

CONTRACT No. 24-3707-D

U.S. No.1 JOINT VENTURE PARCEL "A", PLAT CMP No. 3592 GUILFORD ELECTION DISTRICT No. 6 HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS

TYPE OF BUILDING:	COMMERCIAL/INDUSTRIAL
NUMBER OF UNITS:	1 WAREHOUSE
NUMBER OF S.H.C.'s:	1
NUMBER OF W.H.C.'s:	15 (+1 FIRE)
DRAINAGE AREA:	LITTLE PATUXENT
TREATMENT PLANT:	LITTLE PATUXENT WATER RECLAMATION PLANT - SAVAGE, MARYLAND

QUANTITIES				
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER
6" WATER LINE	632 LF	632 LF	D.I.P.	GRIFFIN
6" SPRINKLER FEED	30 LF	30 LF	D.I.P.	GRIFFIN
1" WHC (16661)	90 LF			
6" SHC	65 LF			
FIRE HYDRANT	1 Ea.	1EA	G.I.V.	KENNEDY
6" WATER (F.H.)	5 LF	5 LF	D.I.P.	GRIFFIN
6" VALVE	1 Ea.	1EA	G.I.V.	KENNEDY
3/4" WATER METER VAULT	15 Ea.			
8" FIRE CONNECTION	1 Ea.			
S.M.H.	1 Ea.	1EA	PRECAST	CONTR. PRECAST

NAME OF CONTRACTOR: NAZARIO CONSTRUCTION, INC.

SURVEY AND DRAFTING DIV. CHECKBOX: _____ AS-BUILT DATE: _____

HOWARD COUNTY GEODETIC CONTROL: 471B

NGS PID NUMBER: N/A Station is a 3/4" Iron Rod with a 4" Stamped aluminum cap.

Coordinates based on: Maryland NAD83 horizontal and NAVD83 vertical datum. CLASS: Horizontal - 1st Vertical - 3rd

Angle in 684mm format

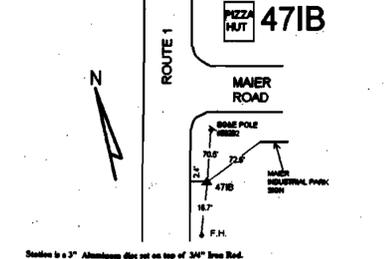
Northing: 14145.3643 m = 23971.379 ft Scale Factor: 0.99999777 Lat: 39.071541749 N
 Easting: 414976.8122 m = 134488.726 ft Convergence: 0.00013 Lat: 76.492469704 W
 Elevation: 55.6902 m = 182.709 ft

Other Datum Information: NAD83 (N): 49992.4 ft (App) Ellipsoidal Ht.: 32.432 m
 NAD83 (E): 50051.1 ft (App) NAVD83 Elev.: 34.970 m

County: Howard Area: 801 Last Adjustment: 06/05/2000 Note: Unless otherwise noted all Howard County survey controls are standard excepted (shown or otherwise) shown as on top of concrete (P) (App) cylinder. Station. Identify this disc as set 1" or 2" below traverse surface.

Admetech Station: 471C N/A N/A
 G.M. Admetech Station: 24.01609
 G.M. Station (4): 822.873
 Ground Station (4): 522.11

Sketch date 1997



HOWARD COUNTY GEODETIC CONTROL: 471C

NGS PID NUMBER: N/A Station is a 3/4" Iron Rod with a 4" Stamped aluminum cap.

Coordinates based on: Maryland NAD83 horizontal and NAVD83 vertical datum. CLASS: Horizontal - 1st Vertical - 3rd

Angle in 684mm format

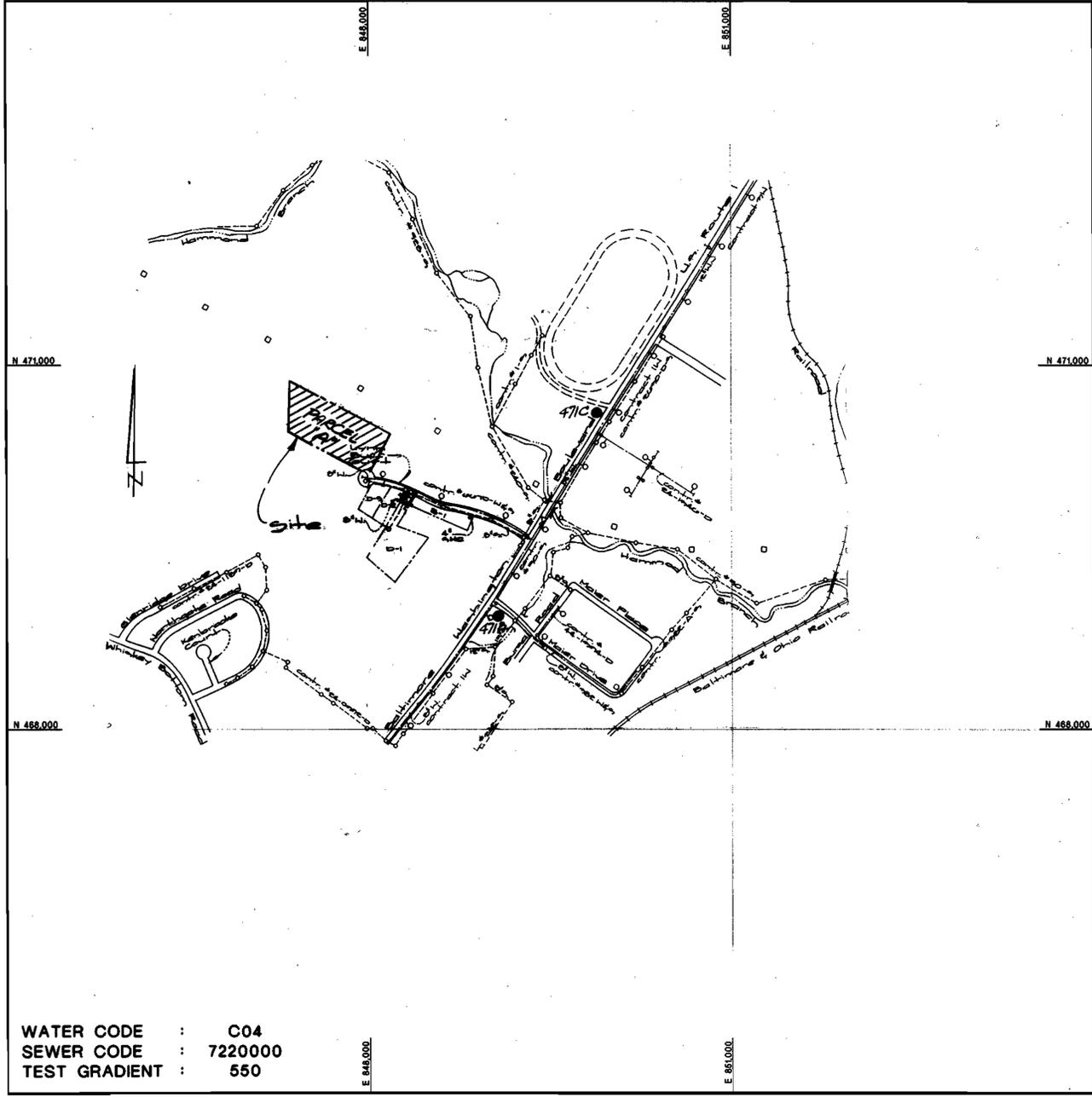
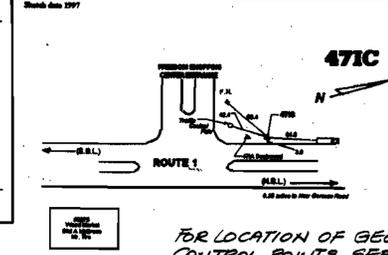
Northing: 14145.1679 m = 23971.379 ft Scale Factor: 0.99999663 Lat: 39.072074478 N
 Easting: 415786.0797 m = 136549.805 ft Convergence: 0.00013 Lat: 76.491920804 W
 Elevation: 57.4234 m = 188.678 ft

Other Datum Information: NAD83 (N): 47128.1 ft (App) Ellipsoidal Ht.: 34.200 m
 NAD83 (E): 52488.5 ft (App) NAVD83 Elev.: 37.220 m

County: Howard Area: 801 Last Adjustment: 06/05/2000 Note: Unless otherwise noted all Howard County survey controls are standard excepted (shown or otherwise) shown as on top of concrete (P) (App) cylinder. Station. Identify this disc as set 1" or 2" below traverse surface.

Admetech Station: 471C N/A N/A
 G.M. Admetech Station: 24.01609
 G.M. Station (4): 822.873
 Ground Station (4): 522.11

Sketch date 1997



WATER CODE : C04
 SEWER CODE : 7220000
 TEST GRADIENT : 550

VICINITY MAP
SCALE: 1"=600'

GENERAL NOTES

- PART I**
- Approximate location of existing mains are shown. The Contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted 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 (North American Datum 1983 (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 6". 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 (5) working days before starting work shown on these plans.

