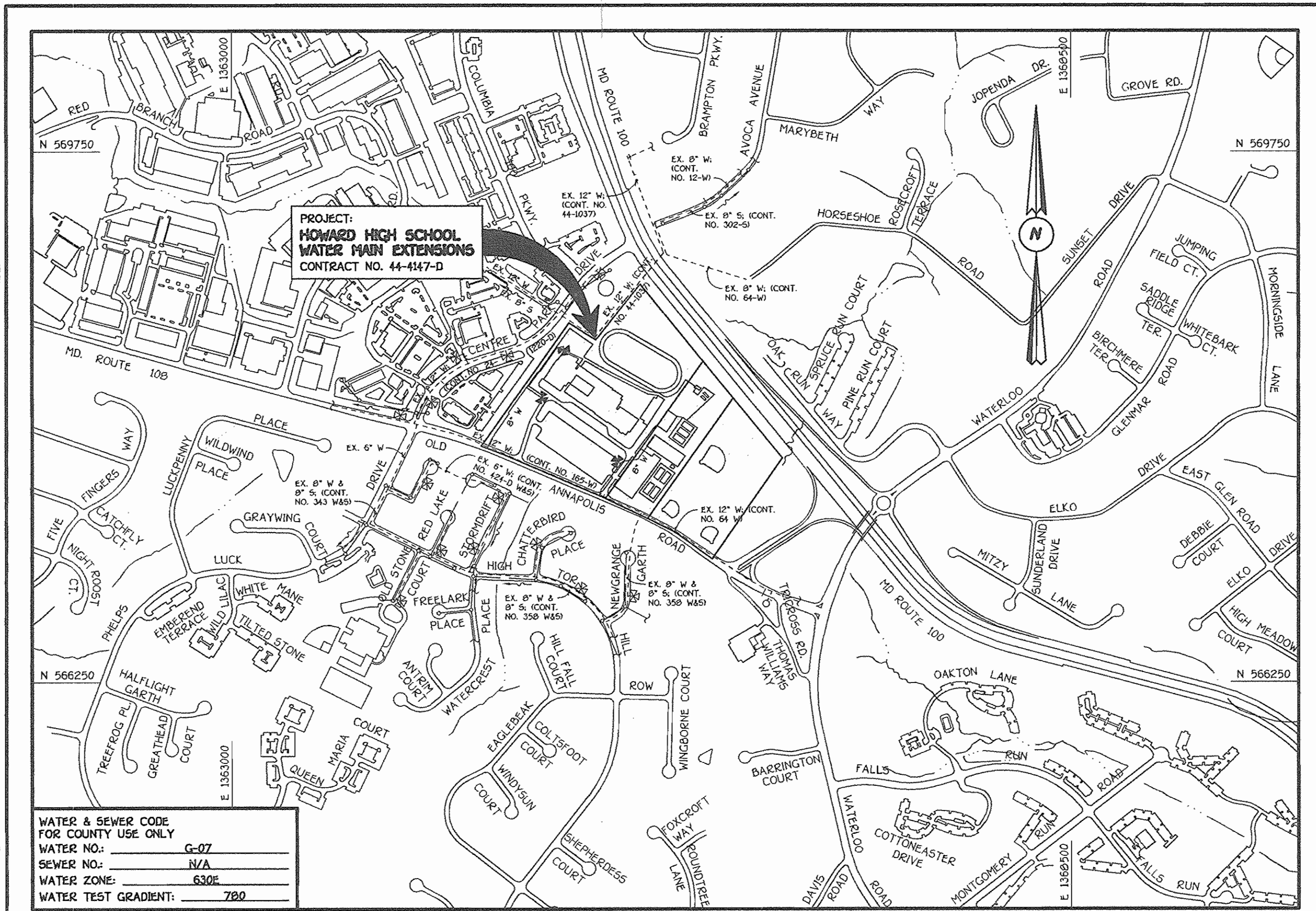


QUANTITIES				
ITEM	ESTIMATED	QUANTITIES	AS-BUILT	SUPPLIER
8" WATER	1417.13 LF.	1,307 LF.	D.I.P.	U.S. PIPE FOUNDRY
6" WATER	157.76 LF.	155 LF.	D.I.P.	"
1" WATER	10.00 LF.	10 LF.	COPPER	"
FIRE HYDRANT	3 EACH	3 EA.		MUELLER
12" X 8" TAPPING SLEEVE & VALVE	2 EACH	2 EA.		MUELLER
8" X 8" TEE	1 EACH	1 EA.		U.S. PIPE FOUNDRY
8" X 6" TEE	3 EACH	3 EA.		"
8" VALVE	3 EACH	3 EA.		MUELLER
6" VALVE	3 EACH	3 EA.		MUELLER
1/8 HB.	27 EACH	27 EA.		U.S. PIPE
1/8 VB.	2 EACH	2 EA.		"
8" PLUG & BUTTWELD	3 EACH	3 EA.		U.S. PIPE
AIR RELEASE MANHOLES	1 EACH	1 EA.		FREDERICK FRI-COBT
1/8 V.B.	2 EA.	2 EA.		U.S. PIPE

NAME OF UTILITY CONTRACTOR:
SURVEY & DRAFTING DIVISION AS-BUILT DATE:



WATER & SEWER CODE FOR COUNTY USE ONLY
 WATER NO.: C-07
 SEWER NO.: N/A
 WATER ZONE: 630E
 WATER TEST GRADIENT: 780

TYPE OF BUILDING: PUBLIC HIGH SCHOOL
 NUMBER OF PARCELS: 1 BUILDABLE
 NO. OF WATER HOUSE CONNECTIONS: 2
 NO. OF SEWER HOUSE CONNECTIONS: N/A
 DRAINAGE AREA: LITTLE PATUXENT
 TREATMENT PLANT: LITTLE PATUXENT WATER RECLAMATION PLANT

VICINITY MAP

SCALE: 1"=60'

PLAN REFERENCE NUMBERS: 5094-09

GENERAL NOTES

PART I

- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES, NAD 83/91.
- ALL VERTICAL CONTROLS ARE BASED ON NAVD 88.
- 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 BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF THE ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL @ AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 AT&T 1-800-252-1133
 BGE (UNDERGROUND DAMAGE CONTROL) 410-950-4820
 BUREAU OF UTILITIES 410-313-4900
 COLONIAL PIPELINE CO 410-549-4129
 MISS UTILITY 1-800-297-7777
 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 THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE CONSTRUCTION OF THE MAIN.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)-313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(d) 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 TREES SHALL BE STRAPPED TO TREES.
- ALL FITTINGS SHALL BE BUTTWELDED 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.

DEVELOPER'S CERTIFICATION

"I/WE HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE 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 OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

Signature of Developer: Wm. B. DATE: 7/17/03

ENGINEER'S CERTIFICATION

"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 of Engineer: Paul W. Koebel DATE: 07-17-03

GP-03-77

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

Signature: Jim Myers DATE: 7/29/03
 U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE

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

APPROVED: John R. Robertson DATE: 7/29/03
 HOWARD SOIL CONSERVATION DISTRICT

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 229 OF THE HOWARD COUNTY DESIGN MANUAL & STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AND AS SHOWN ON THESE PLANS.

