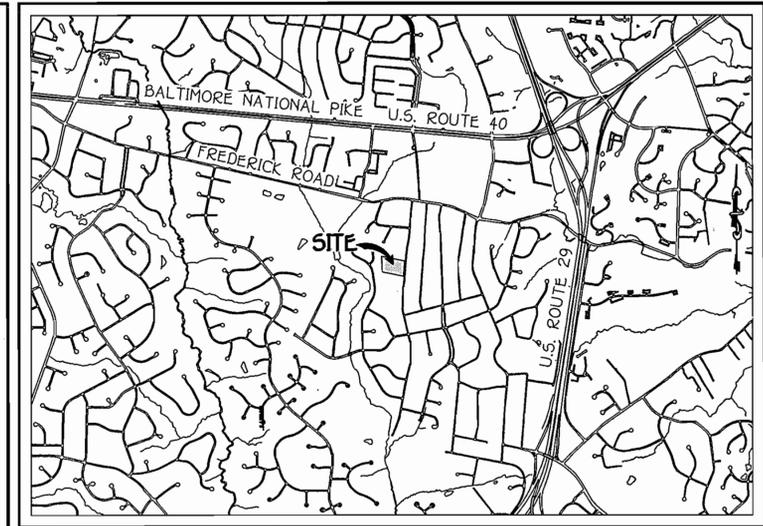
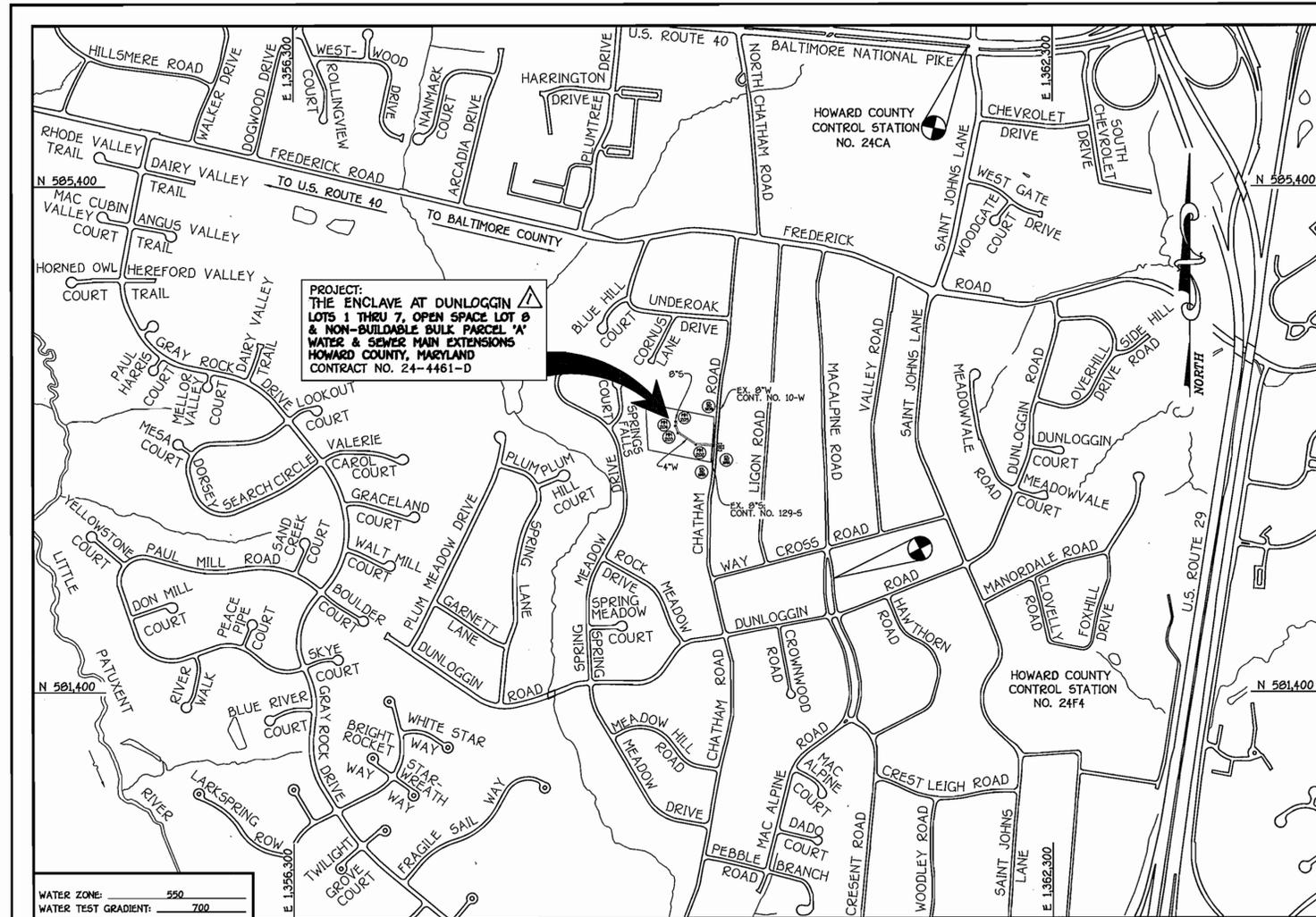


