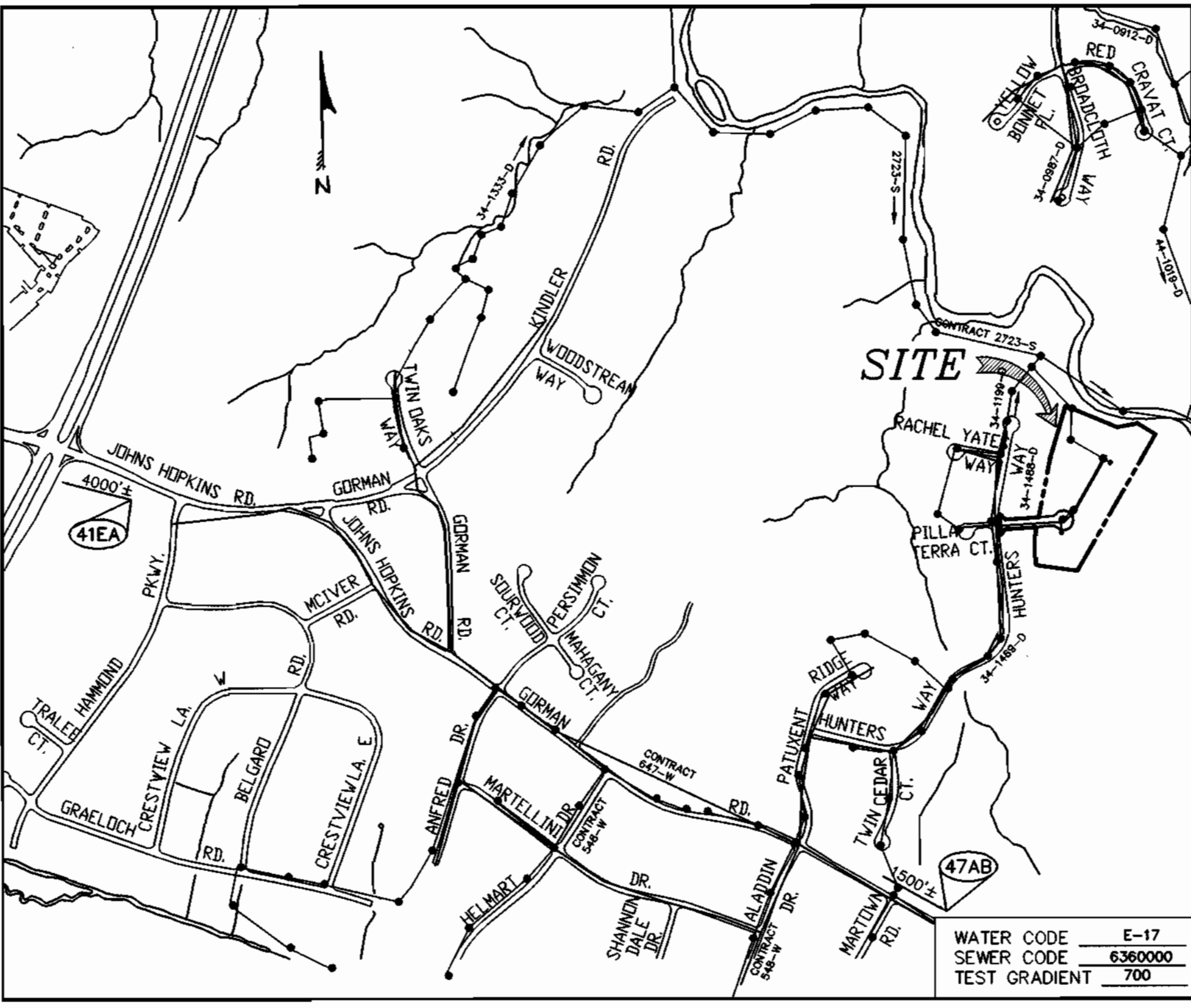


QUANTITY TABLE				
ITEMS	QUANTITIES		TYPE	MANUFACTURER/SUPPLIER
	ESTIMATED			
STANDARD MH (HO. CO. STD. G-5.01)	6			
DROP MH "TYPE B" (HO. CO. STD. S-1.32)	1			
WATERTIGHT FRAME AND COVER (G-5.52)	3			
MANHOLE, VERTICAL FEET	65 L.F.			
# MH CONNECTIONS	10 EACH			
8" SEWER	1078 L.F.			
TRENCH EROSION CHECK (HO. CO. STD. G-3.01)	4 EACH			
4" SEWER HOUSE CONNECTION	357 L.F.			
# SEWER HOUSE CONNECTION	13 EACH			
1" WATER HOUSE CONNECTION	230 L.F.			
# WATER HOUSE CONNECTIONS	11 EACH			
1-1/2" TWIN WATER HOUSE CONNECTION	65 L.F.			
# TWIN WATER HOUSE CONNECTIONS	2 EACH			
8" WATER	735 L.F.			
6" WATER	46 L.F.			
F.H.	1 EACH			
8" x 6" T	1 EACH			
6" V	1 EACH			
8" CAP & BUTTRESS	1 EACH			
1/32 H.B. (8")	1 EACH			
1/8 H.B. (8")	1 EACH			
NAME OF UTILITY CONTRACTOR:				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE				



VICINITY MAP  
SCALE: 1"=600'

TYPE OF BUILDING	SINGLE FAMILY DETACHED
No. OF UNITS	13
No. OF WATER HOUSE CONNECTION	13
No. OF SEWER HOUSE CONNECTIONS	13
DRAINAGE AREA	LITTLE PATUXENT
TREATMENT PLANT	LITTLE PATUXENT WASTEWATER TREATMENT PLANT

ON SITE EROSION AND SEDIMENT ONTROL FOR THIS CONTRACT IS PROVIDED UNDER F-01-28, OFFSITE EROSION AND SEDIMENT CONTROL IS SHOWN HEREON

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 SUPPLY. 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).
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATA.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12". CLEAR ALL POLES BY 2'-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 BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAIL 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:  
STATE HIGHWAY ADMINISTRATION (410) 531-5533  
BG & E CO. CONTRACTOR SERVICES (410) 850-4620  
BG & E CO. UNDERGROUND DAMAGE CONTROL (410) 787-9068  
MISS UTILITY 1-800-257-7777  
COLONIAL PIPELINE CO. (410) 795-1390  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS (410) 313-4900  
BUREAU OF UTILITIES (410) 313-4900
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED OUTSIDE 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)313-2450 AT LEAST FIVE (5) WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(a) OF HOWARD COUNTY CODE.
- ALL WATER MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-1/2" 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 STRAPPED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS. 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.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS.
- FOR SPRINKLER SYSTEM FOR ALL TOWNHOMES OR MULTI-FAMILY DWELLING UNITS SHOULD HAVE A MINIMUM OF 1" CONNECTION WITH A 3/4" METER.
- ALL SEWER MAINS SHALL BE P.V.C. OR D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- FORCE MAINS SHALL BE D.I.P. ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLE 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." INDICATES THAT CELLAR CANNOT BE SERVED.
- STATIONING SHOWN IS WATER MAIN AND CENTER LINE STATIONING.
- CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
- ON SITE EROSION AND SEDIMENT CONTROL FOR THIS CONTRACT IS PROVIDED UNDER F-01-28, OFFSITE EROSION AND SEDIMENT CONTROL IS SHOWN HEREON
- ALL SEWER HOUSE CONNECTIONS TO BE 4" IN SIZE.
- ALL WATER HOUSE CONNECTIONS TO BE 1" IN SIZE UNLESS OTHERWISE NOTED.
- ALL CELLARS WILL HAVE SERVICE TO LOWEST FLOOR UNLESS OTHERWISE NOTED.
- STORM DRAIN SYSTEM INDICATED FOR INFORMATIONAL PURPOSES ONLY, SEE ROAD PLANS (F 01-28) FOR CONSTRUCTION DATA.
- COMPACTION IN FILL AREAS TO BE 95% AS DETERMINED PER AASHTO T-180.

CONTRACT # 34-3924-D  
WARFIELDS RANGE II, LOTS 77 THRU 92  
A RESUBDIVISION OF LOT 69  
WARFIELDS RANGE, SECTION 2, AREA 4  
WATER AND SEWER MAIN EXTENSIONS  
HOWARD COUNTY, MARYLAND  
DEPARTMENT OF PUBLIC WORKS

INDEX OF DRAWINGS

NO.	DESCRIPTION
1	COVER SHEET
2	WATER AND SEWER PLAN
3	SEWER PROFILES
4	WATER PROFILES
5	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

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.

*James L. Newburn* 7-17-01  
DEVELOPER'S SIGNATURE DATE  
James L. Newburn  
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.

