

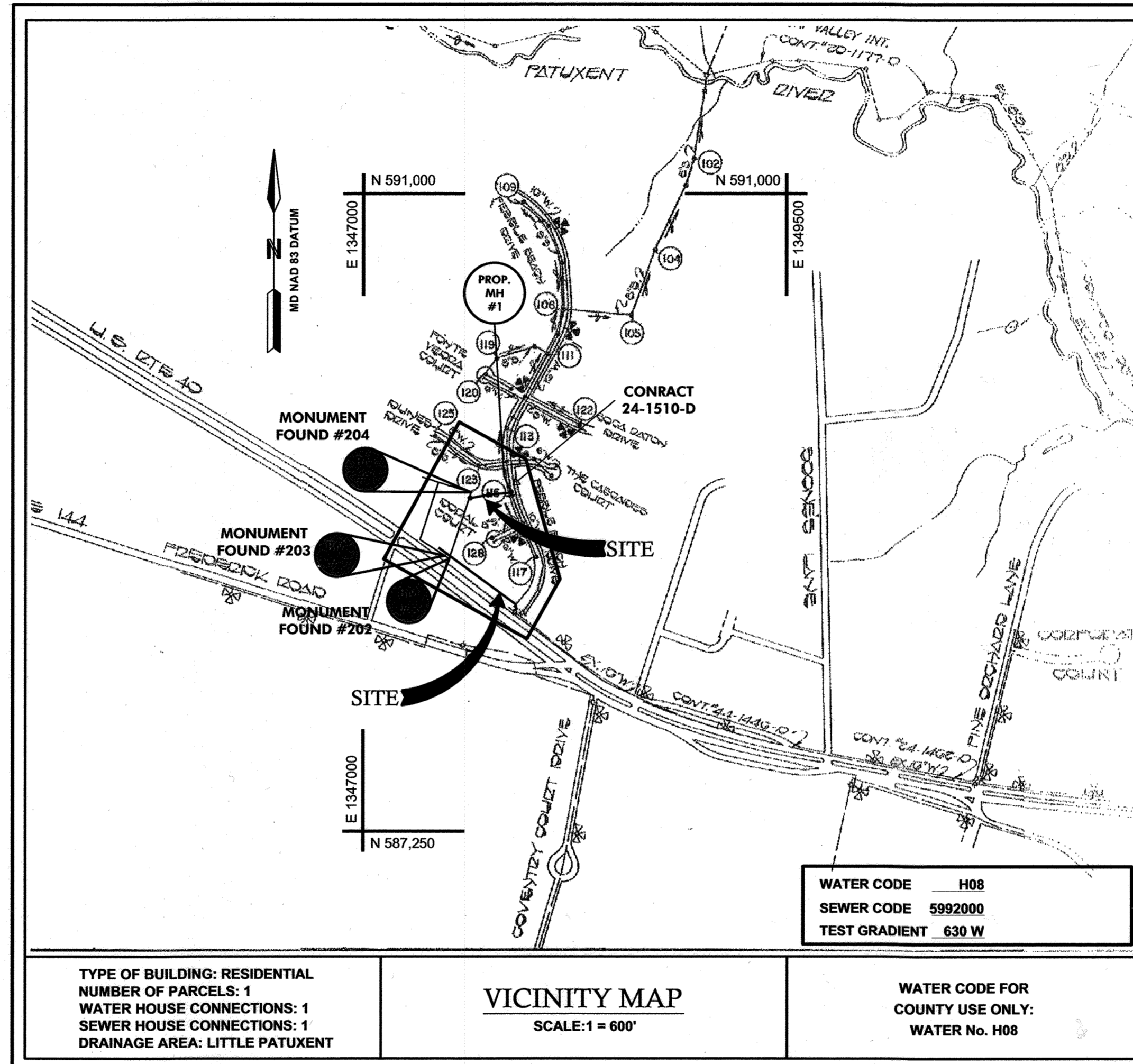
ROUTE 40 ROUTINE WATER AND SEWER EXTENSION CAPITAL PROJECT S-6698 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

QUANTITIES				
ITEM	QUANTITIES		TYPE MATERIAL	SUPPLIER
	ESTIMATE	AS BUILT		
1 1/2 - INCH BALL VALVE S.H.C.		2 EA.	BRASS	MUELLER CO./BELAIR RD. SUPPLY
4 - INCH GATE VALVE (BLOW-OFF)		1 EA.	R.S.O.R.	MUELLER CO./BELAIR RD. SUPPLY
6 - INCH GATE VALVE		1 EA.	R.S.O.R.	MUELLER CO./BELAIR RD. SUPPLY
6 - INCH DIAMETER WATER MAIN		18.2 L.F.	D.I.P. CLASS 52	U.S. PIPE/BELAIR RD. SUPPLY
16 X 8 TAPPING SLEEVE/SADDLE	1 EA.	1 EA.	STAINLESS STEEL	JCM INDUSTRIES INC.
8 - INCH DIAMETER WATER MAIN	594 L.F.	601 L.F.	D.I.P. CLASS 52	U.S. PIPE/BELAIR RD. SUPPLY
FIRE HYDRANT ASSEMBLY	1 EA.	1 EA.	5' C.I.	MUELLER CO./BELAIR RD. SUPPLY
8 - INCH GATE VALVE	2 EA.	2 EA.	R.S.O.R. D.I.P.	MUELLER CO./BELAIR RD. SUPPLY
BLOW-OFF ASSEMBLY	1 EA.	1 EA.	4' ECLIPSE	KUPFERLE/BELAIR RD. SUPPLY
8 - INCH CAP	1 EA.	1 EA.	D.I.P. M.J.	SIGMA/BELAIR RD. SUPPLY
1 - INCH W.H.C.	1 EA.	12 L.F.	COPPER	MUELLER CO./BELAIR RD. SUPPLY
1 1/2 - INCH DIAMETER PRESSURE SEWER	254 L.F.	254 L.F.	SDR 11, 160 PSI HDPE	FLYING W PLASTICS
MANHOLE	1 EA.	1 EA.	CONCRETE	ATLANTIC

NOTE: "SEDIMENT CONTROL TO BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE STDS. & SPECS. (VOL. IV) OF THE HOWARD COUNTY DESIGN MANUAL AND THESE PLANS." CONTRACTOR: W.F. WILSON & SONS, INC.

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."	
 SIGNATURE OF DEVELOPER PRINT NAME BELOW SIGNATURE	3/30/07 DATE
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 REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT."	
 McCRONE, INC. 20 RIDGELY AVENUE ANNAPOLIS, MARYLAND 21401 (410) 267-8621	3/22/07 DATE APPROVED HOWARD S.C.D. DATE
REVIEWED FOR HOWARD COUNTY S.C.D. MEETS TECHNICAL REQUIREMENTS	U.S. SOIL CONSERVATION SERVICE DATE THIS DEVELOPMENT PLAN IS APPROVED FOR THE SOIL EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.



GENERAL NOTES

PART I

- APPROXIMATE LOCATION 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 88.
- 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 TO 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
BGE (CONTRACTOR SERVICES)	410-850-4620
BGE (UNDERGROUND DAMAGE CONTROL)	410-787-9068
BUREAU OF UTILITIES	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 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 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. SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTIONS 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.

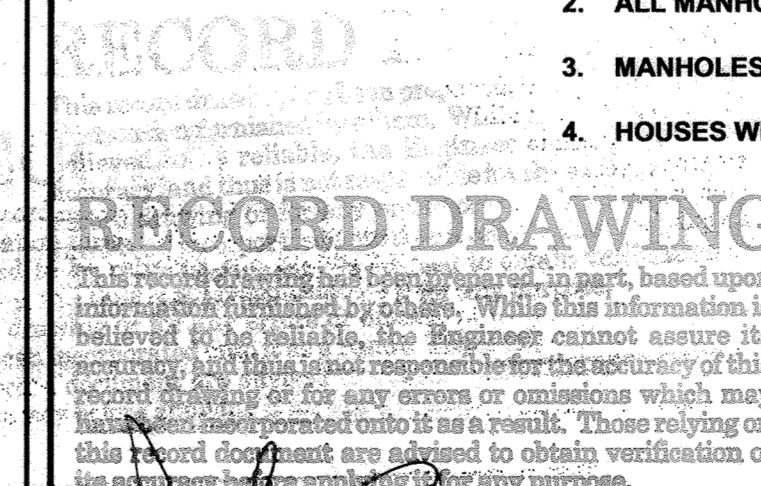
PART III - SEWER

- ALL SEWER MAINS SHALL BE HDPE (SDR-11) OR PVC (SDR-21) UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES.
- HOUSES WITH THE SYMBOL C.N.S. INDICATES THAT THE CELLER CANNOT BE SERVED BY THE GRAVITY SEWER.

RESTORATION SCHEDULE		
WATER		
LOCATION	LENGTH	MATERIAL
PEBBLE BEACH DR.	14 L.F.	STA. 0+00 TO STA. 0+14, PAVEMENT
PEBBLE BEACH DR.	5 L.F.	STA. 0+14 TO STA. 0+19, GRASS
PEBBLE BEACH DR.	5 L.F.	STA. 0+19 TO STA. 0+24, CONC. WALK
US ROUTE 40	570 L.F.	STA. 0+24 TO STA. 5+94 GRASS
SEWER		
PEBBLE BEACH DR.	7 L.F.	STA. 0+00 TO STA. 0+07, PAVEMENT
PEBBLE BEACH DR.	7 L.F.	STA. 0+07 TO STA. 0+14, GRASS
PEBBLE BEACH DR.	4 L.F.	STA. 0+14 TO STA. 0+18, CONC. WALK
UTILITY EASEMENT	228 L.F.	STA. 0+18 TO STA. 2+46, GRASS

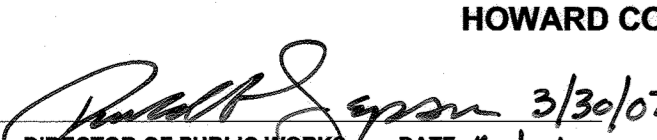
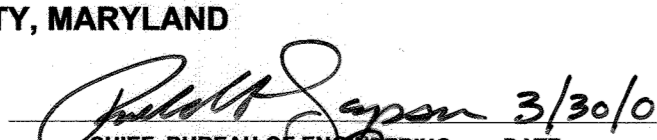
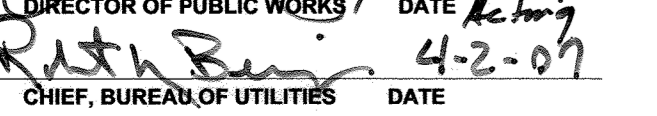

COORDINATE TABLE		
WATER		
FITTING	NORTHING	EASTING
STA. 0+00, 45° BEND	588556.3301	1347906.9862
STA. 0+32, 45° BEND	588587.5065	1347902.0843
STA. 5+00, 8" x 6" TEE FOR F.H.	588863.2755	1347523.4181
STA. 5+81, 8" x 4" TEE FOR BLOW-OFF	588911.0542	1347457.8119
STA. 5+94, CAP	588918.7072	1347447.3033
SEWER		
MANHOLE	NORTHING	EASTING
1	589242.7193	1347876.2828
2	589230.0598	1347741.8777
3	589210.1164	1347632.7343

INDEX OF DRAWINGS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET, INDEX OF DRAWINGS, GENERAL NOTES
2	SITE PLAN
3	PROFILES AND TRAFFIC CONTROL DETAIL
4	SEDIMENT CONTROL PLAN
5	SEDIMENT CONTROL NOTES AND DETAILS
6	PRESSURE SEWER DETAILS



THIS SHEET SUPERSEDES MYLAR SIGNED 3-10-07

PLOTTED: Mar 23, 2007 - 3:17pm

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
 DIRECTOR OF PUBLIC WORKS DATE 3/30/07	 CHIEF, BUREAU OF ENGINEERING DATE 3/30/07
 CHIEF, BUREAU OF UTILITIES DATE 4-2-07	 CHIEF, UTILITY DESIGN DIVISION DATE 3-30-07

McCRONE
ENGINEERING ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING CONSTRUCTION SERVICES
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8621



