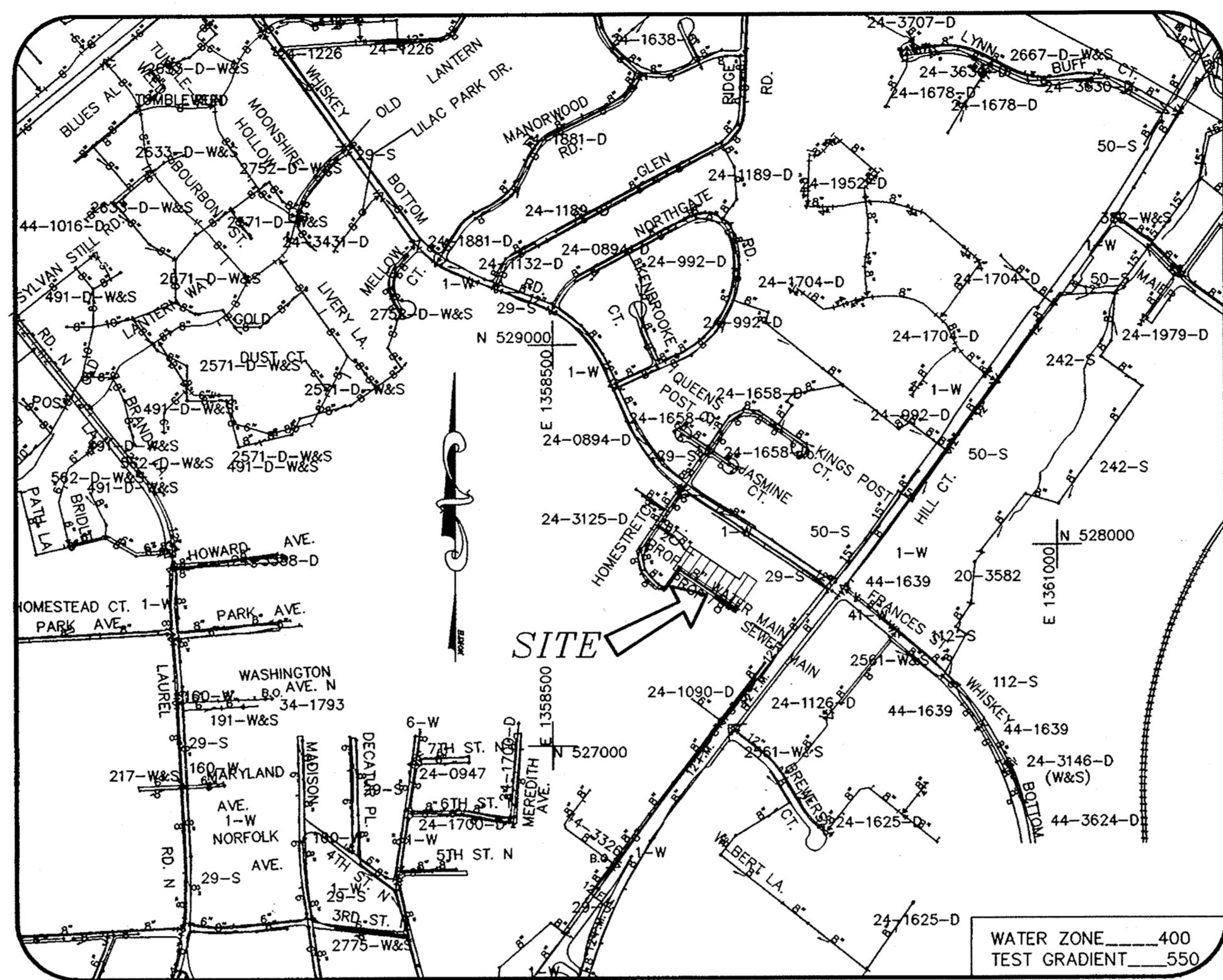


QUANTITY TABLE				
ITEMS	QUANTITIES ESTIMATED	QUANTITIES		
		TYPE	MANUFACTURER/SUPPLIER	
8" WATER MAIN	300 L.F.			
6" WATER MAIN	192 L.F.			
1" WATER HOUSE CONNECTION	155 L.F.			
# 1" WATER HOUSE CONNECTIONS	7 EACH			
6" CAP & BUTTRESS	1 EACH			
8" x 6" FHT & 6" VALVE	1 EACH			
6" FIRE HYDRANT	1 EACH			
8" VALVE	1 EACH			
8"x6" REDUCER	1 EACH			
8" SEWER MAIN	520 L.F.			
4" SEWER HOUSE CONNECTION	70 L.F.			
# 4" SEWER HOUSE CONNECTIONS	8 EACH			
# 4' STANDARD PRECAST MANHOLES G-5.12	3 EACH			
NAME OF UTILITY CONTRACTOR:				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE				

