		QUANTIT:	IES	
			AS-BUILT	
ITEM	ESTIMATED	QUANTITIES	TYPE	SUPPLIER
0" SEWER	1,032 LF.			
SEWER (D.LP.)	236 L.F.			
4" SEWER	681 L.F.			
MANHOLES	11 EACH			
O" WATER	701 L.F.			
6" WATER	58 L.F.			
IRE HYDRANTS	2 EACH			
-1/2" WATER	152 L.F.			
1" WATER	352 L.F.			
0" x 0" TEE	I EACH			
8" x 6" Tee	2 EACH			
6" VALVE	2 EACH			
6" VALVE	2 EACH			
0"-1/0 H.B.	2 EACH			
6" PLUG & BUTTRESS	2 EACH			
				<u> </u>

#### 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 A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE 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."

MT MCCampor German Prop. Partnership 3.8.49
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."

Tendl G. Juke

3/8/99

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

US.D.A. NATURAL RESOURCES CONSURVATION SERVICE DATE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT

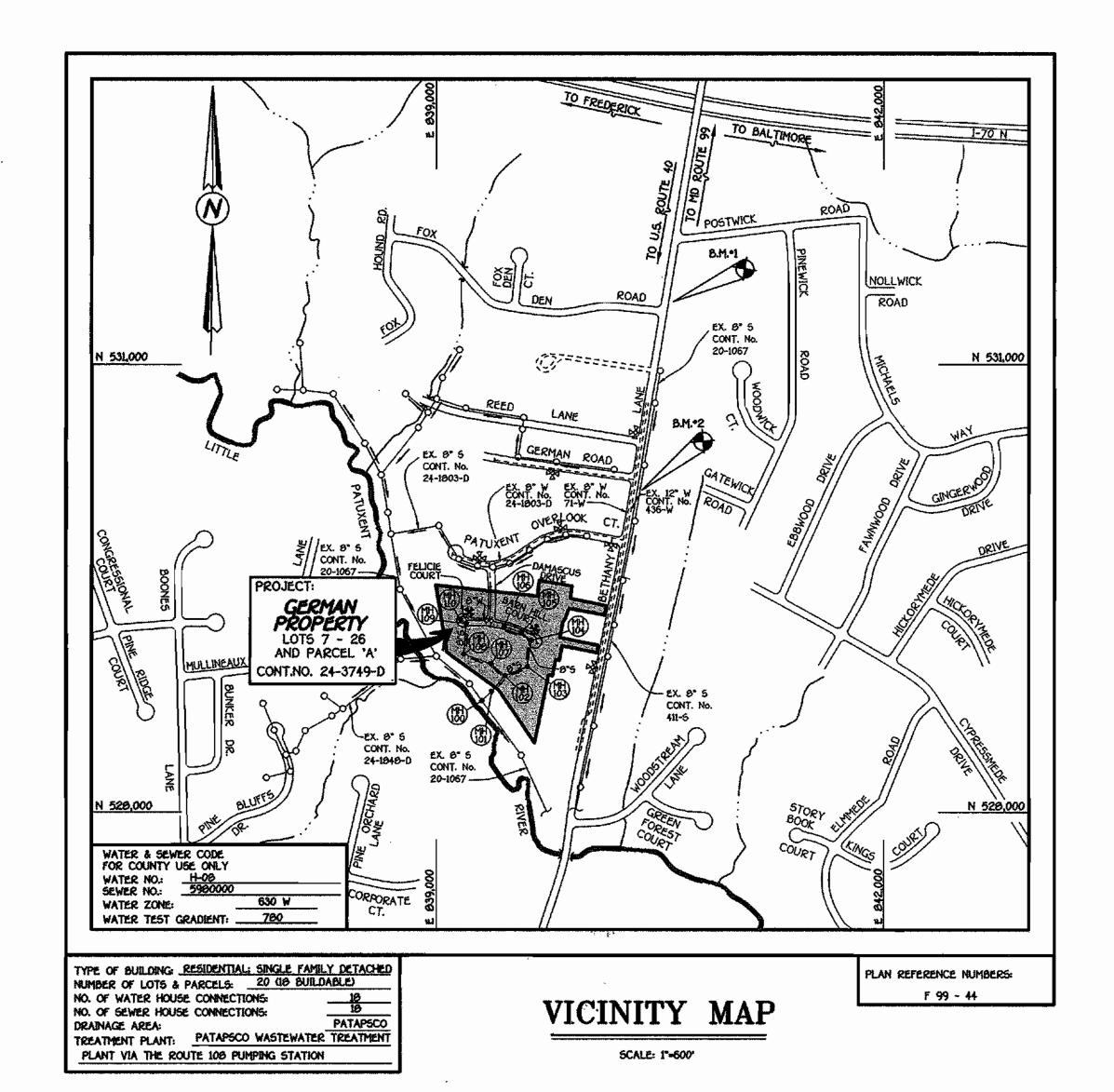
THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.

OWARD SOIL CONSERVATION DISTRICT DATE

FORMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE

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 AND UNDER F -99-44

MY MCCaum FOR GERMAN PROP. PARTNERSHIP 3.8.99
SIGNATURE OF DEVELOPER DATE



### GENERAL NOTES

- 1. 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.
- 2. ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
- 3. ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
- 4. ALL PIPE ELEVATIONS ARE INVERT ELEVATIONS.
- 5. CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2"-0" MINIMUM.
- 6. 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.
- 7. 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.
- 8. 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 - 787-9068

MISS UTILITY - 1-800-257-7777

COLONIAL: PIPELINE CO. - 795-1390

BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 313-4900

- 9. 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

  O. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR GLICL REMOVAL GUALD.
- 10. 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.
- II. 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 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- 15. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G 5.52.
- 16. 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.

  17. HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.
- 18. ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON THE PLANS OR IN
- 19. MANHOLES LOCATED WITHIN THE PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLE FRAMES AND COVERS,
- STANDARD DETAIL G5.5L

  20. WATER MAINS AND WATER HOUSE CONNECTION LINES MUST BE PLACED AS TO HAVE ONE (I) FOOT SEPARATION FROM THE SEWER
- MAIN OR SEWER HOUSE CONNECTION AS THEY PASS ABOUT IT.
- 21. ALL WATER MAINS SHALL BE D.LP., CLASS 52 UNLESS OTHERWISE NOTED.

  22. TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3-1/2' COVER UNLESS OTHERWISE NOTED.
- 23. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- 24. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- 25. 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 (WILL AND WZLS). SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
- 26. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
  27. 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.
- 28. 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(2) OF THE HOWARD COUNTY CODE.

BENCHMARK INFORMATION

LOT OF BETHANY LANE METHODIST CHURCH B.M. •2 - HOWARD COUNTY MONUMENT NO. 3341001

B.M.\*1 - HOWARD COUNTY MONUMENT NO. 3341002 ELEV.- 440.42; DESCRIPTION: CONC. MONUMENT • SURFACE APPROX. 9' EAST OF EDGE OF RD. IN GRASS ISLAND IN PARKING

ELEV.= 421.74: DESCRIPTION CONC. MONUMENT 1.3' BELOW

SURFACE 0.3' EAST OF EDGE OF RD. APPROX. 120' SOUTH OF & DRIVEWAY TO BETHANY LANE BAPTIST CHURCH

CONTRACT No. 24-3749-D

# GERMAN PROPERTY

LOT NOS. 7 THRU 26 & PARCEL 'A' WATER AND SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND

CONTRACT NO. 24-3749-D
GERMAN PROPERTY
LOT NOS. 7-26 & PARCEL'A'
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

CHIEF , DEVELOPMENT ENGINEERING DIVISION DATE



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TE	rrell A. Fisher

DESIGNED BY :					
M.D.T.					l
DRAWN BY : J.C.L.					1
CHECKEN BY .					
CHECKED BY :					<b> </b>
DATE :	F.C		ADDRESS COUNTY COMMENTS	2/26/99	_
ANUARY 29, 1999	βY	NO.	REVISION	DATE	