QUANTITIES				
ITEM	ESTIMATED	QUANTITIES	AS-BUILT TYPE	SUPPLIER
8" SEWER	413 L.F.	411.3'	SBR-25 PVC	JM MFG.
4" SEWER	65 L.F.	65.4'	"	BEAIR SUPPLY
MANHOLES	5 EACH	5	ASTM A 178	ATLANTIC
4" WATER	449 L.F.	448'	CL-54 D.P.	GRIFFIN P.P.
1" WVC	109 L.F.	109'	K COPPER	READINGS
8"x4" TAPPING SLEEVE	1 EACH	1	SS	ROMAC IND.
4" TAPPING VALVE	1 EACH	1	PSGV D.R.	MOELLER CO.
1/16 H.B.	3 EACH	3	M.S.	SIGMA CORP.
1/32 H.B.	2 EACH	2	"	"
4" PLUG & BUTTRESS	1 EACH	1	"	SIGMA/BEAIR
1-1/2" DRAIN	1 EACH	1	"	"
OUTSIDE METER SETTING	1 EACH	1	A 32C 12"	VESTAL MFG.

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



**LOCATION MAP**  
SCALE: 1" = 2000'

**GENERAL NOTES**

- PART I
- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER. AT THE CONTRACTOR'S EXPENSE. THIS SUBJECT FOR BENCHMARK INFORMATION.
  - TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON OR ABOUT JULY, 2006 BY FISHER, COLLINS & CARTER, INC.
  - HORIZONTAL AND VERTICAL CONTROLS:  
THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/91' AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATION NO. 24CA & NO. 24F4. SEE THIS SHEET FOR BENCHMARK INFORMATION.  
ALL VERTICAL CONTROLS ARE BASED ON NAVD '86. VERTICAL CONTROLS ARE BASED ON TRAVERSE POINT NO. 7003; AN IRON PIPE SET ALONG CHATHAM ROAD, IN FRONT OF HOUSE #3713. ELEV. 442.70.
  - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
  - CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF THE ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
  - FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE.
  - WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL (S) AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF TEST PITS WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
  - THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:  
ATEL . . . . . 1-800-292-1133  
BGE (CONSTRUCTION SERVICES) . . . . . 410-850-4620  
BGE (EMERGENCY) . . . . . 410-695-1400  
BUREAU OF UTILITIES . . . . . 410-313-4900  
COLUMBIAN PIPELINE CO . . . . . 410-751-1900  
MISG UTILITY . . . . . 1-800-257-7777  
STATE HIGHWAY ADMINISTRATION . . . . . 410-531-5533  
VERIZON . . . . . 1-800-743-0033/410-224-9210
  - TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
  - CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)-313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 1014(K) OF THE HOWARD COUNTY CODE.

- PART II: WATER
- ALL WATER MAINS SHALL BE D.I.P. CLASS 54 UNLESS OTHERWISE NOTED.
  - TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
  - VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
  - ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
  - FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
  - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
  - ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.

- PART III: SEWER
- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
  - ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
  - FORCE MAINS SHALL BE D.I.P. ONLY.
  - MANHOLES SHOWN WITH 12" AND 18" WALLS ARE FOR BRICK MANHOLES ONLY.
  - MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
  - HOUSES WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.

**BENCHMARK INFORMATION**

B.M.#1 - HOWARD COUNTY CONTROL STATION NO. 24CA (NAD '83) (LOCATED IN THE MIDDLE OF U.S. ROUTE 40 AT THE INTERSECTION OF U.S. ROUTE 40 & SAINT JOHNS LANE) N 585.6175 E 1361.6342897 ELEVATION = 398.324
B.M.#2 - HOWARD COUNTY CONTROL STATION NO. 24F4 (NAD '83) (LOCATED ALONG MACALPINE ROAD, APPROX. 11' OFF EDGE OF DRIVEWAY #3905) N 582.2986199 E 1360.5709687 ELEVATION = 386.107

TYPE OF BUILDING: RESIDENTIAL - SINGLE FAMILY DETACHED  
NUMBER OF LOTS: 8 (7 BUILDABLE)  
NO. OF WATER HOUSE CONNECTIONS: 7  
NO. OF SEWER HOUSE CONNECTIONS: 7  
DRAINAGE AREA: LITTLE PATUXENT  
TREATMENT PLANT: LITTLE PATUXENT WATER RECLAMATION PLANT, SAVAGE, MD

**VICINITY MAP**  
SCALE: 1" = 600'

PLAN REFERENCE NUMBERS:  
SP-07-003 F-08-135  
(RECORD PLAN)

CONTRACT NO. 24-4461-D

# THE ENCLAVE AT DUNLOGGIN

LOTS 1 THRU 7, OPEN SPACE LOT 8 & NON-BUILDABLE BULK PARCEL 'A' WATER AND SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND

**DEVELOPER'S CERTIFICATION**

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

Paul W. Koebel, FOR: 05/28/08  
LAND DESIGN & DEVELOPMENT, INC. DATE  
SIGNATURE OF DEVELOPER

**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, 05/28/08  
SIGNATURE OF ENGINEER DATE

GP-08-004

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

APPROVED: John R. Robertson 06/12/08  
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 AND AS SHOWN ON THESE PLANS.