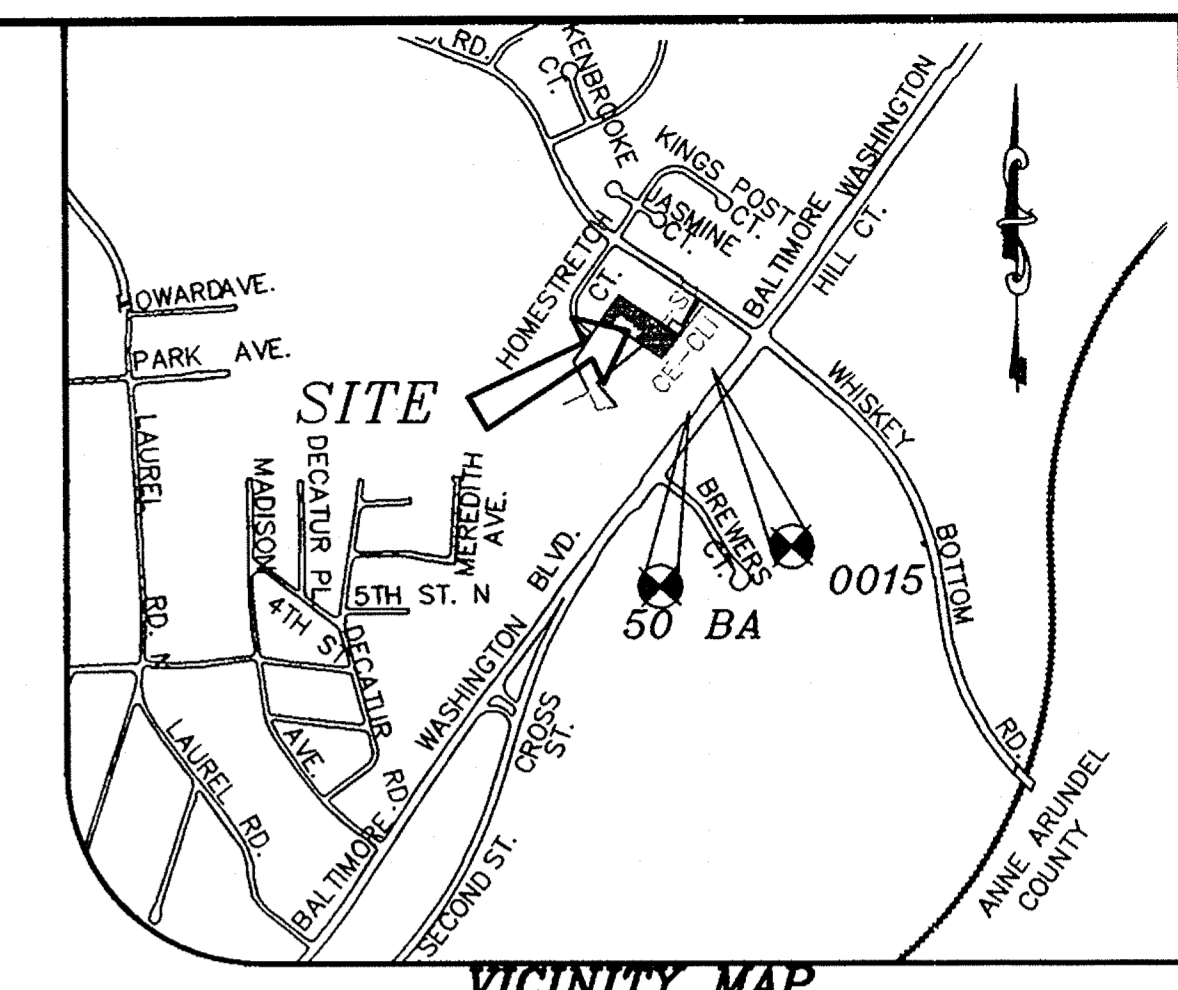
WATER / SEWER MAIN TABULATION CHART		
APPURTENANCE	NORTHING	EASTING
MH 1	572,978.30	1,359,284.12
MH 2	578,083.99	1,359,357.37
MH 3	527,882.65	1,359,648.85
FH 1	527,973.37	1,359,481.01
FHT&V	572,980.49	1,359,483.13
8" VALVE	572,972.45	1,359,270.21
6" C&B	572,868.80	1,359,647.79
1/8 H.B.	527,964.36	1,359,281.70
1/8 H.B.	527,965.49	1,359,282.32
1/8 H.B.	528,065.25	1,359,358.54
1/8 H.B.	528,066.49	1,359,361.60
8"x6" REDUCER	527,977.85	1,359,490.13

INDEX OF DRAWINGS	
NO.	DESCRIPTION
1	TITLE SHEET
2	WATER & SEWER PLAN
3	WATER & SEWER PROFILE
4	GRADING PLAN, SEDIMENT CONTROL DETAILS AND NOTES

**EROSION AND SEDIMENT CONTROL FOR THIS CONTRACT IS PART OF THIS SET (CP-09-95)**



TYPE OF BUILDING	SED
No. OF UNITS	7
No. OF WATER HOUSE CONNECTION	7
No. OF SEWER HOUSE CONNECTIONS	7
SEWER SHED	LITTLE PATUXENT WRP



- GENERAL NOTES**
- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
  - TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON SEPTEMBER 2003 BY MILDENBERG, BOENDER & ASSOCIATES INC.
  - THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD 83/91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS  
 STA. No. 50BA N 527,561.667 ELEV. 248.655  
 E 1,359,772.600  
 N 527,889.354 E 1,360,017.060  
 STA. No. 0015 ELEV. 239.581
  - ALL VERTICAL CONTROLS ARE BASED ON NAVD88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE IRON PIPE, (MILDENBERG, BOENDER & ASSOC. INC. SHALL PROVIDE A DESCRIPTION OF VERTICAL CONTROL POINTS, I.E., IRON BARS, CROSS CUTS ON CONCRETE STRUCTURES, ETC).
  - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
  - CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. 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 BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
  - FOR DETAILS NOT SHOWN ON THE DRAWING, 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 ARE 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 1-800-252-1133  
 BGE (CONSTRUCTION SERVICES) 410-850-4620  
 BGE (EMERGENCY) 410-685-1400  
 BUREAU OF UTILITIES 410-313-4900  
 COLONIAL PIPELINE COMPANY 410-795-1390  
 MISS UTILITY 1-800-257-7777  
 STATE HIGHWAY ADMINISTRATION 410-531-8533  
 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.
  - 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 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 18.11(A) OF THE HOWARD COUNTY CODE.
  - NOTE\* CONTRACTOR TO VERIFY ALL LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES.