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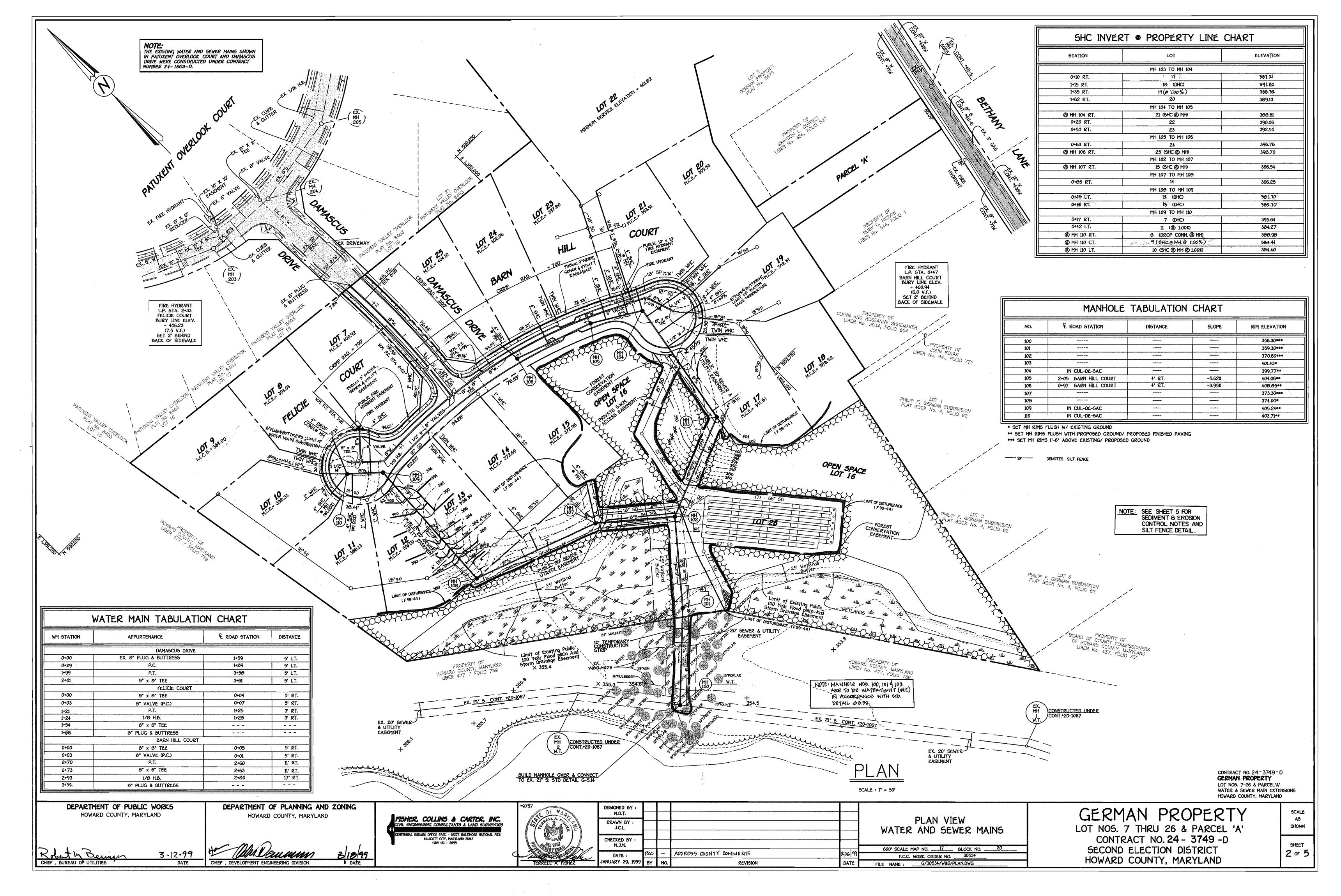
600' SCALE MAP NO. \_\_\_\_17 \_\_\_ BLOCK NO. \_\_\_\_20 \_\_\_\_ F.C.C. WORK ORDER NO. \_\_\_30534\_\_\_\_ FILE NAME : \_\_G/30534/W&S/TITLESHEET.DWG GERMAN PROPERTY LOT NOS. 7 THRU 26 & PARCEL 'A'

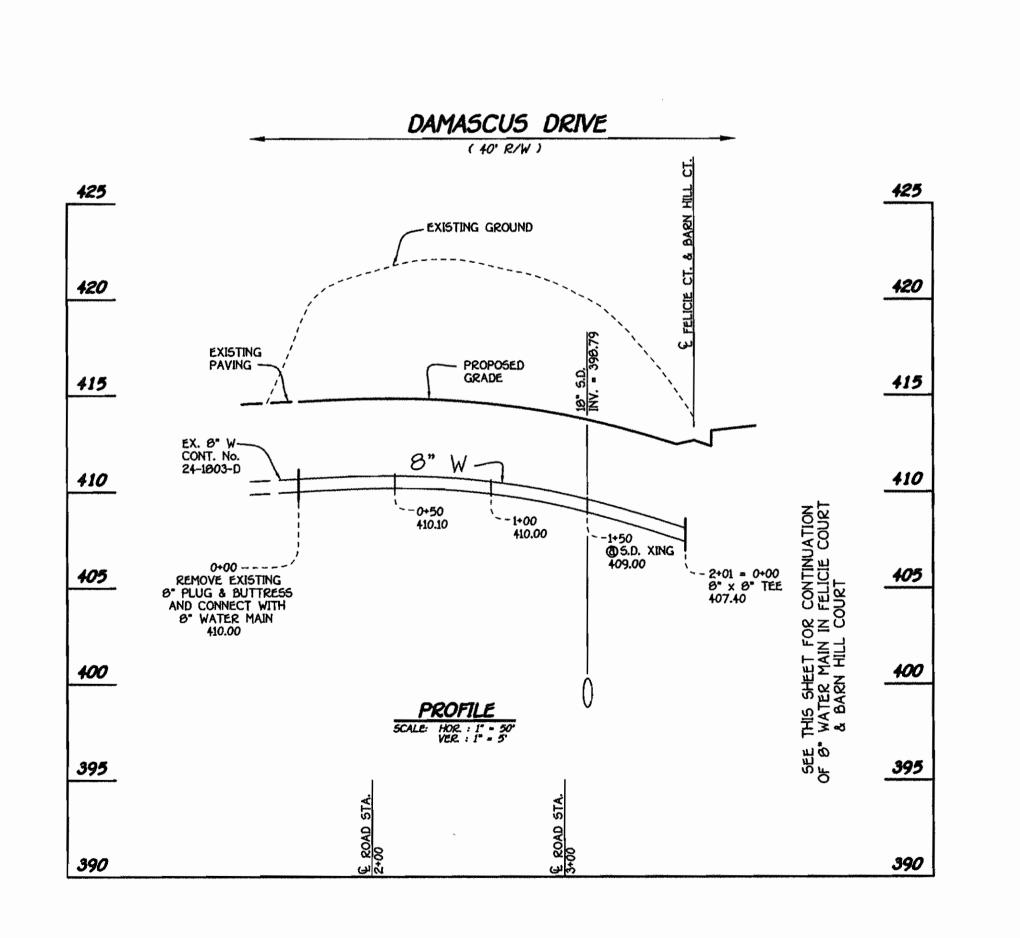
CONTRACT NO. 24-3749-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SHEET 1 of 5

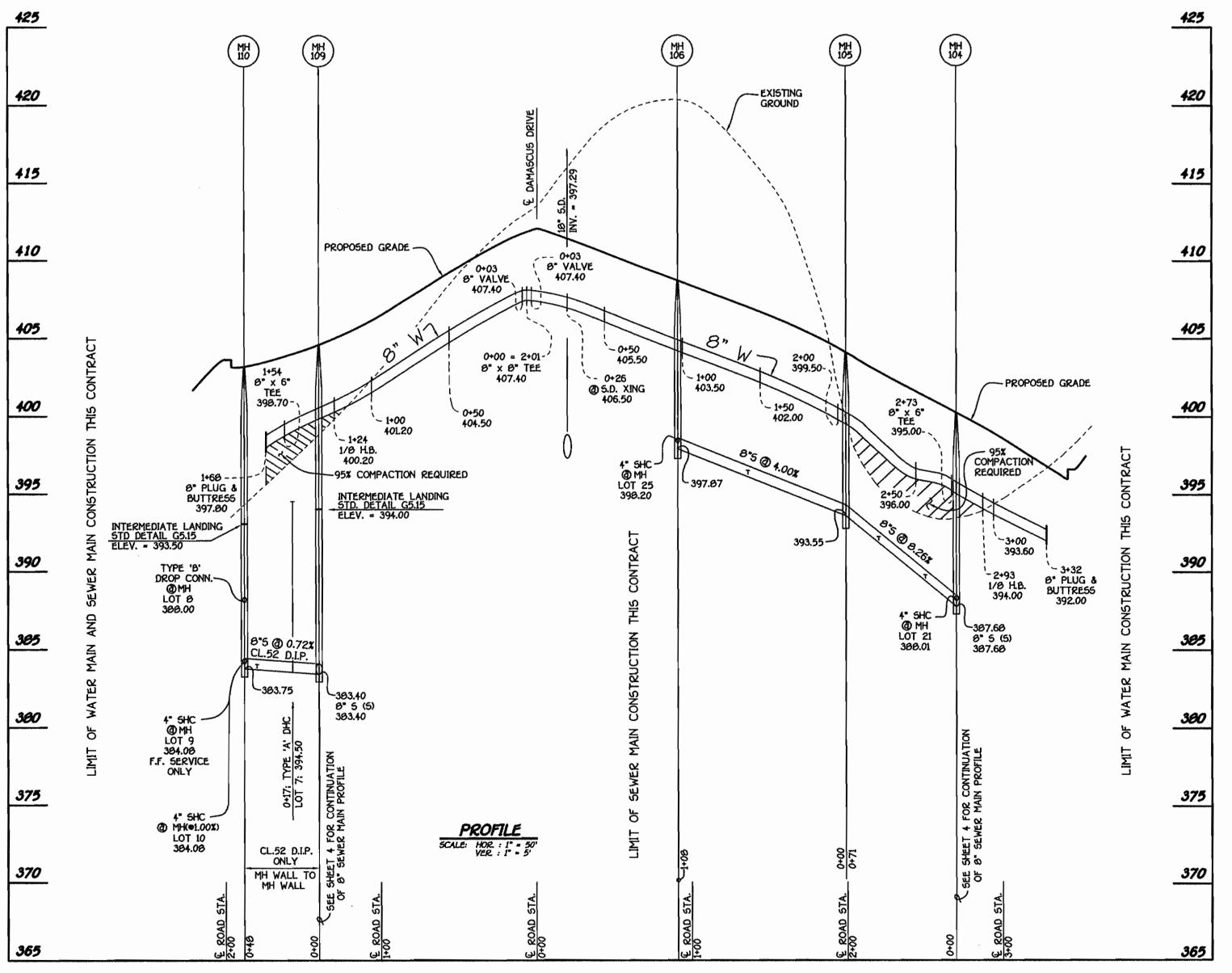
**SCALE** 

SHOWN









CONTRACT NO. 24-3749-D GERMAN PROPERTY LOTS 7 THRU 26 AND PARCEL 'A'
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND

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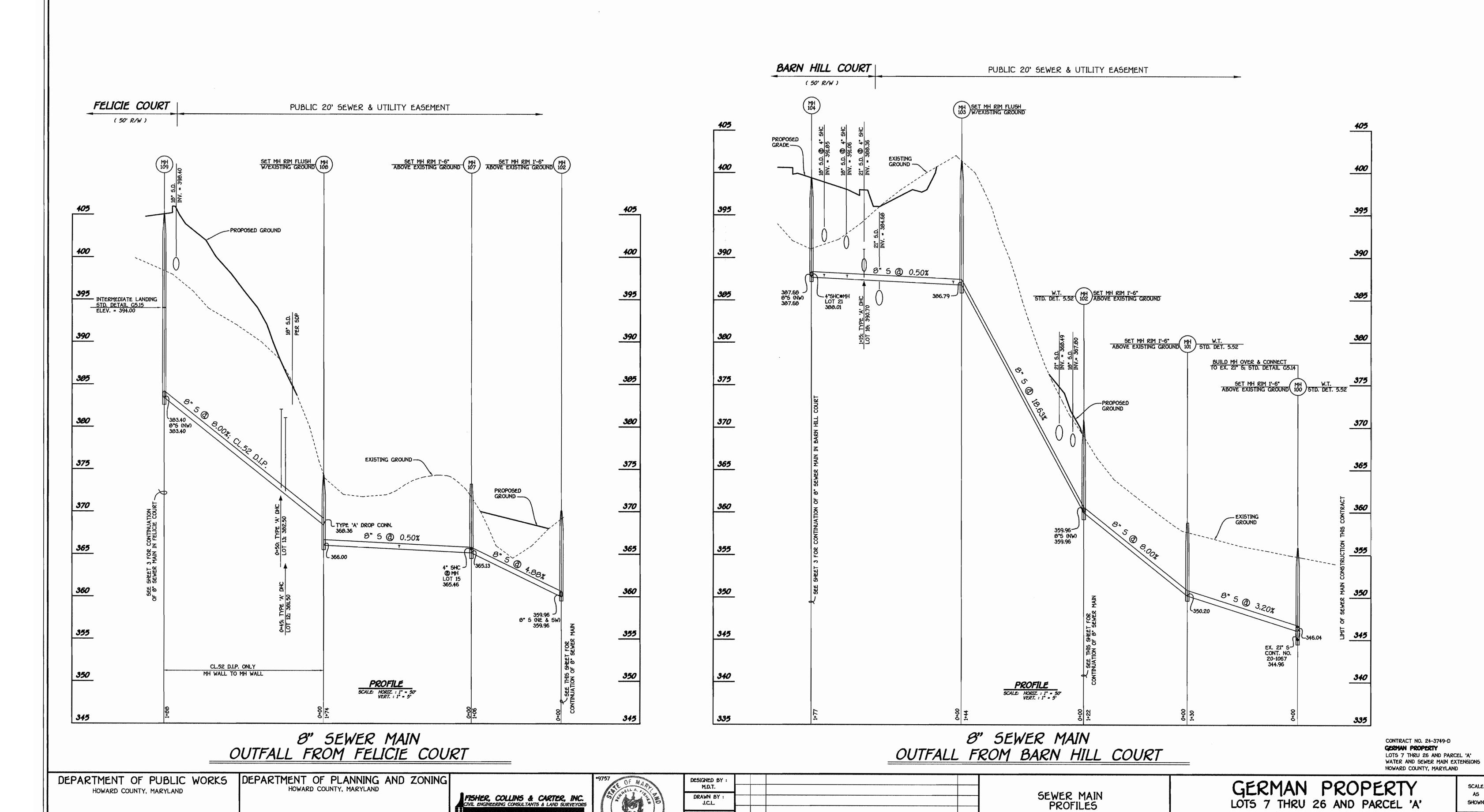
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

	DESIGNED BY : M.D.T.				<u>'</u>		
	DRAWN BY : J.C.L.					WATER AND SEWER MAINS PROFILES	
ار	CHECKED BY : M.J.M.						
	DATE :	F.C.C.		ADDRESS COUNTY COMMENTS	2/26/99	600' SCALE MAP NO17 BLOCK NO20 F.C.C. WORK ORDER NO30534	
	JANUARY 29, 1999	вγ	NO.	REVISION	DATE	FILE NAME : 30534WATSEWPROFILES.DWG	_

GERMAN PROPERTY LOTS 7 THRU 26 AND PARCEL 'A' CONTRACT NO. 24-3749-D SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHOWN SHEET 3 OF 5

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CHECKED BY :

DATE: F.C.C. - - -JANUARY 29, 1999 BY NO.

.C.C. - - ADDRESS COUNTY COMMENTS

REVISION

CHIEF , DEVELOPMENT ENGINEERING DIVISION

3-12-99 DATE 3 18 59 DATE CONTRACT NO. 24-3749-D

4 OF 5

SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

600' SCALE MAP NO. \_\_17 BLOCK NO. \_

FILE NAME : \_G/30534/WATSEW/PROFILES2.DWG

F.C.C. WORK ORDER NO. 30534

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

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 dikes, etc. and 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 within the root zone.

Sediment control devices must remain in place during grading, seedbed 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 of permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
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.
B. Soil Amendments (Fertilizer and Lime Specifications)
ii. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas 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 analyses.
ii. Fertilizers shall be uniform in composition free flowing and suitable for accurate application by

ii. 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 approval 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 warrantee

iii. 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 90-100% will pass through a 20 mesh sieve.
iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
C. Seedbed Preparation

Temporary Seeding
Seedbed 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 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 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
a. Minimum soil conditions required for permanent vegetative establishment:
1. Soil pit shall be between 6.0 and 7.0.
2. Soluble salts shall be less than 500 parts per million (ppm).

Soluble salts shall be less than 500 parts per million (ppm). The soil shall contain less than 40% clay, but enough fine grained material O30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass of serecia lespedezas is to be planted, then a sandy soil (30% si plus clay) would be acceptable.

Soil shall contain 1.5% minimum organic matter by weight.

50ij shall contain 1.5% minimum organic matter by weight.
 5. Soil must contain sufficient pore space to permit adequate root penetration.
 6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
 b. 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 to the surface area and to create horizontal erosion check slots to prevent topsoil solding down a slove.

to the surface area and to create norizontal erosion check stops 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. 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 seedbed 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 tracked 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. Seedbed loosening may not be necessary on newly disturbed areas.

D. 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.

Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.

II. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of introgen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add from involvent as directed on acceptance.

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 hydroseeding. Note: it is very important to keep inoculant as cool as possible until used. Temperatures above 75°-80° f. can weaken bacteria and make the inoculant less effective.

E. Methods of Seeding
i. Hydroseeding: Apply seed uniformly with hydroseeder (skurry includes seed and fertilizer), broadcast or drop seeded, 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 bs. per acre total of soluble nitrogen. P205 (phosphorous); 200 bs/ac; K20 (potassium): 200 bs/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.

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 265 or 266. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.

b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

iii. Orill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.

a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.

b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

Much Specifications (In order of preference)

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, moldy, caked decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.

as specified in the Maryland Seed Law.

ii. Wood Cellulose Fiber Much (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 surry.

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 grutch will remain in uniform suspension in water under acitate.

d. 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 surry.
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 phytol-toxic.

f. WCFM must conform to the following physical requirements: fiber length to
approximately 10 mm., diameter approximately 1 mm., phy range of 4.0 to 8.5, ash
content of 1.63 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.

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. Mu

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 gallions 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:

I. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch.

A much anchoring door size of alea and economication.
 A much anchoring tool is a tractor drawn implement designed to punch and anchor much 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 safety. If used on sloping land, 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.

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 appear uniform after binder application. Synthetic binders – such as Acrylic DLR (Agro-Tack), DCA-70 Petroset, Terra Tall, Terra Tack AR 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.

#### SEDIMENT CONTROL NOTES

DEPARTMENT OF 10 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).

2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS

FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.

3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES,

CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES,
DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS
AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING
SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1,
CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.

5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD
SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS
AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR
PERMANENT SEEDING (SEC. 51), 50D (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

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 AREA DISTURBED

810 ACRES AREA TO BE ROOFED OR PAVED 1.20 ACRES AREA TO BE VEGETATIVELY STABILIZED 6.90 ACRES 10.000 CU.YOS 10.000 CU.YDS. N/A CU.YDS.

