

**SHC TABLE**

UNIT NO.	MIN. CELLAR	SHC INV.
1	275.67	270.10
2	275.67	270.10
3	274.27	265.12
4	274.27	265.12
5	267.97	264.33
6	266.67	263.45
7	265.37	262.30
8	263.97	260.42
9	262.67	260.12
10	259.37	259.37
11	259.37	259.13
12	259.97	259.06
13	259.37	258.76
14	259.37	258.53

**WATERMAIN FITTINGS COORDINATE TABLE**

FITTING TYPE	WATERLINE STATIONING	OFFSET	NORTHING	EASTING
12" x 8" TSV	0+00		530,915.21	1,358,357.18
8" 1/16" HB	0+65.71	8" RIGHT	530,876.99	1,358,410.23
8" 1/32" HB	0+90.14		530,870.96	1,358,433.91
8" x 6" FHT	1+12.13		530,852.67	1,358,454.91
8" x 6" REDUCER	1+17.13		530,869.49	1,358,460.87
6" 1/8" HB	1+53.72		530,915.21	1,358,357.18
6" x 6" TEE	2+76.76		530,778.31	1,358,582.22
6" CAP & BUTT	0+00		530,752.72	1,358,555.34
1 1/2" DRAIN	0+01.50		530,754.18	1,358,565.14
1 1/2" DRAIN	1+14.50		530,828.88	1,358,645.03
6" CAP & BUTT	1+16.00		530,832.70	1,358,639.36

**MANHOLE COORDINATE TABLE**

SH. NO.	NORTHING	EASTING
1	530,324.88	1,358,917.28
2	530,351.20	1,358,864.37
3	530,488.63	1,358,733.54
4	530,529.40	1,358,727.39
4A	530,644.53	1,358,594.73

HOWARD SOIL CONSERVATION DISTRICT:  
 REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