- WATER MAIN**
- ALL WATER MAINS TO BE D.I.P. CLASS 54 UNLESS OTHERWISE NOTED.
  - TOPS OF ALL WATER MAINS TO 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 RESTRAINED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
  - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- SEWER MAIN**
- 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.
  - MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
  - MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G5.52, WHERE WATERTIGHT FRAME AND COVER IS USED, SET TOP OF FRAME 1' - 6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
  - HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATE THAT THE CELLAR CANNOT BE SERVED.

**CONTRACT NO.: 24-4584-D  
 WATSON DEVELOPMENT  
 LOTS 25-31  
 WATER & SEWER MAIN EXTENSIONS  
 HOWARD COUNTY, MARYLAND  
 DEPARTMENT OF PUBLIC WORKS**

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 INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 8.11.09  
 DEVELOPER'S SIGNATURE DATE  
**JENMAR HOMES**  
 DEVELOPER'S NAME

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

*[Signature]* 8/11/09  
 ENGINEER'S SIGNATURE DATE  
 R. JACOB HIKMAT  
 ENGINEER'S NAME

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

*[Signature]* 9/2/09  
 HOWARD SCD DATE

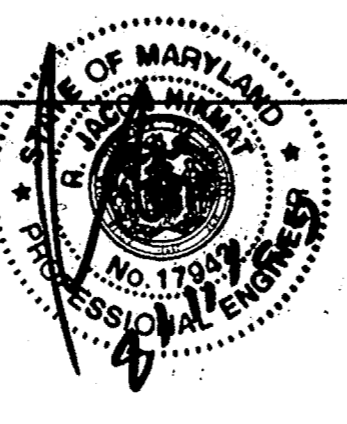
DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING  
 HOWARD COUNTY, MARYLAND

*[Signature]* 8/18/09  
 CHIEF, BUREAU OF UTILITIES DATE

*[Signature]* 9/10/09  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 897-0288 Ball. (301) 621-5521 Wash. (410) 897-0288 Fax



engineering	MMT				
illustration	MMT				
approval	RJH				
project	05-049				
date	AUG 2009	BY	NO.	REVISION	DATE

**TITLE SHEET**

600' SCALE MAP NO. 50 BLOCK NO. 4

**WATSON DEVELOPMENT  
 LOTS 25-31**

CONTRACT NO.: 24-4584-D  
 SIXTH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

scale AS SHOWN  
**1 OF 4**

**DEVELOPER/OWNER**  
 JENMAR HOMES  
 3403 OLD POST DRIVE  
 BALTIMOR, MD. 21208

**LEGEND**

- 8" S EXISTING SEWER MAIN AND MANHOLE
- 8" W EXISTING WATER MAIN AND VALVE
- EXISTING FIRE HYDRANT
- PROPOSED SEWER MAIN
- PROPOSED WATER MAIN, TAPPING SLEEVE AND VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED 1/8 BEND
- PROPOSED WATER AND SEWER EASEMENT
- PROPOSED SEWER HOUSE CONNECTION
- PROPOSED WATER HOUSE CONNECTION
- PROPOSED TWIN SEWER HOUSE CONNECTION
- PROPOSED SEWER MANHOLE
- PROPOSED TWIN WATER HOUSE CONNECTION
- PROPOSED END CAP AND BUTTRISS
- TRAVERSE
- EX. SANITARY MH

**SEWER HOUSE CONNECTION TABLE**

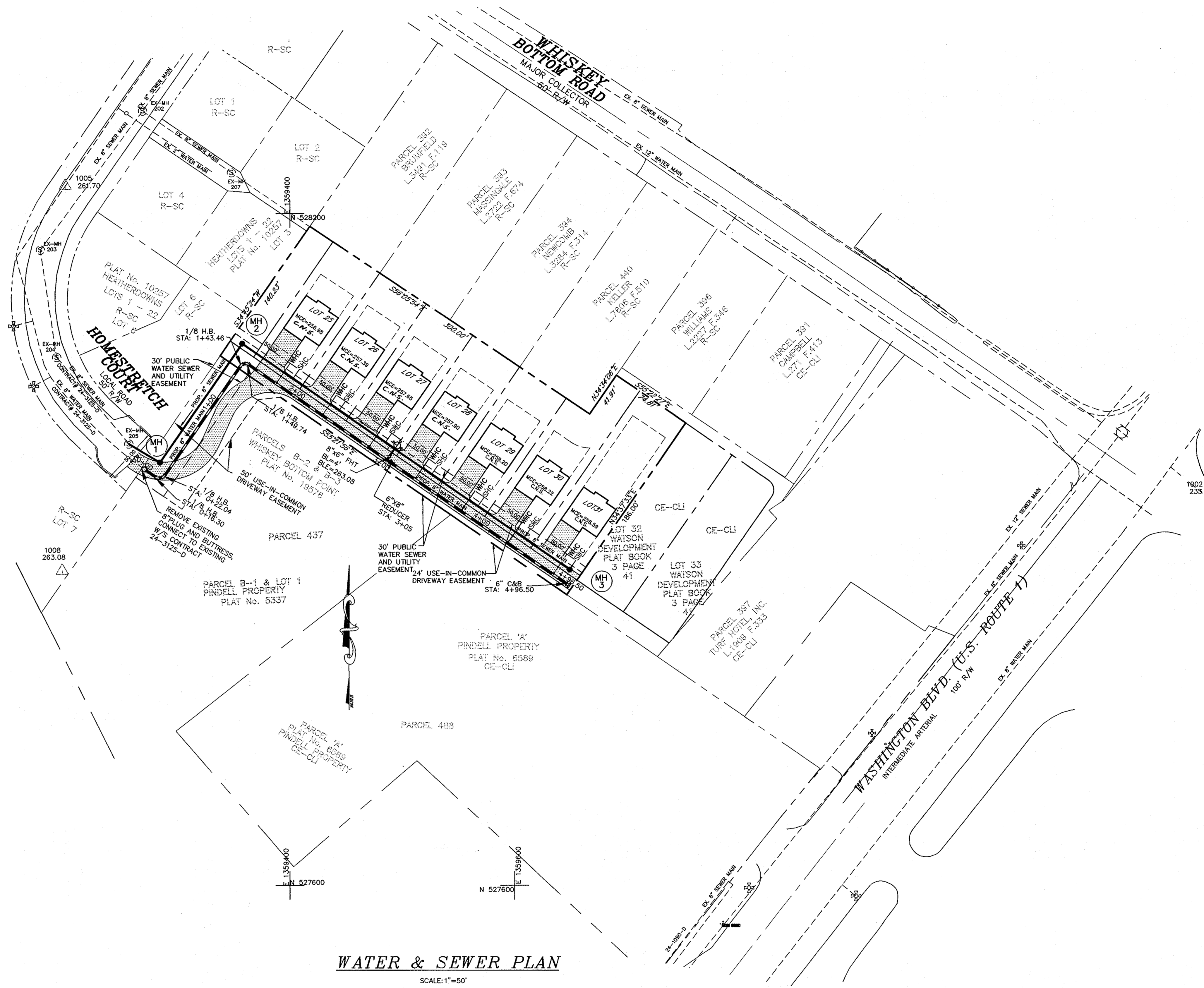
LOT	SHC TYPE	INV. @ EASEMENT	MCE	SLOPE
25	SHC	254.00	257.00	1%
26	SHC	254.24	257.39	1%
27	SHC	254.50	257.65	1%
28	CNS	254.75	257.90	1%
29	CNS	255.01	257.20	1%
30	CNS	255.07	258.22	1%
31	CNS	255.44	258.59	1%

**WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE**

LOT	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
25	HOMESTRECH CT.		
26	HOMESTRECH CT.		
27	HOMESTRECH CT.		
28	HOMESTRECH CT.		
29	HOMESTRECH CT.		
30	HOMESTRECH CT.		
31	HOMESTRECH CT.		

**SEWER HOUSE CONNECTION AS-BUILT LOCATION TABLE**

LOT	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
25	HOMESTRECH CT.		
26	HOMESTRECH CT.		
27	HOMESTRECH CT.		
28	HOMESTRECH CT.		
29	HOMESTRECH CT.		
30	HOMESTRECH CT.		
31	HOMESTRECH CT.		



**DEVELOPER/OWNER**

JENMAR HOMES  
3403 OLD POST DRIVE  
BALTIMOR, MD. 21208

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors

5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0286 Ball. (301) 621-5521 Wash. (410) 997-0288 Fax.



engineering	MMT				
illustration	MMT				
approval	RJH				
project	05-049				
date	AUG 2009	BY	NO.	REVISION	DATE

**WATER AND SEWER PLAN**

600' SCALE MAP NO. 50 BLOCK NO. 4

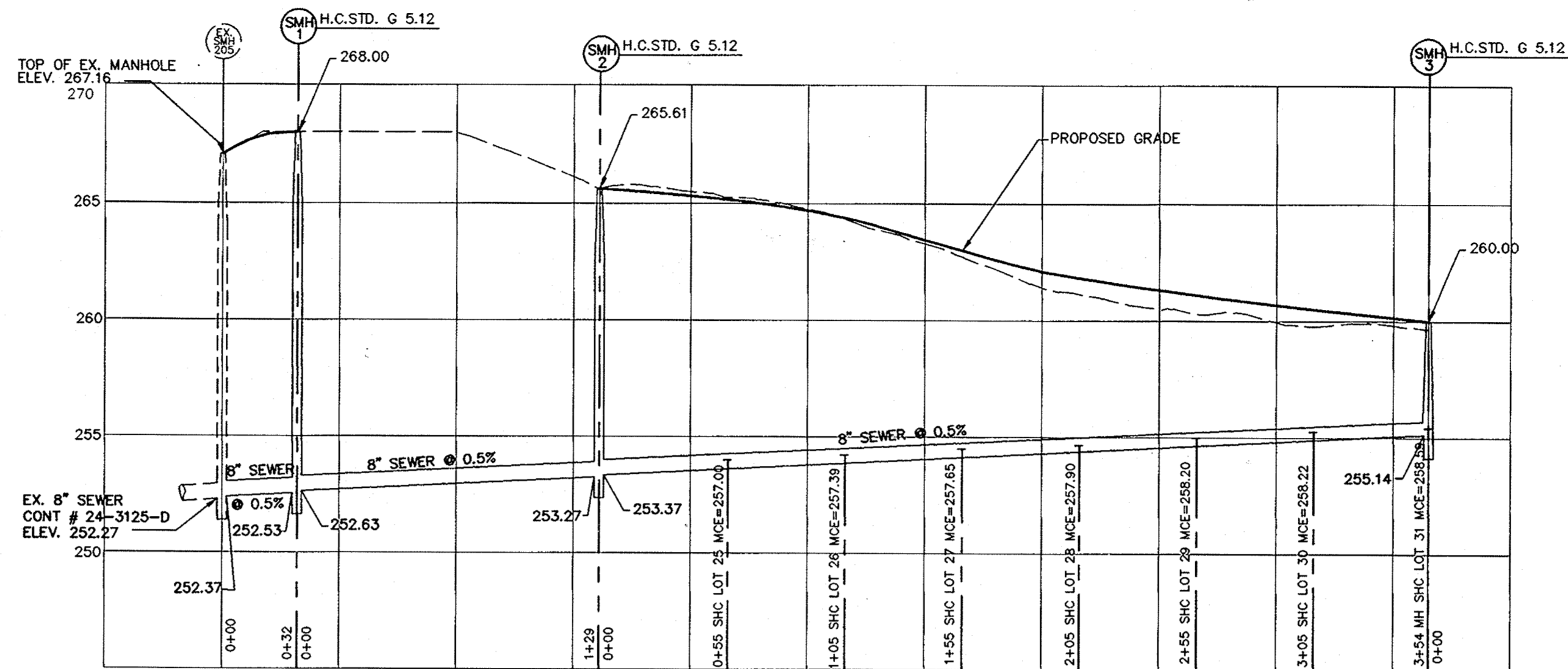
**WATSON DEVELOPMENT**  
LOTS 25-31  
CONTRACT NO.: 24-4584-D  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