14.10 ACRES

- SEE F 99-44

OFFSITE WASTE/BORROW AREA LOCATION 8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

9) ADDITIONAL SEDIMENT 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) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

# PERMANENT SEEDING NOTES

ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:

SEEDBED 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/ 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 10-20-20 FERTILIZER.

FOR THE PERIODS MARCH I 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.) KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE (0.05 LBS./1,000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 28. PROJECT SITE BY: OPTION (1) - TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING: OPTION (2) - USE SOD: OPTION (3) -SEED WITH 100 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL SLOPES SHOULD

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 ACRES. ON SLOPES & FEET OR HIGHER USE 348 GALLONS PER ACRE (8 GAL./1,000 SQ.FT.) FOR ANCHORING

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.

LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY

APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./ 1,000 SQFT.)

FOR THE PERIODS MARCH I THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH L5 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS./ACRE OF WEEPING LOVEGRASS (.07 LBS./ LOOD SOLFT. FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

APPLY 15 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 ACRES ON SLOPES & FEET OR HIGHER, USE 340 GALLONS PER ACRE (8 GAL./1,000 SQ.FT.) FOR

REFER TO THE 1988 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT

# SECTION 21:

STANDARDS AND SPECIFICATIONS FOR TOPSOIL 1) DEFINITION: PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF

PERMANENT VEGETATION.
2) PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. 3) 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 CINDERS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1.5" IN DIAMETER.

4) APPLICATION:

A.TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4"- 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4"; AVOID SURFACE IRREGULARITIES.

B.PLACE TOPSOIL AND APPLY SOIL AMENDMENTS AS SPECIFIED IN "STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION".
C.TOPSOIL SHALL NOT BE PLACED DURING FROZEN, MUDDY, OR EXCESSIVELY WET

#### SEQUENCE OF CONSTRUCTION

OBTAIN THE REQUIRED GRADING PERMIT.
NOTIFY MISS UTILITY 48 HOURS BEFORE BEGINNING ANY WORK 1-800-257-7777). NOTIFY HOWARD COUNTY CONSTRUCTION/INSPECTION DIVISION 24 HOURS BEFORE STARTING ANY WORK ((410)313-1870). INSTALL THE REQUIRED SEDIMENT AND EROSION CONTROL DEVICES AS INDICATED ON SHEET 2 OF THIS CONTRACT (2 DAYS).

AS INDICATED ON SHEET 2 OF THIS CONTRACT (2 DAYS).

CLEAR AND GRUB AS NECESSARY; ONLY AS REQUIRED FOR EXCAVATION
AND INSTALLATION OF THE WATER AND SEWER MAINS, AND ONLY WITHIN
THE DESIGNATED WATER, SEWER AND UTILITY EASEMENTS (2 DAYS).
NOTE: THE LENGTH OF OPEN WATER AND/OR SEWER MAIN TRENCH SHALL BE
LIMITED TO THREE (3) PIPE LENGTHS OR THAT WHICH WILL BE BACKFILLED AND
STABILIZED WITHIN ONE 1D WORKING DAY, WHICHEVER IS SHORTER.
CONSTRUCT THE WATER MAIN, SEWER MAIN AND APPURTENANCES (40 DAYS).
STABILIZE SEED AND MULCH ALL DISTURBED AREAS IN ACCORDANCE
WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS SHEET. (2 DAYS).

WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS SHEET. 12 DAYS, FOLLOWING SUCCESSFUL STABILIZATION OF ALL DISTURBED AREAS.

AND AFTER PERMISSION HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES.(2 DAYS)

#### DETAIL 22 - SILT FENCE ..... 36° MINIMUM LENGTH FENCE POST. 10' MAXIMUM CENTER TO DRIVEN A MINIMUM OF 16" INTO - CENTER GROUND 16" MINIMUM HEIGHT OF GEOTEXTILE CLASS F --- 8" MINIMUM DEPTH IN GROUND SEE SHEET 2 FOR PLAN LOCATION OF SILT FENCE FLOW PERSPECTIVE VIEW 36" MINIMUM FENCE -POST LENGTH CLOTH " - FENCE POST SECTION MINIMUM 20" ABOVE FLOW GROUND UNDISTURBE GROUND EMBED GEOTEXTILE CLASS F TOP VIEW A MINIMUM OF 8" VERTICALLY - FENCE POST DRIVEN A INTO THE GROUND MINIMUM OF 16° INTO THE GROUND CROSS SECTION SECTION B SECTION A STANDARD SYMBOL STAPLE JOINING TWO ADJACENT SILT FENCE SECTIONS Construction 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 T or U section weighting not less than LOO pound per linear foot.

2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Test: MSMT 509 Tensile Strength 50 bs/in (min.) Test: MSMT 509 20 lbs/in (min.) Tensile Modulus 0.3 gal ft / minute (max.)2 Test: MSMT 322 Flow Rate Test: MSMT 322 Filtering Efficiency 75% (min.)

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
54 to 34	60 feet	500 feet
34 to 24	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

> CONTRACT NO. 24-3749-D CERMAN PROPERTY LOTS 7 THRU 26 AND PARCELS 'A' water a sewer main extensions HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING

HOWARD COUNTY, MARYLAND



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	Contract of the second
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13	250.00
	ERRELL A. FISHER

	DESIGNED BY : M.D.T.					
	DRAWN BY : J.C.L.					NOTES AND DETAILS
	CHECKED BY:					500" SCALE MAP NO
7	DATE :	Ç		ADDRESS COUNTY COMMENTS	2/26/99	F.C.C. WORK ORDER NO. 30534
١	JANUARY 29, 1999	BY	NO.	REVISION	DATE	FILE NAME: G/30534/WATSEW/TREESDESCANOTESANDETAILS.DWG

GERMAN PROPERTY

LOTS 7 THRU 26 AND PARCELS 'A' **CONTRACT NO. 24-3749-D** SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHOWN SHEET 5 of 5

SCALE

Robert & Bernin CHIEF . BUREAU OF UTILITIES

CHIEF , DEVELOPMENT ENGINEERING DIVISION

		<b>QUANTIT</b>	IES	
			A5-BUILT	
ITEM	ESTIMATED	QUANTITIES	TYPE	SUPPLIER
8" SEWER	1,032 L.F.	1,004 L.F.	50R-35	J.M. MFG.
8"SEWER (D.I.P.)	236 L.F.	256 L.F.	D.I.P.	GRIFFIN
4" SEWER	601 L.F.	508 L.F.	50R-35	J.M. MFG.
MANHOLES	11 EACH	11 EA.	CONCRETE	ATLANTIC, INC.
4" Sewer	•	131 L.F.	D.I.P.	GRIFFIN
8" WATER	701 L.F.	674 LF.	D.I.P.	GRIFFIN
6" WATER	50 L.F.	66 LF.	D.I.P.	GRIFFIH
FIRE HYDRANTS	2 EACH	2 EA.		MUELLER CO.
1-1/2" WATER	152 L.F.		_	
I" WATER	352 L.F.	720 L.F.	K-copper	READING TUBE
0" x 0" TEE	1 EACH	I EA.	D.I.P.	U.S. PIPE FOUNDRY
0" x 6" TEE	2 EACH	2 EA.	DJ.P.	U.S. PIPE FOUNDRY
8" VALVE	2 EACH	2 EA.	DI.P.	U.S.PIPE FOUNDRY
6" VALVE	2 EACH	2 EA.	D.I.P.	U.S.PIPE FOUNDRY
0"-1/0 H.B.	2 EACH	2 EA.	D.I.P. (45°)	U.S. PIPE FOUNDRY
6" PLUG & BUTTRESS	2 EACH	2 EA.		
NAME OF UTILITY C	ONTRACTOR: (	5.C.5.		

#### 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 A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE 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."

MY MCCampor German Prop. Prot. Prop. Prot. Person 3.8.49
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."