Paul W. Koebel, FOR: 05-28-08  
LAND DESIGN & DEVELOPMENT, INC. DATE  
SIGNATURE OF DEVELOPER

**DEVELOPER**  
LAND DESIGN & DEVELOPMENT, INC.  
5300 DORSEY HALL DRIVE  
SUITE 102  
ELLICOTT CITY, MARYLAND 21042

CONTRACT NO. 24-4461-D  
THE ENCLAVE AT DUNLOGGIN  
LOTS 1 THRU 7, OPEN SPACE LOT 8 & NON-BUILDABLE BULK PARCEL 'A' WATER AND SEWER MAIN EXTENSIONS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Chief, Bureau of Utilities  
6/9/08 DATE

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

Chief, Development Engineering Division  
6/23/08 DATE

FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE  
ELICOTT CITY, MARYLAND 21042  
(410) 461-2205



DESIGNED BY: B.C.R.		DATE: MAY, 2006	
DRAWN BY: B.C.R.		BY:	
CHECKED BY: P.W.K.	KCI	DATE:	1/7/04
	AS-BUILT DATA ADDED		9-2-08
	Revised Project Title to "The Enclave at Dunloggin"		

WATER AND SEWER MAINS  
TITLE SHEET

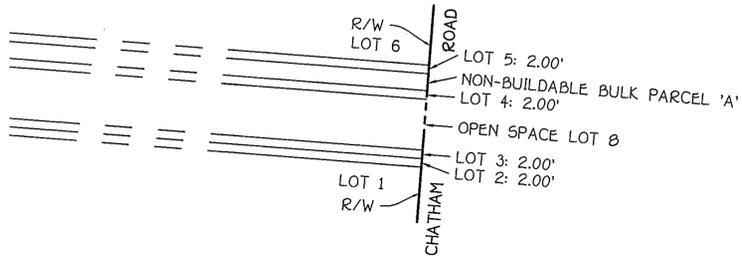
600' SCALE MAP NO. 24 BLOCK NO. 10  
F.C.C. WORK ORDER NO. 05069  
FILE NAME: WATER AND SEWER MAIN EXTENSION TITLE SHEET

**THE ENCLAVE AT DUNLOGGIN**

LOTS 1 THRU 7, OPEN SPACE LOT 8 & NON-BUILDABLE BULK PARCEL 'A'  
CONTRACT NO. 24-4461-D  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

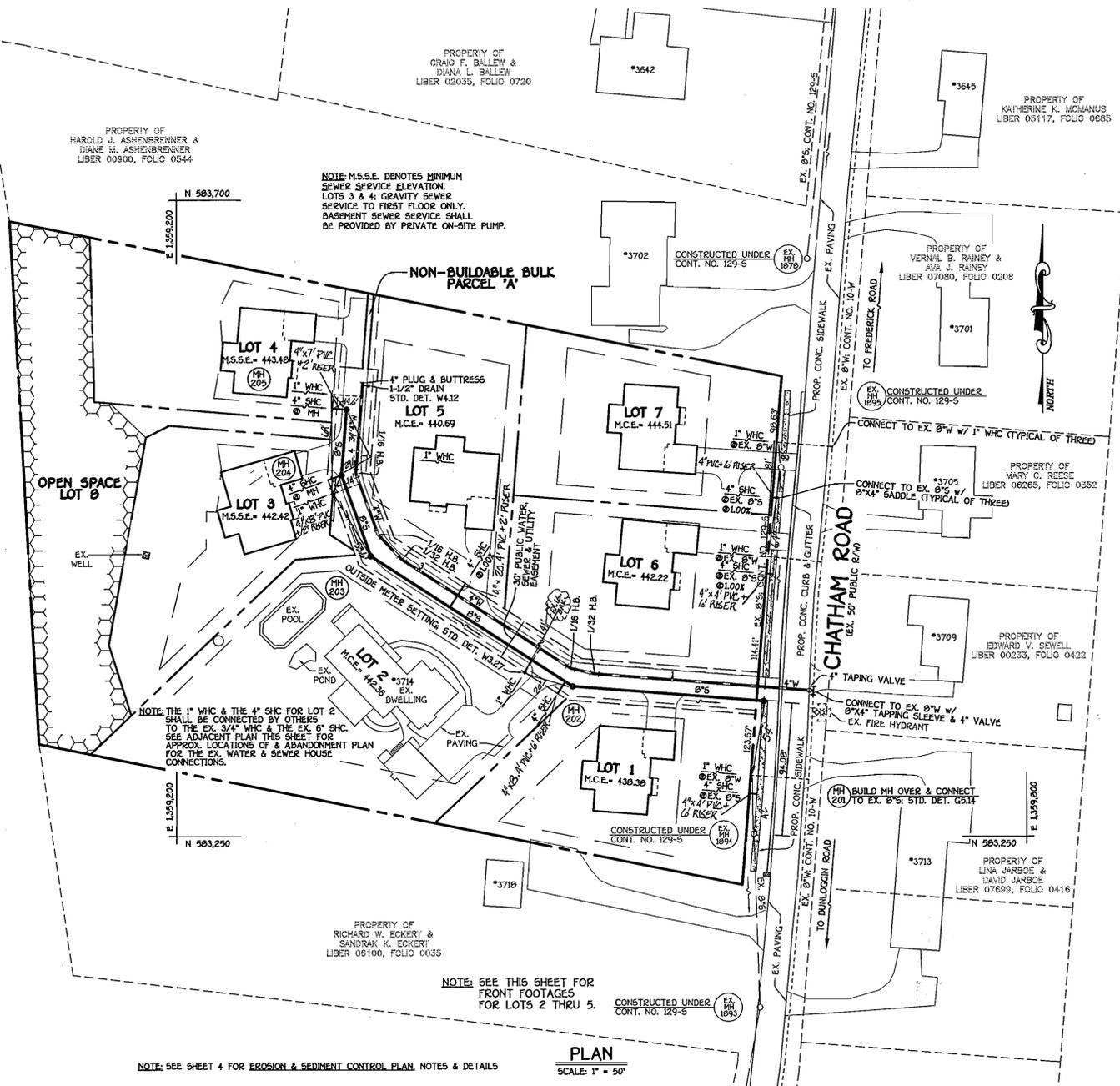
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SHEET 1 OF 4