Signature of Developer: Wm. B. DATE: 7/16/03

CONTRACT No. 44-4147-D
HOWARD HIGH SCHOOL
WATER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

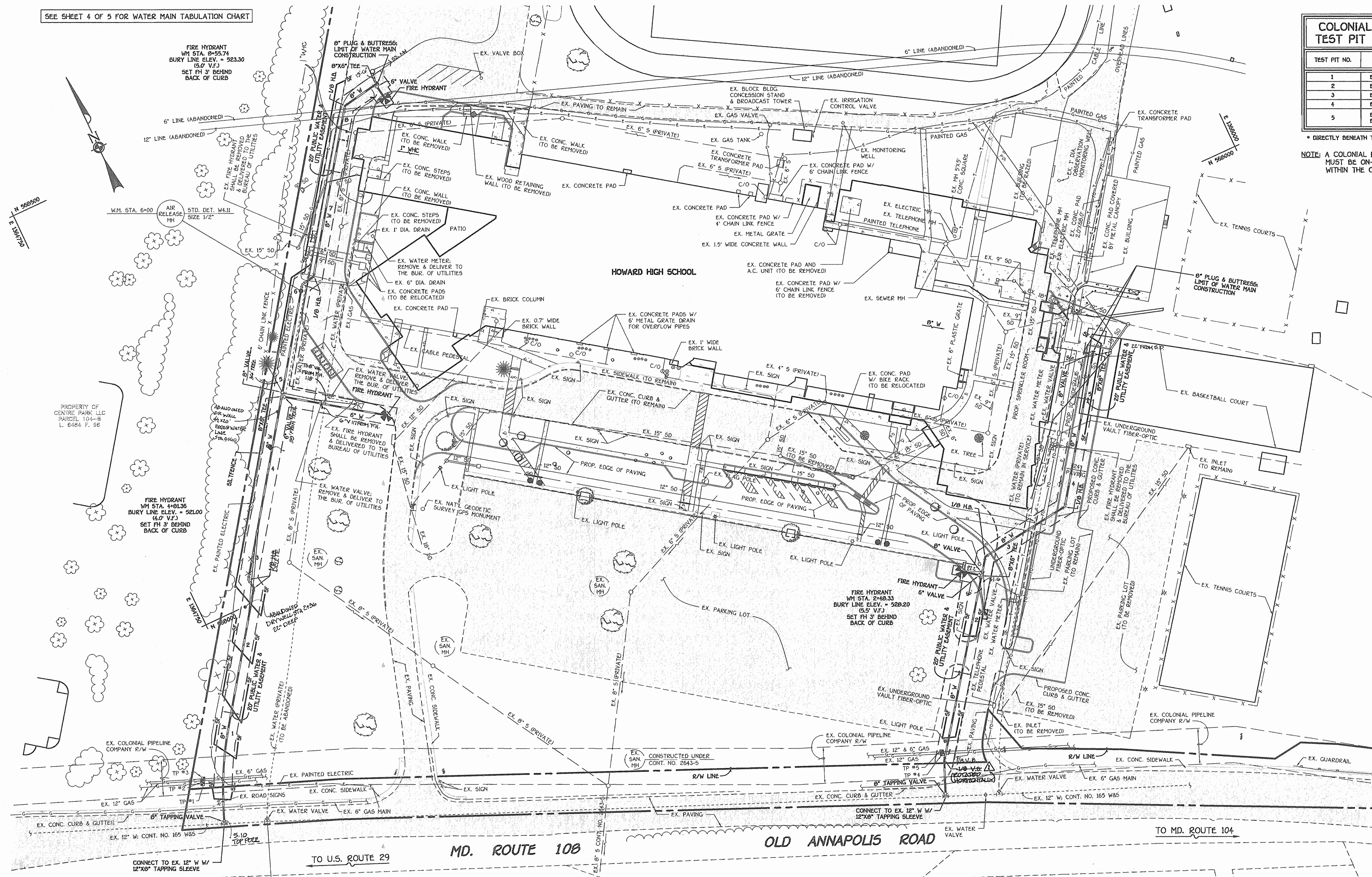
CONTRACT NO. 44-4147-D
 HOWARD HIGH SCHOOL
 WATER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Signature: <u>Wm. B.</u> DATE: <u>7-21-03</u> CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND Signature: <u>[Signature]</u> DATE: <u>8/4/03</u> CHIEF, DEVELOPMENT ENGINEERING DIVISION	FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21114 410-661-2055 Signature: <u>Charles J. Leono</u> #19204	DESIGNED BY: M.D.T. DRAWN BY: M.D.T. CHECKED BY: KCL P.W.K. AS-BUILT DATA SHOWN DATE: JULY, 2003 REVISION: REMOVE QUANTITIES TO REFLECT "AS-BUILT"	WATER MAINS TITLE SHEET 600' SCALE MAP NO. 30 BLOCK NO. 18 F.C.C. WORK ORDER NO. 40371 FILE NAME: FINAL WATER MAINS TITLE SHIT	HOWARD HIGH SCHOOL WATER MAIN EXTENSIONS CONTRACT NO. 44-4147-D SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE AS SHOWN SHEET 1 OF 5
--	--	--	---	--	--

SEE SHEET 4 OF 5 FOR WATER MAIN TABULATION CHART

COLONIAL PIPELINE COMPANY TEST PIT INFORMATION CHART		
TEST PIT NO.	DESCRIPTION	TOP OF PIPE ELEV.
1	EX. 12" GAS MAIN	487.97
2	EX. 12" GAS MAIN	487.48
3	EX. 6" GAS MAIN	487.34
4	EX. 12" GAS MAIN	514.9
5	EX. 12" GAS MAIN/ EX. 6" GAS MAIN	510.84/ 510.34

* DIRECTLY BENEATH THE EX. 12" GAS MAIN AT THIS LOCATION
NOTE: A COLONIAL PIPELINE COMPANY REPRESENTATIVE MUST BE ON-SITE AT ALL TIMES WHEN WORKING WITHIN THE COMPANY'S R/W



PLAN
SCALE: 1" = 50'

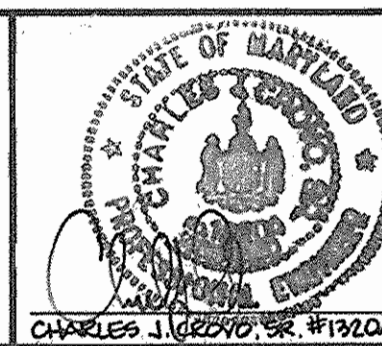
SEE SHEET 4 OF 5 FOR TEMPORARY TRAFFIC CONTROL

THE EXISTING VALVE SHALL BE CLOSED, THE EX. WATER MAIN REMOVED FROM THE VALVE & A PLUG & BUTTRESS INSTALLED AT THE OUTLET END OF THE EX. VALVE.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21042
4100 461 - 2000



DESIGNED BY:	M.D.T.
DRAWN BY:	M.D.T.
CHECKED BY:	P.W.K.
DATE:	JULY, 2003
BY NO.	
REVISION	
DATE	

WATER MAINS PLAN VIEW	
600' SCALE MAP NO.	30
F.C.C. WORK ORDER NO.	40371
FILE NAME	FINAL WATER MAINS PLAN VIEW SH1

HOWARD HIGH SCHOOL
WATER MAIN EXTENSIONS
CONTRACT NO. 44-4147-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 2 OF 5

DATE: 8/24/03
DATE: 8/24/03

CHIEF, BUREAU OF UTILITIES

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHARLES J. MCDONALD, P.E. #19204

CONTRACT NO. 44-4147-D
HOWARD HIGH SCHOOL
WATER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