Jude G. Juki

3/8/99 DATE

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

USD.A. NATURAL RESOURCES CONSTRUCTION SERVICE DATE

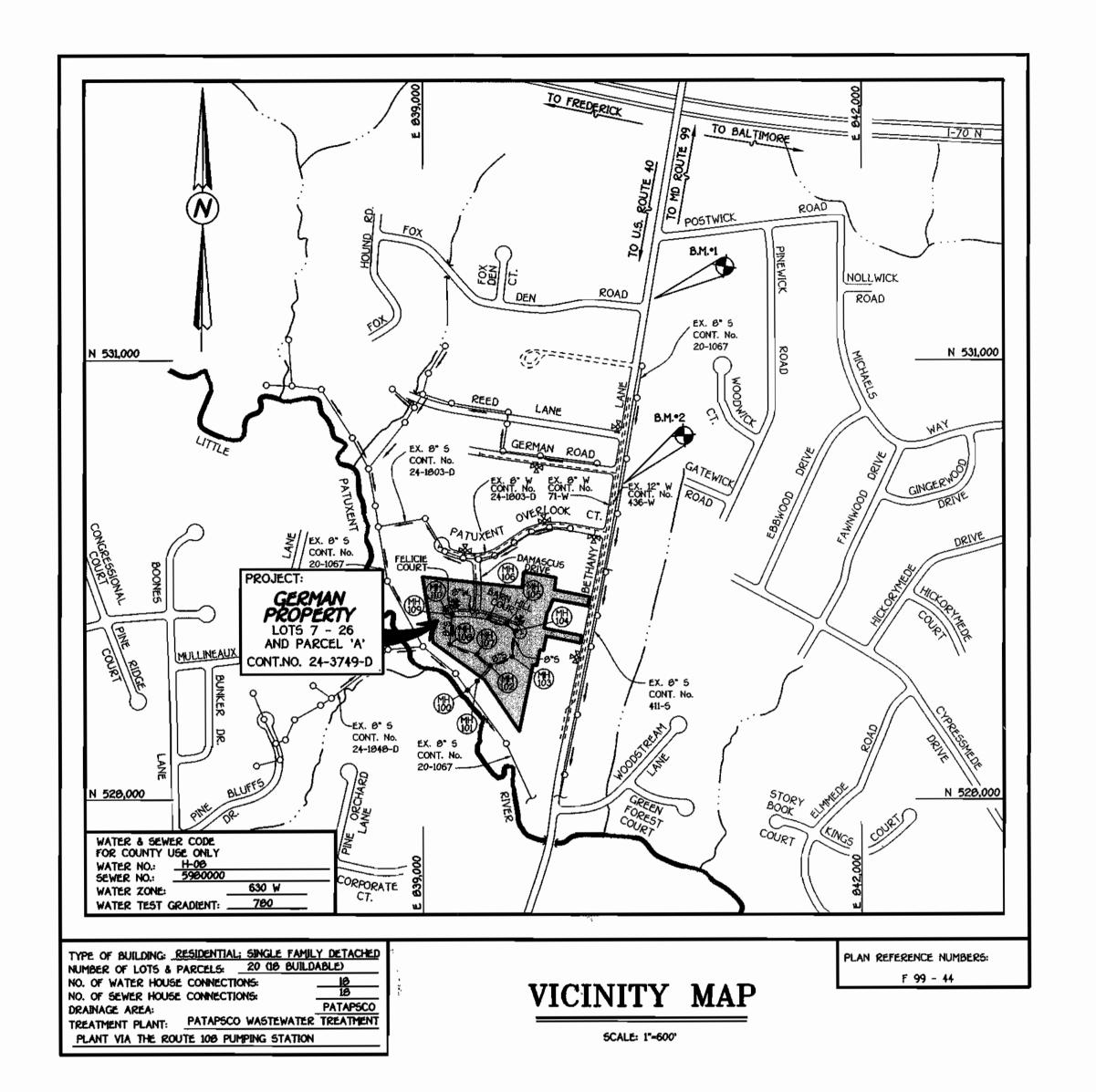
THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.

DWARD SOIL CONSERVATION DISTRICT DATE

DIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE

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 AND UNDER F -99-44

MY MCCaur FOR GERMAN PROP. BREINERSHIP 3.8.99
SIGNATURE OF DEVELOPER DATE



# GENERAL NOTES

- 1. 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.
- 2. ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
- 3. ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.

4. ALL PIPE ELEVATIONS ARE INVERT ELEVATIONS.

5. CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM.

6. 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.

7. 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.

6. 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 - 050-4620

BALTIMORE GAS & ELECTRIC CO.. - UNDER GROUND DAMAGE CONTROL - 707-9060

MISS UTILITY - 1-000-257-7777

COLONIAL PIPELINE CO. - 795-1390

BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 313-4900

9. 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

10. 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.

11. ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.

12. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.

13. T.B. DENOTES TEST BORING.

14. MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.

15. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G 5.52.

16. 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.
 17. HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.

18. ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON THE PLANS OR IN

THE SPECIFICATIONS.

19. MANHOLES LOCATED WITHIN THE PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLE FRAMES AND COVERS, STANDARD DETAIL G5.5L

20. 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.

21. ALL WATER MAINS SHALL BE D.I.P., CLASS 52 UNLESS OTHERWISE NOTED.

22. TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3-1/2' COVER UNLESS OTHERWISE NOTED.

23. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.

24. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.

25. 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 (WI.II AND W2.I3). SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.

26. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
27. 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

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

F.C.C. WORK ORDER NO. \_\_30534

FILE NAME : G/30534/W&5/TITLESHEET.DWG

26. 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 10.114(a) OF THE HOWARD COUNTY CODE

BENCHMARK INFORMATION

B.M. . 2 - HOWARD COUNTY MONUMENT NO. 3341001

CONTRACT No. 24-3749-D

# GERMAN PROPERTY

LOT NOS. 7 THRU 26 & PARCEL 'A' WATER AND SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND

DESIGNED BY :

ELEV.= 421.74; DESCRIPTION CONC. MONUMENT 1.3' BELOW SURFACE 0.3' EAST OF EDGE OF RD. APPROX. 120' SOUTH OF & DRIVEWAY TO BETHANY LANE BAPTIST CHURCH

B.M.\*1 - HOWARD COUNTY MONUMENT NO. 3341002 ELEV.\* 440.42; DESCRIPTION: CONC. MONUMENT ◆ SURFACE APPROX. 9' EAST OF EDGE OF RD. IN GRASS ISLAND IN PARKING

LOT OF BETHANY LANE METHODIST CHURCH

CONTRACT NO. 24-3749-D
GERMAN PROPERTY
LOT NOS. 7-26 & PARCEL'A'
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

DOWNALLIAM 3/8/99



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Ţ	RRELL A. FISHER

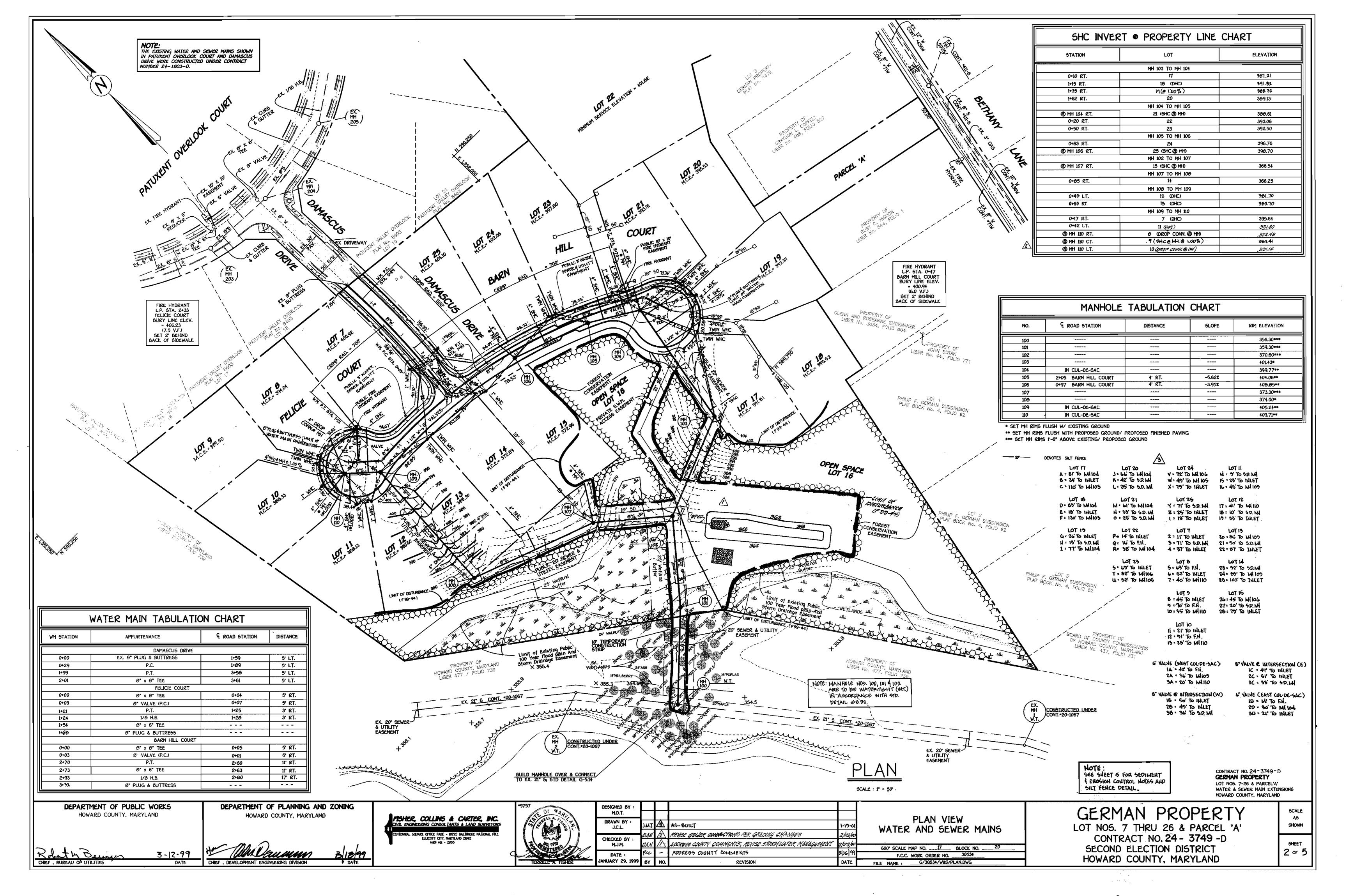
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DRAWN BY : J.C.L.				
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CHECKED BY : M.J.M.	.T.M.C	Δ	AS - BUILT	01-19-01
DATE :	F.C.C.		ADDRESS COUNTY COMMENTS	2/26/99
January 29, 1999	BY	NO.	REVISION	DATE