scale AS SHOWN

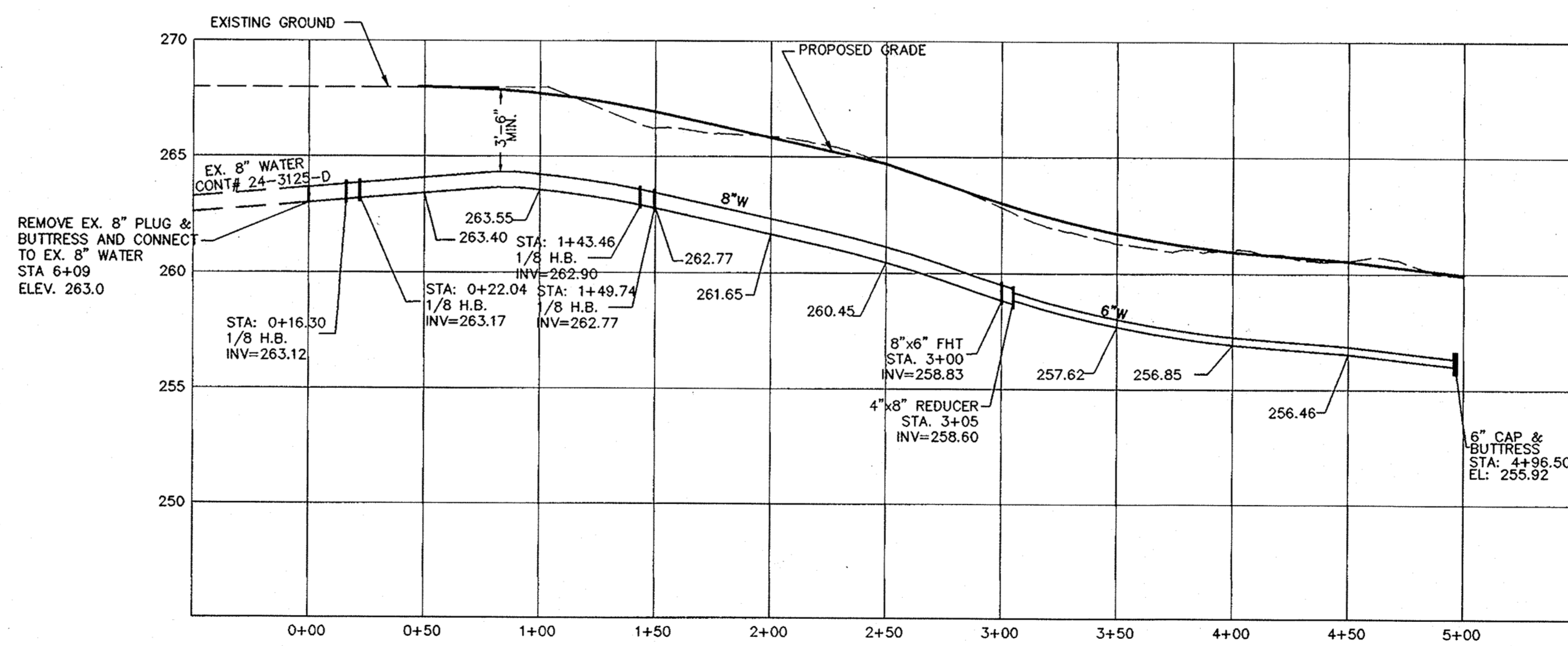
2 OF 4

CHIEF, BUREAU OF UTILITIES DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



SEWER PROFILE FROM EX. SMH 205 TO SMH 3  
 HORIZONTAL SCALE : 1" = 50'  
 VERTICAL SCALE : 1" = 5'



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

WATER PROFILE

SCALE: 1"=50'

DEVELOPER/OWNER

JENMAR HOMES  
 3403 OLD POST DRIVE  
 BALTIMOR, MD. 21208

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING  
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engineering	MMT				
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WATER AND SEWER  
 PLAN

600' SCALE MAP NO. 50 BLOCK NO. 4

WATSON DEVELOPMENT  
 LOTS 25-31  
 CONTRACT NO.: 24-4584-D  
 SIXTH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

scale  
 AS SHOWN

**HOWARD SOIL CONSERVATION DISTRICT**

**PERMANENT SEEDING NOTES**

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

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

AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING STANDARDS:  
 1. UNTESTED - APPLY 2 TONS PER ACRE ORGANIC LIME (22 LBS./1000 SQ.FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) BEFORE SEEDING.  
 2. ACCEPTABLE - APPLY 2 TONS PER ACRE ORGANIC LIME (22 LBS./1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 210 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.

**TEMPORARY SEEDING NOTES**

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED. BEFORE SEEDING, FOR NOT PREVIOUSLY LOOSENED.