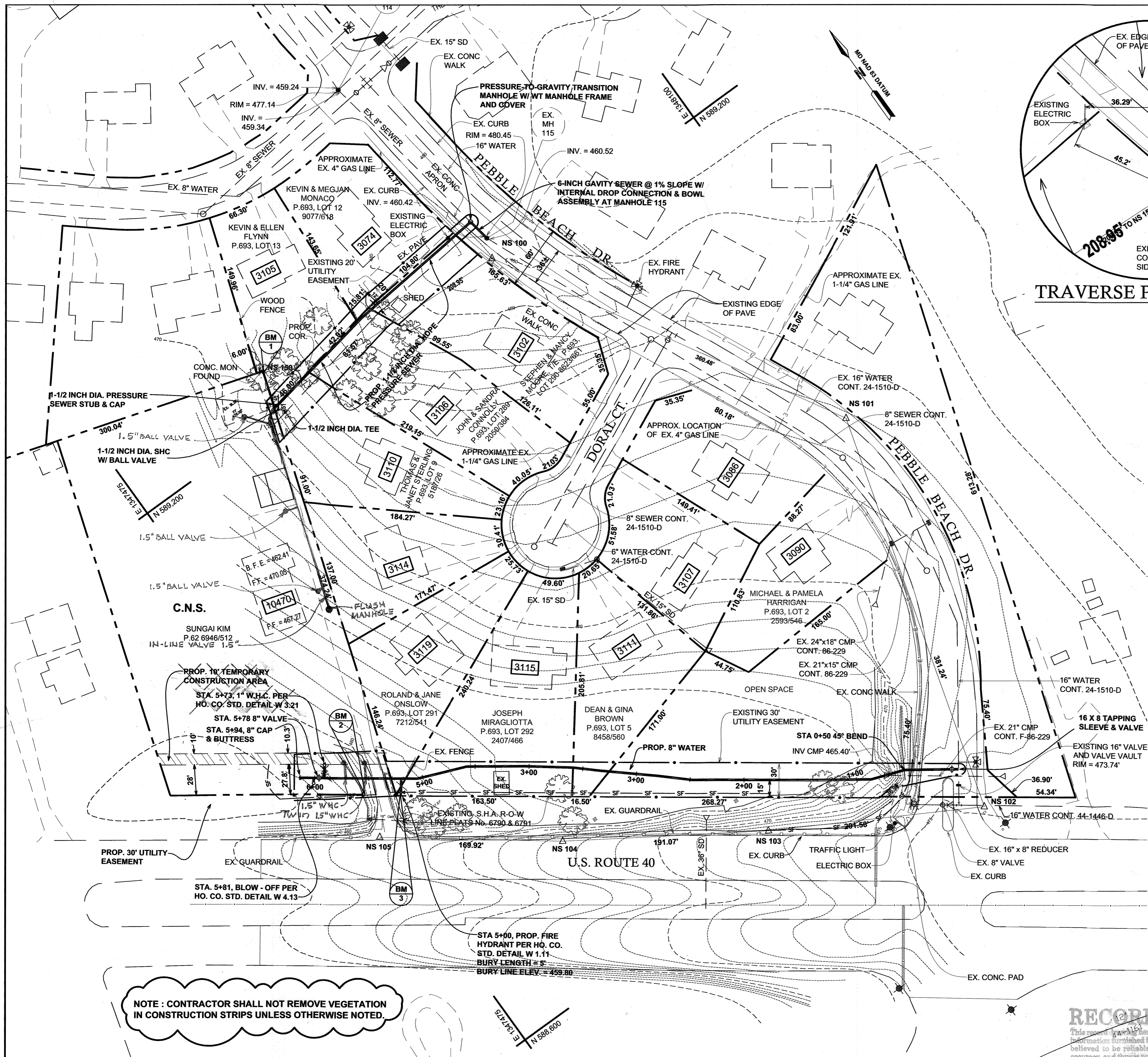
DES: J.S.				
DRN: CAD				
CHK: R.M.S.	RS	2	AS-BUILT	2/27/07
DATE: FEB., 2006	DC	1	REVISE 8" GRAVITY SEWER TO 1-1/2" PRESSURE SEWER	4/4/06
	BY	No.	REVISION	DATE

TITLE SHEET,
INDEX OF DRAWINGS,
GENERAL NOTES

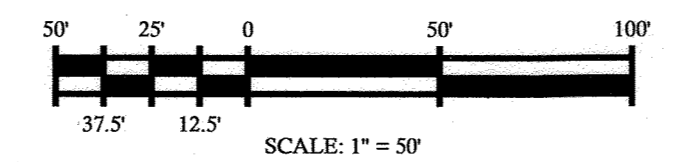
ROUTE 40 ROUTINE WATER AND SEWER EXTENSION
CAPITAL PROJECT S-6698
CONTRACT No. 24-4160
ELECTION DISTRICT No. 2
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 6

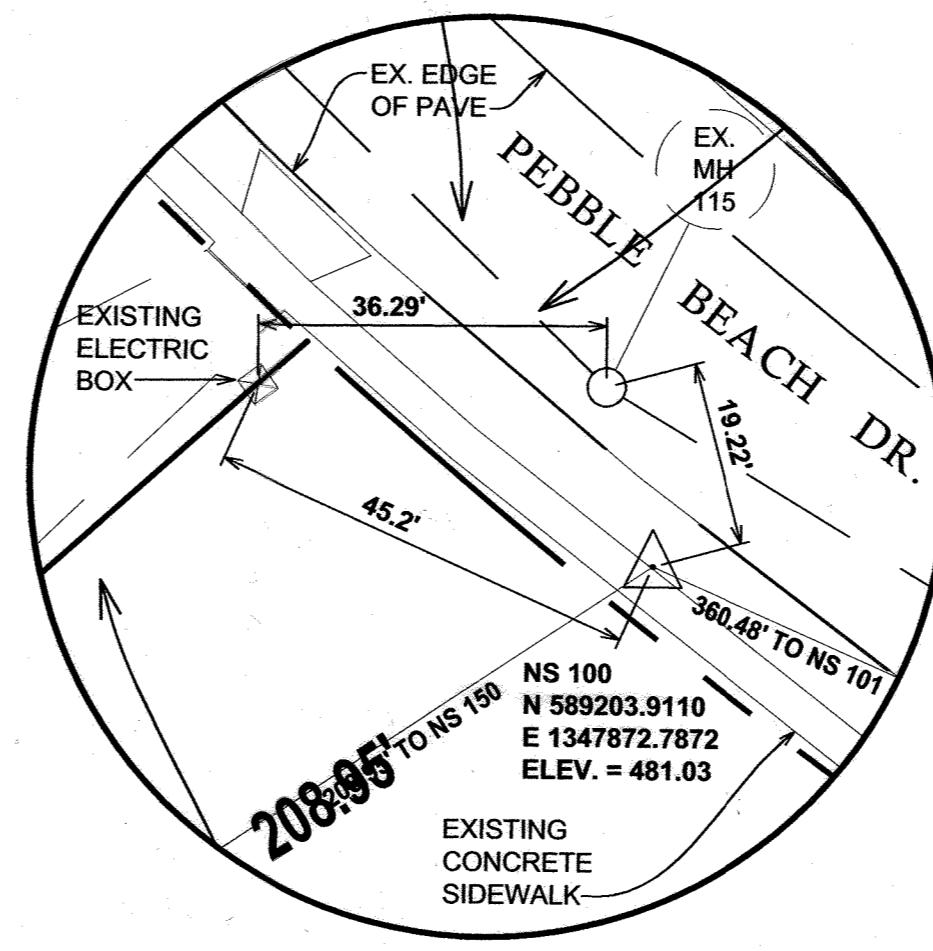
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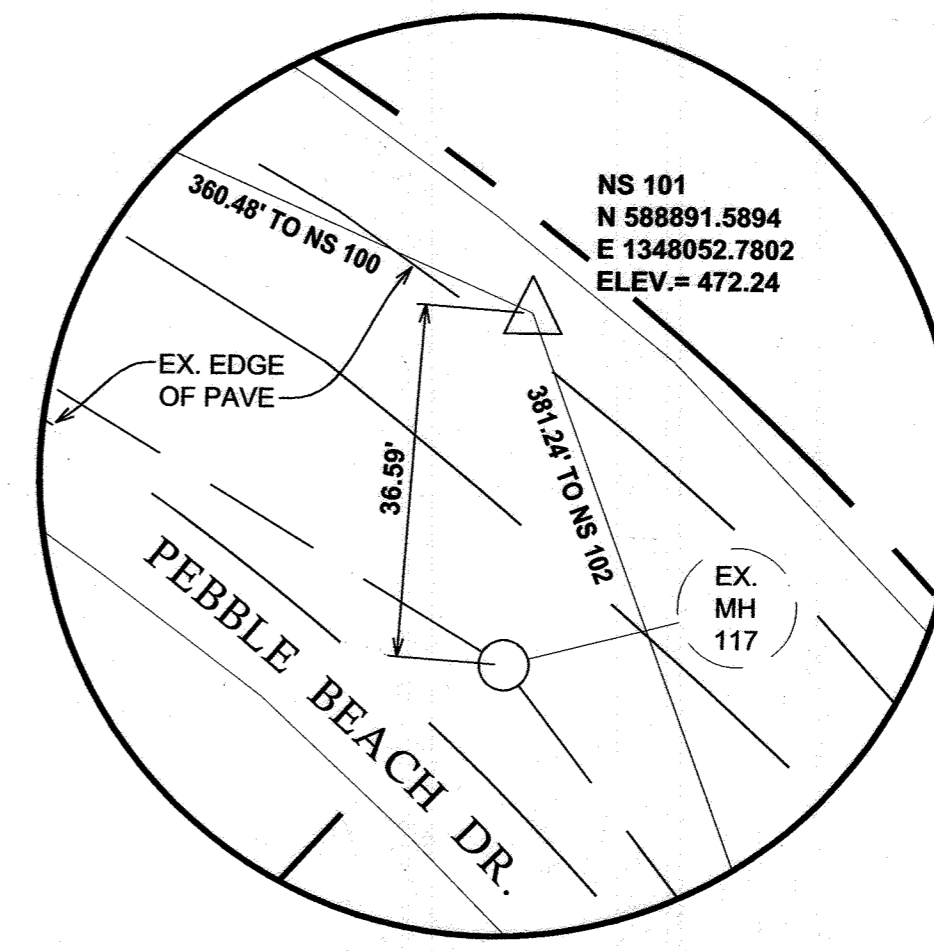
SITE PLAN



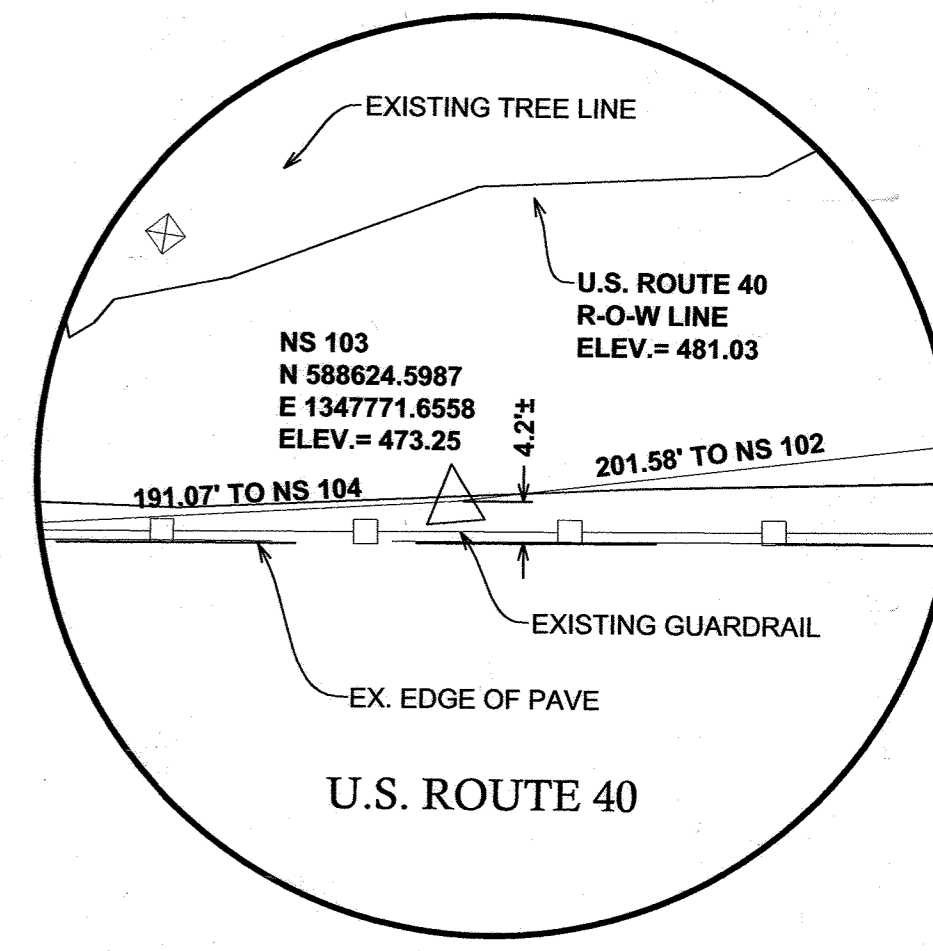
THIS SHEET SUPERCEDES MYLAR SIGNED 8-10-06