State Highway Administration	531-5533
BGE Contractor Services	850-4830
BGE Under Ground Damage Control	787-9068
Miss Utility	1-800-257-7777
Colonial Pipeline Co.	795-1390
Howard County Department of Public Works	
Bureau of Utilities	313-4900
 - Trees and shrubs are to be protected from damage to maximum extent. Trees and shrubs located within the construction strip are not to be removed or damaged by the Contractor.
 - Contractor shall remove trees, stumps and roots along line of excavation. Payment for such removal shall be included in the unit price bid for construction of the main.
 - The Contractor shall notify the Bureau of Highways, Howard County, at (410) 313-2450 at least five (5) working days before any open cut of any County road or boring/jacking operation on County roads for laying water/sewer mains or house connections. The approval of these drawings will constitute compliance with DPW requirement per Section 16.114 (a) of the Howard County Code.

PART II - WATER

- 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 restrained and buttressed with concrete in accordance with the 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.

PART III - SEWER

- All sewer mains shall be D.I.P. and 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 drawings.
- House(s) with the symbol "C.N.S." indicates that cellar cannot be served.

OWNER / DEVELOPER

Joseph Nazario
 Nazario Development and Company
 6500 Ammendale Road
 Beltsville, Maryland 20705
 (301) 937-4664

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 210 OF THE SPECIFICATIONS AND WITH SITE DEVELOPMENT PLAN, SDP-98-135 DRAWINGS SC-1 & SC-2 FOR SEDIMENT AND EROSION CONTROL.

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT.

Carol Simon 7/22/98
 U.S. SOIL CONSERVATION SERVICE DATE

U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE

THESE PLANS SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: *[Signature]* 7/22/98
 HOWARD SOIL CONSERVATION DISTRICT DATE

SDP-98-135

FOR LOCATION OF GEODETIC CONTROL POINTS, SEE VICINITY MAP

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

[Signature] 7-21-98
 CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

[Signature] 7/21/98
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

IPDS
 The Interprofessional PLANNING & DESIGN STUDIO, LLC
 Engineers • Architects • Surveyors
 Planners & Landscape Architects

802 Sligo Avenue
 Silver Spring, Maryland, 20910
 (301) 585-5676



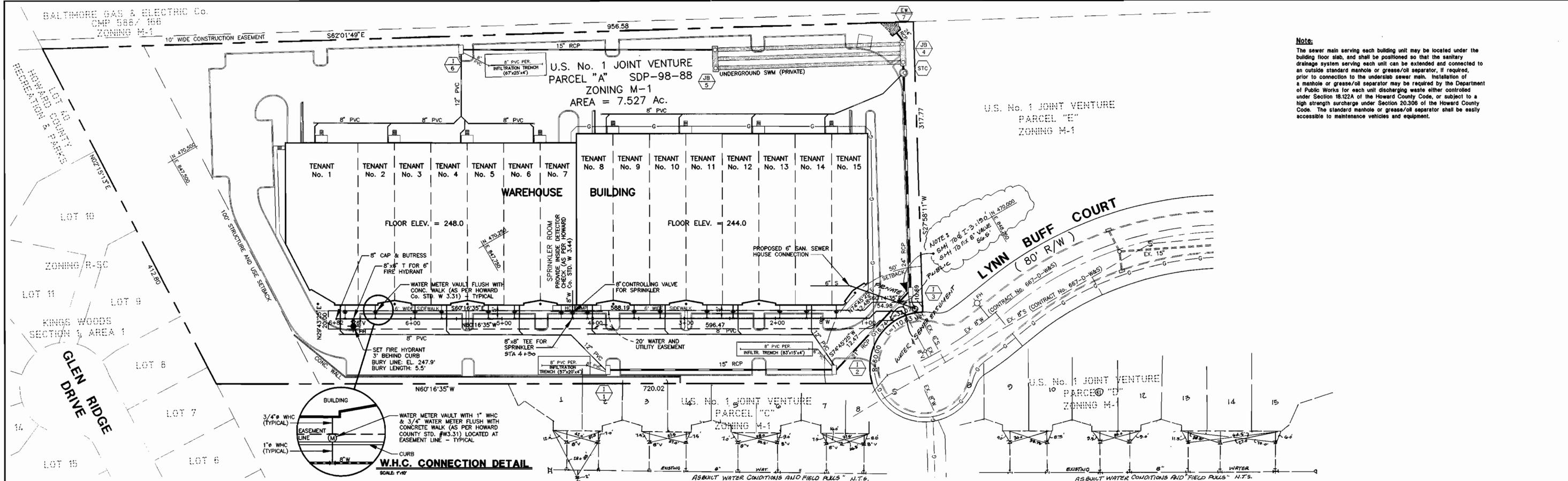
No.	REVISION	DATE
2	AS BUILT CONDITIONS ADDED TO PLAN	11/16/00
1	PER HOWARD COUNTY COMMENTS	7/1/98

WATER AND SEWER CONSTRUCTION COVER SHEET

600' SCALE MAP No. 47 BLOCK No. 22 & 23

U.S. No.1 JOINT VENTURE
 PARCEL "A", PLAT CMP No. 3592, WAREHOUSE
 GUILFORD ELECTION DISTRICT No. 6
 HOWARD COUNTY, MARYLAND
 WATER CODE C04, SEWER CODE 7220000
 CONTRACT No. 24-3707-D, SDP-98-135

AS NOTED
 SCALE:
 01-28-98
 DATE:
 SHEET
 1 OF 2



Note:
The sewer main serving each building unit may be located under the building floor slab, and shall be positioned so that the sanitary drainage system serving each unit can be extended and connected to an outside standard manhole or grease/oil separator, if required, prior to connection to the underslab sewer main. Installation of a manhole or grease/oil separator may be required by the Department of Public Works for each unit discharging waste either controlled under Section 18.122A of the Howard County Code, or subject to a high strength surcharge under Section 20.306 of the Howard County Code. The standard manhole or grease/oil separator shall be easily accessible to maintenance vehicles and equipment.

WATER & SEWER CONSTRUCTION PLAN
SCALE: 1"=50'

OWNER \ DEVELOPER
Joseph Nazario
Nazario Development and Company
6500 Amundale Road
Beltsville, Maryland 20705
(301) 937-4664

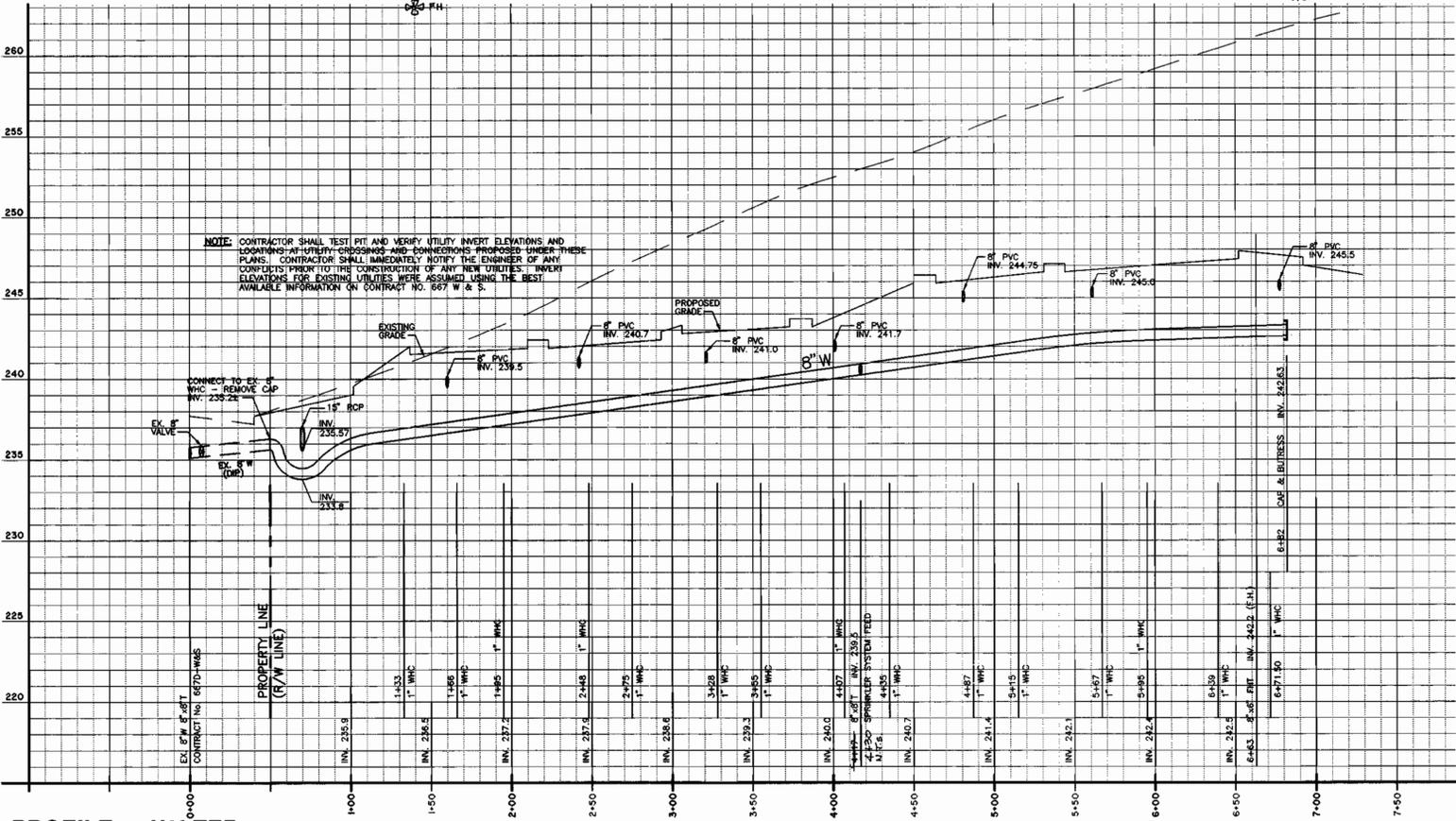
SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH SITE DEVELOPMENT PLAN, SDP-98-135 DRAWINGS SC-1 & SC-2 FOR SEDIMENT AND EROSION CONTROL.