*R. Jacob Hixmat* 7/13/01  
ENGINEER'S SIGNATURE DATE  
R. JACOB HIXMAT  
ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

*Jim Myers* 7/27/01  
USDA NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*John R. Roberts* 7/27/01  
HOWARD SCD DATE

DPX FILE NUMBERS
F 86-168 F 01-28
S 99-14 WP 87-132
P 00-11

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

*Robert M. Beaman* 7-25-01  
CHIEF, BUREAU OF UTILITIES DATE

*How...* 7/30/01  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0296 Fax: (301) 621-5521 Wash. (410) 997-0298 Fax

engineering	KR				
illustration	KR				
approval					
project	98108				
date	JULY 2001	BY	NO.	REVISION	DATE

COVER SHEET

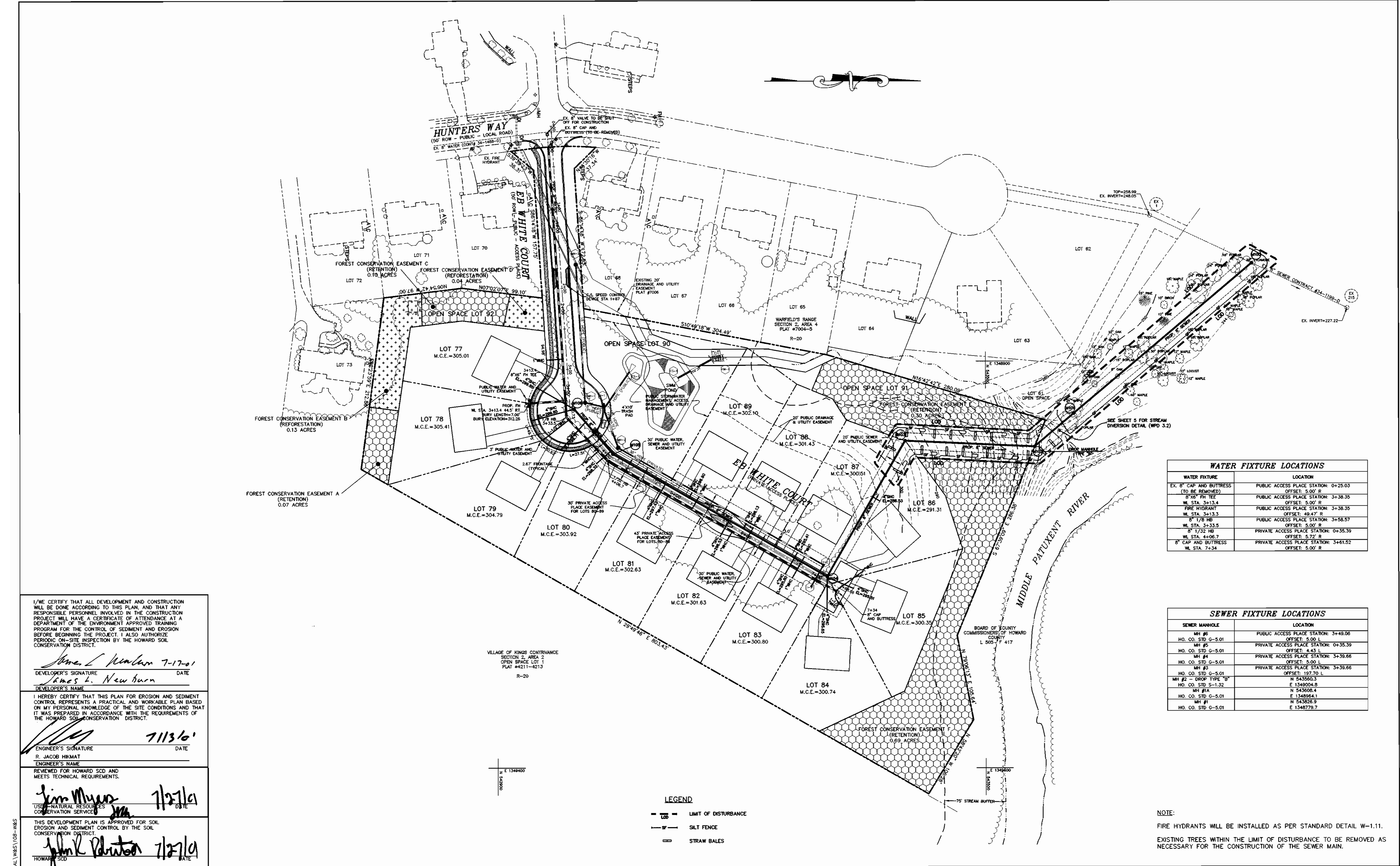
600' SCALE MAP NO. 42 BLOCK NO. 19

WARFIELDS RANGE II  
LOTS 77 THRU 92  
CONTRACT # 34-3924-D  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

scale  
N/A

1 of 5

98108.DWG\FINAL\W&S\T-08-W&S



WATER FIXTURE LOCATIONS	
WATER FIXTURE	LOCATION
EX. 8" CAP AND BUTTRESS (TO BE REMOVED)	PUBLIC ACCESS PLACE STATION: 0+25.03 OFFSET: 5.00' R
8" 1/8" FN TEE	PUBLIC ACCESS PLACE STATION: 3+38.35 OFFSET: 5.00' R
WL STA. 3+13.4	PUBLIC ACCESS PLACE STATION: 3+38.35 OFFSET: 49.47' R
FIRE HYDRANT	PUBLIC ACCESS PLACE STATION: 3+58.57 OFFSET: 5.00' R
WL STA. 3+13.3	PUBLIC ACCESS PLACE STATION: 3+58.57 OFFSET: 5.00' R
8" 1/8" HB	PRIVATE ACCESS PLACE STATION: 0+35.39 OFFSET: 5.72' R
WL STA. 3+33.5	PRIVATE ACCESS PLACE STATION: 3+61.52 OFFSET: 5.00' R
8" 1/32" HB	
WL STA. 4+06.7	
8" CAP AND BUTTRESS	
WL STA. 7+34	

SEWER FIXTURE LOCATIONS	
SEWER MANHOLE	LOCATION
MH #6	PUBLIC ACCESS PLACE STATION: 3+49.06 OFFSET: 5.00' L
HO. CO. STD. G-5.01	PRIVATE ACCESS PLACE STATION: 0+35.39 OFFSET: 4.43' L
MH #5	PRIVATE ACCESS PLACE STATION: 3+39.66 OFFSET: 5.00' L
HO. CO. STD. G-5.01	PRIVATE ACCESS PLACE STATION: 3+39.66 OFFSET: 5.00' L
MH #4	PRIVATE ACCESS PLACE STATION: 192.70' L N 543560.3 E 1349004.8
HO. CO. STD. G-5.01	
MH #3	
HO. CO. STD. G-5.01	
MH #2 - DROP TYPE "B"	
HO. CO. STD. S-1.32	
MH #1A	
HO. CO. STD. G-5.01	
MH #1	
HO. CO. STD. G-5.01	

- LEGEND**
- LIMIT OF DISTURBANCE
  - SILT FENCE
  - STRAW BALES

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.

*James L. Newburn* 7-17-01  
DEVELOPER'S SIGNATURE DATE

James L. Newburn  
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.

*R. Jacob Himmatt* 7/13/01  
ENGINEER'S SIGNATURE DATE

R. JACOB HIMMAT  
ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

*Jim Myers* 7/27/01  
USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*John K. Panton* 7/27/01  
HOWARD SCD DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*John K. Panton* 7-25-01  
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

*John K. Panton* 7/30/01  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0296 Fax (301) 621-5521 Wash. (410) 997-0298 Fax

*James L. Newburn* 7/15/01

engineering	KR				
illustration	KR				
approval					
project	98108				
date	JULY 2001	BY	NO.	REVISION	DATE