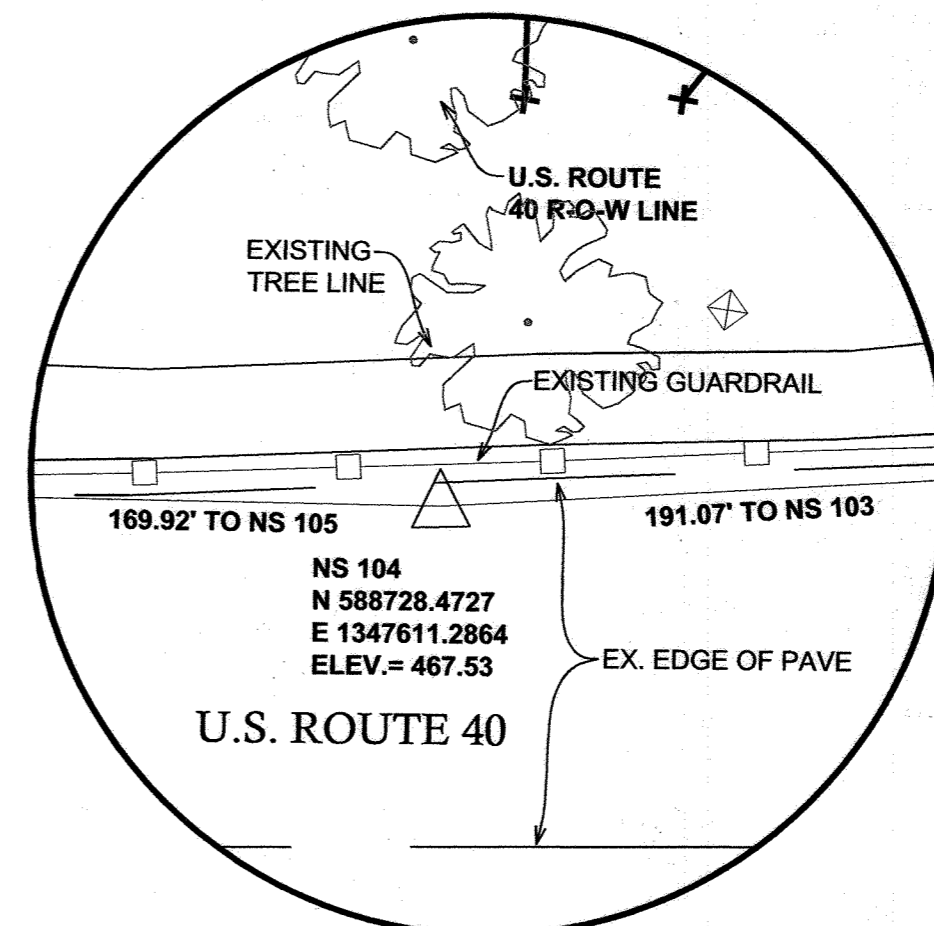
TRAVERSE POINT NS 100



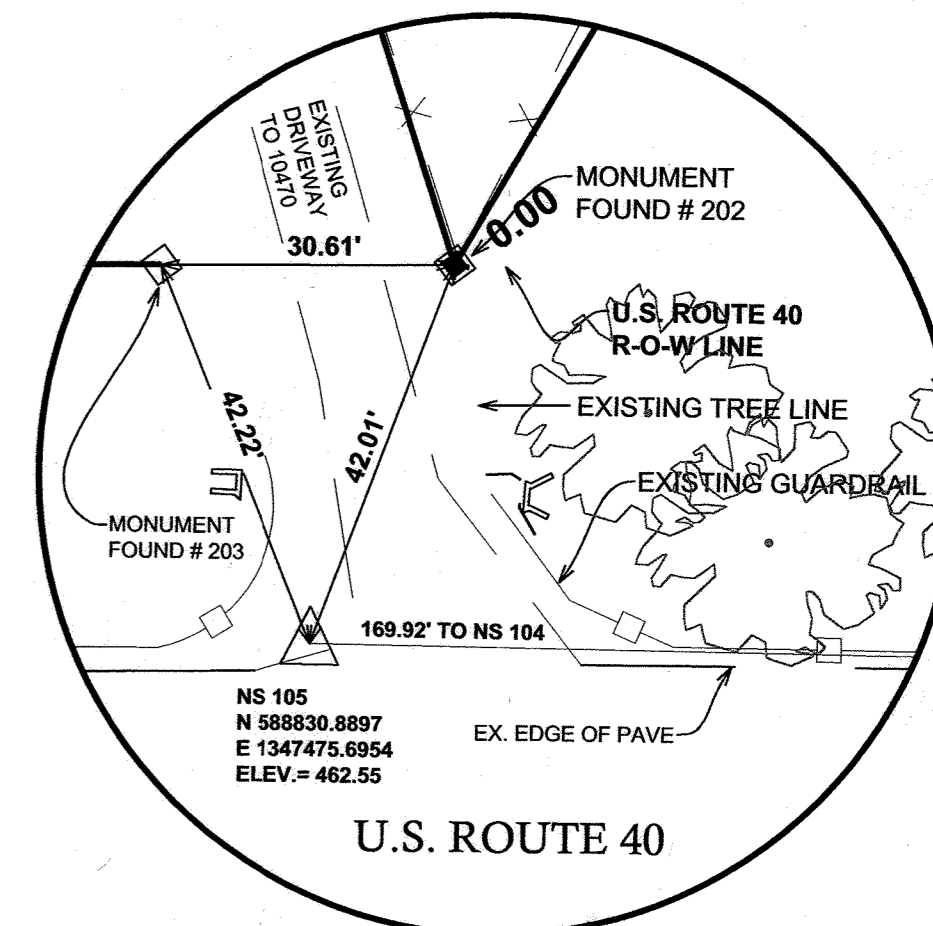
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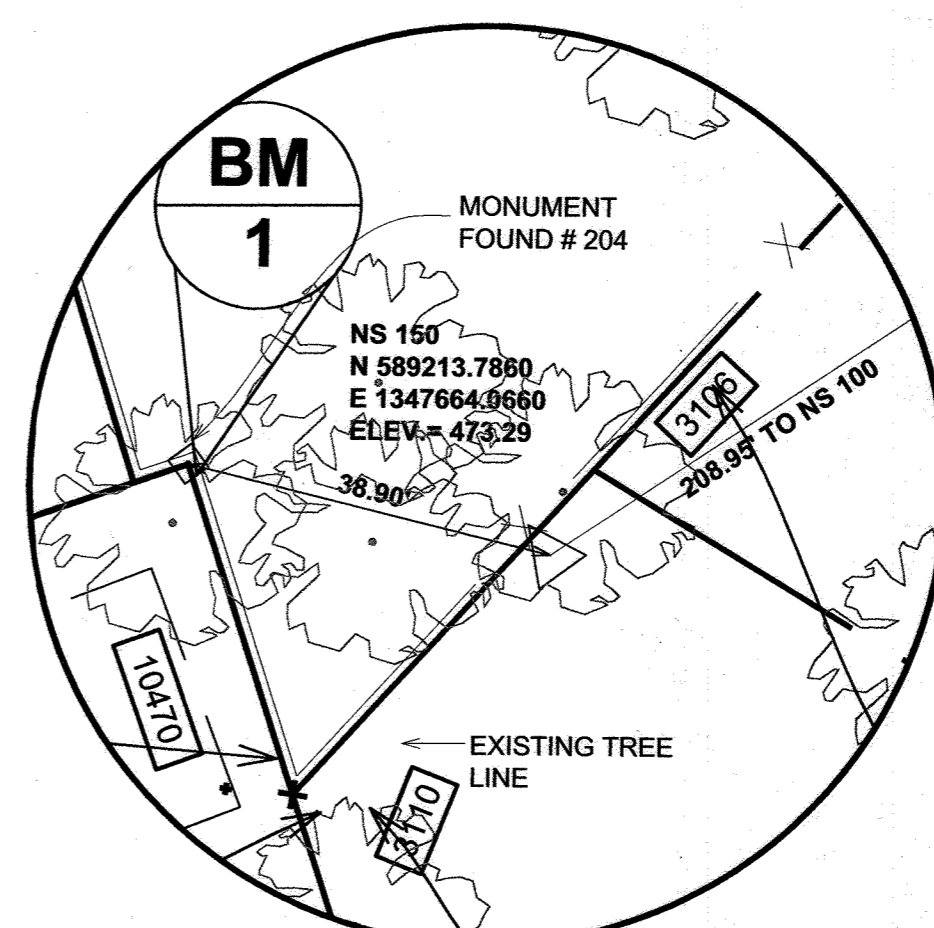
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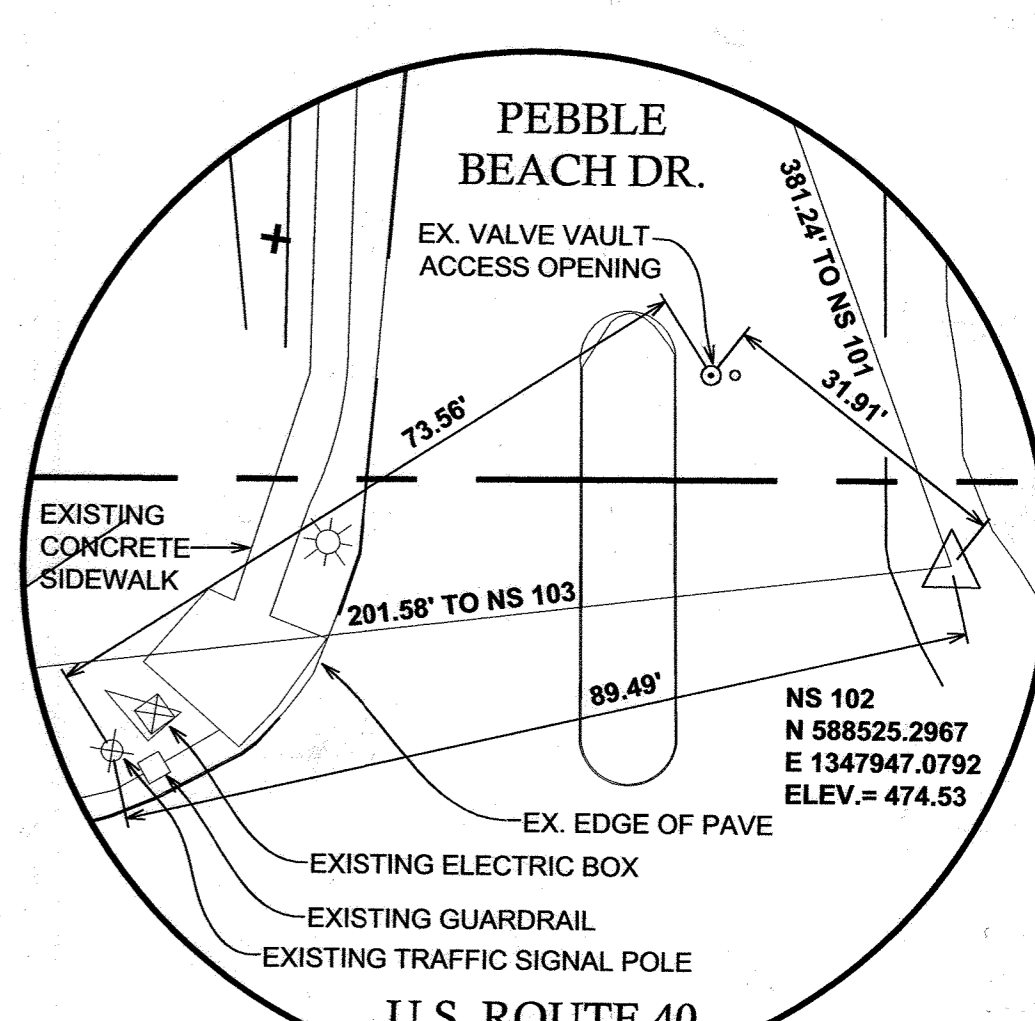
TRAVERSE POINT NS 104



TRAVERSE POINT NS 105



TRAVERSE POINT NS 150



TRAVERSE POINT NS 102

RECORD

This record drawing has been prepared by the engineer or surveyor whose name is shown hereon and who is a duly licensed professional engineer or surveyor in the State of Maryland. It is the responsibility of the engineer or surveyor to see that this record drawing is a true and correct representation of the work shown hereon. The engineer or surveyor is not responsible for the accuracy of the information furnished by others. The engineer or surveyor is not responsible for the accuracy of the information furnished by others. The engineer or surveyor is not responsible for the accuracy of the information furnished by others.