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT.

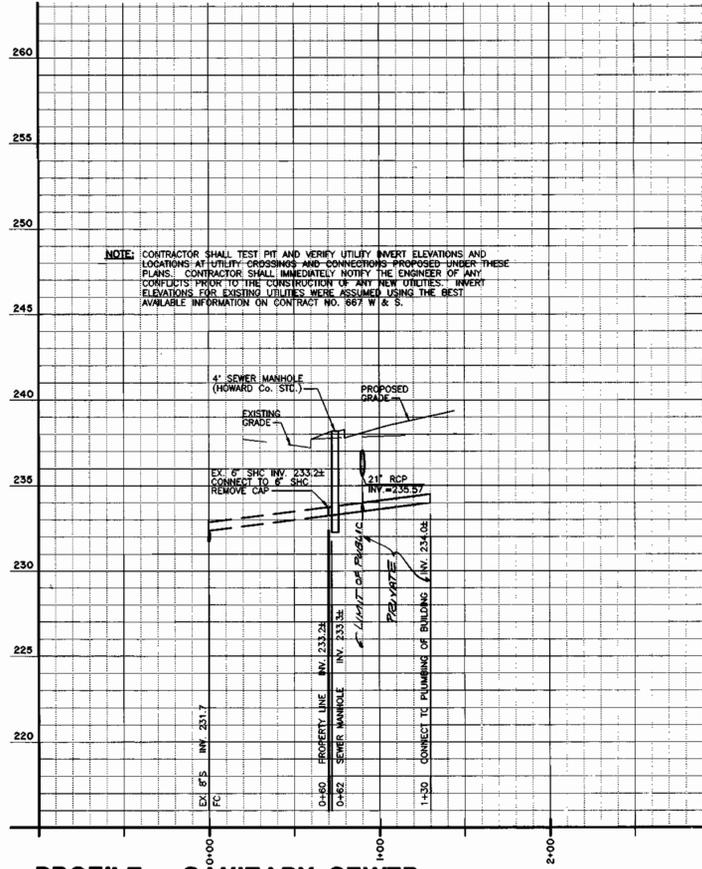
Cheryl Sain 7/23/98
U.S. SOIL CONSERVATION SERVICE
U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE

THESE PLANS SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: *Robert M. Benjamin* 7/23/98
HOWARD SOIL CONSERVATION DISTRICT



PROFILE - WATER
SCALE: 1"=50' HOR., 1"=5' VERT.



PROFILE - SANITARY SEWER
SCALE: 1"=50' HOR., 1"=5' VERT.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

IPDS
The Interprofessional PLANNING & DESIGN STUDIO, LLC
Engineers • Architects • Surveyors
Planners & Landscape Architects



No.	REVISION	DATE
3	AS BUILT CONDITIONS ADDED TO PLAN	11/16/00
2	PER HOWARD COUNTY COMMENTS	7/20/98
1	PER HOWARD COUNTY COMMENTS	7/1/98

WATER AND SEWER CONSTRUCTION PLAN AND PROFILES
600' SCALE MAP No. 47 BLOCK No. 22 & 23

U.S. No.1 JOINT VENTURE
PARCEL "A", PLAT CMP No. 3592, WAREHOUSE
GUILFORD ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND
WATER CODE C04, SEWER CODE 7220000
CONTRACT No. 24-3707-D, SDP-98-135

AS NOTED
SCALE:
DATE: 04-22-98
SHEET
2 OF 2

MANHOLE TABULATION CHART				
NO.	LOCATION	DISTANCE	SLOPE	ELEVATION
200	4+33	*		479.80
205	4+33	5' RIGHT	+1.06%	478.87
210		5' RIGHT	-2.81%	477.64

* BUILD MH OVER, 1' CONNECT TO EX. 8" SEWER MAIN

NOTE: *POIL FROM TRENCHING IS TO BE PLACED ON THE UPHILL SIDE OF THE OPERATION.

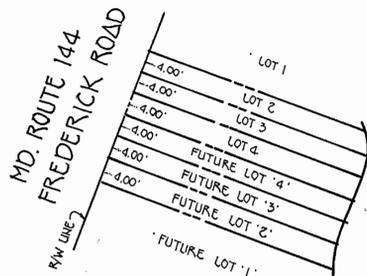
SEE SHEET 3 FOR SEQUENCE OF CONSTRUCTION

SEE SHEET 2 FOR PROFILES OF WATER & SEWER MAINS

QUANTITIES				
ITEM	ESTIMATED	QUANTITIES	AS-BUILT	SUPPLIER
8" SEWER	570 L.F.			
4" SEWER	87 L.F.			
MANHOLES	3 EACH			
8" WATER	454 L.F.			
6" WATER	17 L.F.			
4" WATER	118 L.F.			
FIRE HYDRANTS	1 EACH			
8" x 8" T.S. & V.	1 EACH			
8" x 6" TEE	1 EACH			
6" VALVE	1 EACH			
8" x 4" REDUCER	1 EACH			
4" PLUG & BUTTRESS	1 EACH			
1" WHC	180 L.F.			

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

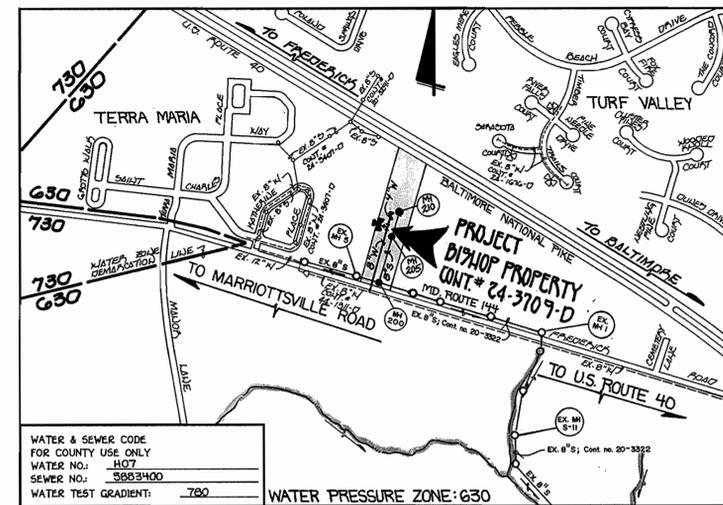
SHC INVERTS @ PROPERTY LINE CHART		
STATION	LOT	ELEVATION
2+30 RT.	MH 200 TO MH 205	
2+40 LT.	FUTURE LOT 2 (@ 1.00%)	466.90
	LOT 2	466.90
0+17 RT.	MH 205 TO MH 210	
0+27 LT.	FUTURE LOT 3 (@ 1.00%)	467.41
	LOT 3	467.41
	LOT 4 (@ 1.00%)	468.11
	FUTURE LOT 2 (@ 1.00%)	468.76
	LOT 1	468.76
	EX. MH#4 TO EX. MH#5	
2+75	FUTURE LOT 1	464.91
	LOT 1	464.91



ENLARGEMENT 'A'

NOT TO SCALE

THE CONTRACTOR SHALL REFERENCE SECTION 5.10 OF THE SPECIAL PROVISIONS WHICH INCORPORATES MD. STATE HIGHWAY ADMINISTRATION UTILITY PERMIT NO. 740-4001 INTO THE CONTRACT SPECIFICATIONS. THE PERMITTER'S CONDITIONS FOR THE WATER MAIN CROSSINGS OF MD. ROUTE 144 AND STIPULATED REPAIRING REQUIREMENTS.