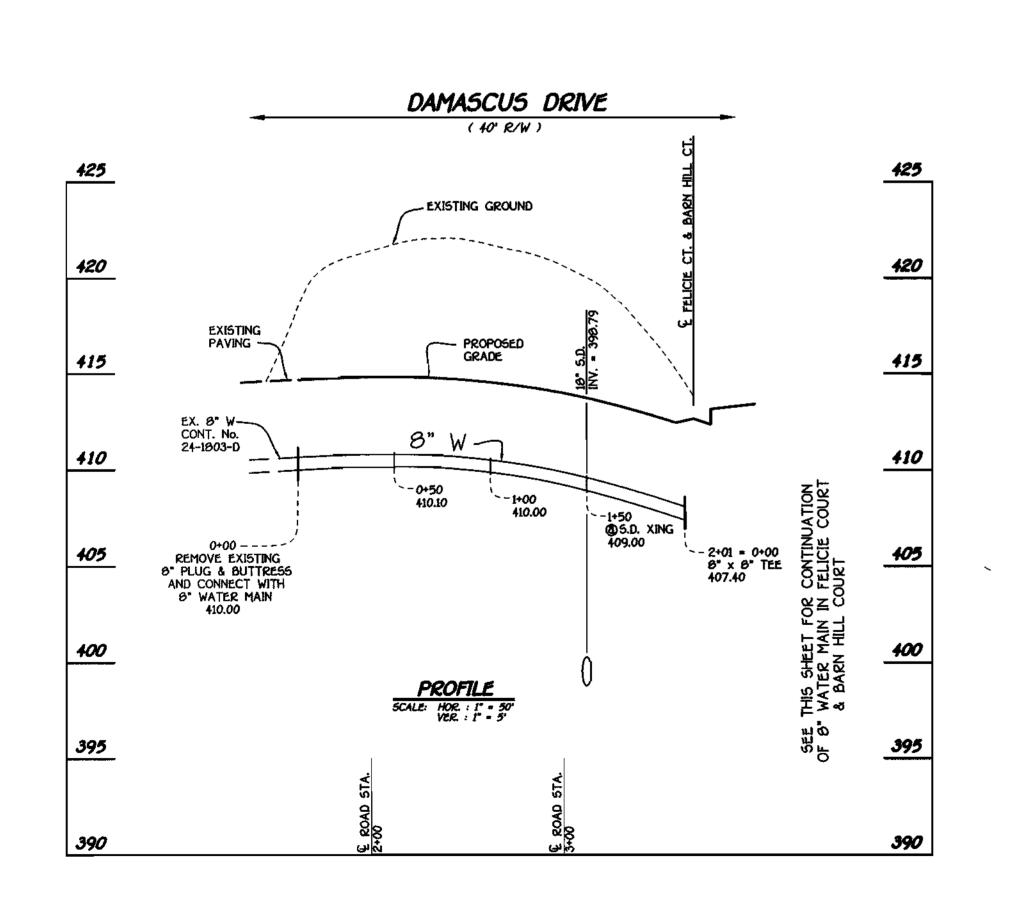
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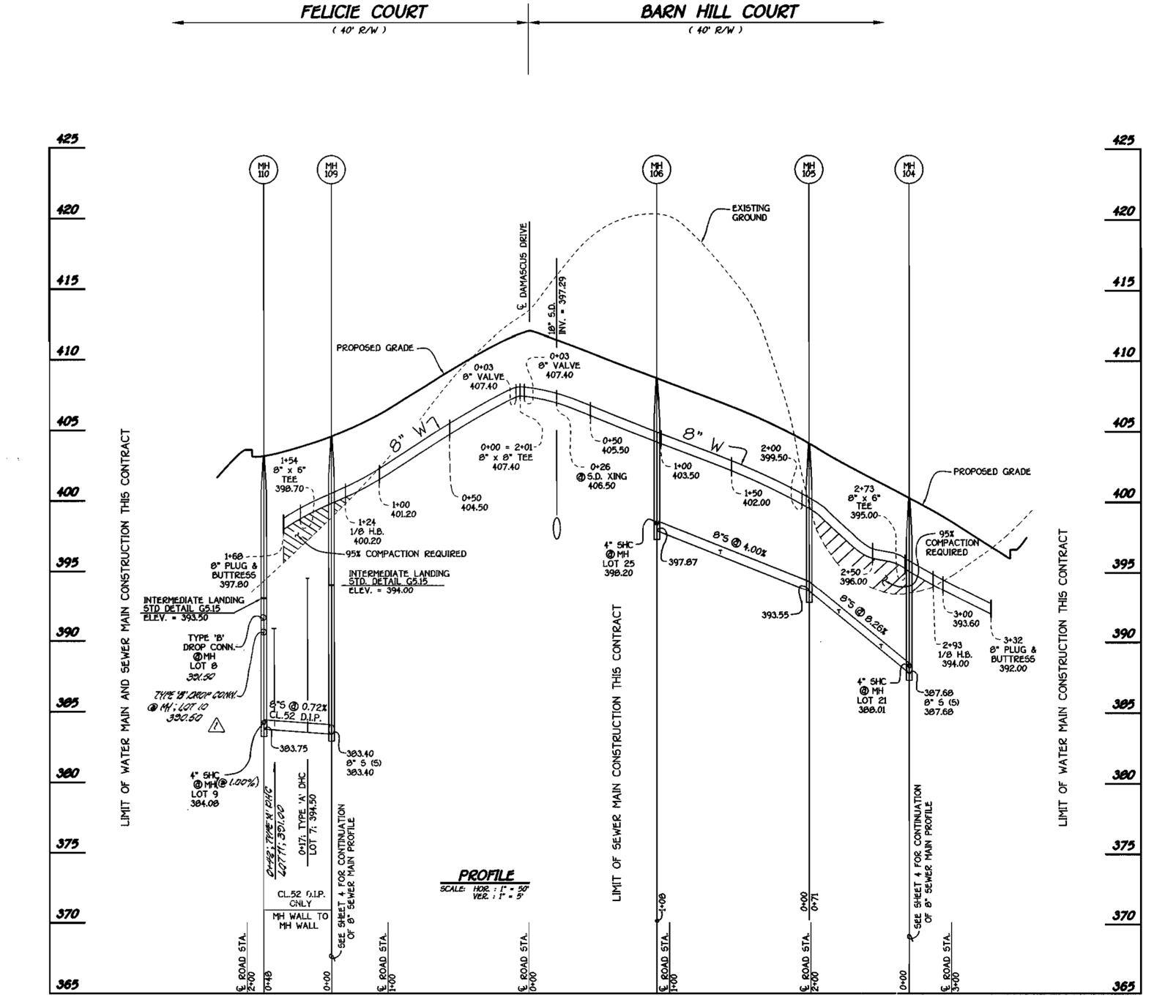
CONTRACT NO. 24-3749-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SHEET 1 or 5

SHOWN







WATER AND SEWER MAINS PROFILES

600' SCALE MAP NO. \_\_\_17\_\_\_ BLOCK NO. \_

FILE NAME : 30534WATSEWPROFILES.DWG

F.C.C. WORK ORDER NO. \_\_\_30534

CONTRACT NO. 24-3749-D

GERMAN PROPERTY

LOTS 7 THRU 26 AND PARCEL 'A'

WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND FISHER, COLLINS & CARTER, INC.