SURVEY RECOVERY INFORMATION

SCALE: 1" = 20'

PLOTTED: Mar 09, 2007 - 2:02pm

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert J. Spon 3/30/07
DIRECTOR OF PUBLIC WORKS DATE

Robert J. Spon 3/30/07
CHIEF, BUREAU OF ENGINEERING DATE

Robert J. Spon 4-2-07
CHIEF, BUREAU OF UTILITIES DATE

Robert J. Spon 3-30-07
CHIEF, UTILITY DESIGN DIVISION DATE

McCRONE
ENGINEERING ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING CONSTRUCTION SERVICES

22 ROOSEVELT AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 291-8881

ANNAPOLIS-CENTREVILLE-EASTON-ELKTON-PRINCE FREDERICK

DES: J.S.					
DRN: CAD					
CHK: R.M.S.	WRA	3	AS BUILT		2/6/07
	RS	2	AS-BUILT		2/27/07
DATE: FEB, 2006	DC	1	REVISE 8" GRAVITY SEWER TO 1-1/2" PRESSURE SEWER		4/4/06
	BY	No.	REVISION		DATE

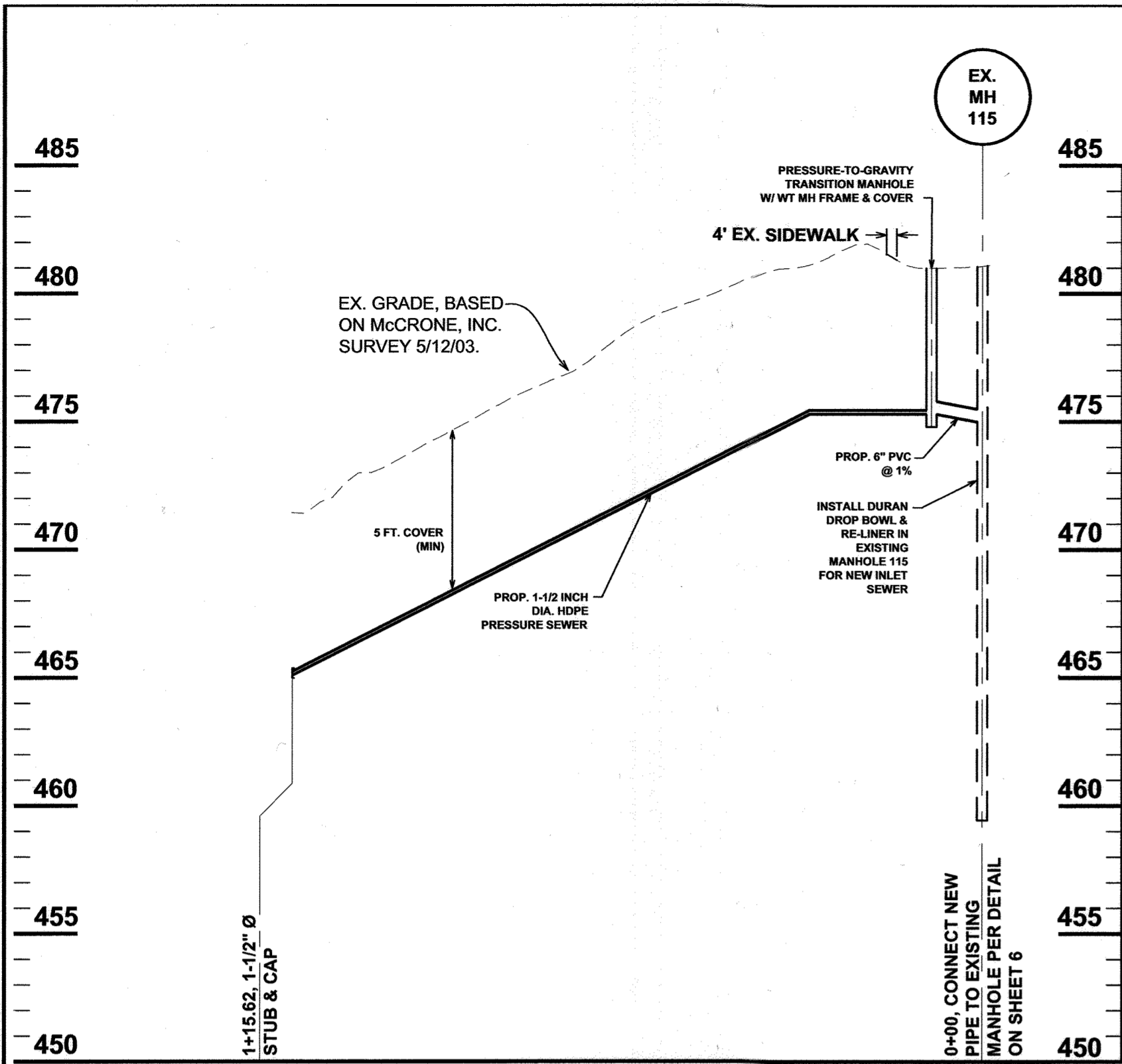
SITE PLAN

600' SCALE MAP No. 16 BLOCK No. 24

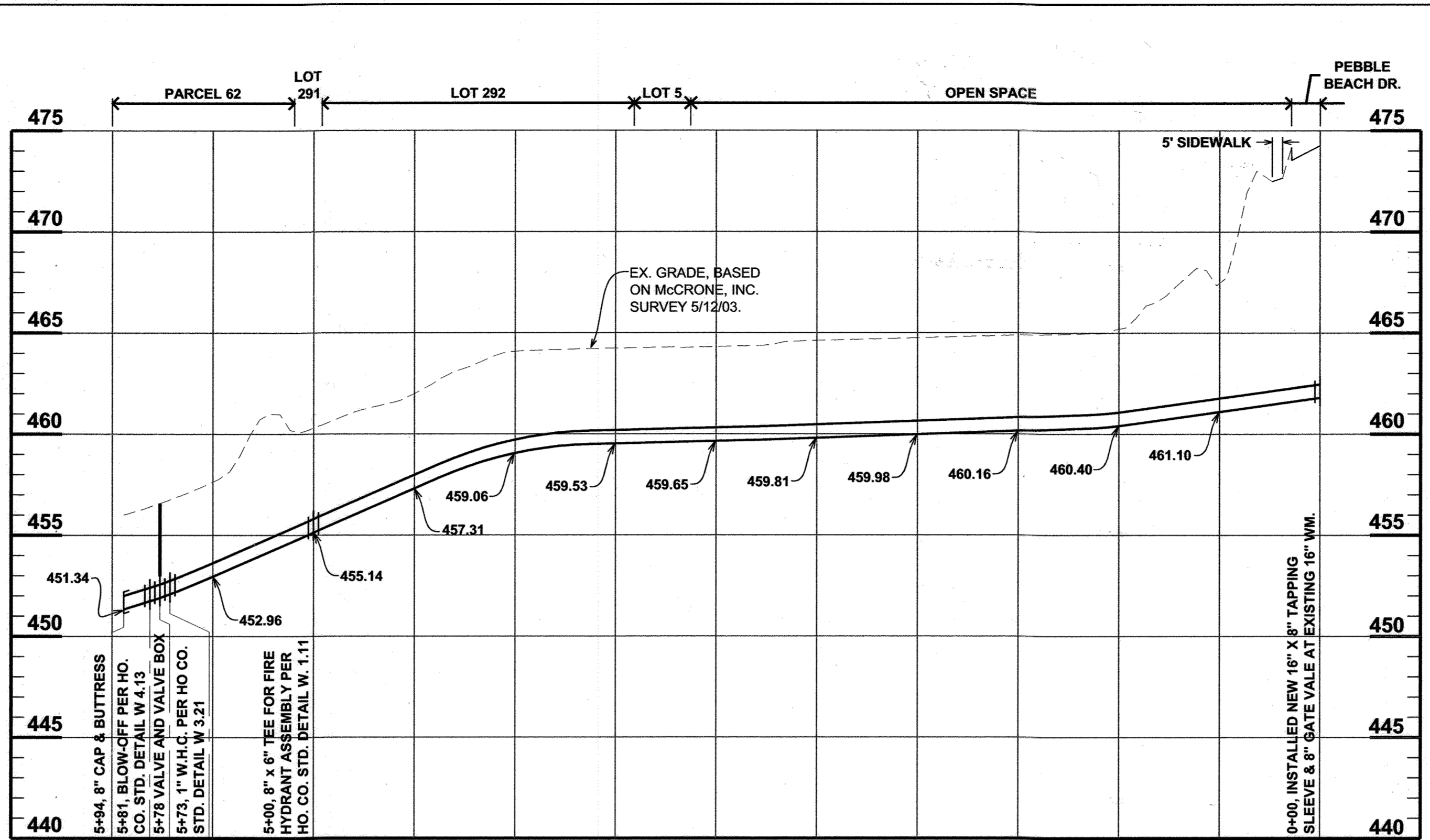
ROUTE 40 ROUTINE WATER AND SEWER EXTENSION
CAPITAL PROJECT S-6698
CONTRACT No. 24-4160
ELECTION DISTRICT No. 2
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 2 OF 6

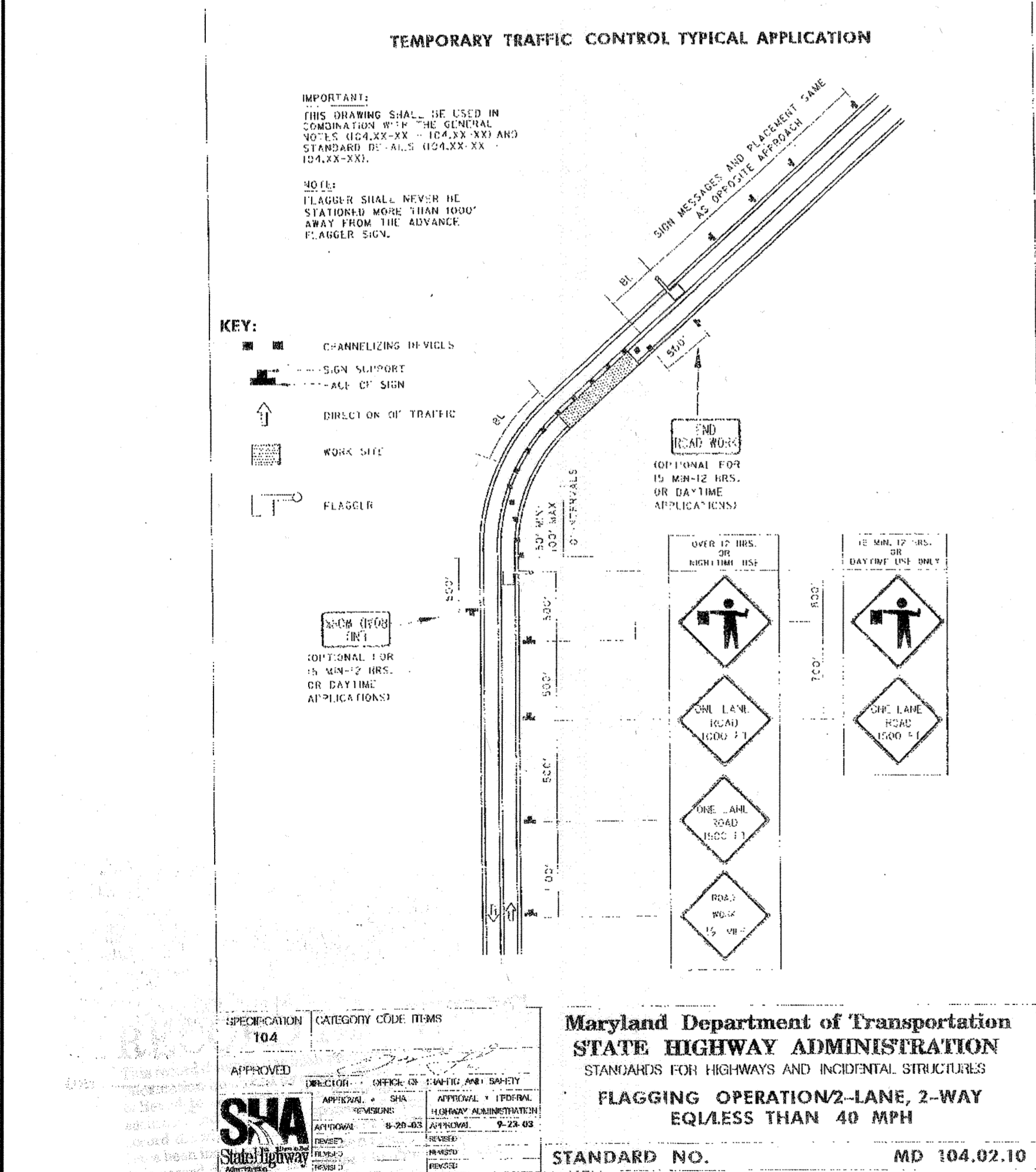
CADD FILE: GA1030010 - Rte 40 W&S Eng\USRTE40 W-S COORD FINAL LATEST REVISED_REV11-5-30-06.dwg Job: SITE PLAN