TYPE OF BUILDING	RESIDENTIAL 1 SINGLE FAMILY
NUMBER OF LOTS	10 (@ BUILDABLE)
NO. OF WATER HOUSE CONNECTIONS	7 *
NO. OF SEWER HOUSE CONNECTIONS	6 **
DRAINAGE AREA	LITTLE PATENTMENT
TREATMENT PLANT	TRINIDAD WHITE (CITY OF BALTIMORE) VIA ROUTE 102 PUMPING STATION
NUMBER OF WHCS FOR FUTURE LOTS	3 *
NUMBER OF SHCS FOR FUTURE LOTS	14 **

VICINITY MAP

SCALE: 1"=600'

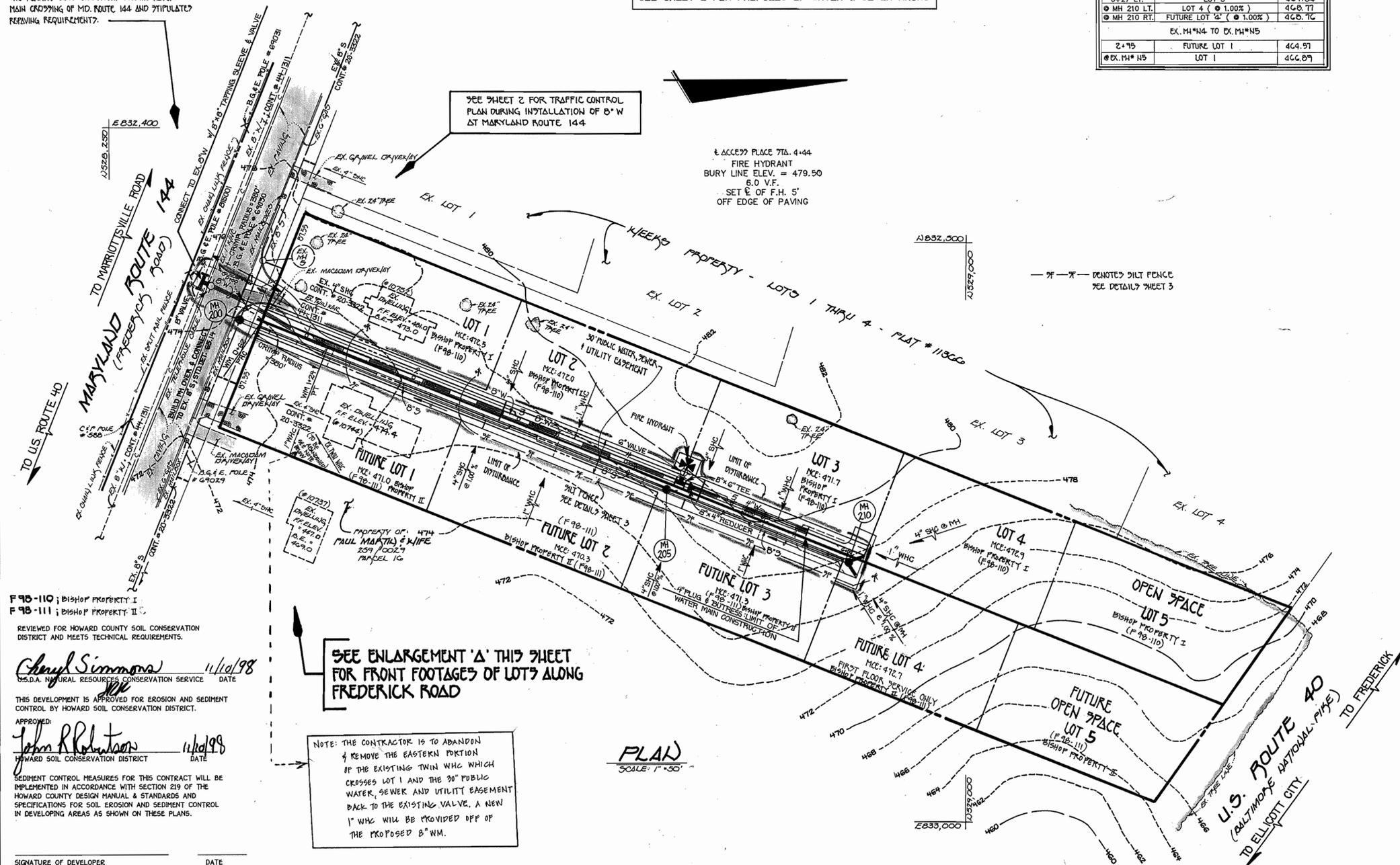
* AN EX. TWIN HOUSE CONNECTION WAS PREVIOUSLY INSTALLED UNDER CONT. # 44-1511 FOR LOT # 1 & FUTURE LOT 1
** EX. WHCS WERE PREVIOUSLY INSTALLED UNDER CONT. # 20-3522 FOR LOT # 1 & FUTURE LOT 1

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.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
- ALL PIPE ELEVATIONS ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6'. CLEAR ALL POLES BY 2'-0" MINIMUM.
- 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 (1991 AMENDMENTS) 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 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 VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION. ANY DAMAGE TO EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - STATE HIGHWAY ADMINISTRATION - 531-5533
 - BALTIMORE GAS & ELECTRIC CO. - CONTRACTOR SERVICES - 850-4620
 - BALTIMORE GAS & ELECTRIC CO. - UNDER GROUND DAMAGE CONTROL - 787-9066
 - MISS UTILITY - 1-800-257-7777
 - COLONIAL PIPELINE CO. - 795-1390
 - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 313-4900
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO 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 CONSTRUCTION OF THE 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.
- T.B. DENOTES TEST BORING.
- MANHOLES SHOWN WITH 12" AND 18" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G. 552.
- WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS. ALL SINGLE WATER HOUSE CONNECTIONS SHALL BE 1" MIN. IN SIZE UNLESS OTHERWISE NOTED.
- MANHOLES LOCATED WITHIN THE PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLE FRAMES AND COVERS, STANDARD DETAIL G. 551.
- WATER MAINS AND WATER HOUSE CONNECTION LINES MUST BE PLACED AS TO HAVE ONE (1) FOOT SEPARATION FROM THE SEWER MAIN OR SEWER HOUSE CONNECTION AS THEY PASS ABOUT IT.
- ALL WATER MAINS SHALL BE D.I.P., CLASS 92 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 ELEVATION SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE RESTRAINED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS (WHI and WH3). 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 D.I.P. FITTINGS SHALL BE IN ACCORDANCE WITH AWWA SPECIFICATIONS C-153; DUCTILE IRON COMPACT FITTINGS, 3-INCH THROUGH 12-INCH FOR WATER AND OTHER LIQUIDS.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, (410) 313-2450 AT LEAST FIVE 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 THE HOWARD COUNTY CODE.

PLAN REFERENCE NUMBERS:
F 98-110; BISHOP PROPERTY I
F 98-111; BISHOP PROPERTY II

CONTRACT NO. 24-3709-D
BISHOP PROPERTY I & II
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND



F 98-110; Bishop Property I
F 98-111; Bishop Property II

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

Cheryl Simmons 11/10/98
S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

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

APPROVED:
John R. Roberts 11/10/98
HOWARD SOIL CONSERVATION DISTRICT DATE

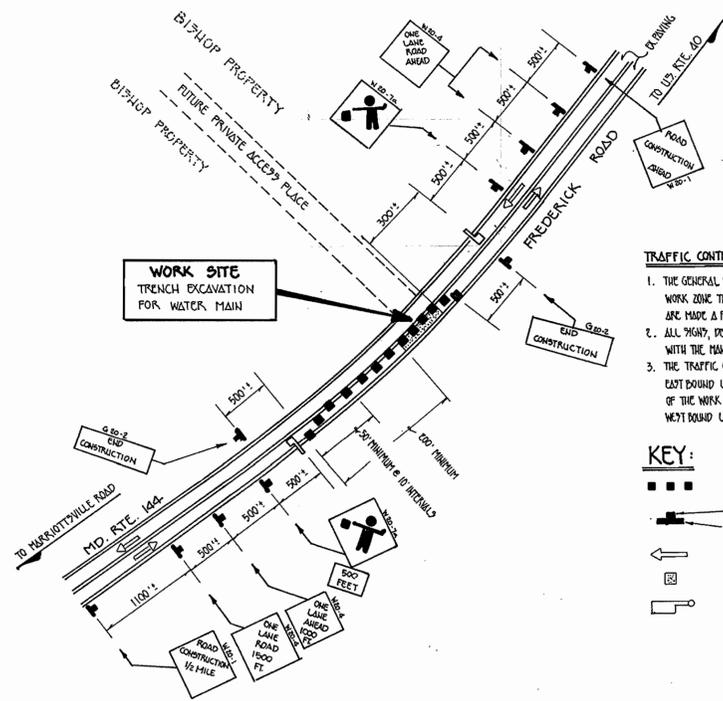
SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL & STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AS SHOWN ON THESE PLANS.

SIGNATURE OF DEVELOPER DATE

SEE ENLARGEMENT 'A' THIS SHEET FOR FRONT FOOTAGES OF LOTS ALONG FREDERICK ROAD

NOTE: THE CONTRACTOR IS TO ABANDON & REMOVE THE EASTERN PORTION OF THE EXISTING TWIN WHC WHICH CROSSES LOT 1 AND THE 30" PUBLIC WATER, SEWER AND UTILITY EASEMENT BACK TO THE EXISTING VALVE. A NEW 1" WHC WILL BE PROVIDED OFF OF THE PROPOSED 8" WM.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>Michael A. Swannick</i> 11/10/98 CHIEF, BUREAU OF UTILITIES DATE	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND <i>John R. Roberts</i> 11/10/98 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE	Fisher, Collins & Carter, Inc. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTENNIAL SQUARE OFFICE PARK 10272 Baltimore National Pike Ellicott City, Maryland 21042 (410) 481-2855	DESIGNED BY: P.W.K. DRAWN BY: L.M. CHECKED BY: P.W.K. DATE: OCTOBER 6, 1998 BY NO. REVISION DATE	WATER & SEWER MAINS PLAN 600' SCALE MAP NO. 18 BLOCK NO. 23 F.C.C. WORK ORDER NO. 30571 FILE NAME: BISHOP PROPERTY	BISHOP PROPERTY BISHOP PROPERTY I; LOTS 1-5 BISHOP PROPERTY II; LOTS 1-5 CONTRACT NO. 24-3709-D SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE AS SHOWN SHEET 1 OF 3
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TRAFFIC CONTROL PLAN
NO SCALE

TRAFFIC CONTROL PLAN NOTES

1. THE GENERAL NOTES INCLUDED WITHIN THE P.H.A. WORK ZONE TRAFFIC CONTROL (WZTC) STANDARDS ARE MADE A PART OF THIS TRAFFIC CONTROL PLAN.
2. ALL SIGNS, DEVICES, ETC. SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. THE TRAFFIC CONTROL PLAN SHOWN IS FOR CLOSURE OF THE EAST BOUND LANE. THE SIGNS AND DEVICES NORTH & SOUTH OF THE WORK SITE SHALL BE REVERSED FOR CLOSURE OF THE WEST BOUND LANE.