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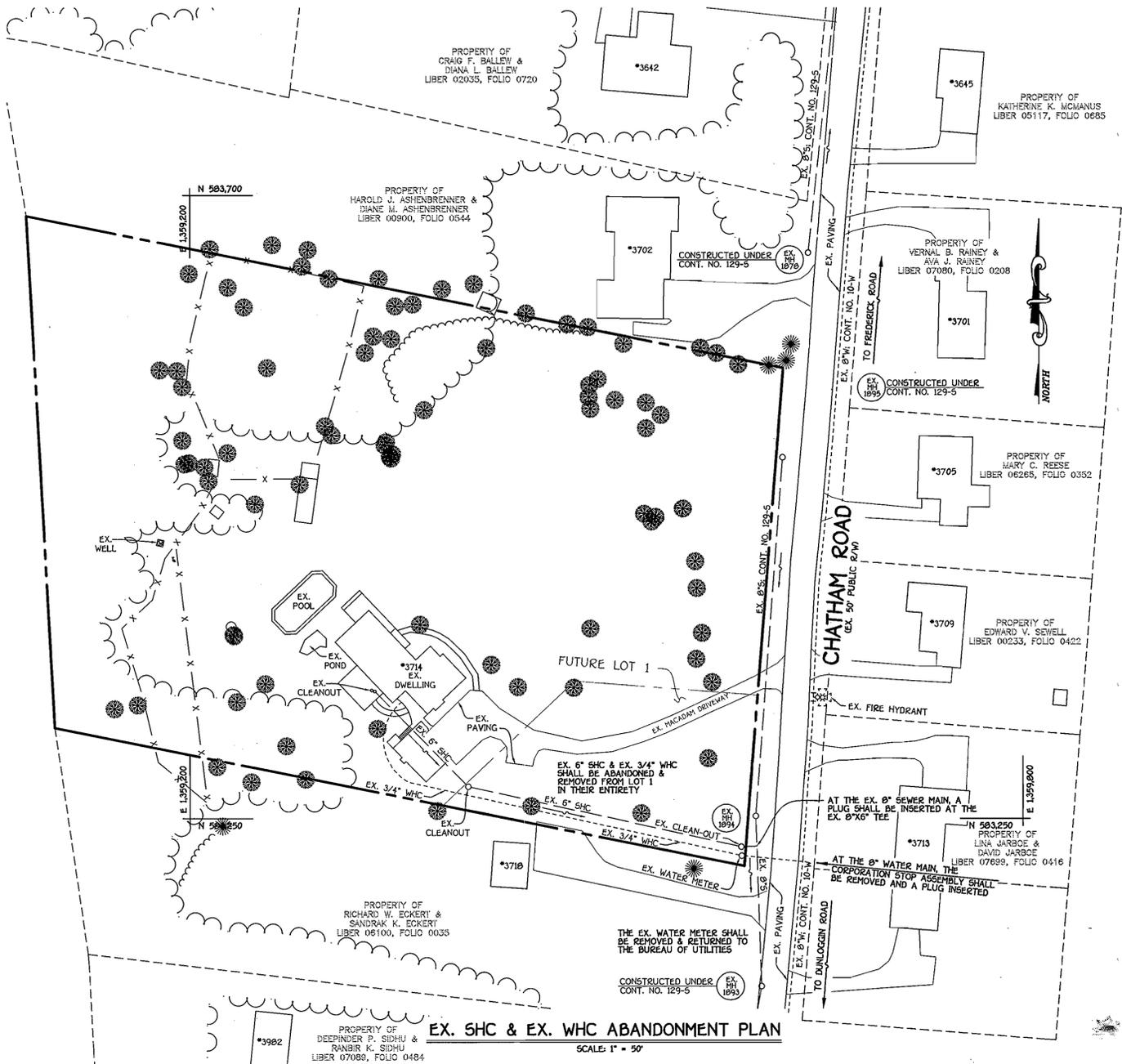