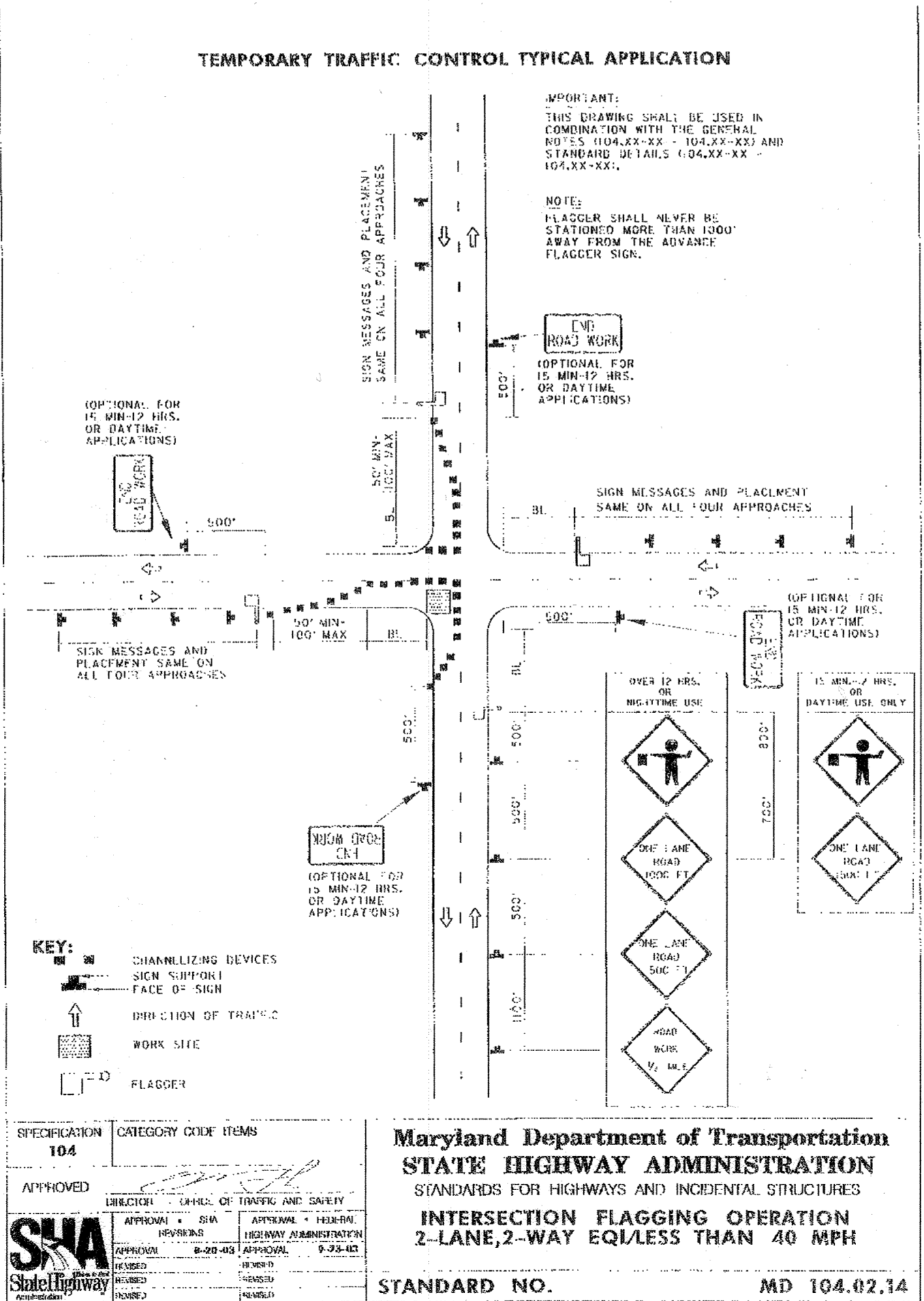
PRESSURE SEWER PROFILE
SCALE: HORIZ. 1" = 50', VERT. 1" = 5'



WATER MAIN PROFILE
SCALE: HORIZ. 1" = 50', VERT. 1" = 5'



Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
**FLAGGING OPERATION 2-LANE, 2-WAY
EQUIVALENT LESS THAN 40 MPH**
STANDARD NO. MD 104.02.10



Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
**INTERSECTION FLAGGING OPERATION
2-LANE, 2-WAY EQUIVALENT LESS THAN 40 MPH**
STANDARD NO. MD 104.02.14

PRESSURE SEWER DESIGN SCHEDULE
Ultimate Service Capacity Schedule for Tax Map 16 Parcels 62, 117, 211 and 287
PRESSURE SEWER TYPE: 1-1/2 INCH DIAM. HDPE, SDR 11

STATION	NUMBER OF CONNECTED SGPs	NUMBER OF SGPs IN SIMULTANEOUS OPERATION	FLOW @ 11 GPM PER SGP	FLOW VELOCITY	TOTAL FRICTION HEAD LOSS
Transition Manhole to Station 4+60	7	3	33 GPM	5.6 FPS	32 FT.
Station 4+60 to Station 6+90	4	3	33GPM	5.6 FPS	16 FT.
Station 6+90 to Station 8+90	2	2	22	3.7 FPS	7 FT.
TOTAL FRICTION HEAD LOSS, Transition Manhole to Station 8+90=					55 FT.
ELEVATION HEAD (LIFT)=					15 FT.
MAXIMUM TDH=					70 FT.

RECORD DRAWING
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By: *[Signature]*
Date: 3/22/2007

THIS SHEET SUPERSEDES MYLAR SIGNED 3-10-06

PLOTTED: Mar 09, 2007 - 2:01 pm

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 3/30/07
DIRECTOR OF PUBLIC WORKS DATE

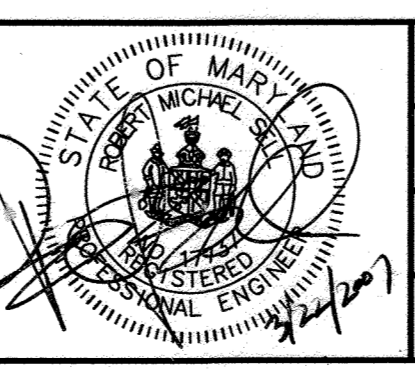
[Signature] 3/30/07
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 4-2-07
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 3-30-07
CHIEF, UTILITY DESIGN DIVISION DATE

McCRONE
ENGINEERING ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING CONSTRUCTION SERVICES

30 HOOVER AVENUE
ANNAPOLIS, MARYLAND 21401
PH: 410-291-8800



DES: J.S.				
DRN: CAD				
CHK: R.M.S.				
DATE: FEB, 2006				
RS 2	AS-BUILT			2/27/07
DC 1	REVISE 8" GRAVITY SEWER TO 1-1/2" PRESSURE SEWER			4/4/06
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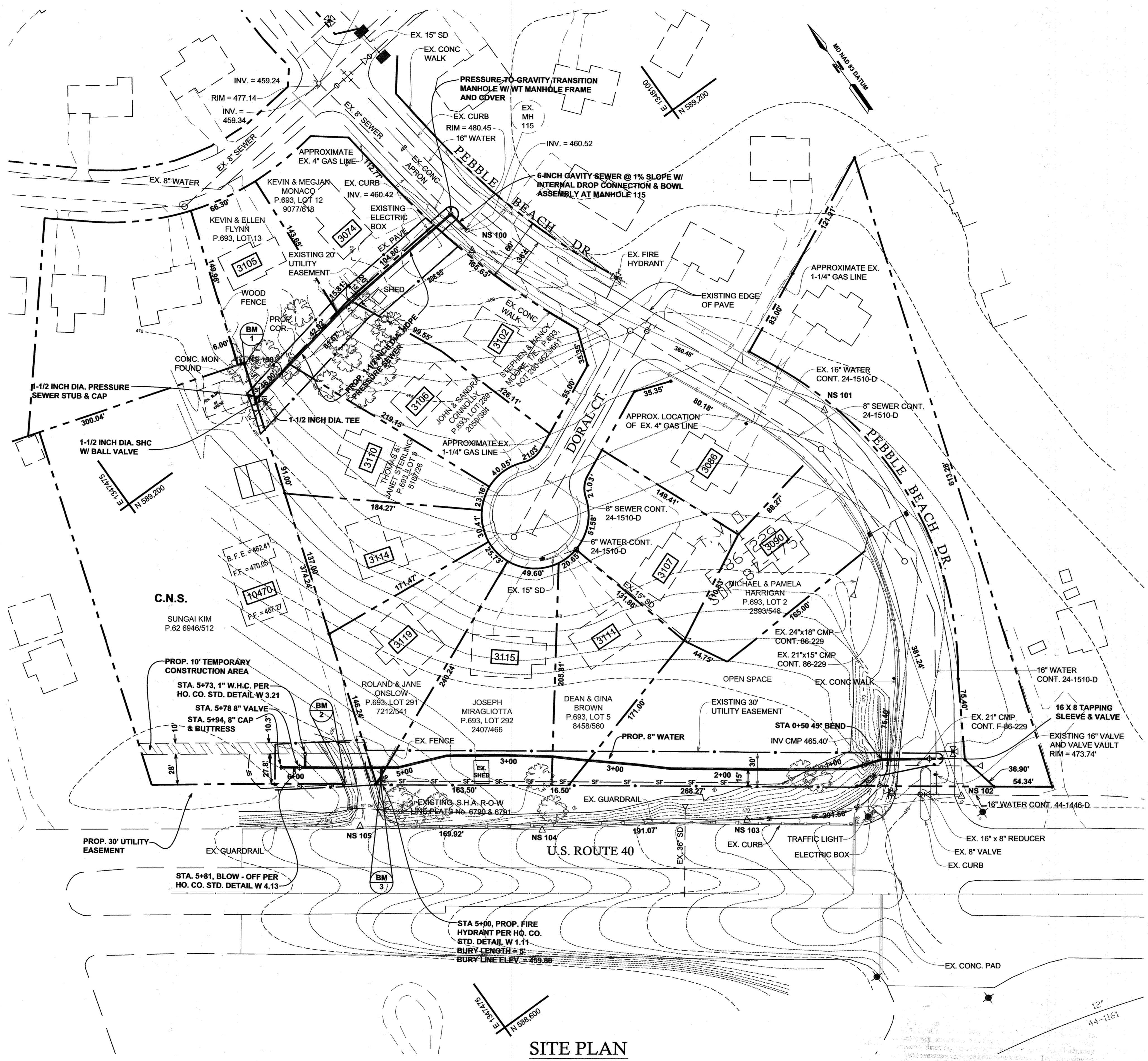
PROFILES AND TRAFFIC CONTROL DETAIL

600' SCALE MAP No. 16 BLOCK No. 24

ROUTE 40 ROUTINE WATER AND SEWER EXTENSION
CAPITAL PROJECT S-6698
CONTRACT No. 24-4160
ELECTION DISTRICT No. 2
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 3 OF 6

CADD FILE: G:\1030010 - Rte 40 W&S Eng\USRTE40 W&S COORD FINAL LATEST REVISED_REV1-5-30-06.dwg Tab: PROFILE & TRAFFIC CONTROL DETAIL



- NOTE:
1. THE CONTRACTOR SHALL BACKFILL AND STABILIZE ALL OPEN PIPELINE TRENCHES AT THE END OF EACH WORKDAY.
 2. PLACE ALL EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH.

NOTE: PIPELINE WAS INSTALLED BY TRENCHLESS EXCAVATION METHOD.