KEY:

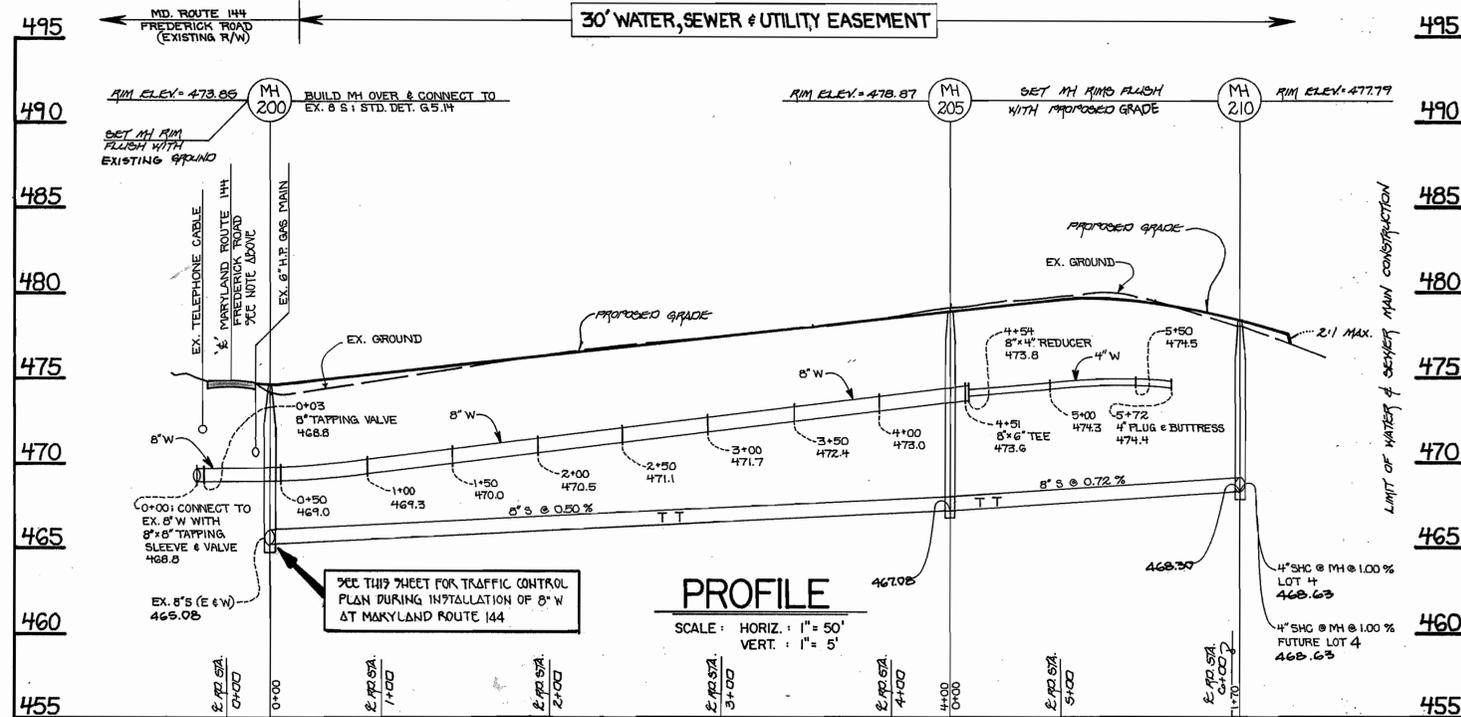
- CHANNELIZING DEVICES
- SIGN SUPPORT
- FACE OF SIGN
- DIRECTION OF TRAFFIC
- WORK SITE
- FLAGGER

NOTE:
POIL FROM TRENCHING IS TO BE PLACED ON THE UPHILL SIDE OF THE OPERATION?

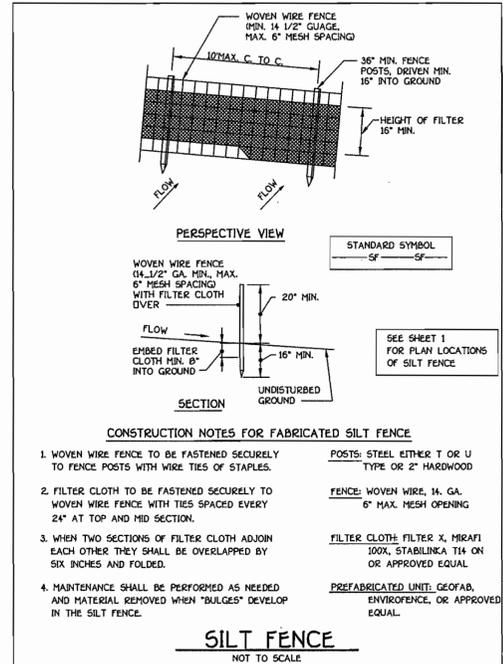
SEE SHEET 3 FOR SEQUENCE OF CONSTRUCTION

THE CONTRACTOR SHALL REFERENCE SECTION 510 OF THE SPECIAL PROVISIONS WHICH INCORPORATES MD. STATE HIGHWAY ADMINISTRATION UTILITY PERMIT NO. 7-10-0001 INTO THE CONTRACT SPECIFICATIONS. THE PERMIT LISTS CONDITIONS FOR THE WATER MAIN CROSSING OF MD ROUTE 144 AND TYPICALS RE: PAVING REQUIREMENTS.

SEE SHEET 1 FOR PLAN OF WATER & SEWER MAINS



PROFILE: 8" SEWER MAIN & 8/4" WATER MAINS



- CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OF STAPLES.
 2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
 3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
 4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
- POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD
FENCE: WOVEN WIRE, 14 GA. 6" MAX. MESH OPENING
FILTER CLOTH: FILTER X, MRAFI 100X, STABILINKA T14 ON OR APPROVED EQUAL
PREFABRICATED UNIT: GEOPAB, ENVIROFENCE, OR APPROVED EQUAL

SILT FENCE
NOT TO SCALE

CONTRACT NO. 24-3700-0
BISHOP PROPERTY 5-4
BISHOP PROPERTY 11
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Michael A. Stinson CHIEF, BUREAU OF UTILITIES 11/3/98	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND [Signature] CHIEF, DEVELOPMENT ENGINEERING DIVISION 11/16/98	FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FREE ELLICOTT CITY, MARYLAND 21114 410-461-3333	STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER TERRELL A. FISHER 9757	DESIGNED BY: P.W.K. DRAWN BY: L.M. CHECKED BY: P.W.K. DATE: OCT 06, 1998	WATER & SEWER MAINS PROFILES NOTES AND DETAILS 600' SCALE MAP NO. 35 BLOCK NO. 23 F.C.C. WORK ORDER NO. 30579 FILE NAME: G/30579/	BISHOP PROPERTY BISHOP PROPERTY I, LOTS 1-5 BISHOP PROPERTY II, LOTS 1-5 CONTRACT NO. 24-3700-0 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE AS SHOWN SHEET 2 OF 3
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**SECTION 20 :
STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION**

Using vegetation as cover for barren soil to protect it from erosion. DEFINITION: The process of stabilizing soil by the use of vegetation. PURPOSE: To stabilize soil by the use of vegetation. 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 CREEKS, AND IMPROVING WATERSHED HABITAT AND WATERSHED 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 vegetation 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 dikes, etc. and for Permanent Seeding are lawns, dunes, cut and fill slopes and 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, 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 stabilizing those substances present within the root zone. Sediment control devices must remain in place during grading, seeded preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

- A. Site Preparation**
- Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
 - Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
 - Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.
- B. Soil Amendments (Fertilizer and Lime Specifications)**
- Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer 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.
 - Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approved authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warranty of the producer.
 - 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 98-100% will pass through a #20 mesh sieve.
 - Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

- C. Seeded Preparation**
- Temporary Seeding**
 - Seeded preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agriculture or construction equipment such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:1) should be trodded leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
 - Permanent Seeding**
 - Minimum soil conditions required for permanent vegetative establishment:
 - Soil pH shall be between 6.0 and 7.0.
 - Soluble salts shall be less than 500 parts per million (ppm).
 - The soil shall contain less than 40% clay, but enough fine grained material to provide the capacity to hold a moderate amount of moisture. An exception is if legumes or species lespedezae is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
 - Soil shall contain 1.5% minimum organic matter by weight.
 - Soil must contain sufficient pore space to permit adequate root penetration.
 - If these conditions cannot be met by site soil, adding topsoil is required.
 - In accordance with Section 21 Standard and Specification for Topsoil.
 - Areas previously graded to 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 to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
 - Apply soil amendments as per soil test, or as included on the plans.
 - Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Low areas should be rolled to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Where site conditions will not permit normal seeded preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be trodded 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. Seeded loosening may not be necessary on newly disturbed areas.