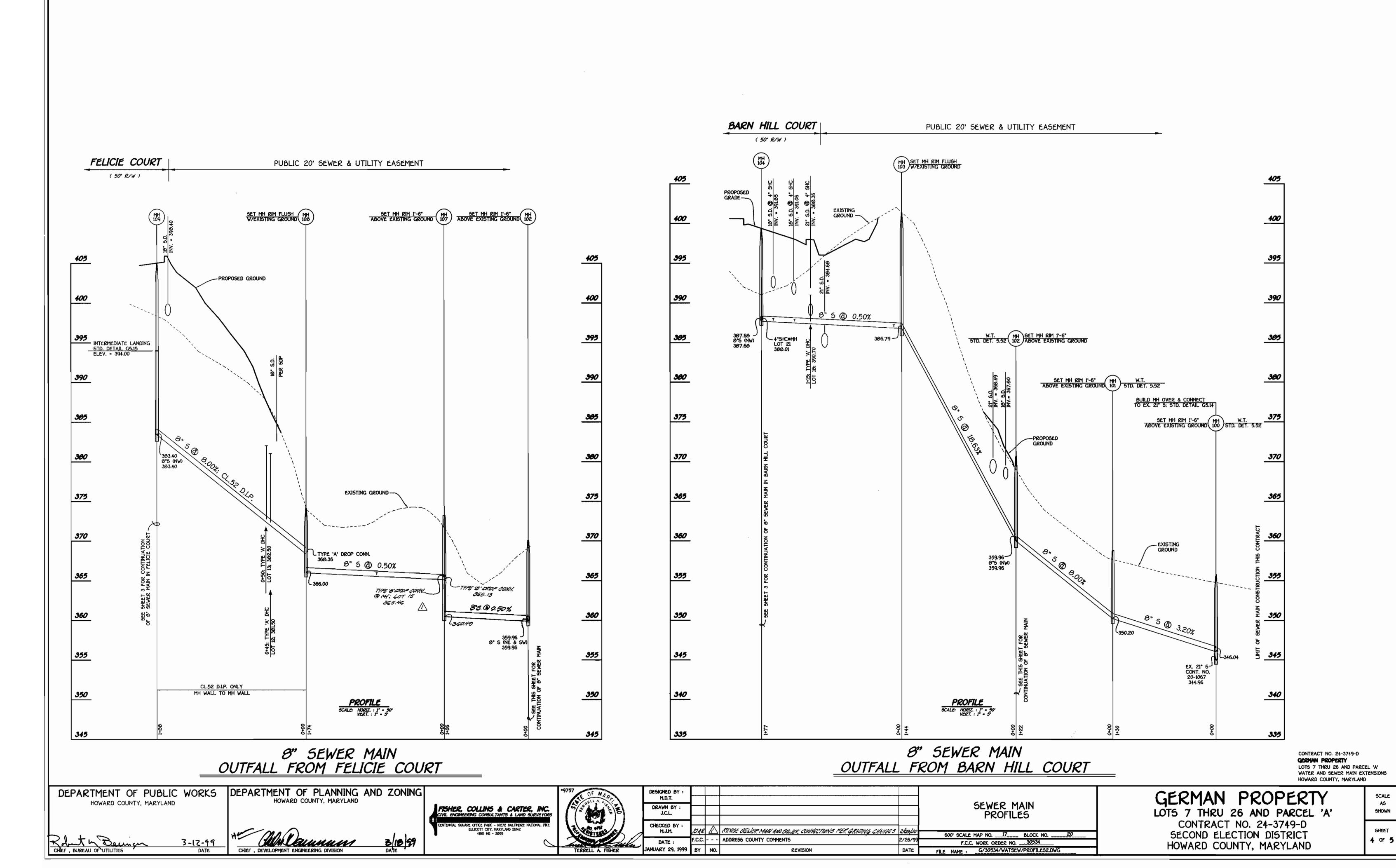
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CHECKED BY :	0.4.1.	Δ	REVISE BEWER MANY AND SEWER CONNECTIONS PEK GRADING CHANGES.	2/03/0
DRAWN BY : J.C.L.				
M.D.T.				
DESIGNED BY :				

GERMAN PROPERTY

LOTS 7 THRU 26 AND PARCEL 'A' CONTRACT NO. 24-3749-D SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHOWN SHEET 3 OF 5

5CALE AS



# SECTION 20: STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION 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 dikes, etc. and 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 within the root zone. Sediment control devices must remain in place during grading, seedbed 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 i. Install erosion and sediment control structures (either temporary of permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins. 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. 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 areas 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 analyses. ii. 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 approval 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 warrantee iii. 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 90-100% will pass through a \*20 mesh sieve. iv. Incorporate lime and fertilizer into the top 3-5° of soil by disking or other suitable means. C. Seedbed Preparation i. Temporary Seeding a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of a. Seedbed 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 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 tracked leaving the surface in an irregular condition with ridges running parallel to the compour 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 a Minimum soil conditions required for permanent vegetative establishment: 1. Soil pH shall be between 6.0 and 7.0. 2. Soluble salts shall be less than 500 parts per million (ppm). Soluble salts shall be less than 500 parts per million (ppm). The soil shall contain less than 40% clay, 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 serecia lespedezas 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. 50il shall confain 1.5% minimum organic matter by weight. 50il must contain sufficient pore space to permit adequate root penetration. 6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil. 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 to the surface area and to create loosened to the standard area. 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. 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 seedbed 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 tracked 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. Seedbed loosening may not be necessary on newly disturbed areas. newly disturbed areas. D. 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. Note: Seed tags shall be made available to the inspector to verify type and rate of seed used ii. Inoculant - The inoculant for treating legume 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 hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75°-80° F. can weaken bacteria and make the inoculant less effective. Methods of Seeding Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, 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; K20 (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. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders. a. Seed spread dry shall be incorporated into the subsoit 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. b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction. iii Orill or Cultivacter Seeding: Mechanized seeders that apply and cover seed with soil iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil. a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting. b. Where practical, seed sould be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction. 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, moldy, 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. 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 surry. 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 agitatio 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. WCFM material shall contain no elements or compounds at concentration levels that will be phytol-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 1.6% 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. 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.

SEDIMENT CONTROL NOTES 1) A MINIMUM OF 40 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY

DEPARTMENT OF 188 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 (313-1955).

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 MARKIND STANDARDS AND SPECIFICATIONS
FOR SOIL REGIONAL AND SEDIMENT CONTROL AND SECRETARIANT STRUCTOR

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: a) 7

CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. 4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1

CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE. 5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 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.

6) ALL SEDEMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE O BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR HEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

7) SITE ANALYSIS: TOTAL AREA OF SITE AREA DISTURBED AREA TO BE ROOFED OR PAVED AREA TO BE VEGETATIVELY STABILIZED

14.10 ACRES 8.10 ACRES 1.20 ACRES SEE F 99-44 6.90 ACRES 10,000 CU.YDS. N/A CU.YDS.

OFFSITE WASTE/BORROW AREA LOCATION 8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE

SAME DAY OF DISTURBANCE.

9) ADDITIONAL SEDIMENT 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) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

# PERMANENT SEEDING NOTES

ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:

SEEDBED 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 5Q.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 LBG. PER ACRE 36-0-0 UREAFORM FERTILIZER (9 LBS./1,000 SQ.FT.) AND 500 LBS. PER ACRE (11.5 LBS./ 1,000 5Q.FT.) OF 10-20-20 FERTILIZER.

FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 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.) KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE (0.05 LBS./1,000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 28. PROJECT SITE BY: OPTION (1) - TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING OPTION (2) - USE SOD; OPTION (3) - SEED WITH 100 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL SLOPES SHOULD BE HYDROSEEDED.

MULCHING:

APPLY 1 TO 2 TONS PER ACRE (10 TO 90 LBS./L000 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 ACRES. ON SLOPES & FEET OR HIGHER USE 348 GALLONS PER ACRE (& GAL./1,000 SQ.FT.) FOR ANCHORING.

nspect 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.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY

APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./ 1,000 SQ.FT.)

FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 5 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 16 THRU FEBRUARY 20. PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL anchored straw mulch and seed as soon as possible in the SPRING, OR USE SOD.

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 5Q.FT.) OF EMULSIFIED ASPHALT ON FLAT ACRES ON SLOPES & FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1,000 SQ.FT.) FOR

REFER TO THE 1988 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT

# SECTION 21:

STANDARDS AND SPECIFICATIONS FOR TOPSOIL

1) DEFINITION: PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

2) PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. 3) SPECIFICATIONS: A.TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY

BLA LOAM, OR LOAMY SAND.

B.TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING SUBSOILS.

C.TOPSOIL SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1.5% IN DIAMETER.

A.TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4%- 8% LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4°; AVOID SURFACE IRREGULARITIES, B.PLACE TOPSOIL AND APPLY SOIL AMENDMENTS AS SPECIFIED IN "STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION". C.TOPSOIL SHALL NOT BE PLACED DURING FROZEN, MUDDY, OR EXCESSIVELY WET

#### SEQUENCE OF CONSTRUCTION

 OBTAIN THE REQUIRED GRADING PERMIT.
 NOTIFY MISS UTILITY 40 HOURS BEFORE BEGINNING ANY WORK
 (1-800-257-7777). NOTIFY HOWARD COUNTY CONSTRUCTION/INSPECTION DIVISION 24 HOURS BEFORE STARTING ANY WORK ((410)313-1870). INSTALL THE REQUIRED SEDIMENT AND EROSION CONTROL DEVICES

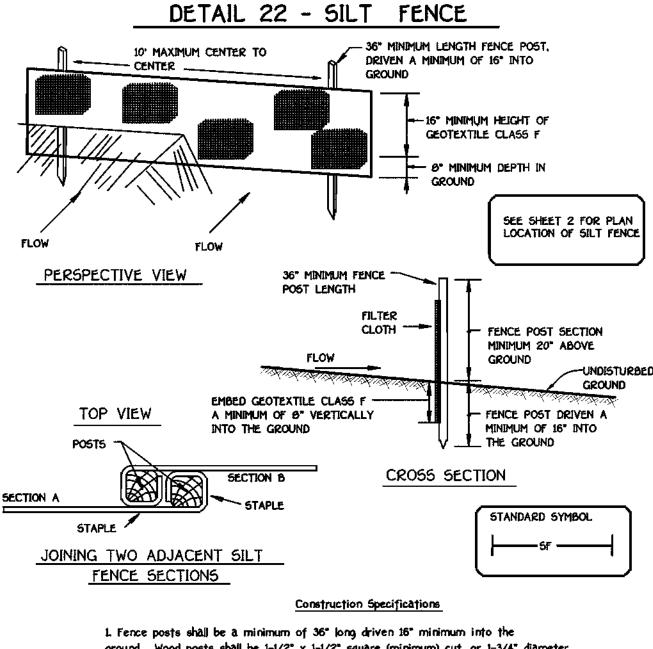
AS INDICATED ON SHEET 2 OF THIS CONTRACT (2 DAYS). 4. CLEAR AND GRUB AS NECESSARY; ONLY AS REQUIRED FOR EXCAVATION

AND INSTALLATION OF THE WATER AND SEWER MAINS, AND ONLY WITHIN THE DESIGNATED WATER, SEWER AND UTILITY EASEMENTS ( 2 DAYS).