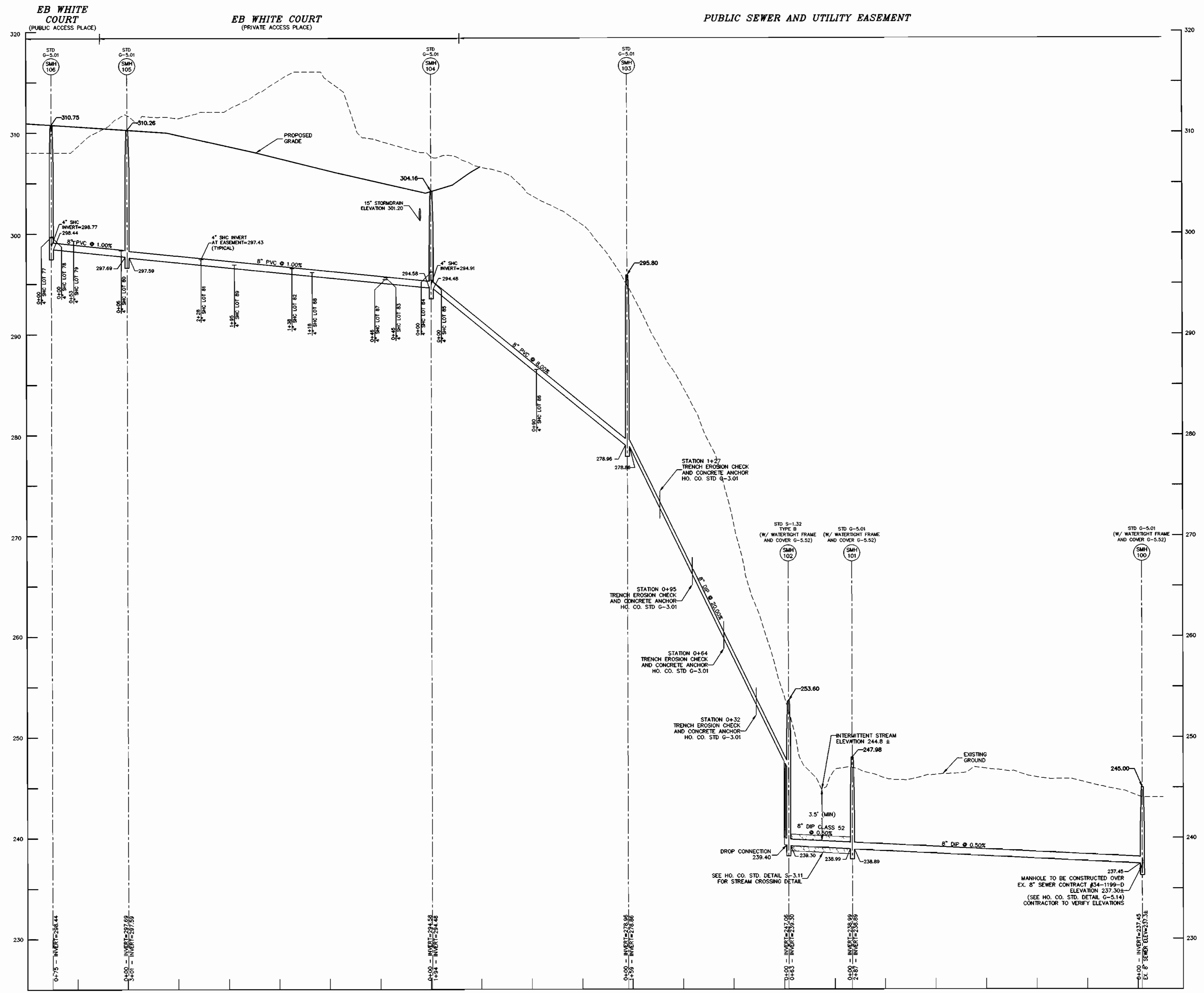
**WATER AND SEWER PLAN**

600' SCALE MAP NO. 42 BLOCK NO. 19

**WARFIELDS RANGE II**  
LOTS 77 THRU 92  
CONTRACT # 34-3924-D  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

scale  
1"=50'  
2 OF 5

98108.DWG\FINAL\W&S\108-1085



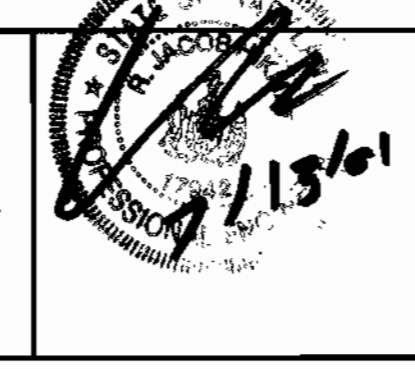
**SEWER PROFILE MH-1 TO MH-6**  
 HORIZONTAL SCALE : 1" = 50'  
 VERTICAL SCALE : 1" = 5'

98108.DWG/PWAL W&S\108-1W&S

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 [Signature]  
 CHIEF, BUREAU OF UTILITIES  
 7-25-01  
 DATE

DEPARTMENT OF PLANNING & ZONING  
 HOWARD COUNTY, MARYLAND  
 [Signature]  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 7/20/01  
 DATE

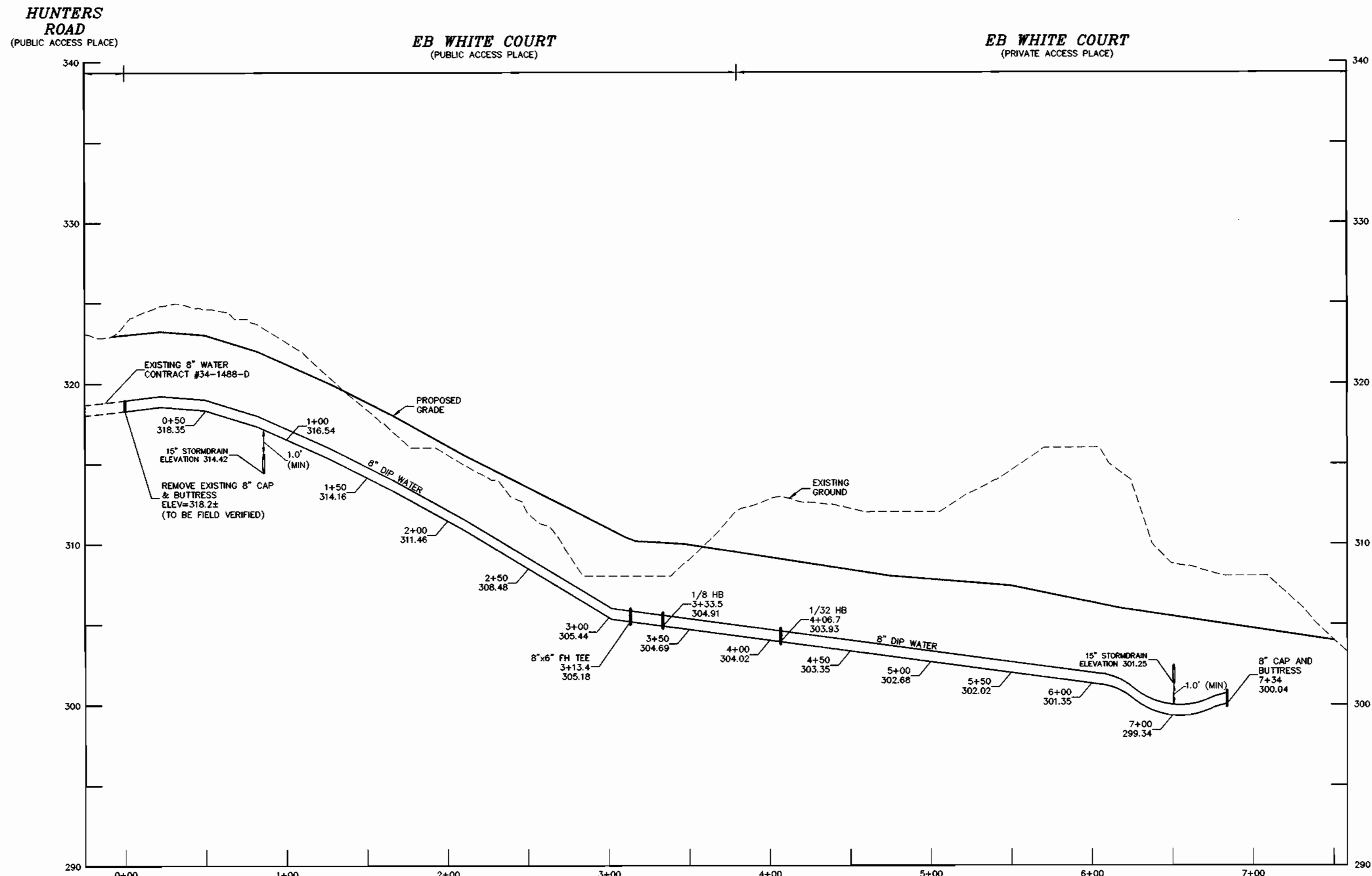
**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0286 Bldg. (301) 621-5521 Wash. (410) 997-0288 Fax



engineering	KR				
illustration	KR				
approval					
project	98108				
date	JULY 2001	BY	NO.	REVISION	DATE

**SEWER PROFILES**  
 600' SCALE MAP NO. 42 BLOCK NO. 19

**WARFIELDS RANGE II**  
 LOTS 77 THRU 92  
 CONTRACT # 34-3924-D  
 SIXTH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND



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

98108.DWG\DWG\108-108-108

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) 997-0296 Bldg. (301) 621-5521 Wash. (410) 997-0298 Fax.

*[Handwritten Signature]*  
 7/13/01

engineering	KR				
illustration	KR				
approval					
project	98108				
date	JULY 2001	BY	NO.	REVISION	DATE

**WATER  
 PROFILES**

**WARFIELDS RANGE II**  
 LOTS 77 THRU 92  
 CONTRACT # 34-3924-D  
 SIXTH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

scale  
 N/A  
 4 OF 5

*[Signature]* 7-25-01  
 CHIEF, BUREAU OF UTILITIES DATE

*[Signature]* 7/30/01  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE 600' SCALE MAP NO. 42 BLOCK NO. 19

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.