- D. Seed Specifications**
- 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 the job.
 - Seeds tags shall be made available to the Inspector to verify type and rate of seed used.
 - Inoculant - The inoculant for treating legume seeds in the seed mixture 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 inoculant as directed on packaging. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until use. Temperatures above 75-80° F. can weaken bacteria and make the inoculant less effective.

- E. Methods of Seeding**
- Hydroseeding:** Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeder, or a cutspreader seeder.
 - 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/acre; K2O (potassium); 200 lbs/acre.
 - 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.
 - Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
 - Drop Seeding:** This includes use of conventional drop or broadcast spreaders.
 - Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 266. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
 - Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
 - Drill or Cutspreader Seeding:** Mechanized seeders that apply and cover seed with soil.
 - Cutspreader seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeded must be firm after planting.
 - Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

- F. Mulch Specifications (in order of preference)**
- Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
 - Wood Cellulose Fiber Mulch (WCFM)**
 - WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - 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 uniform spread slurry.
 - WCFM, including dye, shall contain no germination or growth inhibiting factors.
 - WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a bicellar-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.
 - WCFM material shall contain no elements or compounds at concentration levels that will be phytotoxic.
 - 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 1.0% maximum and water holding capacity of 80% minimum.

- G. Mulching Seeded Area** - Mulch shall be applied to all seeded areas immediately after seeding.
- If grading is completed outside of the seeding season, mulch 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.
 - 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.
 - 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.
 - Securing Straw Mulch (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:
 - A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. In this practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping areas, this practice should be used on the contour if possible.
 - 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.
 - 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 DLR (Agra-Tack), DCA-70 Petrosol, Terra Tack II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
 - 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.

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 (313-1855).
- 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 RE-COMPLETED, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: (a) 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAP/DRAINAGE SHOWS MUST BE INSTALLED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER 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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), 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.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMSSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:**

TOTAL AREA OF SITE	4.153 ACRES
AREA DISTURBED	0.415 ACRES
AREA TO BE ROOFED OR PAVED	0.122 ACRES
AREA TO BE VEGETATIVELY STABILIZED	3.717 ACRES
TOTAL FILL	10,210 CU.YDS.
TOTAL FILL	10,210 CU.YDS.
- 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 CONTROLS MUST BE PROVIDED, IF DEEMED 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 INSTALLATION OF ALL SEDIMENT CONTROL DEVICES AND 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.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

PERMANENT SEEDING NOTES

- ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:
- SEEDING PREPARATION:**
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.
- SOIL AMENDMENTS:**
APPLY TWO TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1,000 SQ.FT.) AND 600 LBS. PER ACRE 0-20-20 FERTILIZER (14 LBS./1,000 SQ.FT.) BEFORE SEEDING HARROW OR DISC INTO UPPER THREE INCHES OF SOIL AT TIME OF SEEDING. APPLY 400 LBS. PER ACRE 38-0-0 UREAFORM FERTILIZER (9 LBS./1,000 SQ.FT.) AND 500 LBS. PER ACRE (11.5 LBS./1,000 SQ.FT.) OF 20-20 FERTILIZER.
- SEEDING:**
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 100 LBS. PER ACRE (2.3 LBS./1,000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE, FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 60 LBS./ACRE (1.4 LBS./1,000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL SLOPES SHOULD BE HYDROSEED.
- MULCHING:**
APPLY 1 TO 2 TONS PER ACRE (10 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 200 GALLONS PER ACRE (5 GAL./1,000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FEET OR HIGHER USE 348 GALLONS PER ACRE (8 GAL./1,000 SQ.FT.) FOR ANCHORING.
- MAINTENANCE:**
INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

- APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.
- SEEDING PREPARATION:**
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.
- SOIL AMENDMENTS:**
APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1,000 SQ.FT.)
- SEEDING:**
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 1.5 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS./ACRE OF WEEPING LOVEGRASS (07 LBS./1,000 SQ.FT.) FOR THE PERIOD NOVEMBER 18 THRU FEBRUARY 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 SOD.
- MULCHING:**
APPLY 1.5 TO 2 TONS PER ACRE (70 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL./1,000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1,000 SQ.FT.) FOR ANCHORING.
- REFER TO THE 1988 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

**SECTION 21 :
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.
- SPECIFICATIONS: A. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. B. TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING SUBSOILS. C. TOPSOIL SHALL CONTAIN LESS THAN 5% BY VOLUME OF CONIFERS, GRAVEL STICKS, ROOTS, TRASH, OR OTHER MATERIALS LESS THAN 1.5" IN DIAMETER. D. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". AVOID SURFACE IRRREGULARITIES. E. PLACE TOPSOIL AND APPLY SOIL AMENDMENTS AS SPECIFIED IN STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION. F. TOPSOIL SHALL NOT BE PLACED DURING FROZEN, MUDDY, OR EXCESSIVELY WET CONDITIONS.
- APPLICATION:

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 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.

Michael J. McCann FOR: 8-27-98
SIGNATURE OF DEVELOPER DATE

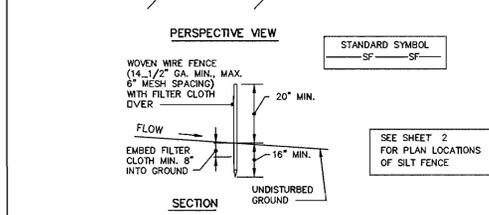
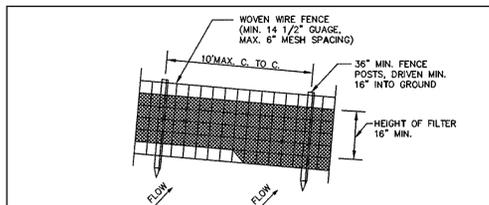
ENGINEER'S CERTIFICATION

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.

Paul W. Koebel 08/27/98
SIGNATURE OF ENGINEER DATE

SEQUENCE OF CONSTRUCTION

- OBTAIN THE REQUIRED GRADING PERMIT
- NOTIFY M&D UTILITY 48 HOURS BEFORE ANY WORK (1-800-257-7777). NOTIFY HOWARD COUNTY CONSTRUCTION/INSPECTION DIVISION 24 HOURS BEFORE STARTING ANY WORK (410-313-1870).
- INSTALL THE REQUIRED EROSION CONTROL DEVICES AS INDICATED ON THE PLANS.
- CLEAR AND GRAD AS NECESSARY; ONLY AS REQUIRED FOR EXCAVATION AND INSTALLATION OF THE WATER AND POWER MAINS, AND ONLY WITHIN THE DESIGNATED WATER, POWER AND UTILITY EASEMENTS. (1 DAY).
- NOTE: THE LENGTH OF OPEN WATER, AND POWER MAIN TRENCH SHALL BE LIMITED TO THREE (3) PIPE LENGTHS OR THAT WHICH WILL BE BACKFILLED AND STABILIZED WITHIN ONE (1) WORKING DAY, WHICHEVER IS SHORTER.
- CONSTRUCT THE WATER AND POWER MAINS AND APPURTENANCES (16 DAYS).
- STABILIZE AND MULCH ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS SHEET (1 DAY).
- FOLLOWING SUCCESSFUL STABILIZATION OF ALL DISTURBED AREAS, AND AFTER PERMITS HAVE BEEN OBTAINED FROM THE HOWARD COUNTY EROSION CONTROL INSPECTOR, REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES (1 DAY)



- CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**
- WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OF STAPLES. POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD
 - FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE: WOVEN WIRE, 14 GA. 6" MAX. MESH OPENING
 - WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T14 ON OR APPROVED EQUAL
 - MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE. PREFABRICATED UNIT: GEOPAF ENVIROFENCE, OR APPROVED EQUAL

SILT FENCE
NOT TO SCALE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

11/3/98 DATE

11/16/98 DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTENAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21042
(410) 451 - 2855

TERRELL A. FISHER

DESIGNED BY:	M.J.M.	DATE:	08/20/98
DRAWN BY:	M.J.M.	BY:	NO.
CHECKED BY:	P.W.K.	REVISION:	
DATE:	08/20/98	DATE:	