OLD ANNAPOLIS ROAD
EX. PUBLIC 80' R/W

20' PUBLIC WATER & UTILITY EASEMENT

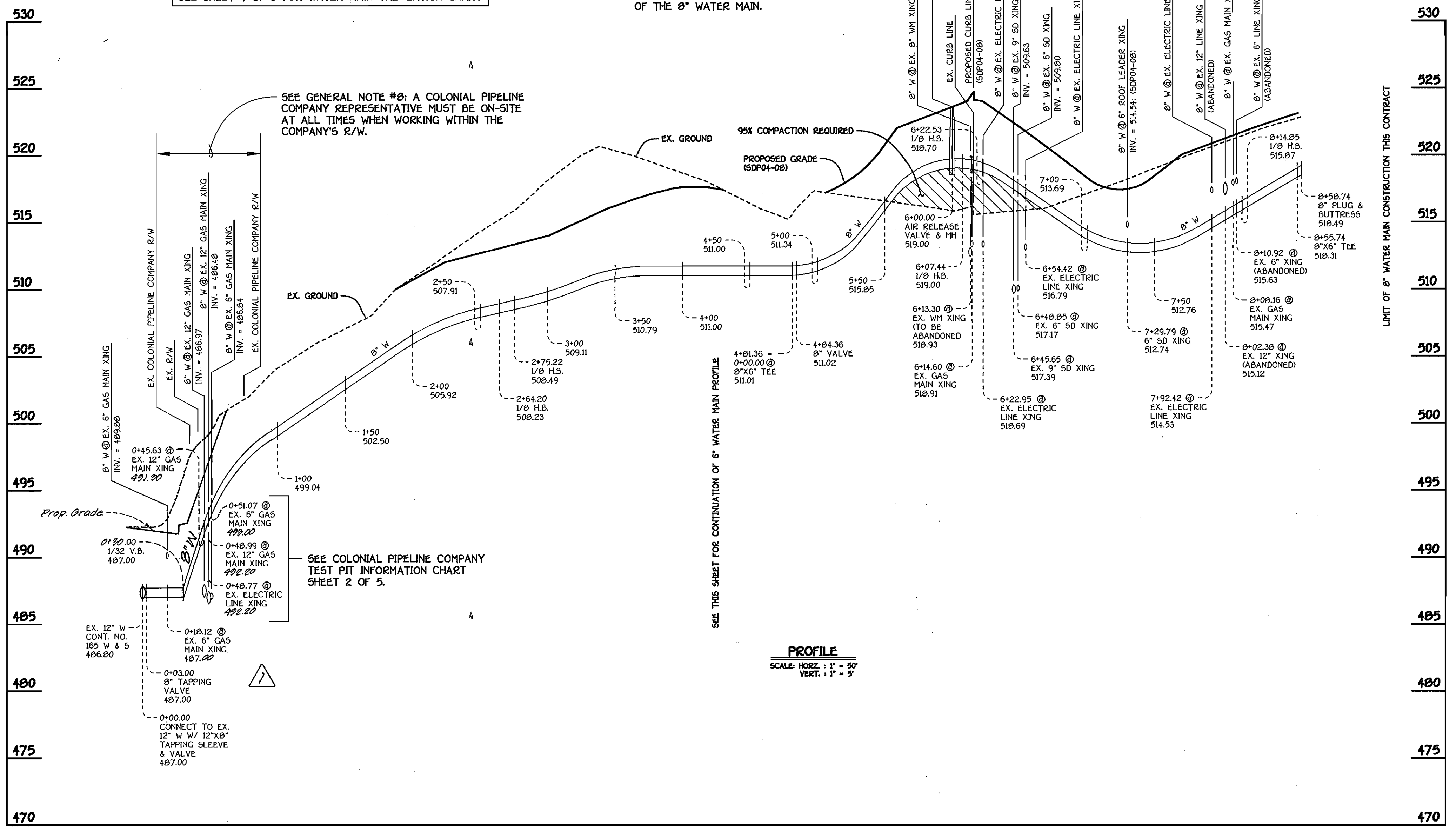
RIM ELEV. = 523.50
AIR RELEASE
STD. DET. W. 1/2
SIZE 1/2"

NOTE: CONTRACTOR SHALL CONDUCT TEST PITS ON THE EX. WATER MAIN, EX. GAS MAINS AND EX. ELECTRIC LINES PRIOR TO INSTALLATION OF THE 8" WATER MAIN.

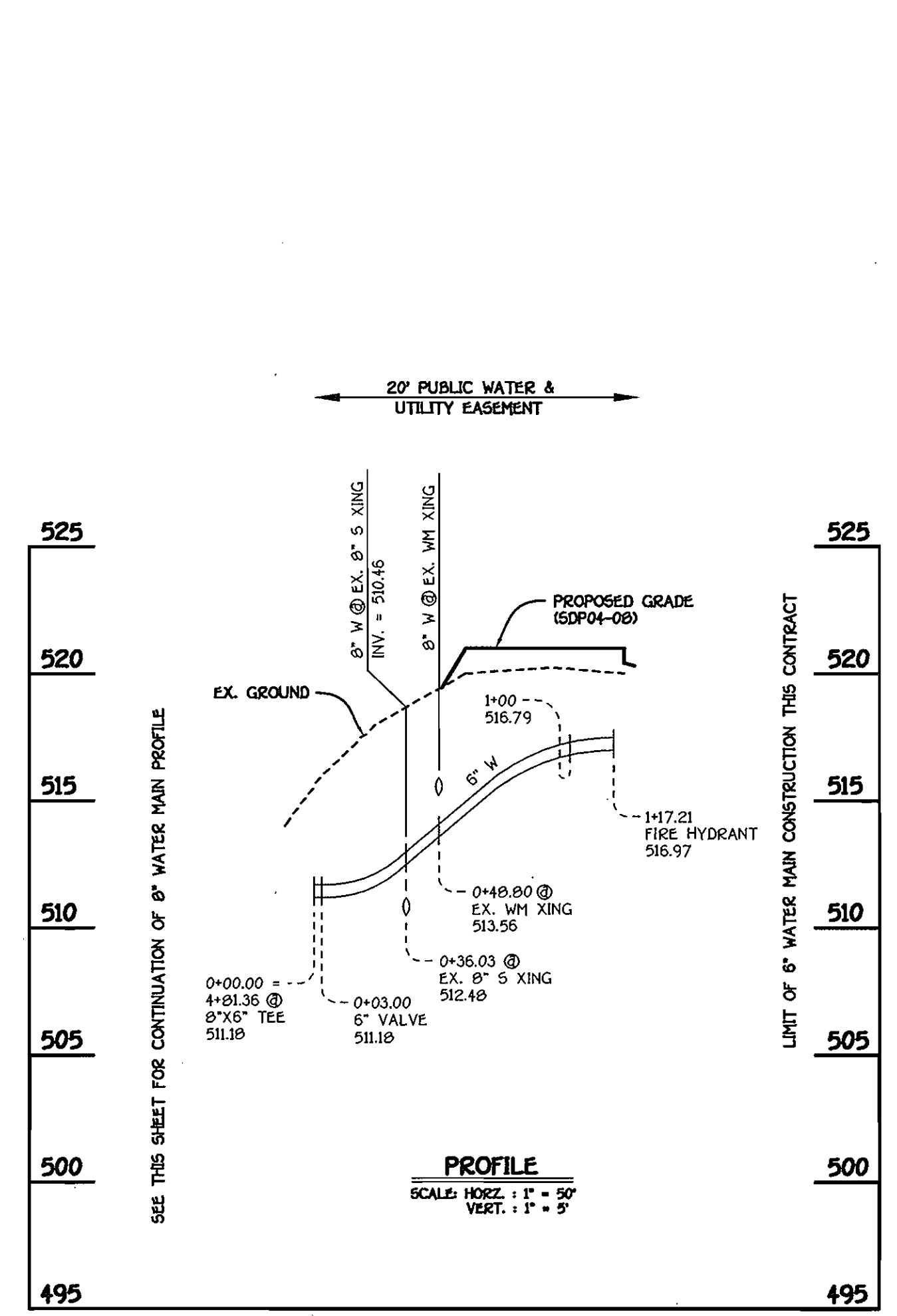
SEE SHEET 4 OF 5 FOR WATER MAIN TABULATION CHART

SEE GENERAL NOTE #8; A COLONIAL PIPELINE COMPANY REPRESENTATIVE MUST BE ON-SITE AT ALL TIMES WHEN WORKING WITHIN THE COMPANY'S R/W.

SEE COLONIAL PIPELINE COMPANY TEST PIT INFORMATION CHART SHEET 2 OF 5.