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 DISK INTO UPPER THREE INCHES OF SOIL... AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ.FT.).
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 (.05 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROJECT SITE BY: OPTION (1) - 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) - USE SOO. 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 WEED FREE SMALL 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 SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDING.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED. SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, FOR NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.)

SEEDING - FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (.07 LBS./1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU NOVEMBER 28, PROJECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OR USE SOO.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED WEED FREE SMALL STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 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

- 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. (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 MOST CURRENT 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 12, 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 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 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.

Table with 2 columns: Description and Value. Includes SITE ANALYSIS FOR OFFSITE LOD AS SHOWN HEREON, TOTAL AREA OF SITE, AREA DISTURBED, AREA TO BE ROOFED OR PAVED, AREA TO BE VEGETATIVELY STABILIZED, TOTAL CUT, TOTAL FILL, TOTAL WASTE/BORROW AREA LOCATION.

- 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 CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

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. TOPSOIL OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHERE PRACTICE APPLIES

- I. 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.

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, SILT 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 CONDERS, 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 BERMUDA GRASS, QUACKGRASS, JOHNSONSON GRASS, 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.

IV. 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 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 PERSCRIBED 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 SOO 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.

- II. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS 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" TO 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.

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

- I. COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED 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 PHOSPHOROUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH 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.
II. 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.

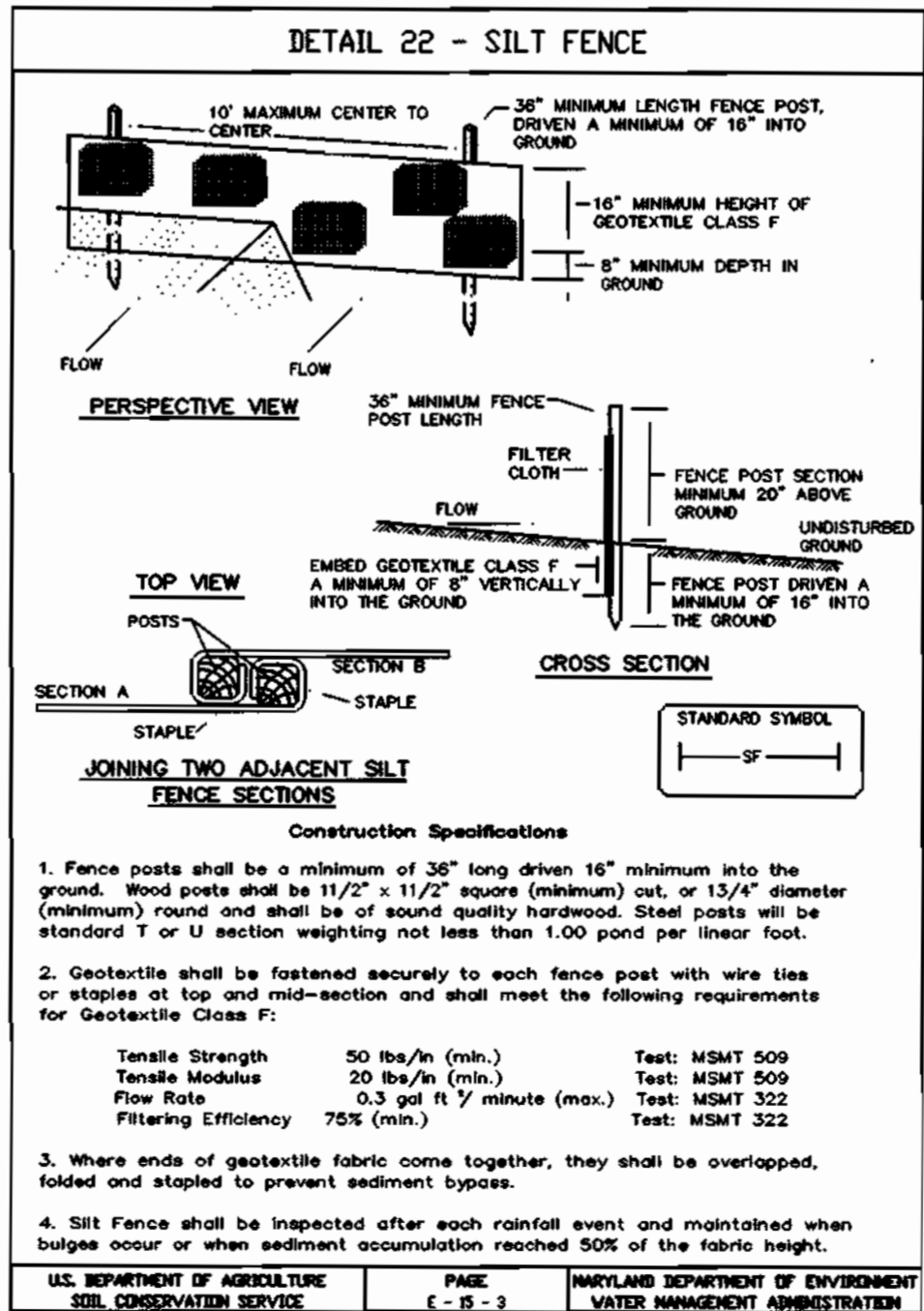
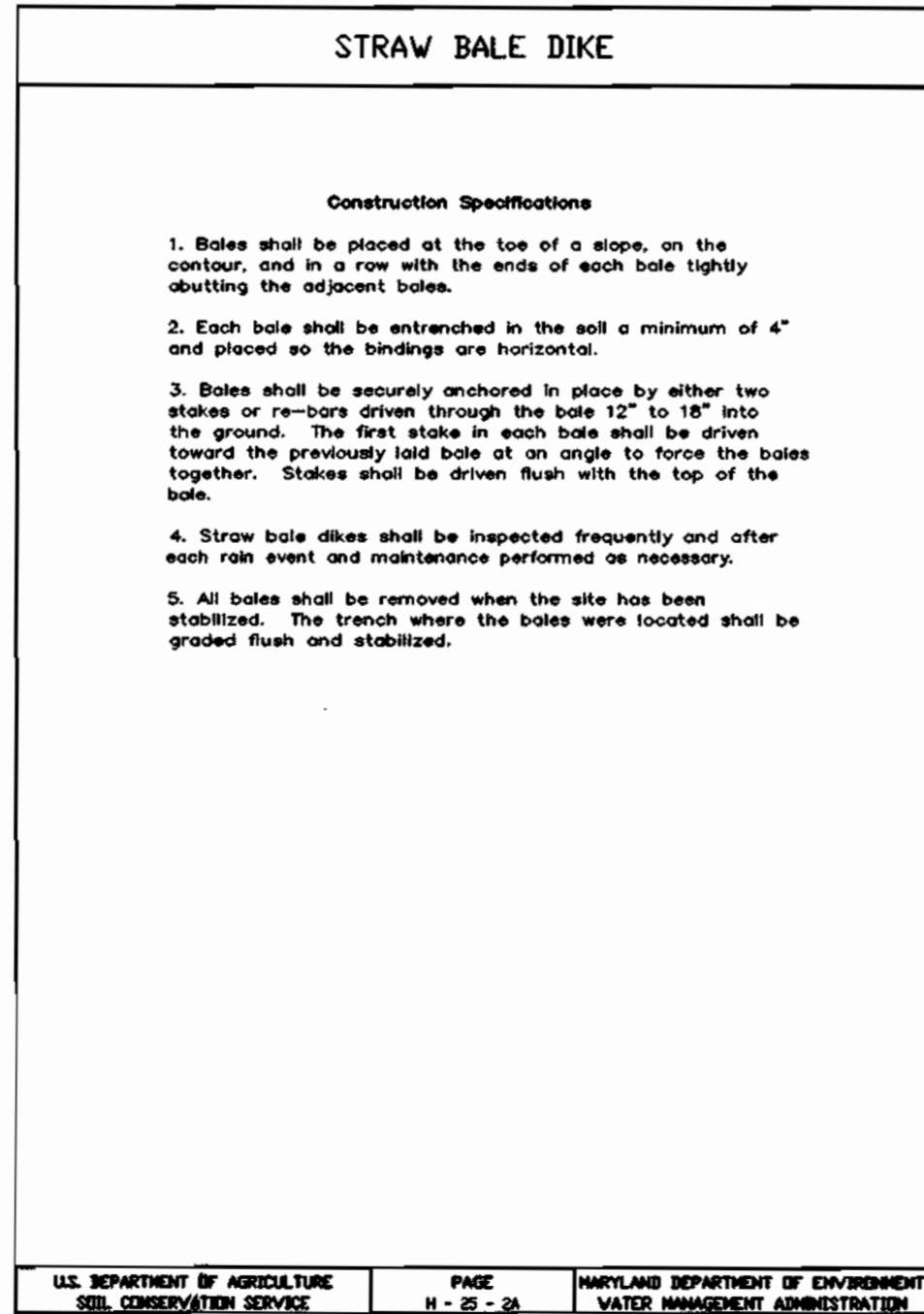
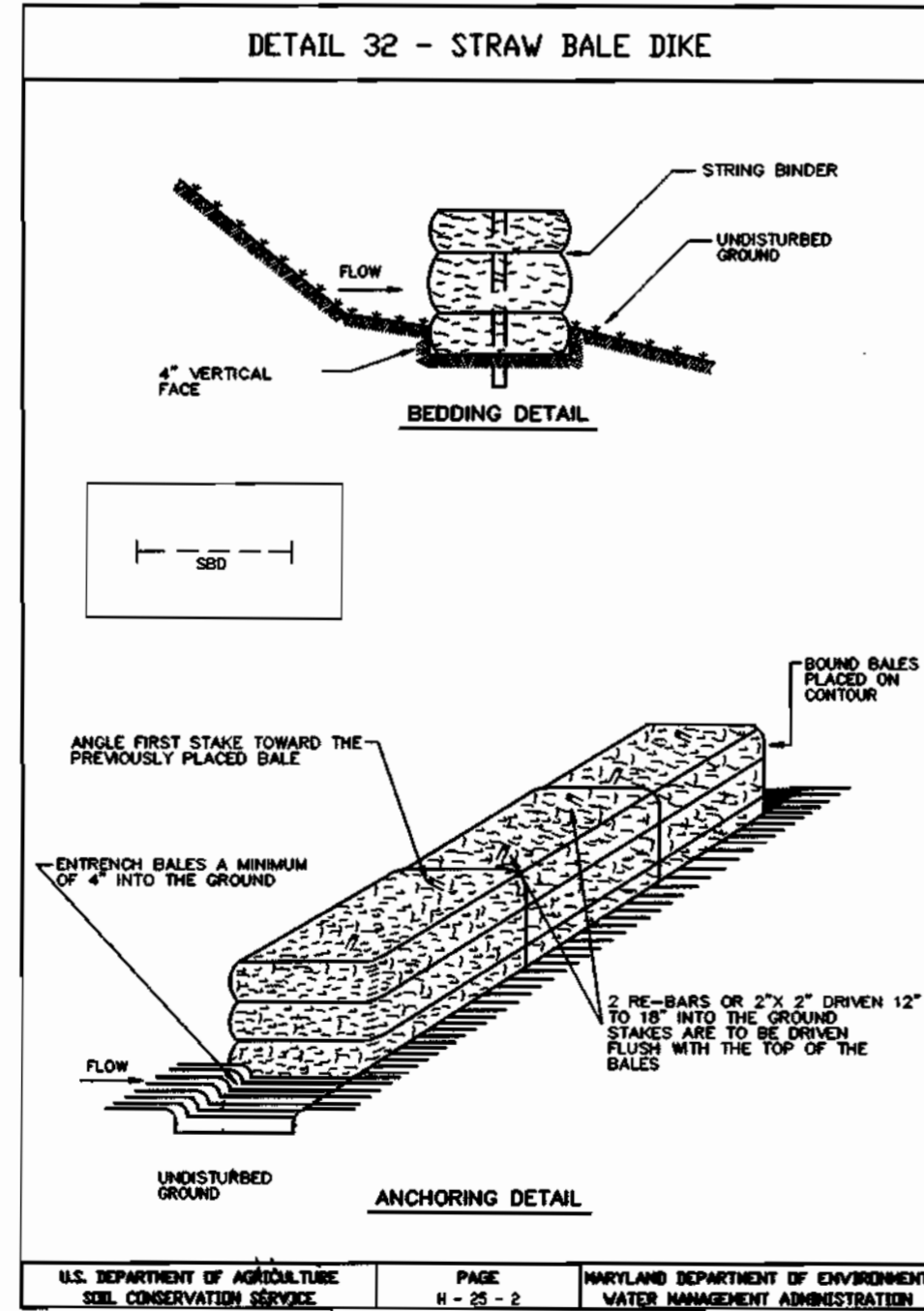
REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING. MD-VA, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES. REVISED 1973.