*Jim Meyer* 3/8/10 DATE

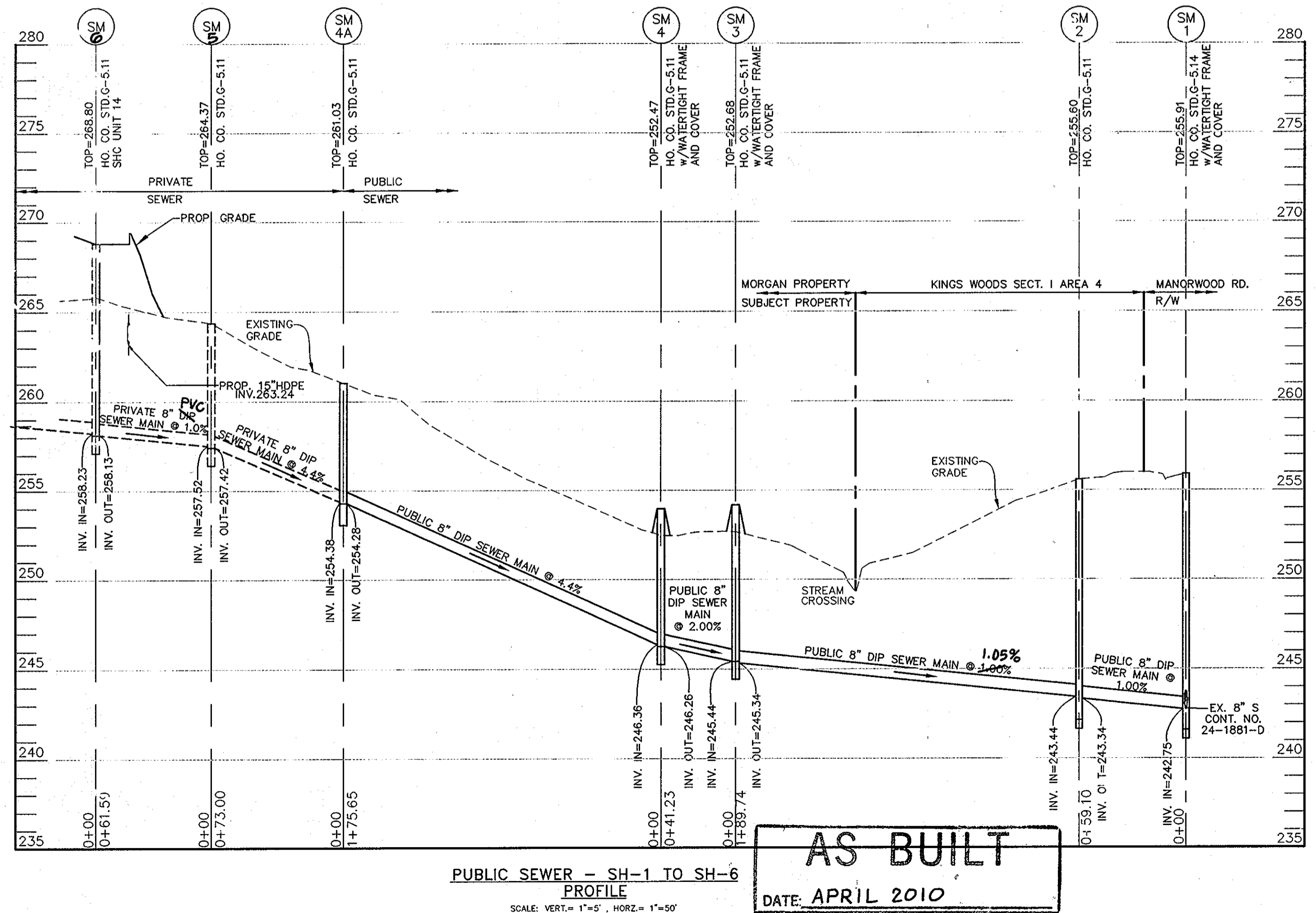
NATURAL RESOURCES CONSERVATION

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

*John R. Patterson* 3/8/10 DATE

HOWARD SOIL CONSERVATION DISTRICT

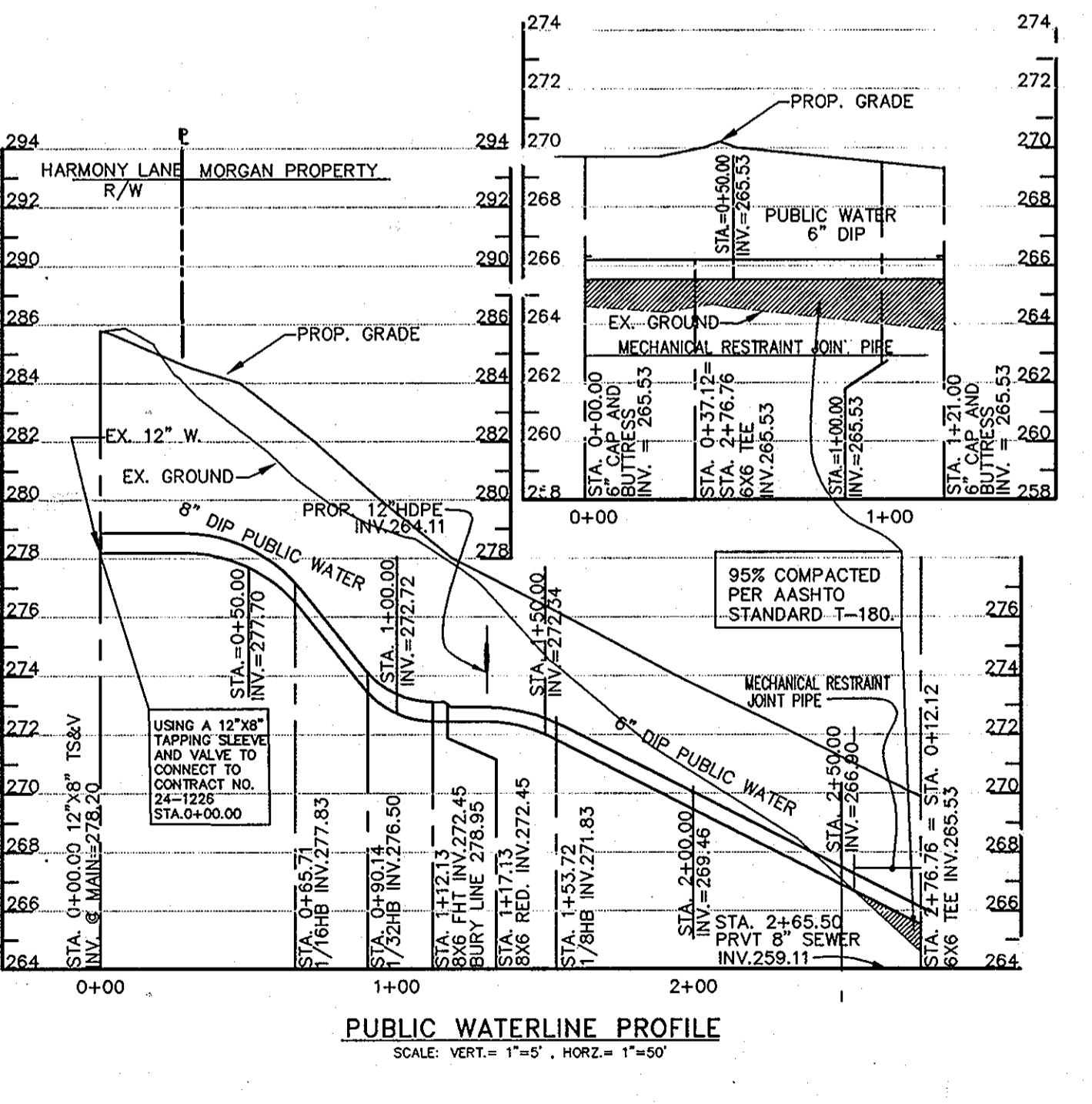
SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER SITE DEVELOPMENT PLANS SDP-06-146