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



6" WATER MAIN: FIRE HYDRANT

8" WATER MAIN: WEST

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SERVICE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELKOTT CITY, MARYLAND 21042
4109 961 - 2895



DESIGNED BY:	FCG	Revised 8" W. as a result of S.H.A. road widening	7.6.03
M.D.T.			
DRAWN BY:			
M.D.T.			
CHECKED BY:	P.W.K.		
M.D.T.			
DATE:	JULY, 2003		
BY NO.		REVISION	DATE

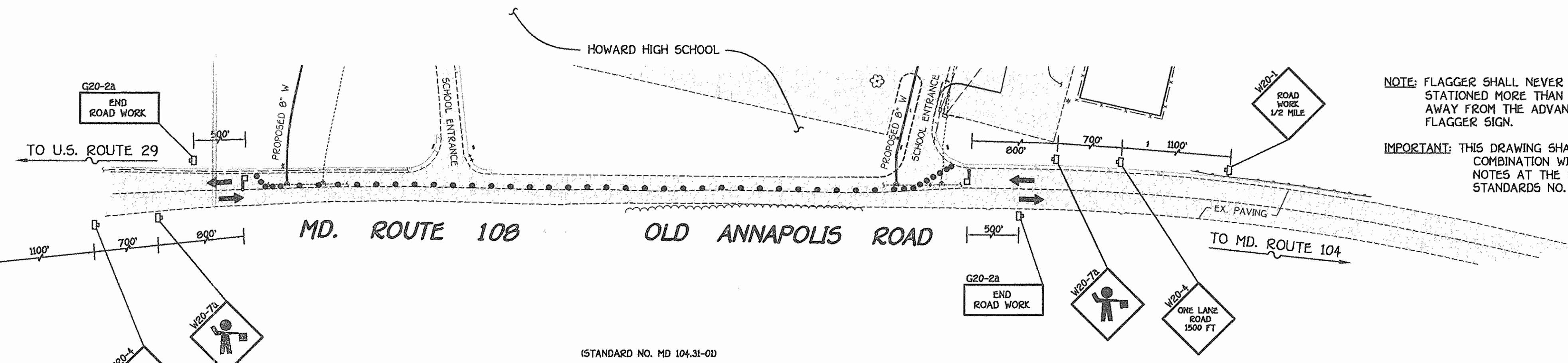
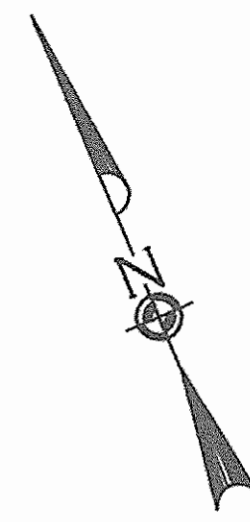
WATER MAINS
PLAN VIEW

60' SCALE MAP NO. 30 BLOCK NO. 19
F.C.C. WORK ORDER NO. 40371
FILE NAME: FINAL WATER MAIN PROFILES SHIT 3

HOWARD HIGH SCHOOL
WATER MAIN EXTENSIONS
CONTRACT NO. 44-4147-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

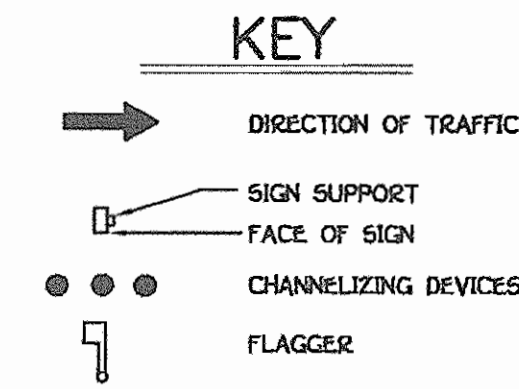
SCALE AS SHOWN
SHEET 3 OF 5

K:\SDS\FR040371 Howard High School\ong\WaterMain\Profiles\Shit3.dwg, 7/17/2003 10:14:14 AM

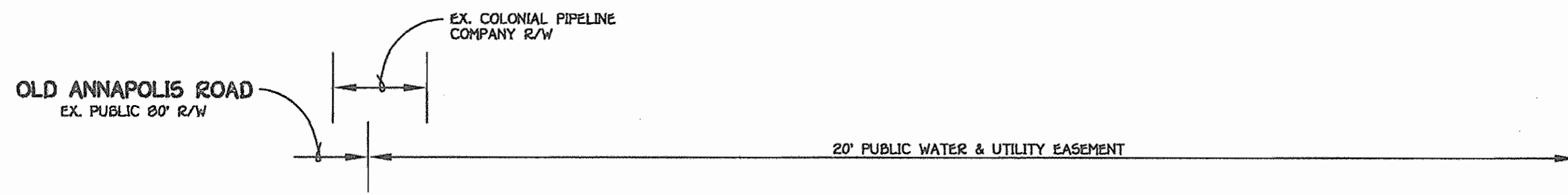


NOTE: FLAGGER SHALL NEVER BE STATIONED MORE THAN 1000' AWAY FROM THE ADVANCE FLAGGER SIGN.

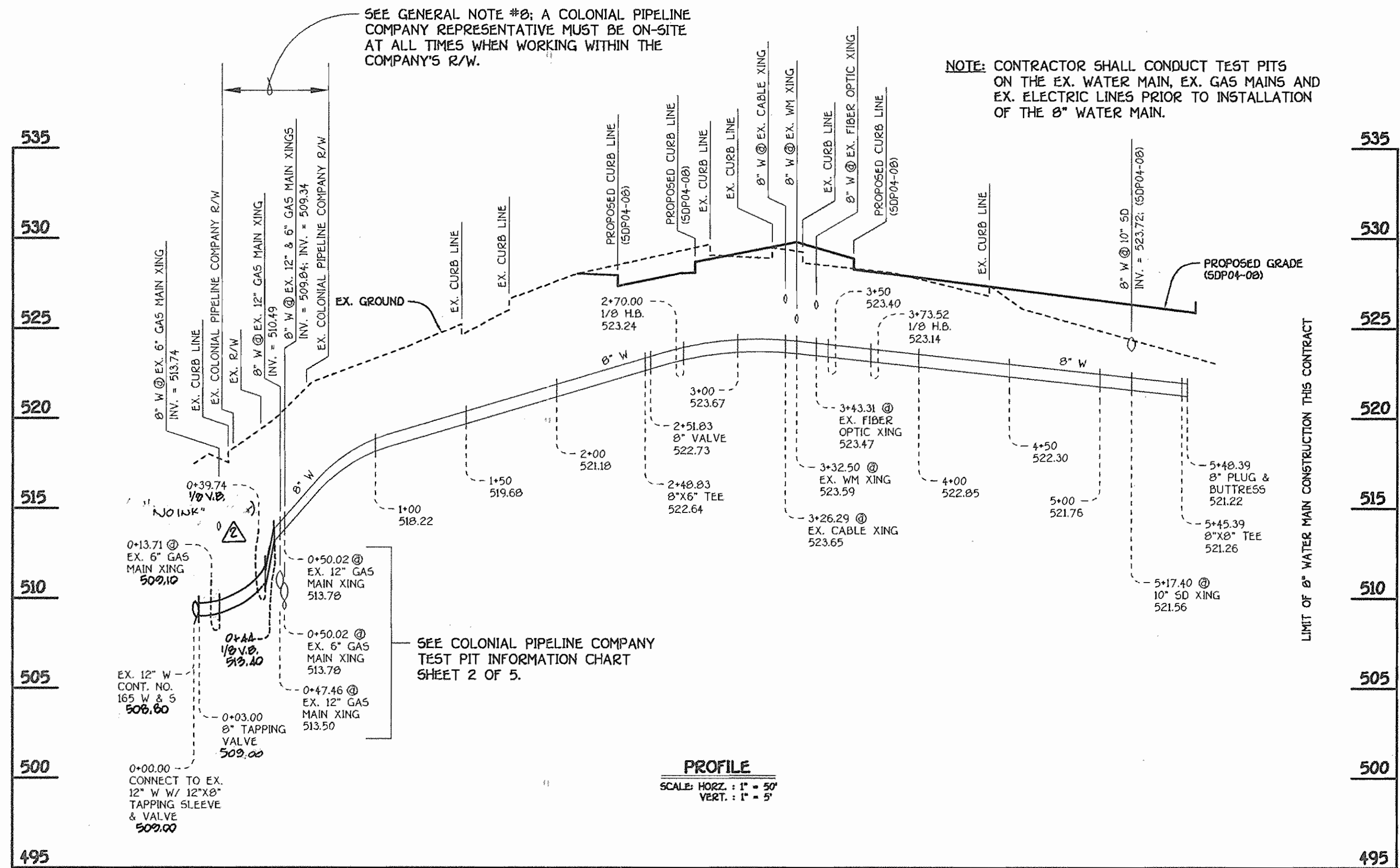
IMPORTANT: THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES AT THE BEGINNING OF STANDARDS NO. MD 104.00.