ENLARGEMENT: FRONT FOOTAGES; LOTS 2 THRU 5

SCALE: 1" = 20'



PLAN SCALE: 1" = 50'



SCALE: 1" = 50'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE  
ELKROTT CITY, MARYLAND 21042  
(410) 461-2995



DESIGNED BY:	B.C.R.	DATE:	MAY, 2009
DRAWN BY:	B.C.R.	BY:	NO.
CHECKED BY:	WCI	DATE:	1/1/09
DATE:	9/6	REVISION:	Revised Project Title to "The Enclave at Dunloggin"

WATER AND SEWER MAINS & EX. SHC/EX. WHC ABANDONMENT PLAN  
600' SCALE MAP NO. 24 BLOCK NO. 10  
F.C.C. WORK ORDER NO. 05069  
FILE NAME: WATER AND SEWER MAIN EXTENSION PLAN SHEET

THE ENCLAVE AT DUNLOGGIN  
LOTS 1 THRU 7, OPEN SPACE LOT B & NON-BUILDABLE BULK PARCEL 'A'  
CONTRACT NO. 24-4461-D  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 2 OF 4

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

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

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

**CONDITIONS WHERE PRACTICE APPLIES**  
THIS PRACTICE SHALL BE USED ON DENuded AREAS AS SPECIFIED ON THE PLANS AND MAY BE USED ON HIGHLY ERODIBLE OR CRITICALLY ERODING AREAS. THIS SPECIFICATION IS DIVIDED INTO TEMPORARY SEEDING, TO QUICKLY ESTABLISH VEGETATIVE COVER FOR SHORT DURATION (UP TO 12 MONTHS), 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 WITH THE ROOT ZONE.

**SEDIMENT CONTROL DEVICES MUST REMAIN IN PLACE DURING GRADING, SEEDING PREPARATION, SEEDING, MULCHING AND VEGETATIVE ESTABLISHMENT TO PREVENT LARGE QUANTITIES OF SEDIMENT AND ASSOCIATED CHEMICALS AND NUTRIENTS FROM WASHING INTO SURFACE WATERS**

**SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS**

**A. SITE PREPARATION**

- INSTALLATION 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. SOIL TESTS MUST BE PERFORMED BY 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 APPROVAL AUTHORITY. FERTILIZERS SHALL ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE STATE FERTILIZER LAWS AND SHALL BEAR THE NAME, TRADEMARK AND WARRANTY OF THE PRODUCER.
- LIME MATERIALS SHALL BE GROUND LIMESTONE HYDRATED OR BURNED 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 80% WILL PASS THROUGH A #20 MESH SIEVE AND 100% WILL PASS THROUGH A #40 MESH SIEVE.
- INCORPORATE LIME AND FERTILIZER INTO THE TOP 3-5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

**C. SEEDING PREPARATION**

- SEEDING PREPARATION SHALL CONSIST OF LOOSENING SOIL TO A DEPTH OF 3" TO 5" BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPER MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED IT SHOULD NOT BE ROLLED OR DRAGGED SMOOTH, BUT LEFT 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.

**D. 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 AT LEAST 1% AVAILABLE NITROGEN, 0.03% AVAILABLE PHOSPHORUS, AND 0.02% AVAILABLE POTASSIUM. PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION IS IF LOVEGRASS OR SERICEA LESPEZEAIS IS TO BE PLANTED, THEN A SANDY SOIL (<30% SILT PLUS CLAY) WOULD BE ACCEPTABLE.
  - SOIL SHALL CONTAIN 1% MINIMUM ORGANIC MATTER BY WEIGHT.
  - SOIL MUST CONTAIN SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
  - IF THESE CONDITIONS CANNOT BE MET BY SOILS ON SITE, ADDING TOPSOIL IS REQUIRED.
- AREAS PREVIOUSLY GRADED IN CONFORMANCE WITH DRAWINGS SHALL BE MAINTAINED IN A TRUE AND EVEN GRADE, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3-5" TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREA AND TO CREATE HORIZONTAL EROSION CHECK SLOTS TO PREVENT TOPSOIL FROM SLIDING DOWN A SLOPE.
- APPLY SOIL AMENDMENTS AS PER SOIL TESTS 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 SEEDING 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 1-3" OF SOIL SHOULD BE LOOSE AND FRIABLE. SEEDING LOOSENING MAY NOT BE NECESSARY ON NEWLY DISTURBED AREAS.