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

AMENDMENTS: APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.)  
 SEEDING - FOR PERIODS MARCH 1 THRU APRIL 30, AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE ANNUAL RYE (3.2 LBS./1000 SQ.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 BUSHEL PER ACRE OF WHEAT (4.0 LBS./1000 SQ.FT.). FOR THE PERIODS NOVEMBER 15 THRU NOVEMBER 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 SOO. OPTION (3) - SEED WITH 90 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 (TO 90 LBS./1000 SQ.FT.) OF UNROTTED WEED FREE SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 210 GAL PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GAL PER ACRE (8 GAL./1000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

**STANDARD SEDIMENT CONTROL NOTES**

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION. (315-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THEREOF.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERMETER SEDIMENT CONTROL STRUCTURES, DICES, PERMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC.51), SOO (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC.52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE USED FOR TEMPORARY STABILIZATION. SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:  
 TOTAL AREA OF SITE: 1.10 ACRES  
 AREA DISTURBED: 0.95 ACRES  
 AREA TO BE ROOFED OR PAVED: 0 ACRES  
 AREA TO BE VEGETATIVELY STABILIZED: 0.15 ACRES  
 TOTAL CUT: 2,800 CU. YDS.  
 TOTAL FILL: 2,800 CU. YDS.  
 TOTAL WASTE/BORROW AREA LOCATION: N/A
- THESE QUANTITIES ARE FOR PERMIT PURPOSES ONLY. CONTRACTOR IS REQUIRED TO PROVIDE HIS OWN QUANTITIES MEASUREMENTS.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DETERMINED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF PERMETER EROSION AND SEDIMENT CONTROL STRUCTURES, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

**DEVELOPER/OWNER**

JENMAR HOMES  
 3403 OLD POST DRIVE  
 BALTIMOR, MD. 21208

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 ON THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC CHECKS AND INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 8-11-09  
 DEVELOPER'S SIGNATURE DATE  
 JENMAR HOMES  
 DEVELOPER'S NAME

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

*[Signature]* 8/11/09  
 ENGINEER'S SIGNATURE DATE  
 R. JACOB HIKMAT  
 ENGINEER'S NAME

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

*[Signature]* 9/2/09  
 HOWARD SCD

**STANDARD 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 VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW pH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

**CONDITIONS WHERE PRACTICE APPLIES**

- 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.

**CONSTRUCTION AND MATERIAL SPECIFICATIONS**

- 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.
- TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:  
 I. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SANDY CLAY LOAM, LOAMY SAND, OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR 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 CONCRETES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.  
 II. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERBERIS GRASS, QUACKGRASS, JOHNSON GRASS, NUTCRACK, 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 BULDOZING OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.  
 IV. 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.

**FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:**

- 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 TOPSOILS SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A pH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PERFORMED TO RAISE THE pH TO 6.5 OR HIGHER.  
 b. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1% PRESENT BY WEIGHT.  
 c. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.  
 d. NO SOO OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STABILIZERS 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.

**TOPSOIL APPLICATION**

- WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS OVERSLOWS, GRADE STABILIZATION STRUCTURES, EARTH DICES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
- GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBERT 4" - 6" HIGHER IN ELEVATION.
- TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" TO 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SOILING 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.
- TOPSOIL SHALL NOT BE PLACED WHERE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY BE DETERMINED TO PROPER GRADING AND SEEDING PREPARATION.

**ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE MAY BE APPLIED AS SPECIFIED BELOW:**

- COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO DETERMINE AMENDMENTS AND FOR SITES HAVING AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:  
 a. COMPOSTED SLUDGE SHALL BE SUPPLIED BY OR ORIGINATE FROM A PERSON OR PERSONS WHO ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.  
 b. COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PA OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.  
 c. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.  
 d. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE.

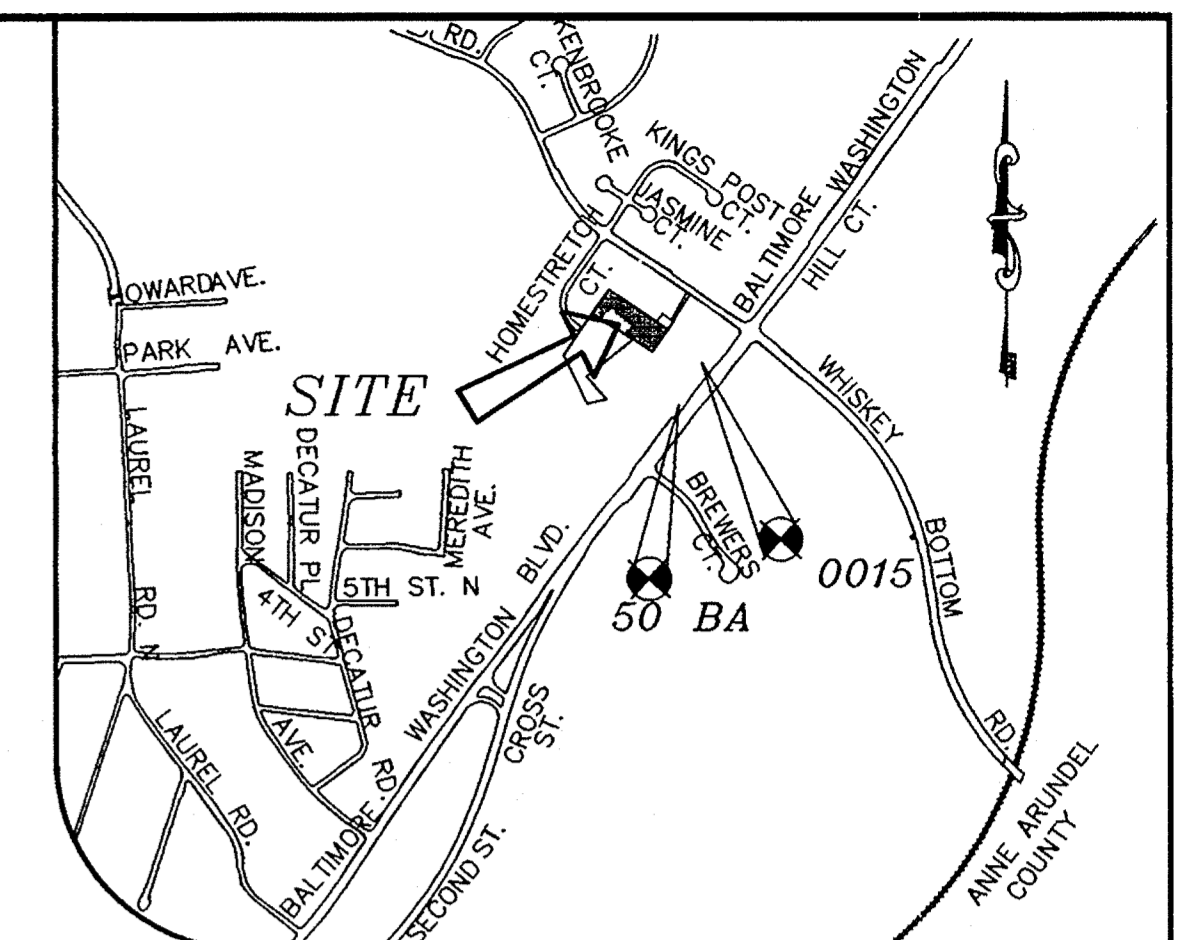
REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SOODING, MD-VOL. PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES, REVISED 1973.