STANDARD NO. MD 104.31-01
TEMPORARY TRAFFIC CONTROL PLAN
NO SCALE



SEE THIS SHEET FOR WATER MAIN TABULATION CHART



SEE GENERAL NOTE #8; A COLONIAL PIPELINE COMPANY REPRESENTATIVE MUST BE ON-SITE AT ALL TIMES WHEN WORKING WITHIN THE COMPANY'S R/W.

NOTE: CONTRACTOR SHALL CONDUCT TEST PITS ON THE EX. WATER MAIN, EX. GAS MAINS AND EX. ELECTRIC LINES PRIOR TO INSTALLATION OF THE 8" WATER MAIN.

SEE COLONIAL PIPELINE COMPANY TEST PIT INFORMATION CHART SHEET 2 OF 5.

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

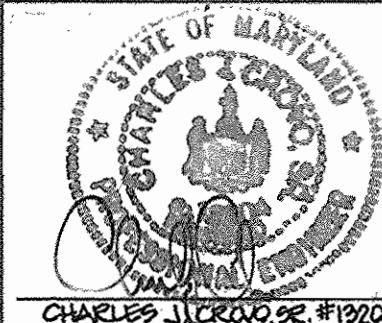
WATER MAIN TABULATION CHART			
W.M. STATION	APPURTENANCE	NORTHING	EASTING
8" WATER MAIN: WEST			
0+00.00	12" X 8" TAPPING SLEEVE	567791.81	1364674.95
0+03.00	8" TAPPING VALVE	567794.99	1364676.10
0+20.82	P.C. (CRIMP RADIUS = 390.00')	567811.07	1364682.86
1+07.47	P.T. (CRIMP RADIUS = 390.00')	567806.81	1364724.57
2+64.20	1/8" H.B.	568016.61	1364815.30
2+75.22	1/8" H.B.	568025.48	1364813.46
4+01.36	8" X 6" FH. TEE	568193.57	1364932.79
4+04.36	8" VALVE	568196.01	1364934.52
6+07.44	1/8" H.B.	568296.37	1365005.77
6+22.53	1/8" H.B.	568298.90	1365020.65
8+14.85	1/8" H.B.	568455.72	1365131.98
8+55.74	8" X 6" FH. TEE	568462.56	1365172.30
8+58.74	8" PLUG & BUTTRESS	568463.06	1365175.26
8" WATER MAIN: EAST			
0+00.00	12" X 8" TAPPING SLEEVE	567482.41	1365406.47
0+03.00	8" TAPPING VALVE	567495.18	1365407.64
0+39.74		567519.00	1365421.97
2+48.83	8" X 6" FH. TEE	567887.23	1365546.14
2+51.83	8" VALVE	567889.64	1365547.93
2+70.00	1/8" H.B.	567704.26	1365558.72
3+73.52	1/8" H.B.	567717.40	1365566.40
5+45.39	8" X 8" TEE	567857.49	1365760.97
5+48.39	8" PLUG & BUTTRESS	567859.94	1365762.71

8" WATER MAIN: EAST

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PKE.
ELLSWORTH CITY, MARYLAND 21042
4103 461 - 2885



DESIGNED BY:	H.D.T.	DATE:	JULY, 2003
DRAWN BY:	M.D.T.	BY:	NO.
CHECKED BY:	P.W.K.	REVISION:	1/10/04 REVISE PROFILE: STA. 0+00 TO STA. 0+44 TO REFLECT "AS-BUILT"
DATE:	JULY, 2003	REVISION:	1/10/04 REVISE WATER MAIN BEND TO REFLECT "AS-BUILT"

WATER MAINS PLAN VIEW	
60' SCALE MAP NO. 30	BLOCK NO. 18
F.C.C. WORK ORDER NO. 40371	
FILE NAME: FINAL WATER MAIN PROFILES SH4	

**HOWARD HIGH SCHOOL
WATER MAIN EXTENSIONS**
CONTRACT NO. 44-4147-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 4 OF 5

CONTRACT NO. 44-4147-D
HOWARD HIGH SCHOOL
WATER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

K:\SD\PROJ\40371\Final Water Main Profiles SH4.dwg, 7/17/2003, 10:55:15 AM

**SECTION 20 :
STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION**

DEFINITION
USING VEGETATION AS COVER FOR BARREN SOIL TO PROTECT IT FROM FORCES THAT CAUSE EROSION.

PURPOSE
VEGETATIVE STABILIZATION SPECIFICATIONS ARE USED TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL. WHEN SOIL IS STABILIZED WITH VEGETATION, THE SOIL IS LESS LIKELY TO ERODE AND MORE LIKELY TO ALLOW INFILTRATION OF RAINFALL, THEREBY REDUCING SEDIMENT LOADS AND RUN-OFF TO DOWNSTREAM AREAS, AND IMPROVING WILDLIFE HABITAT AND VISUAL RESOURCES.

CONDITIONS WHERE PRACTICE APPLIES
THIS PRACTICE SHALL BE USED ON DENUDED AREAS AS SPECIFIED ON THE PLANS AND MAY BE USED ON HIGHLY ERODIBLE OR CRITICALLY ERODING AREAS. THIS SPECIFICATION IS DIVIDED INTO TEMPORARY SEEDING, TO QUICKLY ESTABLISH VEGETATIVE COVER FOR SHORT DURATION UP TO ONE YEAR, AND PERMANENT SEEDING, FOR LONG TERM VEGETATIVE COVER. EXAMPLES OF APPLICABLE AREAS FOR TEMPORARY SEEDING ARE TEMPORARY SOIL STOCKPILES, CLEARED AREAS BEING LEFT IDLE BETWEEN CONSTRUCTION PHASES, EARTH DIES, ETC. FOR PERMANENT SEEDING ARE LAWNS, DAMS, CUT AND FILL SLOPES AND OTHER AREAS AT FINAL GRADE, FORMER STOCKPILE AND STAGING AREAS, ETC.