**E. 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 SHALL HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRIOR TO THE DATE OF SOWING. THE DATE OF SEEDING SHALL BE MADE AVAILABLE TO THE INSPECTOR TO VERIFY TYPE AND RATE OF SEED USED.
- INOCULATION - THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES SHALL BE A PURE CULTURE OF NITROGEN-FIXING BACTERIA SPECIFIC TO 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.

**F. METHODS OF SEEDING**

- HYDROSEEDING - APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER). BROADCAST OR DROP SEEDING, OR A CULTPACKER 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 (PHOSPHORUS): 200 LBS/AC; K2O (POTASSIUM): 200 LBS/AC.
  - 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 BURNED OR HYDRATED LIME WHEN HYDROSEEDING.
  - SEED AND FERTILIZER SHALL BE MIXED ON SITE AND SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.
- DRY 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 SEEDING 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 CULTPACKER SEEDING MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
  - CULTPACKER SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDING MUST BE FIRN AFTER PLANTING.
  - WHERE PRACTICAL, SEED SHOULD BE APPLIED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

**G. 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, CURED, 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 UNIFORMLY SPREAD SLURRY.
  - WCFM, INCLUDING DYE, SHALL CONTAIN NO 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 BUTTER-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 PHYTO-TOXIC.
  - 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% 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.

- 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.
- 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.

**H. SECURING STRAW MULCH ANCHORING - MULCH ANCHORING SHALL BE PERFORMED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON SIZE OF AREA AND EROSION HAZARD:**

- A MULCH ANCHORING TOOL IS AS TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE TO A MINIMUM OF 12" DEPTH. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD BE USED ON THE CONTOUR IF POSSIBLE.
- 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 CRESTS OF BANKS. THE REMAINDER OF AREA SHOULD BE APPEAR UNIFORM AFTER BINDER APPLICATION. SYNTHETIC BINDERS-SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70 PEGROSET, TERRA TACK II, TERRA TACK AR OR OTHER APPROVED EQUIPMENT 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.

**INCREMENTAL STABILIZATION - CUT SLOPES**

- ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 15'.
- CONSTRUCTION SEQUENCE (REFER TO FIGURE 3 BELOW):
  - EXCAVATE AND STABILIZE ALL TEMPORARY SWALES, SIDE DITCHES, OR BERMS THAT WILL BE USED TO CONVEY RUNOFF FROM THE EXCAVATION.
  - PERFORM PHASE 1 EXCAVATION, DRESS, AND STABILIZE.
  - PERFORM PHASE 2 EXCAVATION, DRESS, AND STABILIZE. OVERSEED PHASE 1 AREAS AS NECESSARY.
  - PERFORM FINAL PHASE EXCAVATION, DRESS, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS NECESSARY.

NOTE: ONCE EXCAVATION HAS BEGUN THE OPERATION SHOULD FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OF COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

**INCREMENTAL STABILIZATION OF EMBANKMENTS - FILL SLOPES**

- EMBANKMENTS SHALL BE CONSTRUCTED IN LIFTS AS PRESCRIBED ON THE PLANS.
- SLOPES SHALL BE STABILIZED IMMEDIATELY WHEN THE VERTICAL HEIGHT OF THE MULTIPLE LIFTS REACHES 15', OR WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS.
- AT THE END OF EACH DAY, TEMPORARY BERMS AND PIPE SLOPE DRAINS SHOULD BE CONSTRUCTED ALONG THE TOP EDGE OF THE EMBANKMENT TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER TO A SEDIMENT TRAPPING DEVICE.
- CONSTRUCTION SEQUENCE: REFER TO FIGURE 3 (BELOW):
  - EXCAVATE AND STABILIZE ALL TEMPORARY SWALES, SIDE DITCHES, OR BERMS THAT WILL BE USED TO DIVERT RUNOFF AROUND THE FILL. CONSTRUCT SLOPE SILT FENCE ON LOW SIDE OF FILL AS SHOWN IN FIGURE 5, UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA.
  - PLACE PHASE 1 EMBANKMENT, DRESS, AND STABILIZE.
  - PLACE PHASE 2 EMBANKMENT, DRESS, AND STABILIZE.
  - PLACE FINAL PHASE EMBANKMENT, DRESS, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF AND PLACEMENT OF TOPSOIL (IF REQUIRED) GRADING AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

**SECTION 2 - TEMPORARY SEEDING**

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

**A. SEED MIXTURES - TEMPORARY SEEDING**

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

SEED MIXTURE (HARDINESS ZONE ... 6b...) FROM TABLE 26					FERTILIZER RATE (10-10-10)	LIME RATE
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS		
1	BARLEY	122	3/1 - 5/15	1" - 2"	600 lb/ac	2 tons/ac
	OATS	96	8/15 - 10/15	1" - 2"	115 lb/1000sqft	100 lb/1000sqft
	RYE	140		1" - 2"		

