGTH POSTS.
- CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES. THE LOWER TENSION WIRE, BRACE AND TRUSS RODS, DRIVE ANCHORS AND POST CAPS ARE NOT REQUIRED EXCEPT ON THE ENDS OF THE FENCE.
- FILTER CLOTH SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT THE TOP AND MID SECTION.
- FILTER CLOTH SHALL BE EMBEDDED A MINIMUM OF 8" INTO THE GROUND.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT BUILDUPS REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE, OR WHEN SILT REACHES 50% OF FENCE HEIGHT
- FILTER CLOTH SHALL BE FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP AND MID SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F:

TENSILE STRENGTH	50 LBS/IN (MIN.)	TEST: MSMT 509
TENSILE MODULUS	20 LBS/IN (MIN.)	TEST: MSMT 509
FLOW RATE	0.3 GAL/FT <sup>2</sup> /MINUTE (MAX.)	TEST: MSMT 322
FILTERING EFFICIENCY	75% (MIN.)	TEST: MSMT 322

**SUPER SILT FENCE**

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

- EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18" BELOW THE NOTCH ELEVATION
- DRIVE THE 2" X 4" CONSTRUCTION GRADE LUMBER POSTS 1' INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2" X 4" FRAME USING THE OVERLAP JOINT SHOWN ON DETAIL 23A. THE TOP OF THE FRAME (WEIR) MUST BE 6" BELOW ADJACENT ROADWAYS WHERE FLOODING AND SAFETY ISSUES MAY ARISE.
- STRETCH THE 1/2" X 1/2" WIRE MESH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. THE ENDS MUST MEET AND OVERLAP AT A POST.
- STRETCH THE GEOTEXTILE CLASS E TIGHTLY OVER THE WIRE MESH WITH THE GEOTEXTILE EXTENDING FROM THE TOP OF THE FRAME TO 18" BELOW THE INLET NOTCH ELEVATION. FASTEN THE GEOTEXTILE FIRMLY TO THE FRAME. THE ENDS OF THE GEOTEXTILE MUST MEET AS A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED DOWN.
- BACKFILL AROUND THE INLET IN COMPACTED 6" LAYERS UNTIL THE LAYER OF EARTH IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.
- IF THE INLET IS NOT IN A SUMP, CONSTRUCT A COMPACTED EARTH DIKE ACROSS THE DITCH LINE DIRECTLY BELOW IT. THE TOP OF THE EARTH DIKE SHOULD BE AT LEAST 6" HIGHER THAN THE TOP OF THE FRAME.
- THE STRUCTURE MUST BE INSPECTED PERIODICALLY AND AFTER EACH RAIN AND THE GEOTEXTILE REPLACED WHEN IT BECOMES CLOGGED.

**STANDARD INLET PROTECTION**

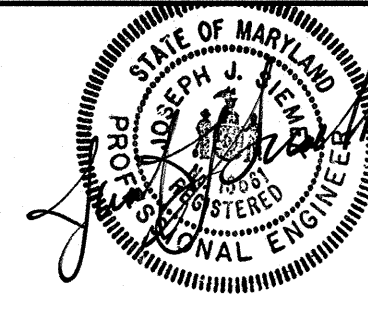
NOT TO SCALE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James P. ...*  
DIRECTOR OF PUBLIC WORKS  
DATE: 12-20-00

*Paul H. ...*  
CHIEF, BUREAU OF ENGINEERING  
DATE: 12-13-00

**WALLACE, MONTGOMERY & ASSOCIATES**  
CIVIL AND STRUCTURAL ENGINEERS  
110 WEST ROAD  
TOWSON, MARYLAND 21204



DES: L.A.F.  
DRN: K.J.P.  
CHK: J.J.S.  
DATE: 2000

BY	NO.	REVISION	DATE

SEDIMENT CONTROL  
DETAILS

600' SCALE MAP NO. 43 BLOCK NO. 8

CEDAR ACRES  
CAPITAL PROJECT W-8223  
CONTRACT NO. 24-3811  
ELECTION DISTRICT NO. 6  
HOWARD COUNTY, MARYLAND

SCALE  
AS  
SHOWN

SHEET  
13 OF 13