**SEQUENCE OF CONSTRUCTION**

- OBTAIN THE REQUIRED GRADING PERMIT.
- INSTALL SILT FENCES AS INDICATED. (2 DAYS)
- EXCAVATION AND BACKFILL SHALL BE LIMITED TO THAT WHICH CAN BE STABILIZED WITHIN ONE WORKING DAY. ALL EXCAVATED MATERIAL SHALL BE PLACED ON UPRILL SIDE OF UTILITY TRENCH. IN AREAS OF EXISTING PAVEMENT, STABILIZE WITH STONE AGGREGATE UNTIL PERMANENT PAVING REPAIR CAN BE DONE.
- INSPECT, REPAIR, AND/OR REPLACE SILT FENCE AT THE END OF EACH WORKING DAY.
- STABILIZE SEED & MULCH ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS SHEET.
- WHEN ALL CONTRIBUTING AREAS TO SEDIMENT CONTROL DEVICES HAVE BEEN PERMANENTLY STABILIZED AND AFTER PERMISSION HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:  
 A) 7 CALENDAR DAYS FOR ALL PERMETER SLOPES GREATER THAN 3:1  
 B) 14 CALENDAR DAYS FOR ALL OTHER DISTURBED GRADED AREAS ON THE PROJECT SITE.

**EROSION AND SEDIMENT CONTROL NOTES**

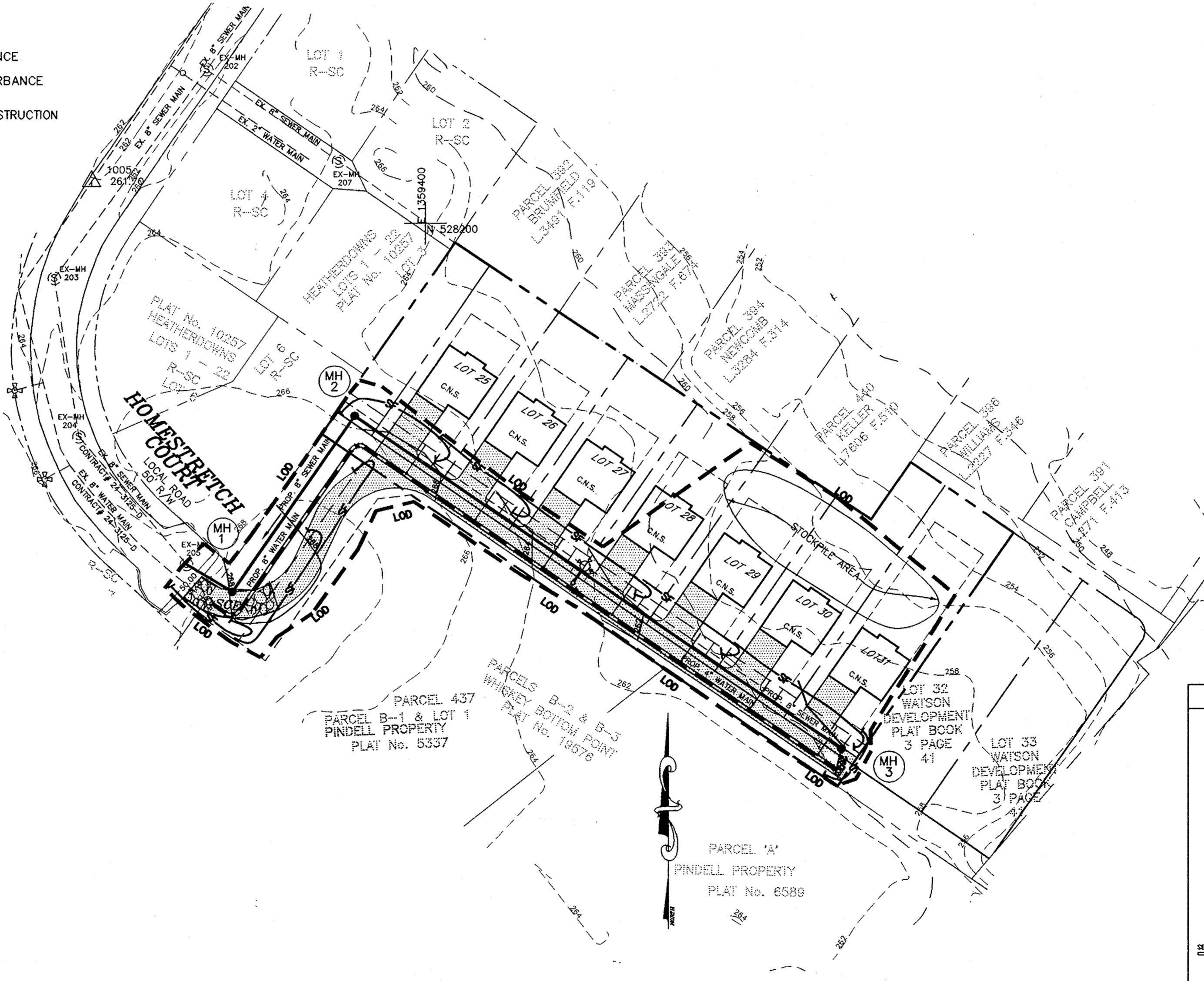
- ALL SEDIMENT CONTROL OPERATIONS ARE TO BE DONE IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY VOLUME IV DESIGN MANUAL AND THE STANDARDS AND SPECIFICATIONS FOR SEDIMENT CONTROL IN DEVELOPING AREAS.
- ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF BUSINESS.
- ALL EXCAVATED MATERIALS SHALL BE STOCKPILED ON THE UPSIDE SIDE OF THE MAIN TRENCH.
- EXCAVATION AND BACKFILL SHALL BE LIMITED TO THAT WHICH CAN BE STABILIZED WITHIN ONE WORKING DAY.
- IMMEDIATELY FOLLOWING BACKFILL OF THE SEWER TRENCH, ALL DISTURBED AREAS ARE TO BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION AND SEEDING NOTES SHOWN ON THIS SHEET.
- THROUGHOUT THE PROJECT, THE CONTRACTOR SHALL REGULARLY INSPECT ALL SEDIMENT CONTROL DEVICES AND PROVIDE ALL NECESSARY MAINTENANCE TO INSURE THAT ALL DEVICES ARE IN OPERATIVE CONDITION.
- ALL SEDIMENT CONTROL FACILITIES SHALL REMAIN IN PLACE UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.