NOTES AND DETAILS

600' SCALE MAP NO. 16	BLOCK NO. 23
F.C.C. WORK ORDER NO. 30579	
FILE NAME :	G:\LIBRARY\WATSEW\BLANKS\DETAILS\BISHOP.DWG

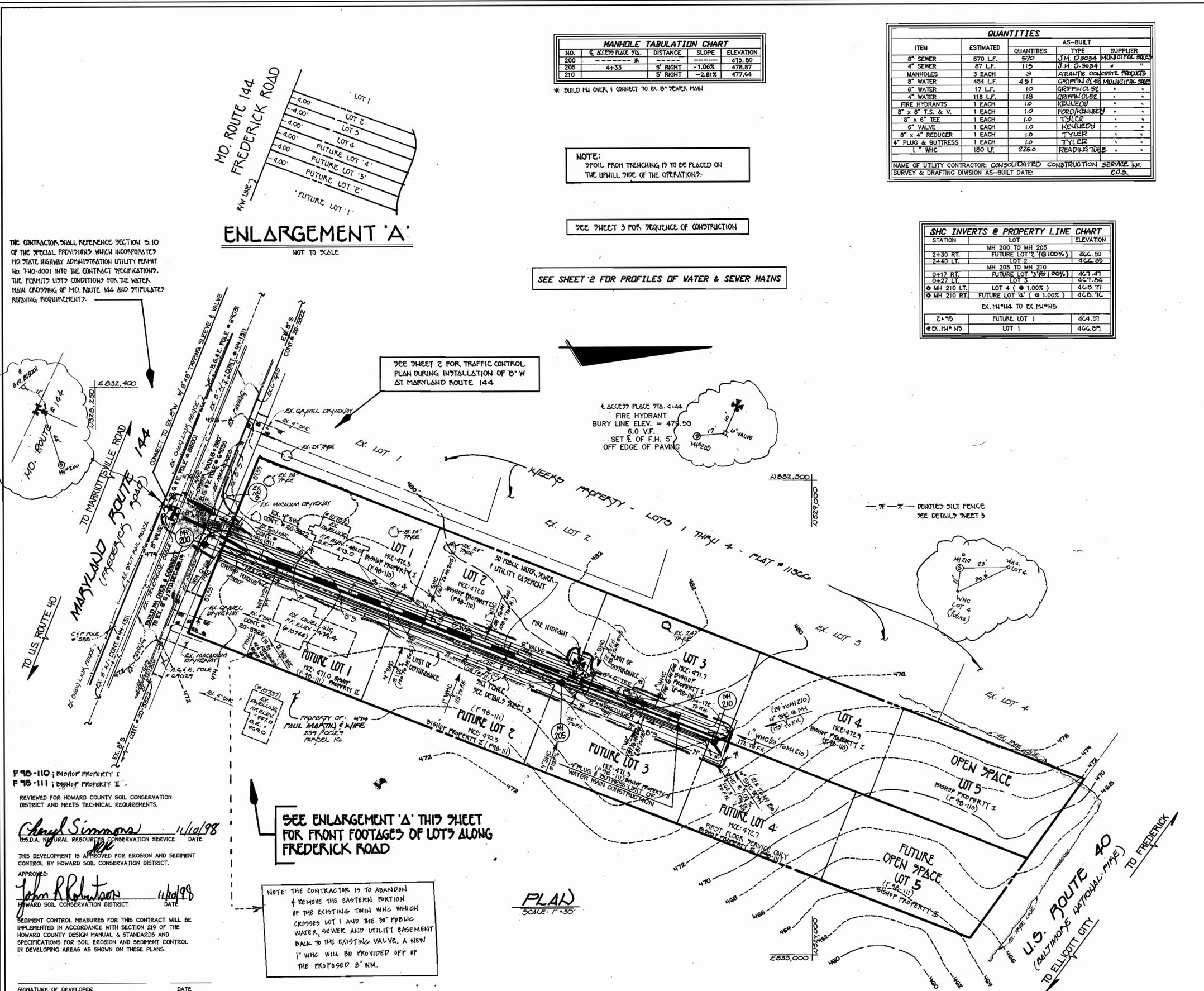
BISHOP PROPERTY
BISHOP PROPERTY I; LOTS 1-5
BISHOP PROPERTY II; LOTS 1-5

CONTRACT NO. 24-3709-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

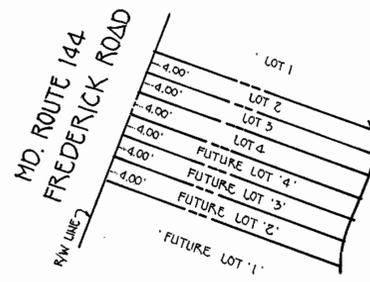
SHEET 3 OF 3

CONTRACT NO. 24-3709-D
BISHOP PROPERTY I & II
BISHOP PROPERTY I & II
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND



THE CONTRACTOR SHALL REFERENCE SECTION 5.10 OF THE SPECIAL PROVISIONS WHICH INCORPORATES MD. STATE HIGHWAY ADMINISTRATION UTILITY PERMIT NO. 7-10-4001 INTO THE CONTRACT SPECIFICATIONS. THE PERMIT LISTS CONDITIONS FOR THE WATER MAIN CROSSING OF MD. ROUTE 144 AND STIPULATED RECEIVING REQUIREMENTS.

ENLARGEMENT 'A'
NOT TO SCALE



MANHOLE TABULATION CHART

NO.	SIZE	DISTANCE	SLOPE	ELEVATION
200	48\"/>			

NOTE: * POIL FROM TRENCHING IS TO BE PLACED ON THE UPHILL SIDE OF THE OPERATION.

SEE SHEET 3 FOR SEQUENCE OF CONSTRUCTION

SEE SHEET 2 FOR PROFILES OF WATER & SEWER MAINS

SEE SHEET 2 FOR TRAFFIC CONTROL PLAN DURING INSTALLATION OF 8\"/>

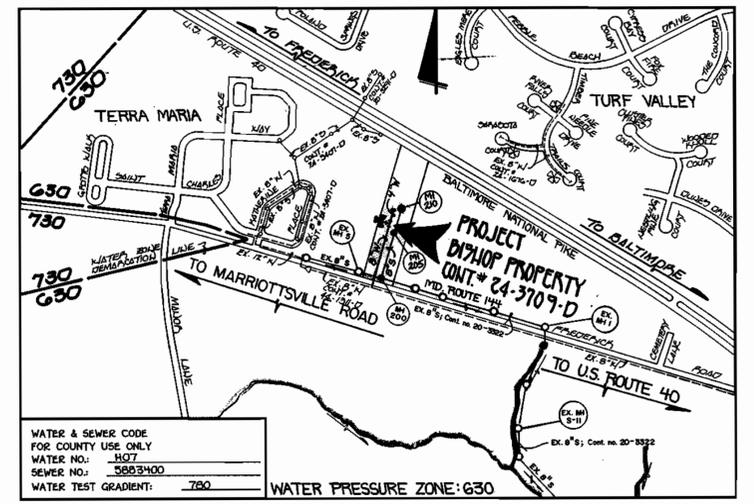
* ACCESS PLACE 716.444
FIRE HYDRANT
BURY LINE ELEV. = 479.50
8.0 V.F.
SET E. OF F.H. 5'
OFF EDGE OF PAVING

QUANTITIES

ITEM	ESTIMATED	QUANTITIES	AS-BUILT	SUPPLIER
8\"/>				

SHC INVERTS @ PROPERTY LINE CHART

STATION	LOT	ELEVATION
2+30 RT.	FUTURE LOT 2 @ 100%	466.50
2+40 LT.	LOT 2	466.05
0+17 RT.	FUTURE LOT 3 @ 100%	467.47
0+27 LT.	LOT 3	467.84
0+210 LT.	LOT 4 @ 1.00%	468.71
0+210 RT.	FUTURE LOT 4 @ 1.00%	468.76
2+45	FUTURE LOT 1	464.57
0+214	LOT 1	466.07



VICINITY MAP
SCALE: 1\"/>

TYPE OF BUILDING:	RESIDENTIAL: SINGLE FAMILY
NUMBER OF LOTS:	10 (8 BUILT, 2 FUTURE)
NO. OF WATER HOUSE CONNECTIONS:	7
NO. OF SEWER HOUSE CONNECTIONS:	6
DRAINAGE AREA:	LITTLE PASTURE
TREATMENT PLANT:	PROCESSED WWTPL (CITY OF BALTIMORE) VIA ROUTE 108 PUMPING STATION
NUMBER OF SHCS FOR FUTURE LOTS:	3
NUMBER OF SHCS FOR EXISTING LOTS:	4

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.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
- ALL PIPE ELEVATIONS ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6\"/>

F 70-110; Bishop Property I
F 70-111; Bishop Property II

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

Cheryl Simmons 11/10/98
S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

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

APPROVED:
John R. Robertson 11/10/98
HOWARD COUNTY SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL & STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AS SHOWN ON THESE PLANS.

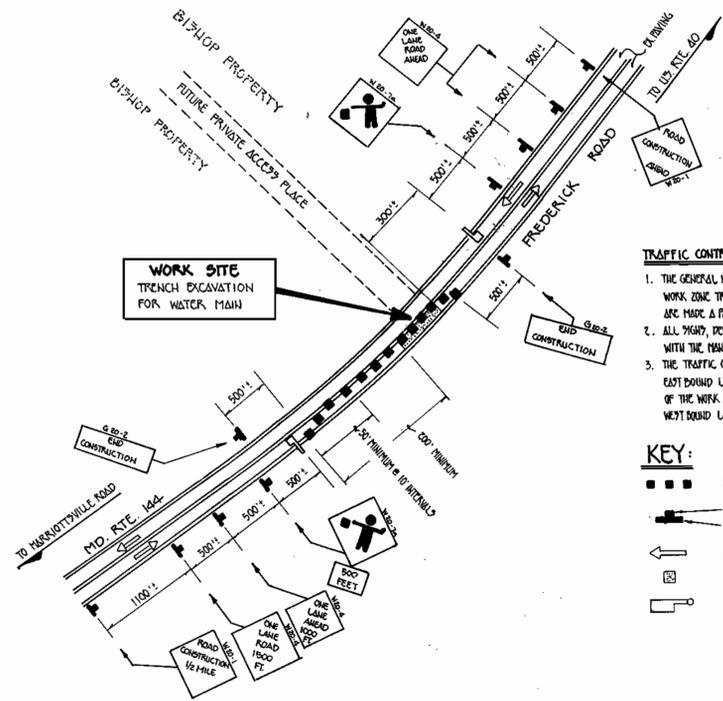
SIGNATURE OF DEVELOPER DATE

SEE ENLARGEMENT 'A' THIS SHEET FOR FRONT FOOTAGES OF LOTS 3 ALONG FREDERICK ROAD

NOTE: THE CONTRACTOR IS TO ABANDON & REMOVE THE EASTERN PORTION OF THE EXISTING TWIN WHC WHICH CROSSES LOT 1 AND THE 30\"/>