EFFECTS ON WATER QUALITY AND QUANTITY
PLANTING VEGETATION IN DISTURBED AREAS WILL HAVE AN EFFECT ON THE WATER BUDGET, ESPECIALLY ON VOLUMES AND RATES OF RUNOFF, INFILTRATION, EVAPORATION, TRANSPIRATION, PERCOLATION, AND GROUNDWATER RECHARGE. VEGETATION, OVER TIME, WILL INCREASE ORGANIC MATTER CONTENT AND IMPROVE THE WATER HOLDING CAPACITY OF THE SOIL AND SUBSEQUENT PLANT GROWTH. VEGETATION WILL HELP REDUCE THE MOVEMENT OF SEDIMENT, NUTRIENTS, AND OTHER CHEMICALS CARRIED BY RUNOFF TO RECEIVING WATERS. PLANTS WILL ALSO HELP PROTECT GROUNDWATER SUPPLIES BY ASSIMILATING THOSE SUBSTANCES PRESENT WITH THE ROOT ZONE. SEDIMENT CONTROL DEVICES MUST REMAIN IN PLACE DURING GRADING, SEEDING PREPARATION, SEEDING, MULCHING AND VEGETATIVE ESTABLISHMENT TO PREVENT LARGE QUANTITIES OF SEDIMENT AND ASSOCIATED CHEMICALS AND NUTRIENTS FROM WASHING INTO SURFACE WATERS.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

- A. SITE PREPARATION
 - i. INSTALL EROSION AND SEDIMENT CONTROL STRUCTURES (EITHER TEMPORARY OR PERMANENT) SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, WATER CONTROL, BASTION CONTROL, ETC.
 - ii. PERFORM ALL GRADING OPERATIONS AT RIGHT ANGLES TO THE SLOPE. FINAL GRADING AND SHAPING IS NOT USUALLY NECESSARY FOR TEMPORARY SEEDING.
 - iii. SCHEDULE REQUIRED SOIL TESTS TO DETERMINE SOIL AMENDMENT COMPOSITION AND APPLICATION RATES FOR SITES HAVING DISTURBED AREA OVER 5 ACRES.
 - iv. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)
 1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZERS ON SITES HAVING DISTURBED AREA OVER 5 ACRES. SOIL ANALYSIS MAY BE PERFORMED BY THE UNIVERSITY OF MARYLAND OR A RECOGNIZED COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSIS.
 2. FERTILIZERS SHALL BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROVED EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS SHALL ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE STATE FERTILIZER LAWS AND SHALL BEAR THE NAME, TRADEMARK AND WARRANTEE OF THE PRODUCER.
 3. LIME MATERIALS SHALL BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED) WHICH CONTAINS AT LEAST 50% TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT AT LEAST 50% WILL PASS THROUGH A #100 MESH SIEVE AND 99-100% WILL PASS THROUGH A #20 MESH SIEVE.
 4. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3-5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
- B. SEEDING PREPARATION
 - i. TEMPORARY SEEDING
 - a. SEEDING PREPARATION SHALL CONSIST OF LOOSENING SOIL TO A DEPTH OF 3" TO 5" BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHESS PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED IT SHOULD NOT BE ROLLED OR DRAGGED LEAVING BUT LEFT IN THE ROUGHENED CONDITION. SLOPED AREAS (GREATER THAN 3:1) SHOULD BE TRACKED LEAVING THE SURFACE IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
 - b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
 - c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3-5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
 - ii. PERMANENT SEEDING
 1. MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT:
 - a. SOIL PH SHALL BE BETWEEN 6.0 AND 7.0.
 - b. SOLUBLE SALTS SHALL BE LESS THAN 500 PARTS PER MILLION (PPM).
 - c. THE SOIL SHALL CONTAIN LESS THAN 40CLAY, BUT ENOUGH FINE GRAINED MATERIAL (30% SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION IS IF LOVEGRASS OR SPREZZEGRASS IS TO BE PLANTED, THEN A SANDY SOIL (30% SILT PLUS CLAY) WOULD BE ACCEPTABLE.
 - d. SOIL SHALL CONTAIN 1.5% MINIMUM ORGANIC MATTER BY WEIGHT.
 - e. SOIL MUST CONTAIN SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
 - f. IF THESE CONDITIONS CANNOT BE MET BY SOILS ON SITE, ADDING TOPSOIL IS REQUIRED IN ACCORDANCE WITH SECTION 21 STANDARD AND SPECIFICATION FOR TOPSOIL.
 2. AREAS PREVIOUSLY GRADED IN CONFORMANCE WITH THE DRAWINGS SHALL BE MAINTAINED IN A TRUE AND EVEN GRADE, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3-5" TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREA AND TO CREATE HORIZONTAL EROSION CHECK SLOTS TO PREVENT TOPSOIL FROM SLIDING DOWN A SLOPE.
 3. APPLY SOIL AMENDMENTS AS PER SOIL TESTS OR AS INCLUDED ON THE PLANS.
 4. MIX SOIL AMENDMENTS INTO THE TOP 3-5" OF TOPSOIL BY DISKING OR OTHER SUITABLE MEANS. LAWN AREAS SHOULD BE RAKED TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED AND APPLICATION. WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDING, PREPARATION, LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE. STEEP SLOPES GREATER THAN 3:1 SHOULD BE GRADED BY A DOZER LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. THE TOP 1-3" OF SOIL SHOULD BE LOOSE AND FRIABLE. SEEDING LOOSENING MAY NOT BE NECESSARY ON NEWLY DISTURBED AREAS.
- C. SEED SPECIFICATIONS
 - i. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED SHALL BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED SHALL HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON THIS JOB.
 - ii. SEED TAGS SHALL BE MADE AVAILABLE TO THE INSPECTOR TO VERIFY TYPE AND RATE OF SEED USED.
 - iii. INOCULATION - THE INOCULANT FOR TREATING LEGUMES SEED IN THE SEED MIXTURES SHALL BE A PURE CULTURE OF NITROGEN-FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS SHALL NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANT AS DIRECTED ON PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDRATED. NOTE: IT IS VERY IMPORTANT TO INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75°-80° F. CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
- D. METHODS OF SEEDING
 - i. HYDROSEEDING - APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER). BROADCAST OR DRIP SEEDING OR A CULTIPACKER SEEDER.
 - a. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES AMOUNTS WILL NOT EXCEED THE FOLLOWING: NITROGEN: MAXIMUM OF 100 LBS. PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS): 200 LBS/AC; K2O (POTASSIUM): 200 LBS/AC.
 - b. LIME - USE ONLY GROUND AGRICULTURAL LIMESTONE, UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
 - c. SEED AND FERTILIZER SHALL BE MIXED ON SITE AND SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.
 - ii. DRY SEEDING - THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
 - a. SEED SPREAD DRY SHALL BE INCORPORATED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON THE TEMPORARY OR PERMANENT SEEDING SUMMARIES OR TABLES 255 OR 265. THE SEEDING AREA SHALL THEN BE ROLLED WITH A WEIGHTED ROLLER TO PROVIDE SOIL CONTACT.
 - b. WHERE PRACTICAL, SEED SHOULD BE APPLIED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
 - c. DRILL OR CULTIPACKER SEEDING MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
 - d. CULTIPACKER SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDING MUST BE FIRM AFTER PLANTING.
 - e. WHERE PRACTICAL, SEED SHOULD BE APPLIED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
- E. MULCH SPECIFICATIONS (IN ORDER OF PREFERENCE)
 - i. STRAW SHALL CONSIST OF THOROUGHLY THRESHED WHEAT, RYE OR OAT STRAW, REASONABLE BRIGHT IN COLOR, AND SHALL NOT BE MUSTY, MOLLY, CAKED, DECAYED, OR EXCESSIVELY DUSTY AND SHALL BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW.
 - ii. WOOD CELLULOSE FIBER MULCH (WCFM)
 - a. WCFM SHALL CONSIST OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
 - b. WCFM SHALL BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
 - c. WCFM, INCLUDING DYE, SHALL CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
 - d. WCFM MATERIALS SHALL BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN UNIFORM AND SUSPENSIBLE UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL SHALL FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND SHALL COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
 - e. WCFM MATERIAL SHALL CONTAIN NO ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
 - f. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH TO APPROXIMATELY 10 MM, DIAMETER APPROXIMATELY 1 MM, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 15% MAXIMUM AND WATER HOLDING CAPACITY OF 90% MINIMUM.