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICES _____ DATE

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

U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICES _____ DATE

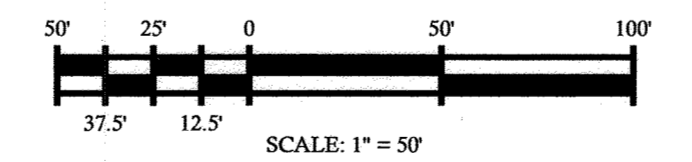
RECORD DRAWING

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By: *[Signature]*
Date: 3/22/2007

THIS SHEET SUPERSEDES MYLAK SIGNED 3.10.06

SITE PLAN



PLOTTED: Mar 23, 2007 - 3:18pm

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND		 McCRONE ENGINEERING ENVIRONMENTAL SCIENCES LAND PLANNING & SURVEYING CONSTRUCTION SERVICES <small>22 ROBERTS AVENUE ANNAPOLIS, MARYLAND 21401 (410) 291-8821</small>		DES: J.S. DRN: CAD CHK: R.M.S. DATE: FEB., 2006	<table border="1"> <tr> <th>BY</th> <th>No.</th> <th>REVISION</th> <th>DATE</th> </tr> <tr> <td>RS</td> <td>2</td> <td>AS-BUILT</td> <td>2/27/07</td> </tr> <tr> <td>DC</td> <td>1</td> <td>REVISE 8" GRAVITY SEWER TO 1-1/2" PRESSURE SEWER</td> <td>4/1/06</td> </tr> </table>	BY	No.	REVISION	DATE	RS	2	AS-BUILT	2/27/07	DC	1	REVISE 8" GRAVITY SEWER TO 1-1/2" PRESSURE SEWER	4/1/06	<table border="1"> <tr> <td colspan="2"> SEDIMENT CONTROL PLAN </td> </tr> <tr> <td>600' SCALE MAP No. 16</td> <td>BLOCK No. 24</td> </tr> </table>	SEDIMENT CONTROL PLAN		600' SCALE MAP No. 16	BLOCK No. 24	<table border="1"> <tr> <td colspan="2"> ROUTE 40 ROUTINE WATER AND SEWER EXTENSION CAPITAL PROJECT S-6698 CONTRACT No. 24-4160 ELECTION DISTRICT No. 2 HOWARD COUNTY, MARYLAND </td> </tr> <tr> <td>SCALE AS SHOWN</td> <td>SHEET 4 OF 6</td> </tr> </table>	ROUTE 40 ROUTINE WATER AND SEWER EXTENSION CAPITAL PROJECT S-6698 CONTRACT No. 24-4160 ELECTION DISTRICT No. 2 HOWARD COUNTY, MARYLAND		SCALE AS SHOWN	SHEET 4 OF 6
BY	No.	REVISION	DATE																								
RS	2	AS-BUILT	2/27/07																								
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SEDIMENT CONTROL PLAN																											
600' SCALE MAP No. 16	BLOCK No. 24																										
ROUTE 40 ROUTINE WATER AND SEWER EXTENSION CAPITAL PROJECT S-6698 CONTRACT No. 24-4160 ELECTION DISTRICT No. 2 HOWARD COUNTY, MARYLAND																											
SCALE AS SHOWN	SHEET 4 OF 6																										

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SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSE AND PERMITS SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (410-313-1855).
2. ALL VEGETATION 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 REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: (A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES GREATER 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, 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 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	0.69 AC. ±
AREA DISTURBED	0.63 AC. ±
AREA TO BE ROOFED OR PAVED	0.01 AC. ±
AREA TO BE VEGETATIVELY STABILIZED	0.62 AC. ±
TOTAL CUT	1500 C.Y.
TOTAL FILL	1500 C.Y.
OFFSITE WASTE/BORROW AREA LOCATION	C.Y.
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 CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

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:

1) PREFERRED-APPLY 2 TONS PER ACRE 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 DISC INTO UPPER THREE INCHES OF SOIL. AT THE TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ.FT.)

2) ACCEPTABLE-APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ.FT.) AND APPLY 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC 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 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.

THIS SHEET SUPERSEDES MYLAK SIGNED 3.10.00

TEMPORARY SEEDING NOTES

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 NOVEMBER 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 1 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 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.

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

21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

DEFINITION

PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

PURPOSE

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETABLE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

GENERAL NOTES

1. CONTRACTOR SHALL CONSTRUCT THAT SECTION OF PROPOSED SEWER LINE THAT CAN BE BACK-FILLED AND STABILIZED IN ONE WORKING DAY.
2. DISTURBED AREAS SHALL BE STABILIZED IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR VEGETATIVE SPECIFIED BY THE HOWARD SOIL CONSERVATION DISTRICT.
3. CONTRACTOR SHALL INSTALL SILFENCE ON THE SOUTH SIDE OF THE TRENCH AND SHALL PLACE SPOIL MATERIAL AND PIPE ON THE NORTH SIDE OF THE TRENCH.
4. CONTRACTOR SHALL SWEEP PEBBLE BEACH DRIVE AND KEEP PUBLIC ROAD FREE OF SEDIMENT AND DEBRIS.

CONDITIONS WHERE PRACTICE APPLIES

1. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
 - A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
 - B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
 - C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
 - D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
- II. FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.1 DAY
2. INSTALL SEDIMENT CONTROL DEVICES.1 WEEK
3. INSTALL WATER AND SEWER MAINS.4 WEEKS
4. BACKFILL TRENCH AND RESTABILIZE.1 WEEK
5. CLEAN UP CONSTRUCTION SITE.1 WEEK
6. REMOVE SEDIMENT CONTROL DEVICES.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.

II. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

- I. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILTY LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR A SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 AND 1/2" IN DIAMETER.
- II. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
- III. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.

III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:

- I. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- II. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:

I. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:

- a. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.
- b. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
- c. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
- d. NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

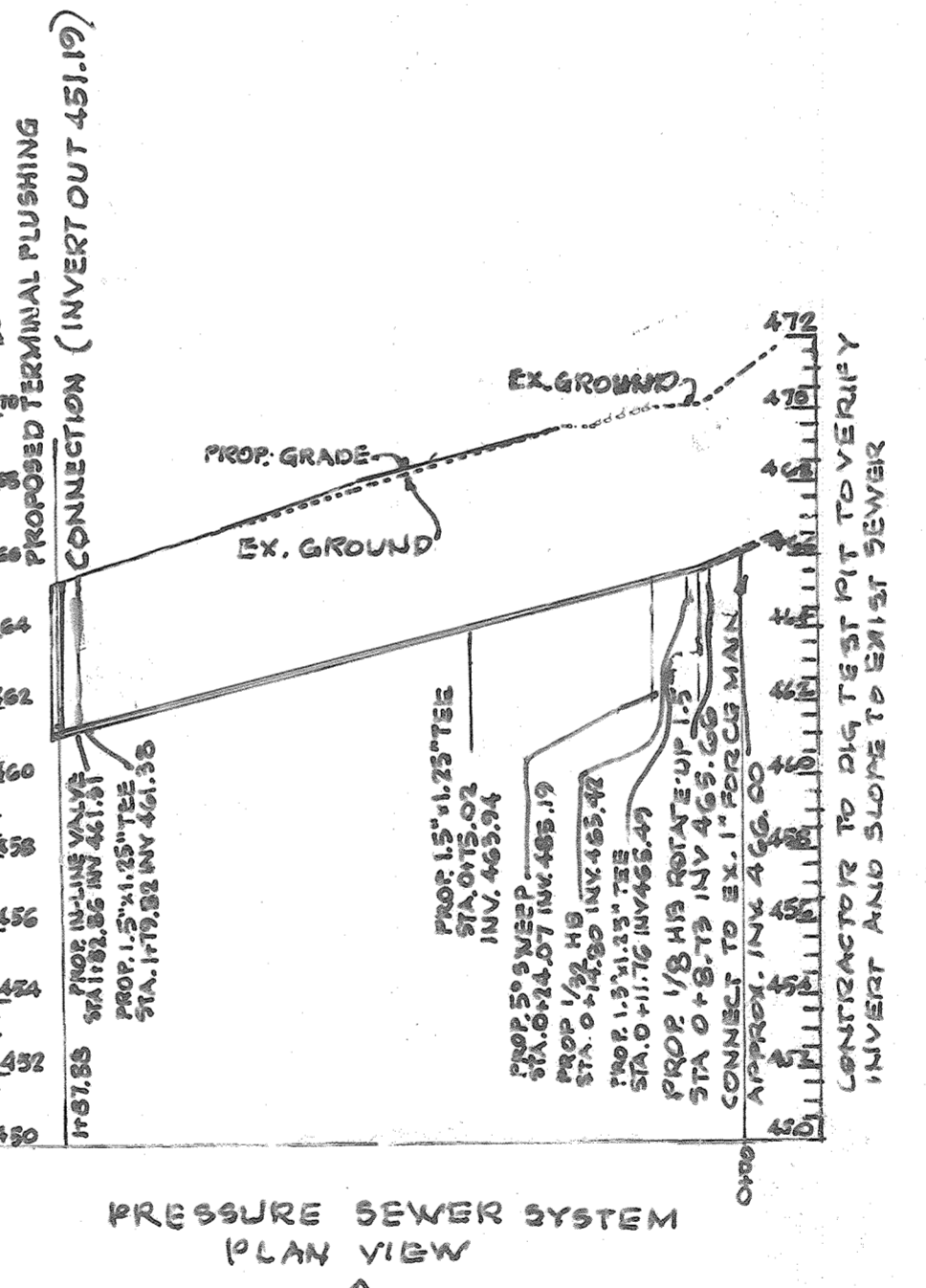
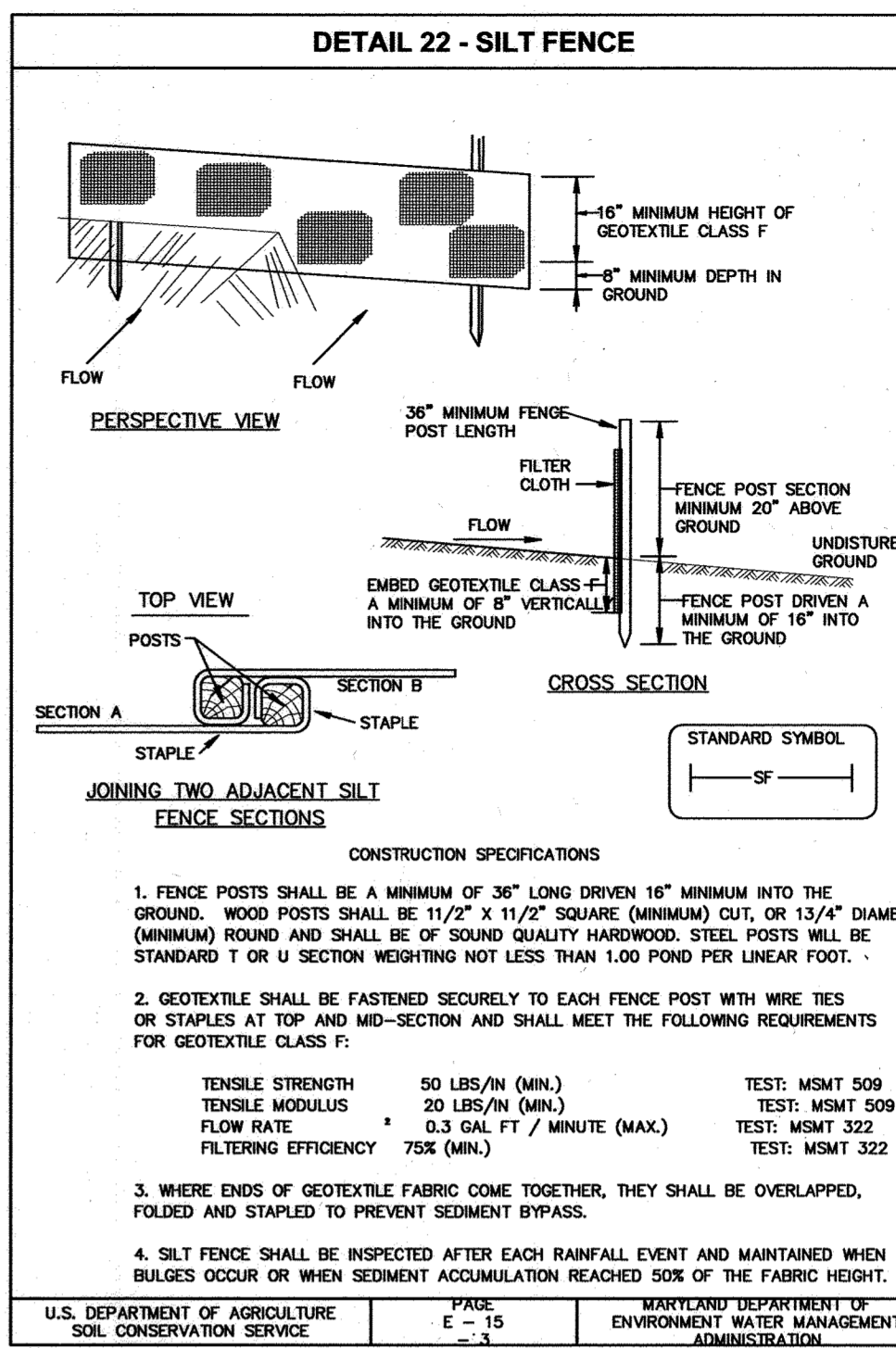
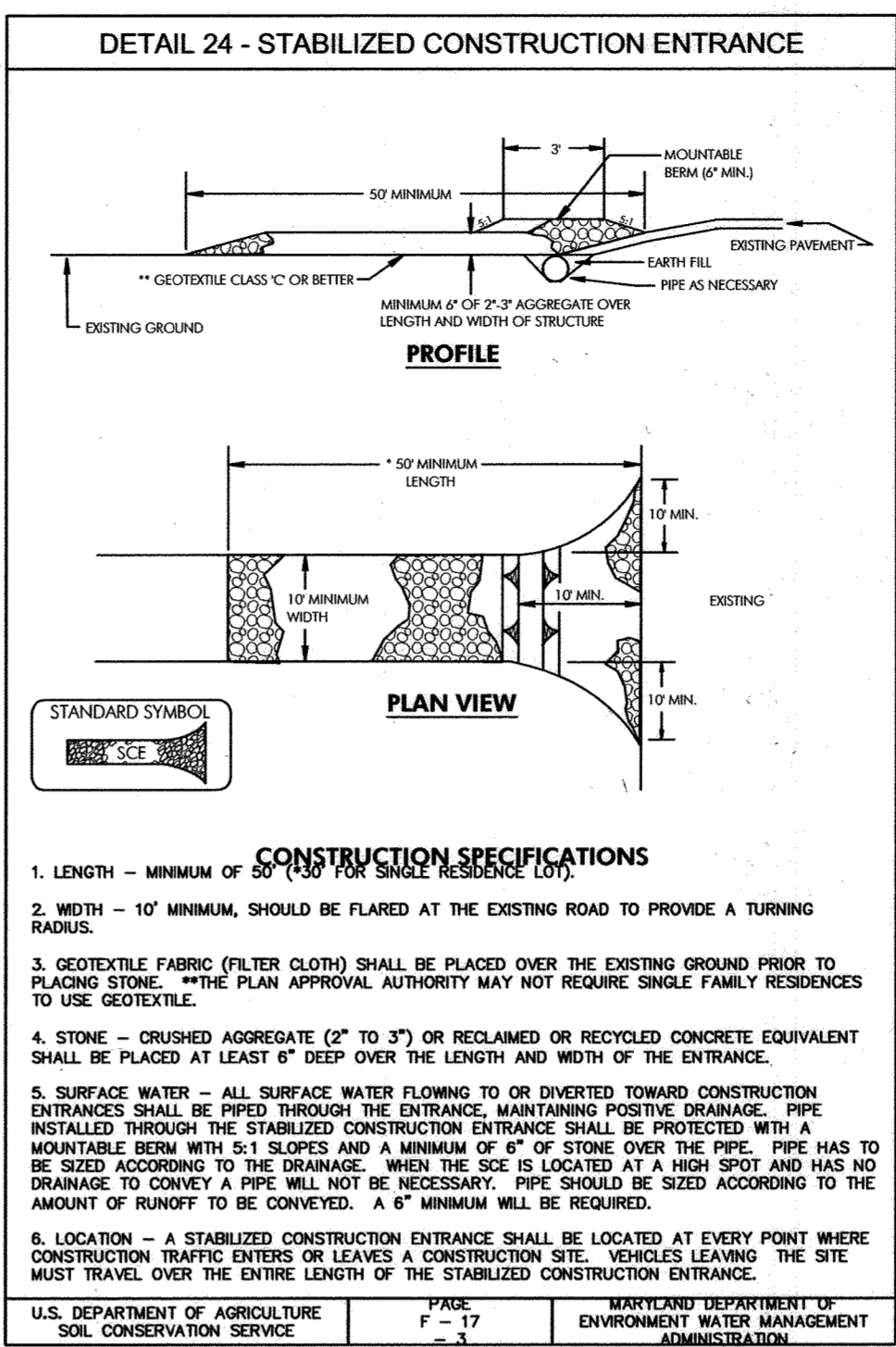
NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

III. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION-SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

V. TOPSOIL APPLICATION

- I. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
- II. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBERT 4" - 8" HIGHER IN ELEVATION.
- III. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

IV. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.



RECORD DRAWING

This record drawing has been prepared, in part, based upon information furnished by others. While this information is believed to be reliable, the engineer cannot assume its accuracy, and thus is not responsible for the accuracy of this record drawing or for any errors or omissions which may have been incorporated onto it as a result. Those relying on this record drawing are advised to obtain verification of its accuracy before applying it for any purpose.

By: [Signature] DATE: 3/22/07

* PIPING WAS INSTALLED BY TRENCHLESS EXCAVATION METHOD

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICES DATE: _____
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
 U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICES DATE: _____

PLOTTED: Mar 23, 2007 - 3:18pm

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

[Signature] 3/30/07
 DIRECTOR OF PUBLIC WORKS DATE Achieving

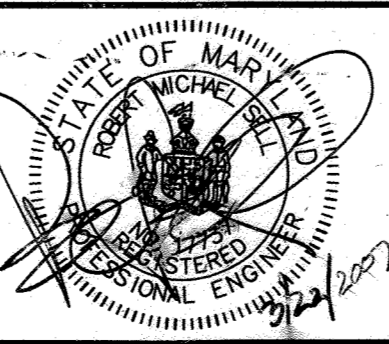
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 CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 4-2-07
 CHIEF, BUREAU OF UTILITIES DATE

[Signature] 3-30-07
 CHIEF, UTILITY DESIGN DIVISION DATE

McCRONE
 ENGINEERING ENVIRONMENTAL SCIENCES
 LAND PLANNING & SURVEYING CONSTRUCTION SERVICES

30 REDWOOD AVENUE
 ANNAPOLIS, MARYLAND 21401
 (410) 291-8801



DES: J.S.				
DRN: CAD	WRA	9	AS-BUILT	2/6/07
CHK: R.M.S.	RS	2	AS-BUILT	2/27/07
DATE: FEB, 2006	DC	1	REVISE 8" GRAVITY SEWER TO 1-1/2" PRESSURE SEWER	4/4/06
BY	No.		REVISION	DATE

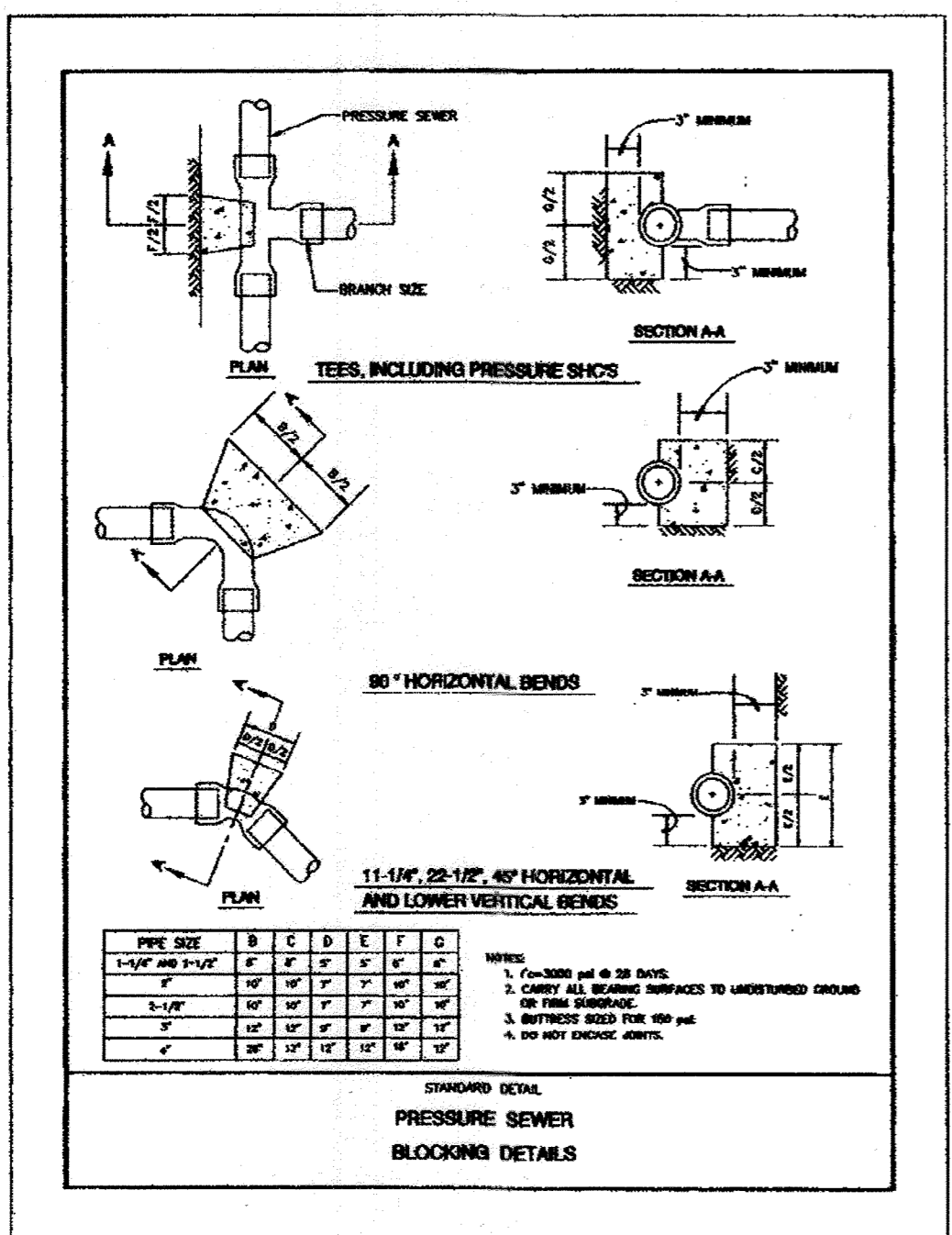
SEDIMENT CONTROL NOTES AND DETAILS

600' SCALE MAP No. 16 BLOCK No. 24

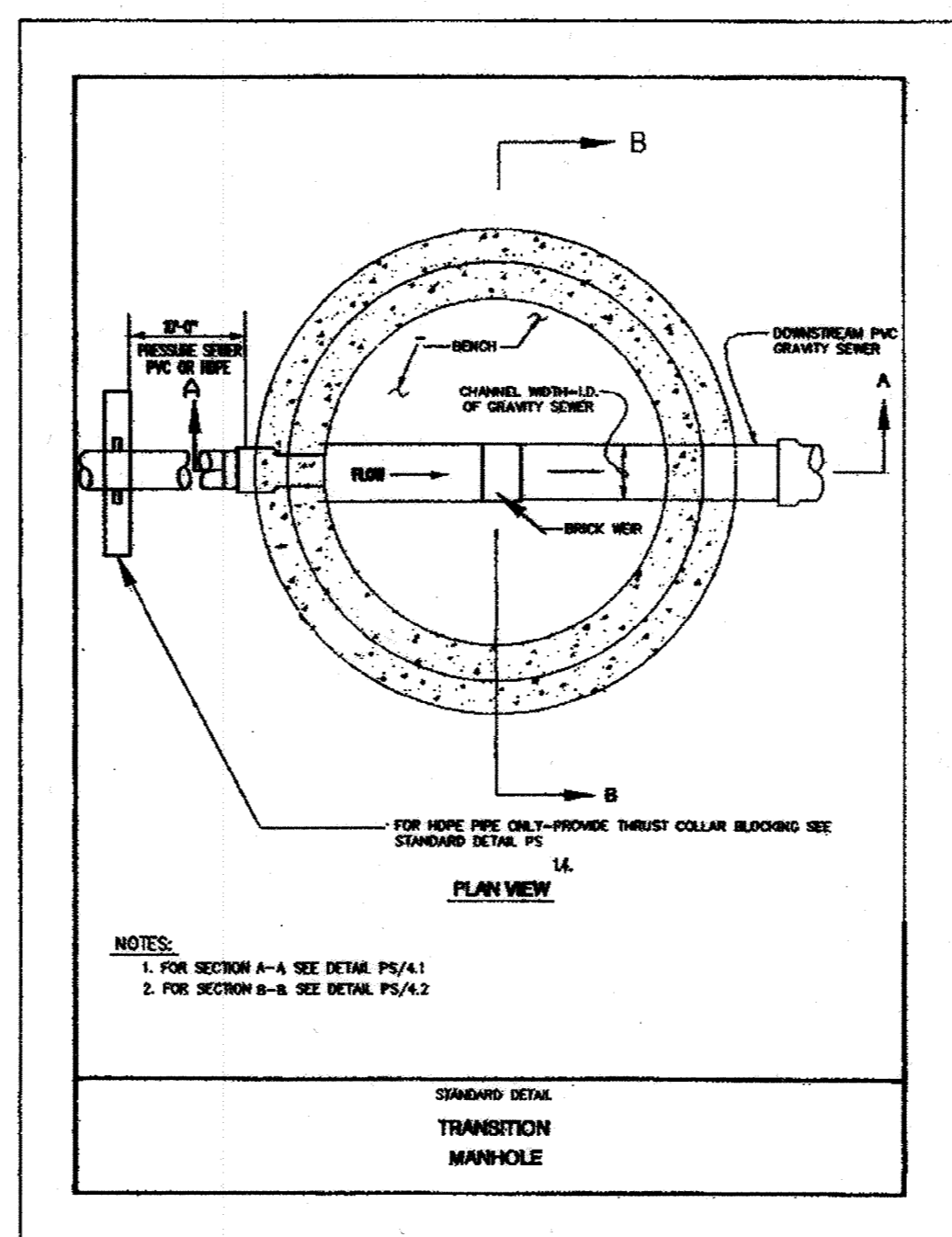
ROUTE 40 ROUTINE WATER AND SEWER EXTENSION
 CAPITAL PROJECT S-6698
 CONTRACT No. 24-4160
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 5 OF 6