PLAN
SCALE: 1\"/>

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>Michael A. Swinnelle</i> 11/2/98 CHIEF, BUREAU OF UTILITIES DATE</p>	<p>DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND</p> <p><i>John R. Robertson</i> 11/10/98 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE</p>	<p>Fisher, Collins & Carter, Inc. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTENNIAL SQUARE OFFICE PARK 10272 Baltimore National Pike Ellicott City, Maryland 21042 (410) 481-2885</p>	<p>DESIGNED BY: P.W.K. DRAWN BY: L.M. CHECKED BY: P.W.K. DATE: OCTOBER, 1998 BY NO. REVISION DATE</p>	<p>AS-BUILT CONDITIONS ADDED TO PLAN 6/99</p>	<p>WATER & SEWER MAINS PLAN 600' SCALE MAP NO. 15 BLOCK NO. 25 F.C.C. WORK ORDER NO. 305721 FILE NAME: BISHOP PROPERTY</p>	<p>BISHOP PROPERTY BISHOP PROPERTY I; LOTS 1-5 BISHOP PROPERTY II; LOTS 1-5 CONTRACT NO. 24-3709-D SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND</p>	<p>SCALE AS SHOWN SHEET 1 OF 3</p>
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TRAFFIC CONTROL PLAN
NO SCALE

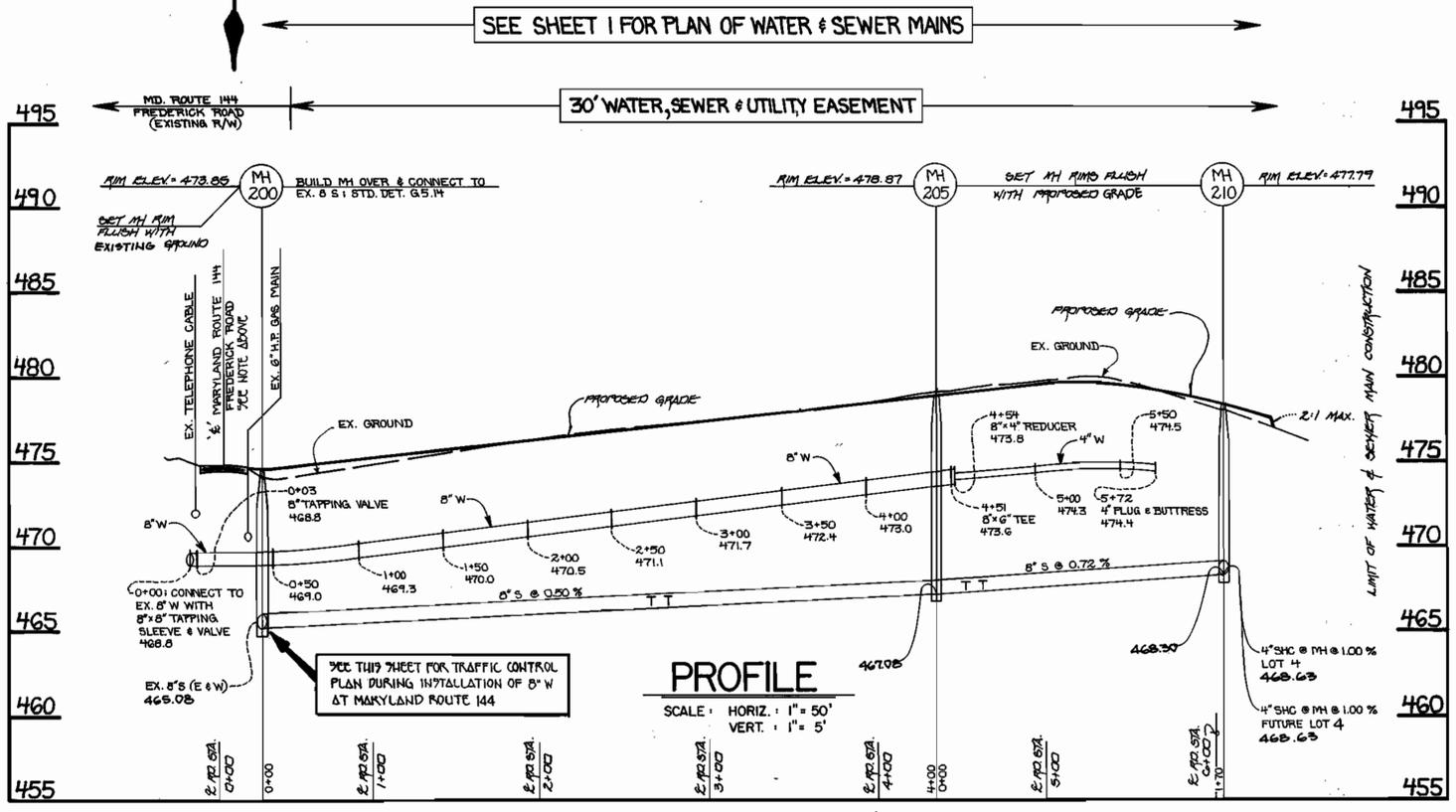
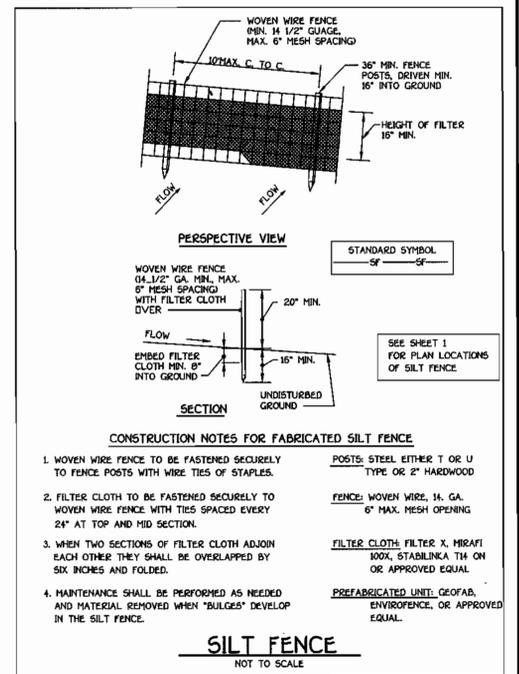
- TRAFFIC CONTROL PLAN NOTES**
1. THE GENERAL NOTES INCLUDED WITHIN THE P.H.A. WORK ZONE TRAFFIC CONTROL (WZTC) DRAWINGS ARE MADE A PART OF THIS TRAFFIC CONTROL PLAN.
 2. ALL SIGNS, DEVICES, ETC. SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
 3. THE TRAFFIC CONTROL PLAN SHALL BE FOR CLOSURE OF THE EAST BOUND LANE. THE SIGNS AND DEVICES NORTH & SOUTH OF THE WORK SITE SHALL BE REVERSED FOR CLOSURE OF THE WEST BOUND LANE.

- KEY:**
- GRANULATING DEVICES
 - ▲ SIGN SUPPORT
 - ← DIRECTION OF TRAFFIC
 - WORK SITE
 - FLAGGER

NOTE:
POIL FROM TRENCHING IS TO BE PLACED ON THE UPHILL SIDE OF THE OPERATION

SEE SHEET 3 FOR SEQUENCE OF CONSTRUCTION

THE CONTRACTOR SHALL REFERENCE SECTION 5.10 OF THE SPECIAL PROVISIONS WHICH INCORPORATES MD. STATE HIGHWAY ADMINISTRATION UTILITY PERMIT NO. 7-140-4001 INTO THE CONTRACT SPECIFICATIONS. THE PERMIT LISTS CONDITIONS FOR THE WATER MAIN CROSSING OF MD ROUTE 144 AND STIPULATED PAVING REQUIREMENTS.



PROFILE: 8" SEWER MAIN & 8 1/4" WATER MAINS

CONTRACT NO. 24-3709-D
BISHOP PROPERTY I, 4
BISHOP PROPERTY II
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Michael A. Stumillo CHIEF, BUREAU OF UTILITIES 11/3/98	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND [Signature] CHIEF, DEVELOPMENT ENGINEERING DIVISION 11/16/98	FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS 1000 W. 10TH ST. BALTIMORE, MD 21202 410-551-2000 [Seal] YERRELL A. FISHER	DESIGNED BY: P.W.K. DRAWN BY: L.M. CHECKED BY: P.W.K. DATE: 9-10-98 BY NO.	WATER & SEWER MAINS PROFILES NOTES AND DETAILS 600' SCALE MAP NO. 16 BLOCK NO. 23 F.C.C. WORK ORDER NO. 30279 FILE NAME: G/30279/	BISHOP PROPERTY BISHOP PROPERTY I, LOTS 1-5 BISHOP PROPERTY II, LOTS 1-5 CONTRACT NO. 24-3709-D SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE AS SHOWN SHEET 2 OF 3
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