**SECTION 3 - PERMANENT SEEDING**

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

**A. SEED MIXTURES - PERMANENT SEEDING**

- SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 25 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 5) AND ENTER THEM IN THE PERMANENT SEEDING SUMMARY BELOW, ALONG WITH APPLICATION RATES AND SEEDING DATES. SEEDING DEPTHS CAN BE ESTIMATED USING TABLE 26. IF THIS SUMMARY IS NOT PUT ON THE CONSTRUCTION PLANS AND COMPLETED, THEN TABLE 25 MUST BE PUT ON THE PLANS. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SUCH AS SHOULDER, STEPS/BANKS, OR DUNES OR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-SCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING. FOR SPECIAL LAWN MAINTENANCE AREAS, SEE SECTIONS IV 500 V TURFGRASS.
- FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, THE RATES SHOWN ON THIS TABLE SHALL BE DELETED AND THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY SHALL BE WRITTEN IN.
- FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREAFORM FERTILIZER (46-0-0) AT 3 1/2 LBS/1000 SQ. FT. (LBS./AC.) IN ADDITION TO THE ABOVE SOIL AMENDMENTS SHOWN IN THE TABLE BELOW, TO BE PERFORMED AT THE TIME OF SEEDING.

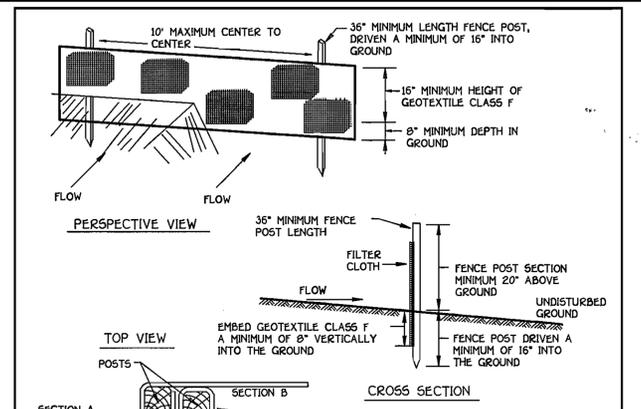
SEED MIXTURE (HARDINESS ZONE ... 6b...) FROM TABLE 25					FERTILIZER RATE (10-20-20)			LIME RATE
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS	N	P205	K2O	
3	TALL FESCUE (95%)	125	3/1 - 5/15	1" - 2"	90 lb/ac	175 lb/ac	175 lb/ac	2 tons/ac
10	PERENNIAL RYE GRASS (10%)	15	8/15 - 10/15	1" - 2"	14 lb/1000sqft	14 lb/1000sqft	14 lb/1000sqft	2 tons/ac
	KENTUCKY BLUEGRASS (92%)	130	3/1 - 5/15	1" - 2"	115 lb/1000sqft	115 lb/1000sqft	115 lb/1000sqft	1000sqft
	HARD FESCUE (20%)	150	8/15 - 10/15	1" - 2"				

**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 (031-1829).
- ALL VEGETATION AND STAPLES MUST 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.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 47 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 5:1 IN 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL. PERIMETER FENCING SHALL BE INSTALLED ON 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 SOIL STABILIZATION (SEC. 50). 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 PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:
  - TOTAL AREA OF SITE: 4.368 ACRES (FROM RECORD PLAT)
  - AREA DISTURBED: 0.018 ACRES
  - AREA TO BE ROLLED OR PAVED: 0.015 ACRES
  - AREA TO BE VEGETATIVELY STABILIZED: 0.003 ACRES
  - TOTAL CUT: N/A; WATER & SEWER MAIN INSTALLATION ONLY
  - OFFSITE WASTE/BORROW AREA LOCATION: N/A 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 HOWARD COUNTY DESIGN MANUAL IS REQUIRED PRIOR TO 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.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THE THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

**STANDARD AND SPECIFICATIONS FOR TOPSOIL**

- DEFINITION: PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.
- PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.
- SPECIFICATIONS:
  - TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND.
  - TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING SUBSOILS.
  - TOPSOIL SHALL CONTAIN LESS THAN 5% BY VOLUME OF CRIBS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.
  - TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" DEEP LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". AVOID SURFACE IRREGULARITIES, BULGES, SPILLS AND AREAS HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AS SPECIFIED IN STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION.
  - TOPSOIL SHALL NOT BE PLACED DURING FROZEN, MUDDY, OR EXCESSIVELY WET CONDITIONS.



**CONSTRUCTIONS SPECIFICATIONS**

- FENCE POSTS SHALL BE A MINIMUM OF 36" LONG DRIVEN 15" 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 WEIGHING NOT LESS THAN 100 POUND PER LINEAR FOOT.
- GEOTEXTILE SHALL FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP OR MID-SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS "F":
 

TENSILE STRENGTH	50 LBS/IN (MIN)	TEST: MGMT 509
TENSILE MODULUS	20 LBS/IN (MIN)	TEST: MGMT 509
FLOW RATE	0.3 GAL. FT. / MINUTE (MAX)	TEST: MGMT 322
FILTERING EFFICIENCY	75% (MIN)	TEST: MGMT 322
- WHERE ENDS OF GEOTEXTILE FABRIC COME TOGETHER, THEY SHALL BE OVERLAPPED, FOLDED AND STAPLED TO PREVENT SEDIMENT BYPASS.
- SILT FENCE SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND MAINTAINED WHEN BULGES OCCUR OR WHEN SEDIMENT ACCUMULATION REACHED 50% OF THE FABRIC HEIGHT.