NOTE: THE LENGTH OF OPEN WATER AND/OR SEWER 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 MAIN, SEWER MAIN AND APPURTENANCES (40 DAYS).

STABILIZE SEED AND MULCH ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS SHEET. (2 DAYS) FOLLOWING SUCCESSFUL STABILIZATION OF ALL DISTURBED AREAS,

AND AFTER PERMISSION HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES.(2 DAYS)



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 T or U section weighting not less than 1.00 pound per linear foot.

2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength 50 lbs/in (min.) Test: M5MT 509 20 (bs/in (min.) Tensile Modulus Test: MSMT 509 Test: M5MT 322 Flow Rate 0.3 gal ft / minute (max.)^ Test: MSMT 322 Filtering Efficiency 75% (min.)

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	untimited
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

> CONTRACT NO. 24-3749-D GERHAN PROPERTY LOTS 7 THRU 26 AND PARCELS 'A' water & sewer main extensions

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



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DESIGNED BY :				
M.D.T.	1 '	1 1	'	
DRAWN BY : J.C.L.				
CHECKED BY : M.J.M.				
DATE :	F.C.C.		ADDRESS COUNTY COMMENTS	2/26/99
ANUARY 29, 1999	вγ	NO.	REVISION	DATE

NOTES AND DETAILS

600' SCALE MAP NO. \_\_17 BLOCK NO. \_ F.C.C. WORK ORDER NO. \_\_\_30534 FILE NAME : G/30534/WATSEW/TREESDESCANOTESandDETAILS.DWG HOWARD COUNTY, MARYLAND

GERMAN PROPERTY LOTS 7 THRU 26 AND PARCELS 'A' CONTRACT NO. 24-3749-D SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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CHIEF, BUREAU OF UTILITIES

3-12-99

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.

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

i. 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. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. It 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 appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petroset, Terra Ta

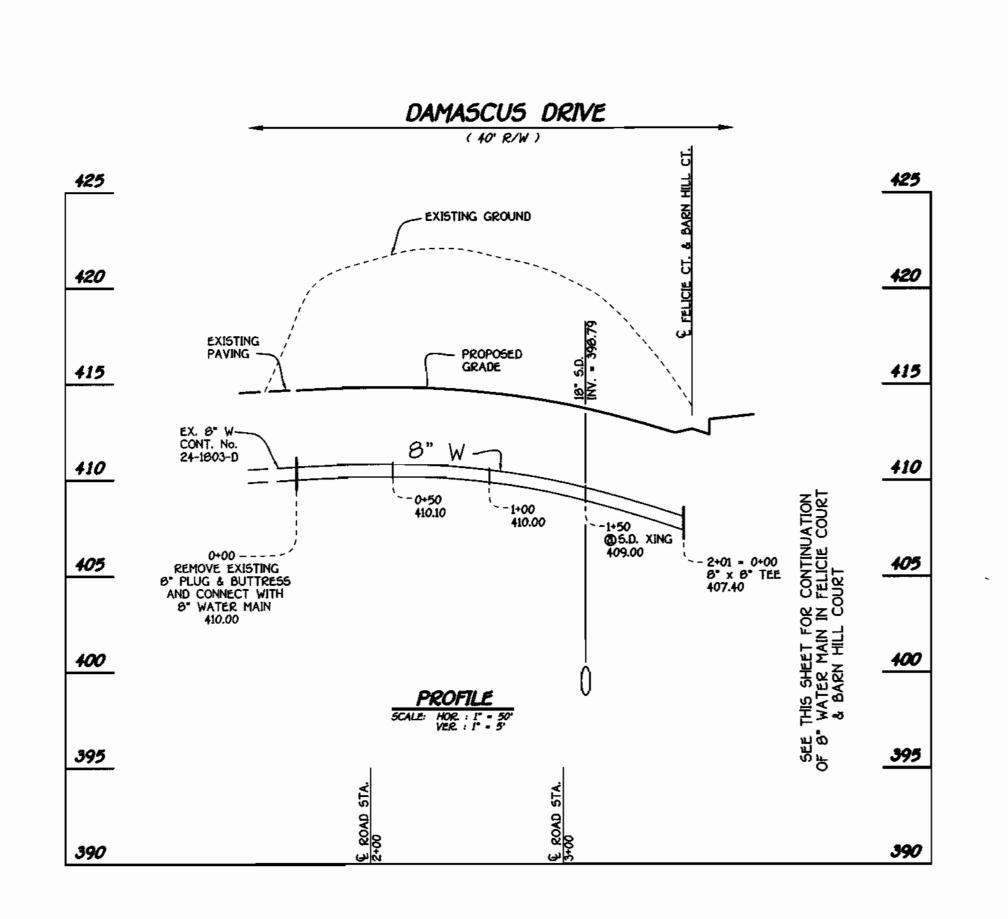
li, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.

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.

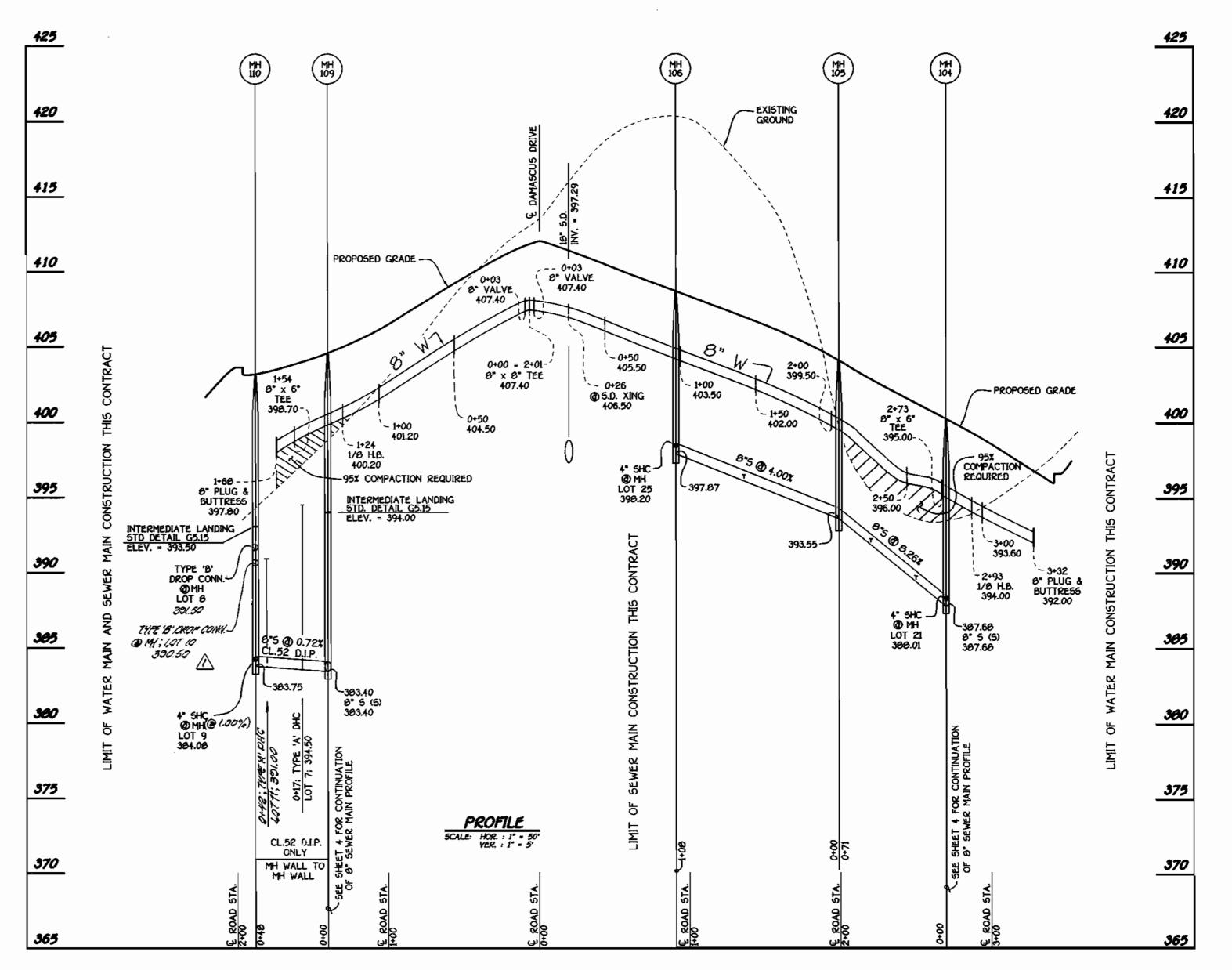
preference), depending upon size of area and erosion hazard:

3/10/77 DATE

FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS tennial square office park - 10272 Baltimore national piki







CONTRACT NO. 24-3749-D

GERMAN PROPERTY

LOTS 7 THRU 26 AND PARCEL 'A'

WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND

Robert of Beringer CHIEF, BUREAU OF UTILITIES DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

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) 461 - 2055

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GERMAN PROPERTY
LOTS 7 THRU 26 AND PARCEL 'A'

CONTRACT NO. 24-3749-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

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