- NOTE: ONLY STERILE STRAW MULCH SHOULD BE USED IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
- G. MULCHING SEEDED AREAS - MULCH SHALL BE APPLIED TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
 - i. IF GRADING IS COMPLETED OUTSIDE OF THE SEEDING SEASON, MULCH ALONE SHALL BE APPLIED AS PRESCRIBED IN THIS SECTION AND MAINTAINED UNTIL THE SEEDING SEASON RETURNS AND SEEDING CAN BE PERFORMED IN ACCORDANCE WITH THESE SPECIFICATIONS.
 - ii. WHEN STRAW MULCH IS USED, IT SHALL BE SPREAD OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS/ACRE. MULCH SHALL BE APPLIED TO A UNIFORM LOOSE DEPTH OF BETWEEN 1" AND 2". MULCH APPLIED SHALL ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. IF A MULCH ANCHORING TOOL IS TO BE USED, THE RATE SHOULD BE INCREASED TO 2.5 TONS/ACRE.
 - iii. WOOD CELLULOSE FIBER USED AS A MULCH SHALL BE APPLIED AT A NET DRY WEIGHT OF 1,500 LBS. PER ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER, AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LBS. OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
 - H. SECURING STRAW MULCH (ANCHORING) - MULCH ANCHORING SHALL BE PERFORMED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS LISTED BY PREFERENCE, DEPENDING UPON SIZE OF AREA AND EROSION HAZARD:
 - i. A MULCH ANCHORING TOOL IS AS TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF TWO (2) INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD BE USED ON THE CONTOUR IF POSSIBLE.
 - ii. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. THE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 POUNDS/ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
 - iii. APPLICATION OF LIQUID BINDERS SHOULD BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND CREST OF BANKS. THE REMAINDER OF AREA SHOULD BE APPLIED UNIFORM AFTER BINDER APPLICATION. SYNTHETIC BINDERS SUCH AS ACRYLIC (OR ACRYL-TACK), DCA-70 RETROSET, TERGA TAX II, TERGA TACK AC OR OTHER APPROVED EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH.
 - iv. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4' TO 15' FEET WIDE AND 300 TO 3,000 FEET LONG.
 - I. INCREMENTAL STABILIZATION - CUT SLOPES
 - i. ALL CUT SLOPES SHALL BE DRESSED, PERMANENT, SEEDED AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL PREPARED NOT TO EXCEED 15'.
 - ii. CONSTRUCTION SEQUENCE (REFER TO FIGURE 3 BELOW):
 - a. EXCAVATE AND STABILIZE ALL TEMPORARY SWALES, SIDE DITCHES, OR BERMS THAT WILL BE USED TO CONVEY RUNOFF FROM THE EXCAVATION.
 - b. PERFORM PHASE 1 EXCAVATION, DRESS, AND STABILIZE.
 - c. PERFORM PHASE 2 EXCAVATION, DRESS, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS NECESSARY.
 - d. PERFORM FINAL PHASE EXCAVATION, DRESS, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS NECESSARY.
 - NOTE: ONCE EXCAVATION HAS BEGUN THE OPERATION SHOULD FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OF COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.
 - J. INCREMENTAL STABILIZATION OF EMBANKMENTS - FILL SLOPES
 - i. EMBANKMENTS SHALL BE CONSTRUCTED IN LIFTS AS PRESCRIBED ON THE PLANS.
 - ii. SLOPES SHALL BE STABILIZED IMMEDIATELY WHEN THE VERTICAL HEIGHT OF THE MULTIPLE LIFTS REACHES 15', OR WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS.
 - iii. AT THE END OF EACH DAY, TEMPORARY BERMS AND PIPE SLOPE DRAINS SHOULD BE CONSTRUCTED ALONG THE TOP EDGE OF THE EMBANKMENT TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER TO A SEDIMENT TRAPPING DEVICE.
 - iv. CONSTRUCTION SEQUENCE: REFER TO FIGURE 4 (BELOW):
 - a. EXCAVATE AND STABILIZE ALL TEMPORARY SWALES, SIDE DITCHES, OR BERMS THAT WILL BE USED TO DIVERT RUNOFF AROUND THE EMBANKMENT. CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER AS SHOWN IN FIGURE 5, UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA.
 - b. PLACE PHASE 1 EMBANKMENT, DRESS, AND STABILIZE.
 - c. PLACE PHASE 2 EMBANKMENT, DRESS, AND STABILIZE.
 - d. PLACE FINAL PHASE EMBANKMENT, DRESS, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS NECESSARY.
 - NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF AND PLACEMENT OF TOPSOIL (IF REQUIRED) GRADING AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

SECTION 2 - TEMPORARY SEEDING

VEGETATION - ANNUAL GRASS OR GRASS USED TO PROVIDE COVER ON THE DISTURBED AREAS FOR UP TO 12 MONTHS FOR LONGER DURATION OF VEGETATIVE COVER, PERMANENT SEEDING IS REQUIRED.

- A. SEED MIXTURES - TEMPORARY SEEDING
 - i. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 26 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 5) AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW, ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLANS AND COMPLETED, THEN TABLE 26 MUST BE PUT ON THE PLANS.
 - ii. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, THE RATES SHOWN ON THE TABLE SHALL BE DELETED AND THE RATES RECOMMENDED BY THE TESTING AGENCY SHALL BE WRITTEN IN. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.

SEED MIXTURE (HARDINESS ZONE ___ SB ___) FROM TABLE 26				SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-10-10)	LIME RATE
NO.	SPECIES	APPLICATION RATE (lb/ac)	RATE (lb/ac)				
1	BARLEY OATS RYE	122 96 140	3/1 - 5/15 8/15 - 10/15 1" - 2"	1" - 2"	600 lb/ac (15 lb/1000sqft)	2 tons/ac (100 lb/1000sqft)	

SECTION 3 - PERMANENT SEEDING

SEEDING GRASS AND LEGUMES TO ESTABLISH GROUND COVER FOR A MINIMUM OF ONE YEAR ON DISTURBED AREAS GENERALLY RECEIVING LOW MAINTENANCE.