SEQUENCE OF CONSTRUCTION

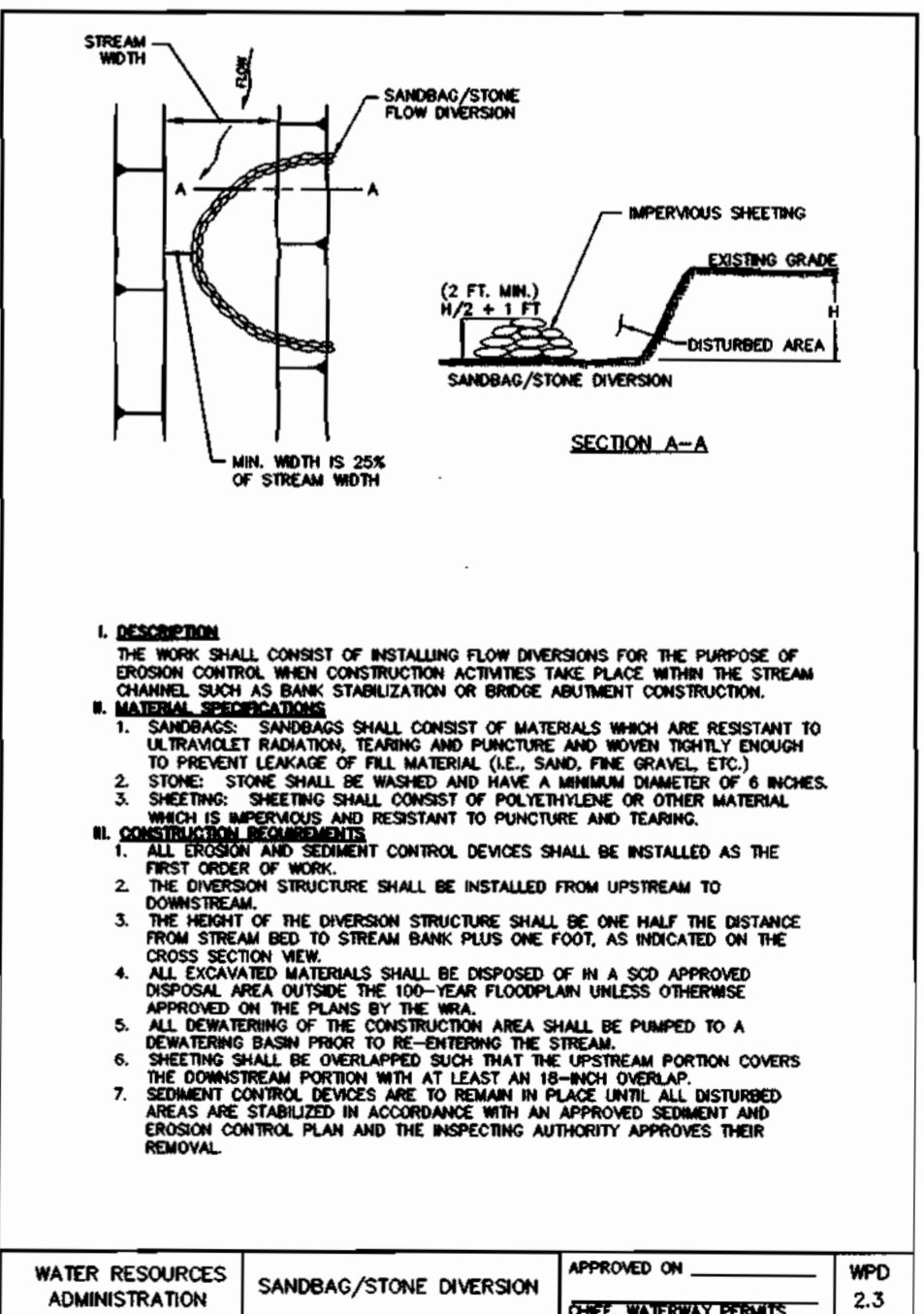
- 1. OBTAIN THE REQUIRED GRADING PERMIT.
2. CLEAR AND GRUB AREAS SURROUNDING SEDIMENT CONTROL FEATURES.
3. CLEAR AND GRUB AS NECESSARY; ONLY AS REQUIRED FOR EXCAVATION AND INSTALLATION OF THE SEWER MAINS. ONLY WITHIN THE DESIGNATED SEWER AND UTILITY EASEMENT EXCAVATION AND BACKFILL SHALL BE LIMITED TO THAT WHICH CAN BE STABILIZED WITHIN ONE WORKING DAY. ALL EXCAVATED MATERIAL SHALL BE PLACED ON UPHILL SIDE OF UTILITY TRENCH.
4. PLACE SILT FENCE AT DOWN STREAM LIMITS OF PREVIOUS DAYS CONSTRUCTION PRIOR TO COMMENCEMENT OF FUTURE EXCAVATION. SILT FENCE TO EXTEND ACROSS WIDTH OF DISTURBED AREA.
5. CONSTRUCT STREAM CROSSING IN ACCORDANCE WITH DETAIL WPR 2.3 AS SHOWN ON THIS SHEET. PLACE RIP-RAP AS SHOWN ON DETAIL.
6. STABILIZE, SEED & MULCH ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS SHEET.
7. INSPECT ALL SEDIMENT CONTROL DEVICES DAILY AND AFTER EACH RAINFALL, REPAIR AS NECESSARY.
8. 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.
9. FOLLOWING INITIAL SOILS DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
A) 7 CALENDAR DAYS FOR ALL PERIMETER SLOPES GREATER THAN 3:1
B) 14 CALENDAR DAYS FOR ALL OTHER DISTURBED GRADED AREAS ON THE PROJECT SITE.