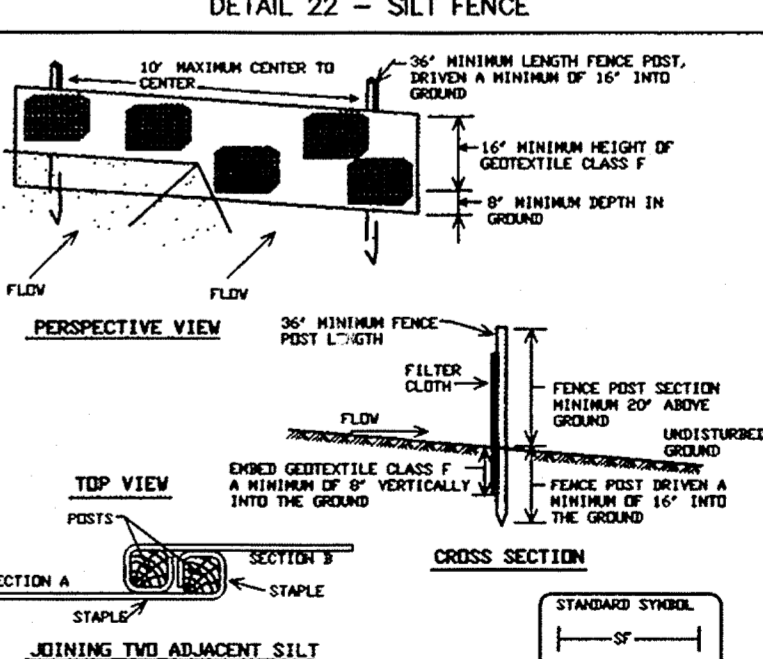
**VICINITY MAP**  
 SCALE: 1" = 200'  
 ADC MAP: A-12

**LEGEND**

- SF - SILT FENCE
- SSF - SUPER SILT FENCE
- LOD - LIMIT OF DISTURBANCE
- SCF - STABILIZED CONSTRUCTION ENTRANCE



**THIS PLAN IS FOR GRADING PURPOSES ONLY**



**Construction Specifications**

- Fence posts shall be a minimum of 36" long driven 18" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 1/2" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be provided if or if section weighting not less than 1.00 pound per linear foot.
- Geotextile 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 D:  
 Tensile Strength 50 lbs/in (min.) Test: MOHT 309  
 Tensile Modulus 20 lbs/in (min.) Test: MOHT 309  
 Filter Rate 0.2 gal (10"/min) (max) Test: MOHT 302  
 Filtering Efficiency 75% (min.) Test: MOHT 302
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
- Silt fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

**SILT FENCE**

**Silt Fence Design Criteria**

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
D:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil class 10) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

U.S. DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 PAGE: 1-12-3  
 MARYLAND DEPARTMENT OF ENVIRONMENT  
 WATER MANAGEMENT ADMINISTRATION  
 F-17-3

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING  
 HOWARD COUNTY, MARYLAND

*[Signature]* 9/18/09  
 CHIEF, BUREAU OF UTILITIES DATE

*[Signature]* 9/18/09  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors

5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0286 Dalt. (301) 621-5521 Wash. (410) 997-0288 Fax.

engineering MMT  
 illustration MMT  
 approval RJE  
 project 05-049  
 date AUG 2009

**GRADING PLAN**  
 SEDIMENT CONTROL DETAILS AND NOTES

600' SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

**WATSON DEVELOPMENT**  
 LOTS 25-31

CONTRACT NO.: 24-4584-D  
 SIXTH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

scale AS SHOWN  
 4 OF 4