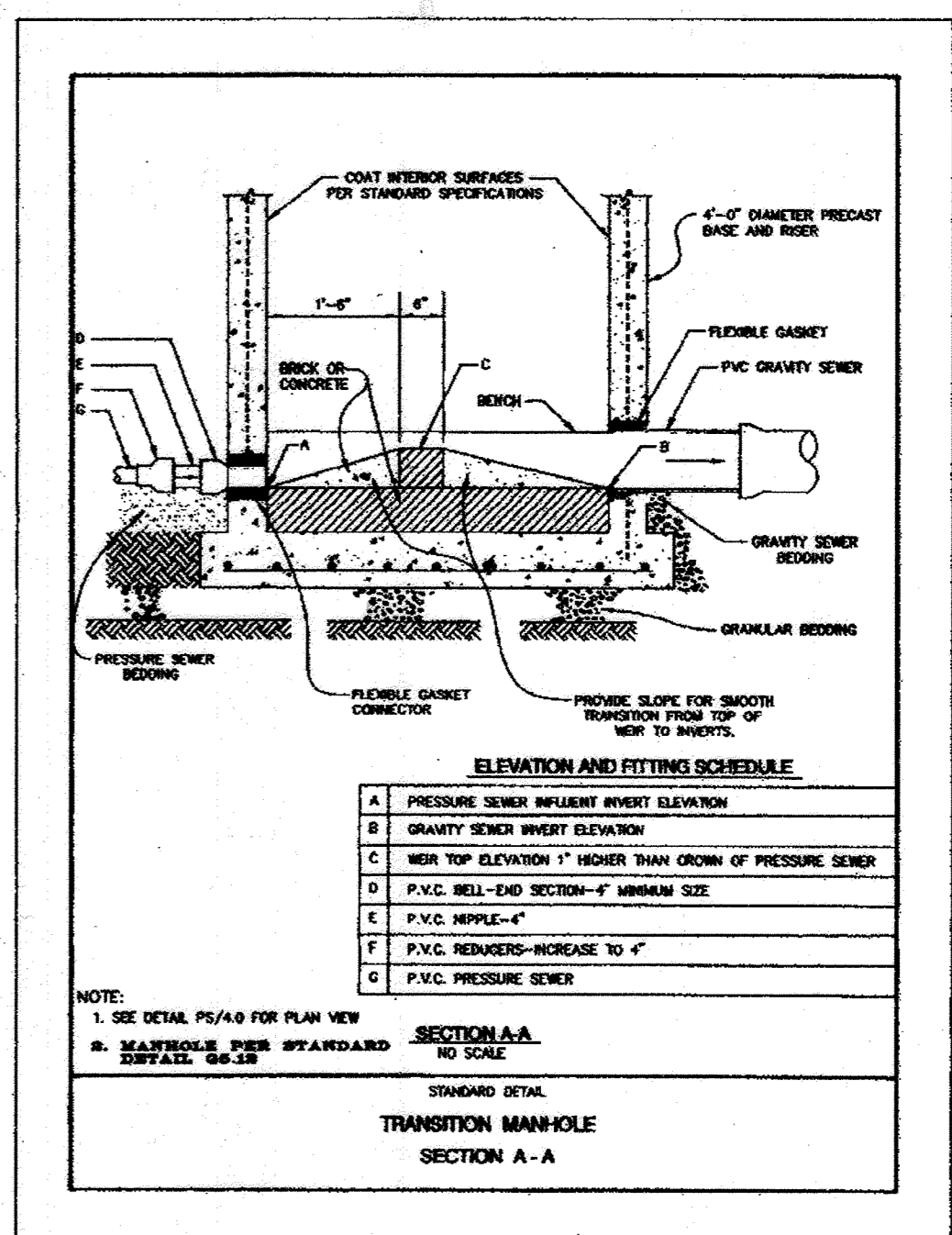
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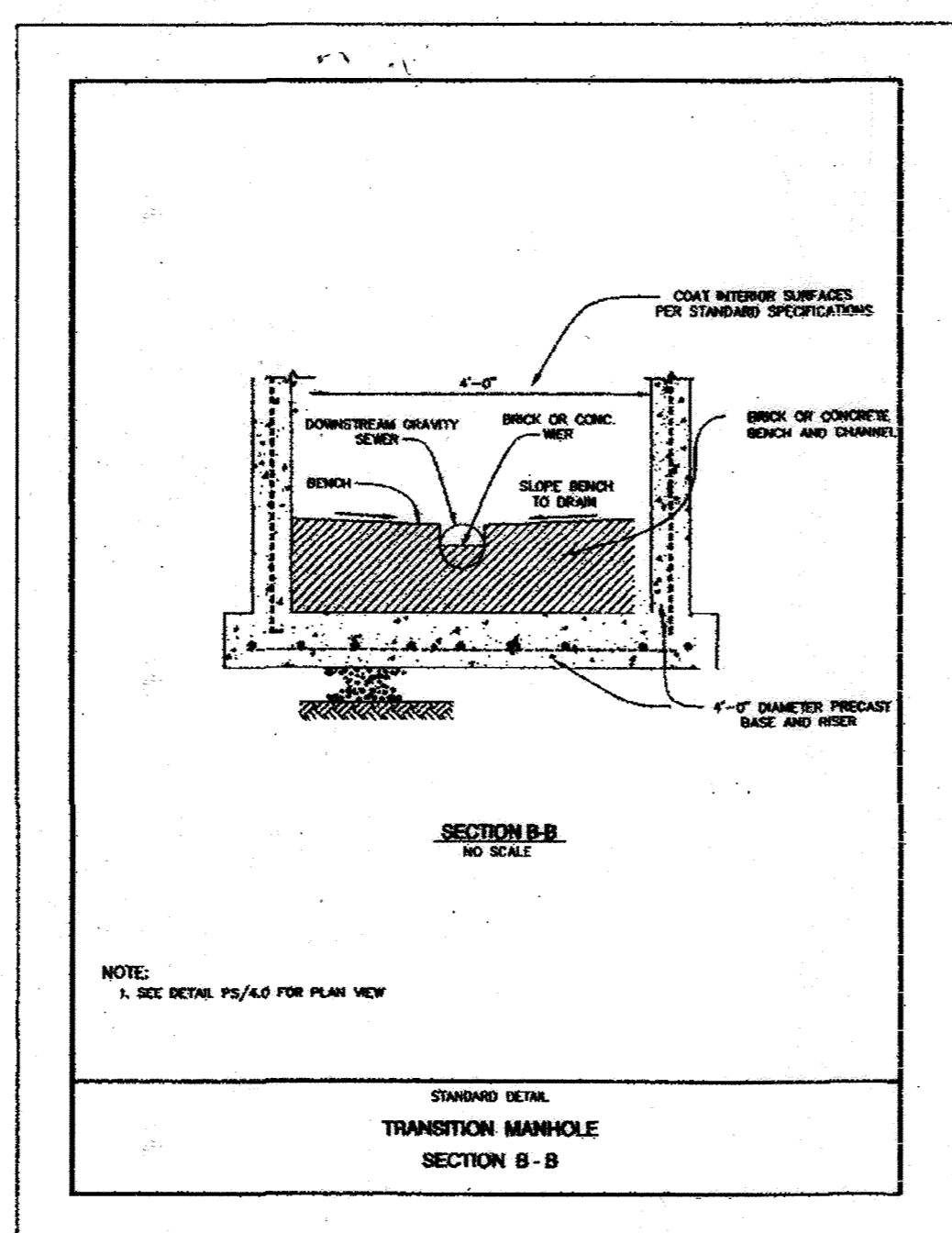
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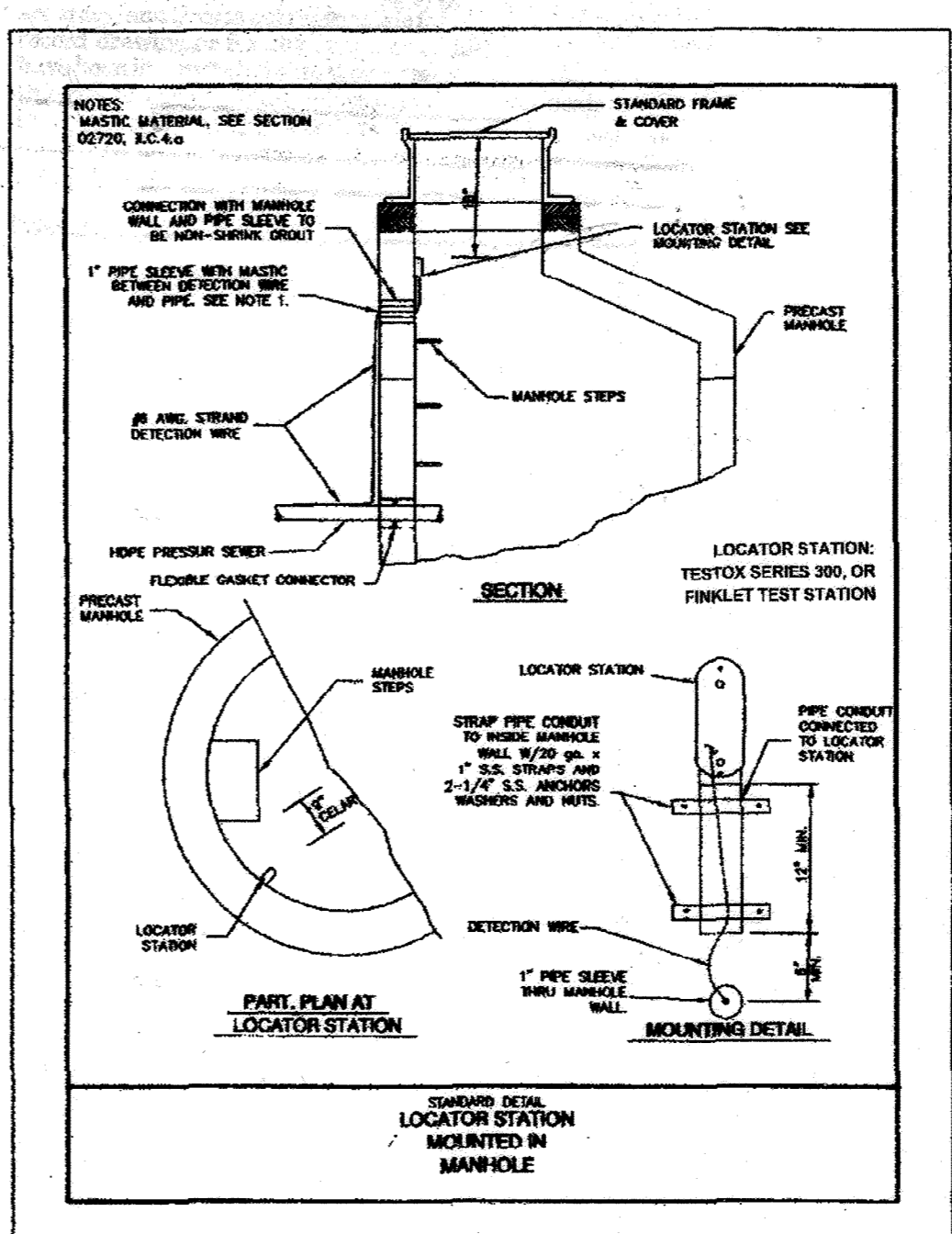
DETAIL PS 4.0



DETAIL PS 4.1



DETAIL PS 4.2



DETAIL PS 8.0

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 By: *[Signature]*
 Date: 3/22/2007

THIS SHEET SUPERSEDES MYLAR SIGNED 2-10-06

PLOTTED: Mar 23, 2007, 3:18pm

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
<i>[Signature]</i> 3/30/07 DIRECTOR OF PUBLIC WORKS DATE	<i>[Signature]</i> 3/30/07 CHIEF, BUREAU OF ENGINEERING DATE
<i>[Signature]</i> 4-2-07 CHIEF, BUREAU OF UTILITIES DATE	<i>[Signature]</i> 3-30-07 CHIEF, UTILITY DESIGN DIVISION DATE

McCRONE
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 29 ROOSEVELT AVENUE
 ANNAPOLIS, MARYLAND 21401
 (410) 293-8851
 ANNAPOLIS-CENTREVILLE-EASTON-ELKTON-PRINCE FREDERICK



DES: J.S.				
DRN: CAD				
CHK: R.M.S.				
DATE: FEB, 2006				
RS	2	AS-BUILT		2/27/07
DC	1	REVISE 8" GRAVITY SEWER TO 1-1/2" PRESSURE SEWER		4/4/06
BY	No.	REVISION		DATE

**PRESSURE SEWER
 DETAILS**

600' SCALE MAP No. 16 BLOCK No. 24

ROUTE 40 ROUTINE WATER AND SEWER EXTENSION
 CAPITAL PROJECT S-6698
 CONTRACT No. 24-4160
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 6 OF 6

CADD FILE: G:\1030010 - Rte 40 W&S Eng\USRTE40 W-S COORD FINAL LATEST REVISED_REV1-5-30-06.dwg Job: PRESSURE SEWER DETAILS XREFS/IMAGES