EROSION AND SEDIMENT CONTROL NOTES

- 1. 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.
2. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF BUSINESS.
3. ALL EXCAVATED MATERIALS SHALL BE STOCKPILED ON THE UPGRADE SIDE OF THE MAIN TRENCH.
4. EXCAVATION AND BACKFILL SHALL BE LIMITED TO THAT WHICH CAN BE STABILIZED WITHIN ONE WORKING DAY.
5. 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.
6. 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.
7. ALL SEDIMENT CONTROL FACILITIES SHALL REMAIN IN PLACE UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.



SILT FENCE. Silt Fence Design Criteria table with columns: Slope Steepness, (Medium) Slope Length, (Minimum) Silt Fence Length. Includes note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

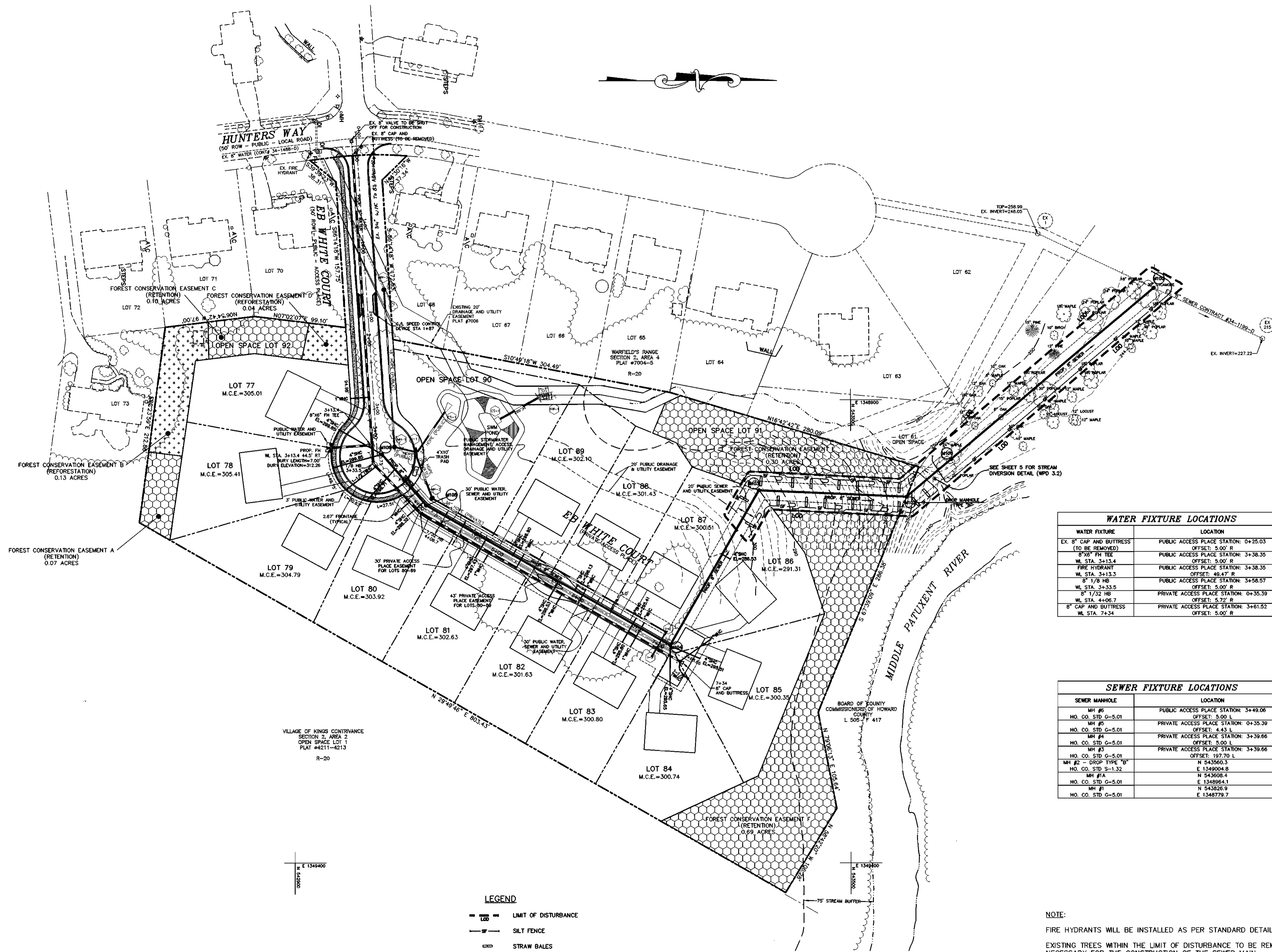


1/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT. DEVELOPER'S SIGNATURE: James L. Newburn, DATE: 7-17-01. ENGINEER'S SIGNATURE: R. JACOB HIKMAT, DATE: 7/13/01. REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS. DATE: 7/27/01. DATE: 7/27/01.

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MARYLAND. DEPARTMENT OF PLANNING & ZONING, HOWARD COUNTY, MARYLAND. MILDENBERG, BOENDER & ASSOC., INC. Engineers Planners Surveyors. 5072 Dorney Hall Drive, Suite 202, Ellicott City, Maryland 21042. (410) 997-0286 Fax. (901) 621-5521 Wash. (410) 997-0286 Fax. DATE: 7-25-01. DATE: 7/27/01.

engineering KR, illustration KR, approval, project 98108, date JULY 2001, EROSION AND SEDIMENT CONTROL NOTES AND DETAILS, 600' SCALE MAP NO. 42, BLOCK NO. 19.

WARFIELDS RANGE II, scale N/A, 5 OF 5. LOTS 77 THRU 92, CONTRACT # 34-3924-D, SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND. APPROVED ON: WPD, DATE: 7/27/01.



WATER FIXTURE LOCATIONS	
WATER FIXTURE	LOCATION
EX. 8" CAP AND BUTTRESS (TO BE REMOVED)	PUBLIC ACCESS PLACE STATION: 0+25.03 OFFSET: 5.00' R
8" X 8" FH TEE	PUBLIC ACCESS PLACE STATION: 3+38.35 OFFSET: 5.00' R
WL STA. 3+13.4	PUBLIC ACCESS PLACE STATION: 3+38.35 OFFSET: 5.00' R
FIRE HYDRANT	PUBLIC ACCESS PLACE STATION: 3+38.35 OFFSET: 49.47' R
8" 1/8" HB	PUBLIC ACCESS PLACE STATION: 3+58.57 OFFSET: 5.00' R
WL STA. 3+33.5	PUBLIC ACCESS PLACE STATION: 3+58.57 OFFSET: 5.00' R
8" 1/32" HB	PRIVATE ACCESS PLACE STATION: 0+35.39 OFFSET: 5.72' R
WL STA. 4+06.7	PRIVATE ACCESS PLACE STATION: 3+61.52 OFFSET: 5.00' R
8" CAP AND BUTTRESS	PRIVATE ACCESS PLACE STATION: 3+61.52 OFFSET: 5.00' R
WL STA. 7+34	

SEWER FIXTURE LOCATIONS	
SEWER MANHOLE	LOCATION
MH #6	PUBLIC ACCESS PLACE STATION: 3+49.06 OFFSET: 5.00' L
HO. CO. STD G-5.01	PRIVATE ACCESS PLACE STATION: 0+35.39 OFFSET: 4.43' L
MH #5	PRIVATE ACCESS PLACE STATION: 3+39.66 OFFSET: 5.00' L
HO. CO. STD G-5.01	PRIVATE ACCESS PLACE STATION: 3+39.66 OFFSET: 197.70' L
MH #4	N 543560.3 E 1349004.8
HO. CO. STD G-5.01	N 543608.4 E 1348984.1
MH #2 - DROP TYPE "D"	N 543262.9 E 1348779.7
HO. CO. STD S-1.32	
MH #1A	
HO. CO. STD G-5.01	
MH #1	
HO. CO. STD G-5.01	

NOTE:  
FIRE HYDRANTS WILL BE INSTALLED AS PER STANDARD DETAIL W-1.11.  
EXISTING TREES WITHIN THE LIMIT OF DISTURBANCE TO BE REMOVED AS NECESSARY FOR THE CONSTRUCTION OF THE SEWER MAIN.

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.