**QUANTITIES**

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUF./SUPPLIER
8" DIP CLASS 52 WATER MAIN	112 L.F.	119 L.F.	DIP, CL. 54	AMERICAN
6" DIP CLASS 52 WATER MAIN	297 L.F.	310 L.F.	DIP, CL. 54	AMERICAN
1 1/2" W.C. W/HC	271 L.F.	289 L.F.	K COPPER	MUELLER CO.
FIRE HYDRANT	1 EA.	1 EA.	A-473	MUELLER CO.
8" WATER VALVE	1 EA.	1 EA.	GATE VALVE	MUELLER CO.
8" DIP SEWER MAIN	467 L.F.	447 L.F.	DIP, CL. 52	AMERICAN
SEWER MANHOLE	5 EA.	5 EA.	PRECAST 4'	FREDERICK PRECAST

NAME OF UTILITY CONTRACTOR: UTILITIES UNLIMITED  
 SURVEY AND DRAFTING DIVISION AS-BUILT DATE: APRIL 2010  
 1 1/2" WATER MAIN DRAIN 2 EA.



**WATER AND SEWER COUNTY CODE**

WATER CODE:	C-03
SEWER CODE:	727000
TEST GRADIENT:	550

- GENERAL NOTES**
- 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 AT THE CONTRACTOR'S EXPENSE.
  - TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON FEBRUARY 2005 BY BE ENGINEERING, INC.
  - HORIZONTAL AND VERTICAL SURVEY CONROLS:  
 THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/91 AND NAVD'83 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS No.508A AND No.5085.
  - ALL ELEVATIONS SHOWN ARE INVERT UNLESS OTHERWISE NOTED ON THE PLANS.
  - CLEAR ALL UTILITIES BY A MINIMUM OF 12" UNLESS OTHERWISE NOTED. THE OWNER SHALL CONTACT THE UTILITY COMPANIES AND MAKE 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 BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEEMED TO BE THE CONTRACTOR'S RESPONSIBILITY. 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 CONNECTION METHODS, USE HOWARD COUNTY SIGN 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 'X' AT THE LOCATIONS OF THE TEST PITS. A NOTE IN THE DRAWINGS 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 (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:  
 AT&T 1-800-252-1133  
 BOE (CONSTRUCTION SERVICES) 410-850-2100  
 BOE (EMERGENCY) 410-685-1430  
 BUREAU OF UTILITIES 410-3-1330  
 COLONIAL PIPELINE CO. 410-7-5300  
 MISS UTILITY 1-302-2-7777  
 STATE HIGHWAY ADMINISTRATION 410-53-5533  
 VERIZON 1-800-7-0033/410-224-9210
  - 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.
  - THE 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 (5) WORKING DAYS BEFORE OPEN CUTTING OR BORING/LACKING 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 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.
  - ALL WATER CONNECTIONS SHALL BE 1" WITH 3/4" INSIDE METER SETTINGS.

- PART III - SEWER**
- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
  - ALL MANHOLES SHALL BE 4' - 0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
  - FORCE MAINS SHALL BE D.I.P. ONLY UNLESS OTHERWISE NOTED.
  - MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
  - MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERIGHT FRAME AND COVER, STANDARD DETAIL 65.52. WHERE WATERIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-0" ABOVE FINISHED GRADE, ACCORDING TO STANDARD DETAIL G-5.41 UNLESS OTHERWISE NOTED ON THE DRAWINGS.
  - HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*Rita B...* 3-1-07 DATE  
 CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

*William...* 3/14/10 DATE  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

**BENCHMARK ENGINEERING, INC.**  
 ENGINEERS • LAND SURVEYORS • PLANNERS  
 8480 BALTIMORE NATIONAL PIKE & SUITE 418  
 ELLICOTT CITY, MARYLAND 21043  
 PHONE: 410-465-6105 FAX: 410-465-6844

DESIGN:	BFC
DRAFT:	BFC
CHK:	DAM
DATE:	1/24/07
BY:	NO.
REVISIONS:	
DATE:	

**FINAL WATER AND SEWER PLAN AND PROFILE**

600 SCALE MAP NO. 47 BLOCK 3

**MORGAN'S LANDING**  
 LOT 3 AND 4  
 TAX MAP NO. 47, GRID NO. 23  
 PARCEL NO. 763  
 6th ELECTION DISTRICT  
 ZONED: R-SC  
 HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN

SHEET NO. 1 OF 1

**CONTRACT NO. 24-4407-D**