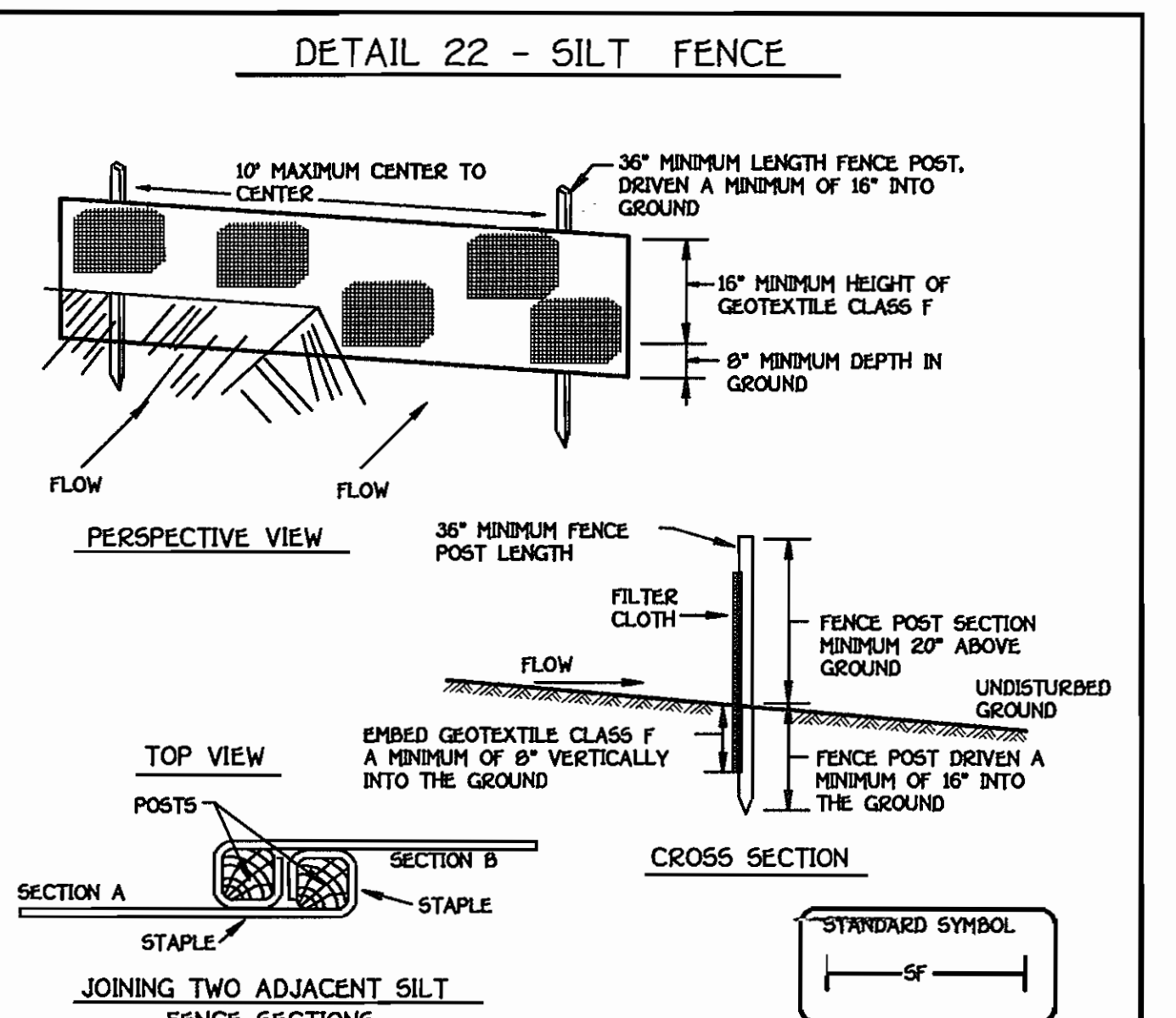
- A. SEED MIXTURES - PERMANENT SEEDING
 - i. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 25 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 5) AND ENTER THEM IN THE PERMANENT SEEDING SUMMARY BELOW, ALONG WITH APPLICATION RATES AND SEEDING DATES. SEEDING DEPTHS CAN BE ESTIMATED USING TABLE 25. IF THIS SUMMARY IS NOT PUT ON THE CONSTRUCTION PLANS AND COMPLETED, THEN TABLE 25 MUST BE PUT ON THE PLANS. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES AS SHOULDER, STEPPED AREAS, OR RUNS OF SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NCS TECHNICAL FIELD GUIDE, SECTION 512 - CRITICAL AREA PLANTING, FOR SPECIAL LAWN MAINTENANCE AREAS, SEE SECTIONS 41 AND 42 TURFGRASS.
 - ii. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, THE RATES SHOWN ON THE TABLE SHALL BE DELETED AND THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY SHALL BE WRITTEN IN.
 - iii. FOR AREAS RECEIVING MAINTENANCE, APPLY UREA/FERTILIZER (45-0-0) AT 3 1/2 LBS/1000 SQ. FT. FOR AREAS RECEIVING MAINTENANCE, APPLY UREA/FERTILIZER (45-0-0) IN ADDITION TO THE ABOVE SOIL AMENDMENTS SHOWN IN THE TABLE BELOW, TO BE PERFORMED AT THE TIME OF SEEDING.

SEED MIXTURE (HARDINESS ZONE ___ SB ___) FROM TABLE 25				SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-20-20)			LIME RATE
NO.	SPECIES	APPLICATION RATE (lb/ac)	N			P205	K20		
3	TALL FESCUE (85%) PERENNIAL RYE GRASS (10%) KENTUCKY BLUEGRASS (5%)	125 15 10	3/1 - 5/15 8/15 - 10/15 1" - 2"	90 lb/ac (2.0 lb/1000sqft)	175 lb/ac (4 lb/1000sqft)	175 lb/ac (4 lb/1000sqft)	2 tons/ac (100 lb/1000sqft)		
10	TALL FESCUE (80%) HARD FESCUE (20%)	120 30	3/1 - 5/15 8/15 - 10/15 1" - 2"	90 lb/ac (2.0 lb/1000sqft)	175 lb/ac (4 lb/1000sqft)	175 lb/ac (4 lb/1000sqft)	2 tons/ac (100 lb/1000sqft)		

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 (303-4829).
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 RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 30 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DICES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1 BY 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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 50), SOD (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.
7. SITE ANALYSIS:

TOTAL AREA OF SITE - N/A	
AREA DISTURBED	0.40 ACRES
AREA TO BE ROOFED OR PAVED	0.00 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.40 ACRES
TOTAL FILL - N/A	UTILITY INSTALLATION ONLY
OFFSITE WASTE/BORROW AREA LOCATION	N/A CL. 075.
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. NOTE: THE LENGTH OF OPEN WATER & SEWER MAIN TRENCH SHALL BE LIMITED TO THAT WHICH SHALL BE BACKFILLED AND STABILIZED WITHIN ONE (1) WORKING DAY.



- CONSTRUCTIONS SPECIFICATIONS**
1. FENCE POSTS SHALL BE A MINIMUM OF 36" LONG DRIVEN 16" MINIMUM INTO THE GROUND. WOOD POSTS SHALL BE 1 1/2" X 1 1/2" SQUARE MINIMUM CUT, OR 1 3/4" DIAMETER MINIMUM ROUND AND SHALL BE OF SOUND QUALITY HARDWOOD. STEEL POSTS WILL BE STANDARD "I" OR "U" SECTION WEIGHING NOT LESS THAN 100 POUND PER LINEAL FOOT.
 2. GEOTEXTILE TAIL FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP OR MID-SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS "F":

TENSILE STRENGTH	50 LBS/IN (MIN)	TEST: MHT 509
TENSILE MODULUS	20 LBS/IN (MIN)	TEST: MHT 509
FLOW RATE	0.3 GAL. FT. / MINUTE (MAX)	TEST: MHT 322
FILTERING EFFICIENCY	75% (MIN)	TEST: MHT 322
 3. WHERE ENDS OF GEOTEXTILE FABRIC COME TOGETHER, THEY SHALL BE OVERLAPPED, FOLDED AND STAPLED TO PREVENT SEDIMENT BYPASS.
 4. 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
2:1 AND STEEPER	20 FEET	125 FEET

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.

DEVELOPER'S CERTIFICATION

I HEREBY CERTIFY THAT THE DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

Signature: *Wm. B.* DATE: 7/17/03

ENGINEER'S CERTIFICATION

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 COUNTY CONSERVATION DISTRICT.

Signature: *Paul W. Keidel* DATE: 07-17-03

CONTRACT NO. 44-4147-D
HOWARD HIGH SCHOOL
WATER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

Chief, Bureau of Utilities: *Robert B...* DATE: 7-21-03
Chief, Development Engineering Division: *[Signature]* DATE: 7/21/03

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SERVICE OFFICE PARK - 10722 BALTIMORE NATIONAL PARK
ELLIOTT CITY, MARYLAND 20622
(410) 461-2955



DESIGNED BY: M.D.T.	DATE: JULY, 2003
DRAWN BY: M.D.T.	BY NO.
CHECKED BY: P.W.K.	REVISION

SEDIMENT CONTROL NOTES & DETAILS	
60' SCALE MAP NO. 30	BLOCK NO. 19
F.C.C. WORK ORDER NO. 40371	FILE NAME: 40371 SEDIMENT CONTROL NOTES & DETAILS SH1

**HOWARD HIGH SCHOOL
WATER MAIN EXTENSIONS**

CONTRACT NO. 44-4147-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 5 OF 5