**SILT FENCE**

**SEQUENCE OF CONSTRUCTION**

- OBTAIN THE REQUIRED GRADING PERMIT.
- NOTIFY MISS UTILITY 48 HOURS BEFORE ANY WORK (0-800-257-7777). 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 THIS SHEET.
- CLEAR AND GRUB AS NECESSARY, ONLY AS REQUIRED FOR EXCAVATION AND INSTALLATION OF THE WATER & SEWER MAINS, ONLY WITHIN THE DESIGNATED WATER, SEWER AND UTILITY EASEMENTS.
- NOTE: THE LENGTH OF OPEN WATER & SEWER MAIN TRENCHES 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 SEWER MAINS AND APPURTENANCES.
- STABILIZE SEED AND MULCH ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS SHEET.
- 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.

**DEVELOPER'S CERTIFICATION**

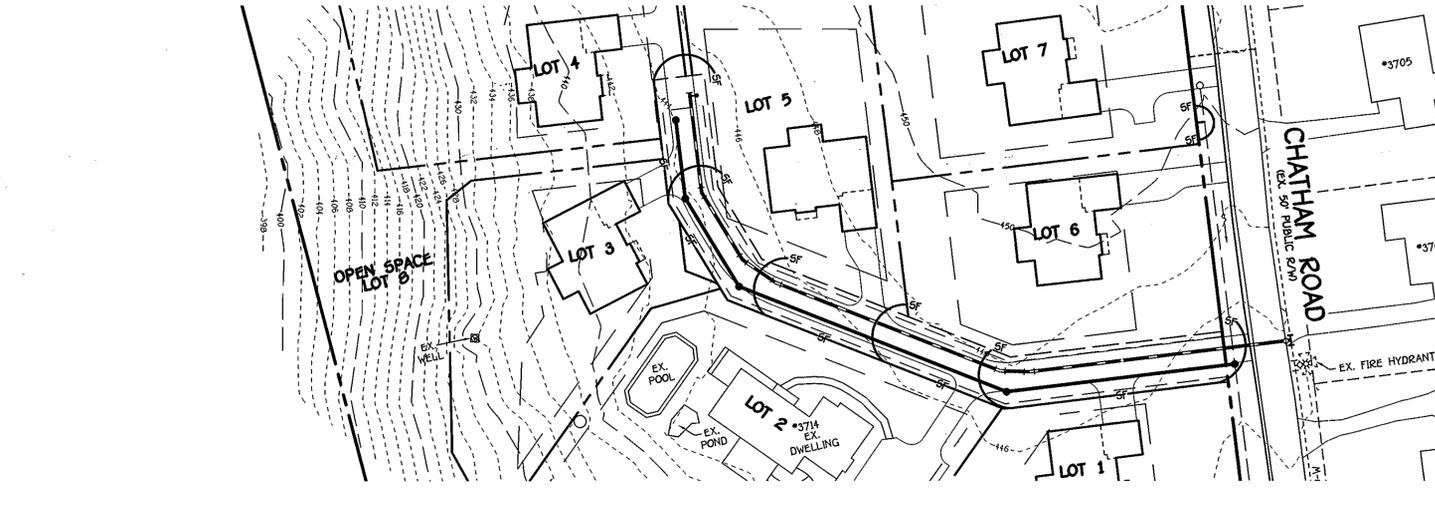
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION HAS BEEN DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED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

Paul W. Keibel, FOR:  
LAW DESIGN & DEVELOPMENT, INC. 05/28/08  
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 I WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY CONSERVATION DISTRICT.

Paul W. Keibel 05-28-08  
SIGNATURE OF ENGINEER DATE



**EROSION & SEDIMENT CONTROL PLAN**  
SCALE 1" = 50'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Chief, Bureau of Utilities: *Sharon C. Green* DATE: 6/28/08

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

Chief, Development Engineering Division: *Michael J. Fisher* DATE: 6/28/08

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

10272 BALTIMORE NATIONAL PIKE  
GALLOTTI CITY, MARYLAND 21042  
410.461.2995

DESIGNED BY: B.C.R.  
DRAWN BY: B.C.R.  
CHECKED BY: P.W.K.  
DATE: MAY, 2008

EROSION & SEDIMENT CONTROL PLAN, NOTES & DETAILS

600' SCALE MAP NO. 24 BLOCK NO. 10  
F.C.C. WORK ORDER NO. 05059

FILE NAME: WATER AND SEWER MAIN EXTENSION SEDIMENT SHEET

THE ENCLAVE AT DUNLOGGIN

LOTS 1 THRU 7, OPEN SPACE LOT 8 & NON-BUILDABLE BULK PARCEL 'A'  
CONTRACT NO. 24-4461-D  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 4 OF 4

1:20051050509.dwg/05/28/08 Water And Sewer Base Plan.dwg, 5/28/2008 2:13:06 PM