*James L. Newburn* 7-17-01  
DEVELOPER'S SIGNATURE DATE

James L. Newburn  
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.

*R. Jacob Himmatt* 7/13/01  
ENGINEER'S SIGNATURE DATE

R. JACOB HIMMAT  
ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

*Jim Myers* 7/27/01  
USE OF NATURAL RESOURCES CONSERVATION SERVICES DATE

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

*John K. Platon* 7/27/01  
HOWARD SCD DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*John K. Platon* 7-25-01  
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

*William D. ...* 7/30/01  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
8072 Dorsy Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0296 Fax.

*7/13/01*

engineering KR  
illustration KR  
approval  
project 98108  
date JULY 2001

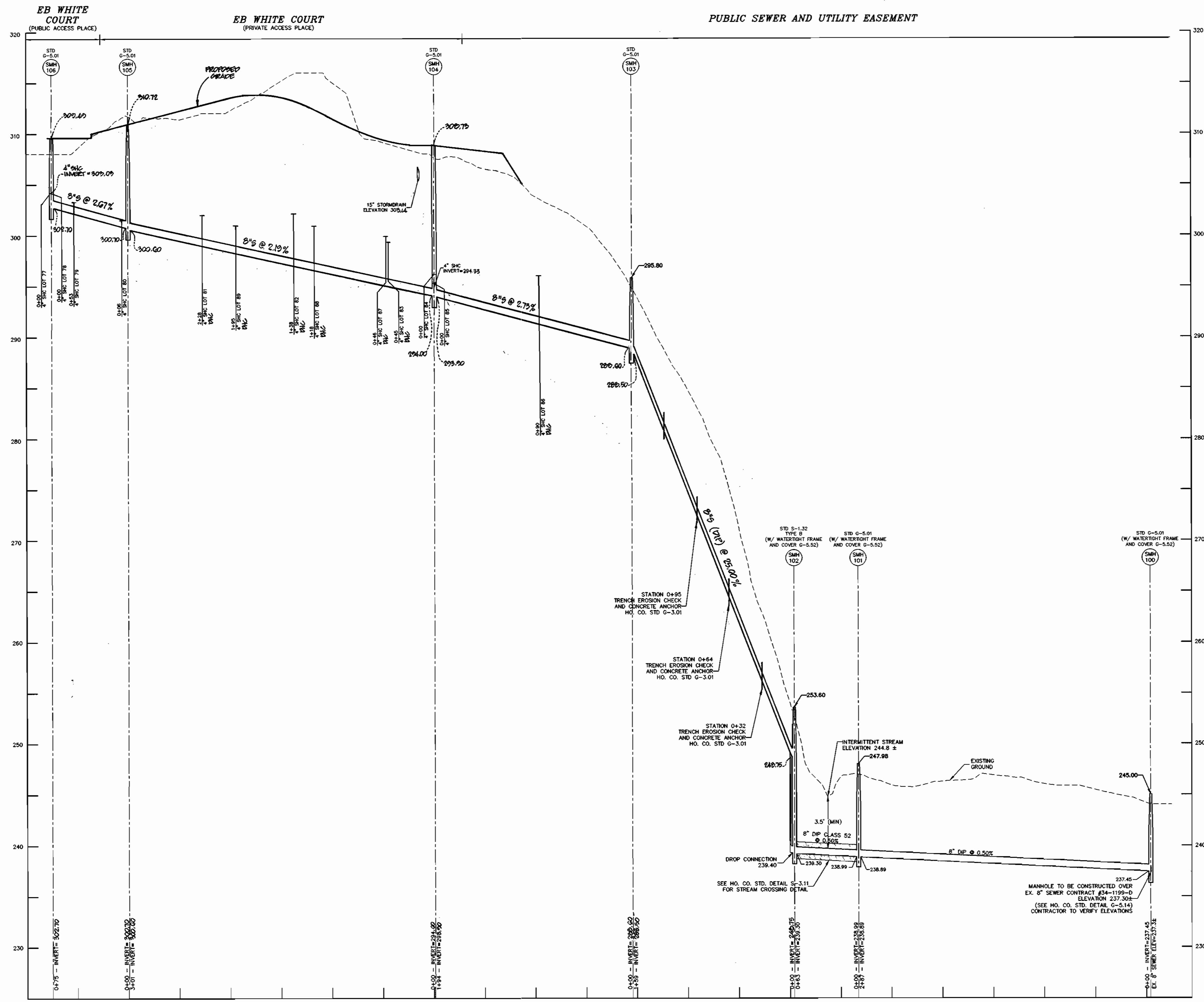
BY: NO. REVISION  
DATE 600' SCALE MAP NO. 42 BLOCK NO. 19

**WATER AND SEWER PLAN**

**WARFIELDS RANGE II**  
LOTS 77 THRU 92  
CONTRACT # 34-3924-D  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

scale 1"=50'  
2 OF 5

98108.DWG.FINAL.V063.108-1085



**SEWER PROFILE MH-1 TO MH-6**  
 HORIZONTAL SCALE: 1" = 50'  
 VERTICAL SCALE: 1" = 5'



DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Chief, Bureau of Utilities  
 7-25-01  
 DATE

DEPARTMENT OF PLANNING & ZONING  
 HOWARD COUNTY, MARYLAND  
 Chief, Development Engineering Division  
 1/20/01  
 DATE

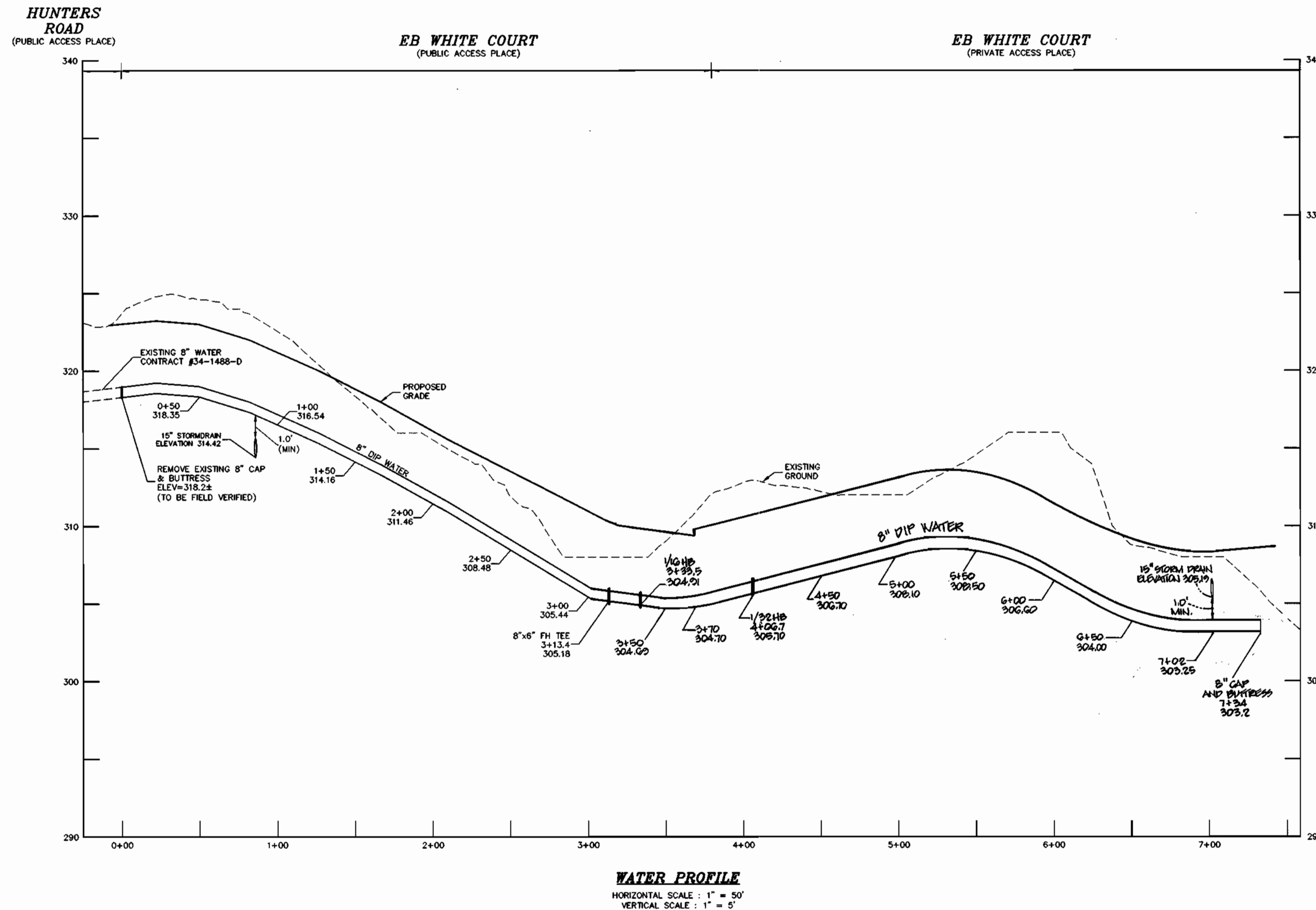
**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0286 Balt. (301) 621-5521 Wash. (410) 997-0286 Fax



engineering	KR				
illustration	KR				
approval					
project	98108	1	RAISED 8" SEWER BETWEEN LOTS 102 & 106	12/4/01	
date	JULY 2001	BY	NO.	REVISION	DATE

**SEWER PROFILES**  
 600' SCALE MAP NO. 42 BLOCK NO. 19

**WARFIELDS RANGE II**  
 LOTS 77 THRU 92  
 CONTRACT # 34-3924-D  
 SIXTH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
7-25-01  
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND  
7/26/01  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

**MILDENBERG,  
BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0296 Bull. (301) 621-5521 Wash. (410) 997-0298 Fax

7/13/01

engineering	KR				
illustration	KR				
approval					
project	98108	1	RAISED 8" WATER BETWEEN STA. 5+50 & 7+34	7/24/01	
date	JULY 2001	BY	NO.	REVISION	DATE

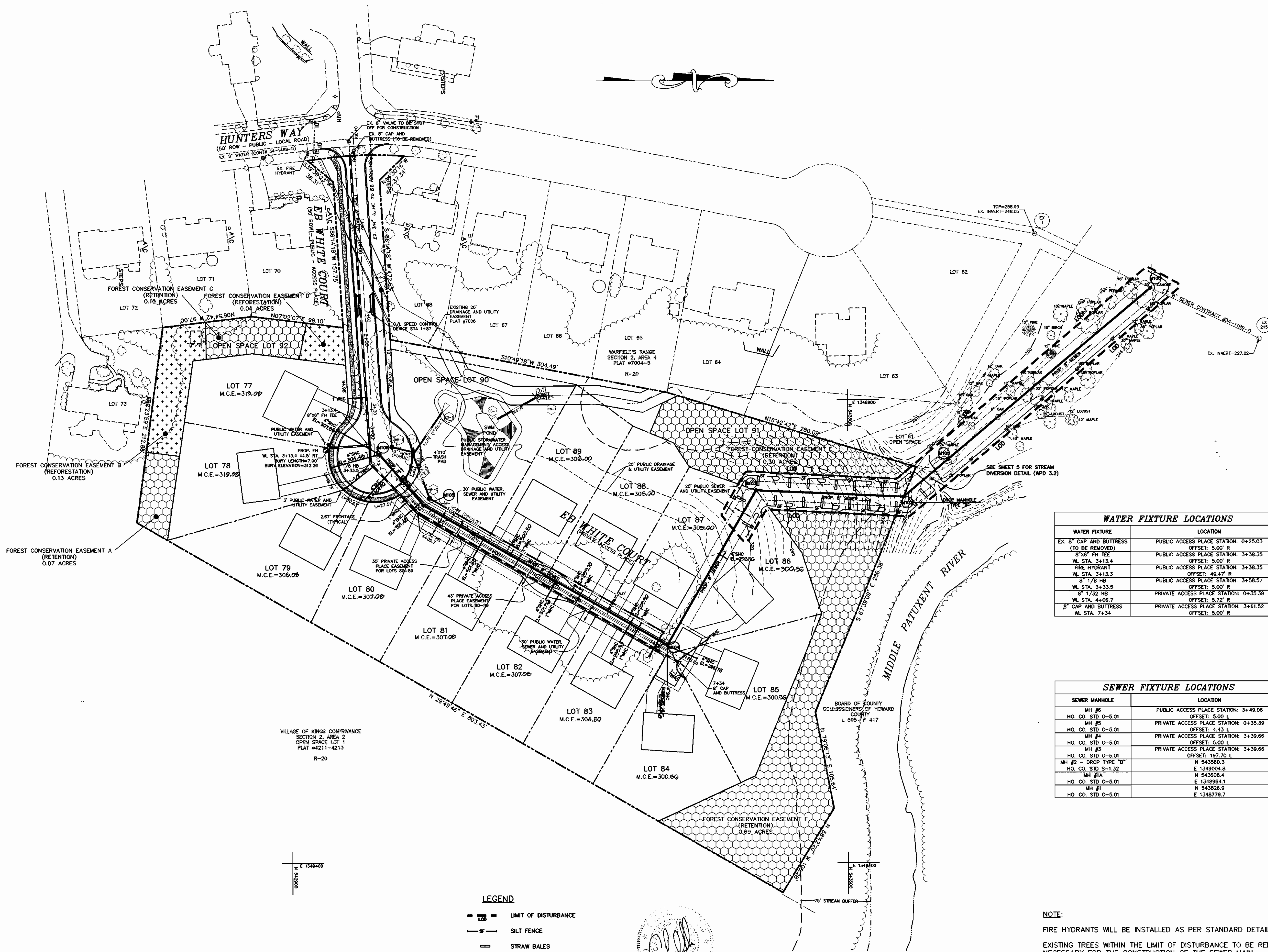
**WATER  
PROFILES**  
600' SCALE MAP NO. 42 BLOCK NO. 19

**WARFIELDS RANGE II**  
LOTS 77 THRU 92  
CONTRACT # 34-3924-D  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

scale  
N/A  
4 OF 5

98108.DWG\FINAL.WGS\108-WGS





WATER FIXTURE LOCATIONS	
WATER FIXTURE	LOCATION
EX. 8" CAP AND BUTTRISS (TO BE REMOVED)	PUBLIC ACCESS PLACE STATION: 0+25.03 OFFSET: 5.00' R
8" x 8" FH TE	PUBLIC ACCESS PLACE STATION: 3+38.35 OFFSET: 5.00' R
WL STA. 3+13.4	OFFSET: 5.00' R
FIRE HYDRANT	PUBLIC ACCESS PLACE STATION: 3+38.35 OFFSET: 49.47' R
WL STA. 3+13.3	PUBLIC ACCESS PLACE STATION: 3+58.5/ OFFSET: 5.00' R
8" 1/8" HB	PRIVATE ACCESS PLACE STATION: 0+35.39 OFFSET: 5.72' R
8" 1/32" HB	PRIVATE ACCESS PLACE STATION: 3+61.52 OFFSET: 5.00' R
8" CAP AND BUTTRISS	PRIVATE ACCESS PLACE STATION: 3+61.52 OFFSET: 5.00' R
WL STA. 7+34	

SEWER FIXTURE LOCATIONS	
SEWER MANHOLE	LOCATION
MH #6	PUBLIC ACCESS PLACE STATION: 3+49.06 OFFSET: 5.00' L
HO. CO. STD G-5.01	PRIVATE ACCESS PLACE STATION: 0+35.39 OFFSET: 4.43' L
MH #5	PRIVATE ACCESS PLACE STATION: 3+39.66 OFFSET: 5.00' L
HO. CO. STD G-5.01	PRIVATE ACCESS PLACE STATION: 3+39.66 OFFSET: 5.00' L
MH #3	PRIVATE ACCESS PLACE STATION: 3+39.66 OFFSET: 197.70' L
HO. CO. STD G-5.01	N 543560.3 E 1349004.8
MH #2 - DROP PIPE TO	N 543608.4 E 1348964.1
HO. CO. STD S-1.32	N 543526.9 E 1348779.7
MH #1A	
HO. CO. STD G-5.01	
HO. CO. STD G-5.01	

NOTE:  
FIRE HYDRANTS WILL BE INSTALLED AS PER STANDARD DETAIL W-1.11.  
EXISTING TREES WITHIN THE LIMIT OF DISTURBANCE TO BE REMOVED AS NECESSARY FOR THE CONSTRUCTION OF THE SEWER MAIN.

- LEGEND**
- LIMIT OF DISTURBANCE
  - SILT FENCE
  - STRAW BALES

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.

*James L. Newburn* 7-17-01  
DEVELOPER'S SIGNATURE DATE

James L. Newburn  
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.

*R. Jacob Hikmat* 7/13/01  
ENGINEER'S SIGNATURE DATE

R. JACOB HIKMAT  
ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

*Jim Myers* 7/27/01  
USE OF NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*John K. Plenton* 7/27/01  
HOWARD SCD DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*John K. Plenton* 7-25-01  
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

*John K. Plenton* 7/30/01  
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 Bldg. (301) 621-5521 Wash. (410) 997-0288 Fax.

*7/15/01*

engineering	KR		
illustration	KR		
approval			
project	98108	2	REVISE ALL NOTES & NOTES, INSET DRAWING LINE 12/4/01
date	JULY 2001	BY NO.	REVISION

**WATER AND SEWER PLAN**

600' SCALE MAP NO. 42 BLOCK NO. 19

**WARFIELDS RANGE II**  
LOTS 77 THRU 92  
CONTRACT # 34-3924-D  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

scale  
1"=50'  
2 OF 5

98108.DWG (FINAL) VMS31 (08-HKS)