		A5-BUILT					
Пем	estimated	QUANTITIES	TYPE	SUPPLIER			
8"5	295 LF.			e e e			
4"5	136 LF.	:- :-					
MANHOLES	3 EACH						
8"W	281 LF.						
6"W	17 L.F.		٠.				
1-1/2" WHC	111 LF.						
1/16 H.B.	1 EACH		·				
1/32 H.B.	1 EACH						
8"X G" INCREASER	1 EACH						
SIVALVE	1 EACH						
8"X6" TEE	1 EACH						
6" VALVE	1 EACH						
8" PLUG & BUTTRESS	1 EACH						
FIRE HYDRANT	1 EACH						
CONTINUITY TEST STATION	1 EACH						
single outside Meter setting	8 EACH						

BENCHMARK INFORMATION

B.M.#1 - HOWARD COUNTY CONTROL STATION #380A NAD '83) (LOCATED AT THE END OF HANOVER ROAD, EAST OF MACAW COURT) N 556,796.3031 E 1.390,221.4773

ELEVATION = 126.145 - VERTICAL - (NAVD '88) B.M.#2 - HOWARD COUNTY CONTROL STATION #38GA (NAD '83) (LOCATED ALONG THE SOUTH SIDE OF LOUDON AVE. APPROX. 52.0' FROM BGE POLE #323644 AND 22.6' FROM CENTER OF LOUDON AVE.) N 555,897.3242

ELEVATION = 80.853 VERTICAL - (NAVD '88)

PRIVATE WELL & PRIVATE SEPTIC SYSTEM CHART					
PARCEL NO.	ADDRESS	OWNER	ABANDON WELL	ABANDON SEPTIC	
868 6301 WINTERS LANE		WINTERS LANE INVESTMENTS, LLC C/O B JAMES GREENFIELD	N/A	YE5	

NOTE: WATER METERS WILL NOT BE RELEASED BY HOWARD COUNTY TO ANY NEW BUILDING UNTIL THE EXISTING WELLS AND SEPTIC SYSTEMS HAVE BEEN ABANDONED IN ACCORDANCE WITH HOWARD COUNTY HEALTH DEPARTMENT REGULATIONS AND THE EXISTING BUILDINGS ARE CONNECTED TO THE PUBLIC

DEVELOPER'S CERTIFICATION

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

Paul W. Kowlel; FOR: Winter Lang Invastments, LLC

ENGINEER'S CERTIFICATION

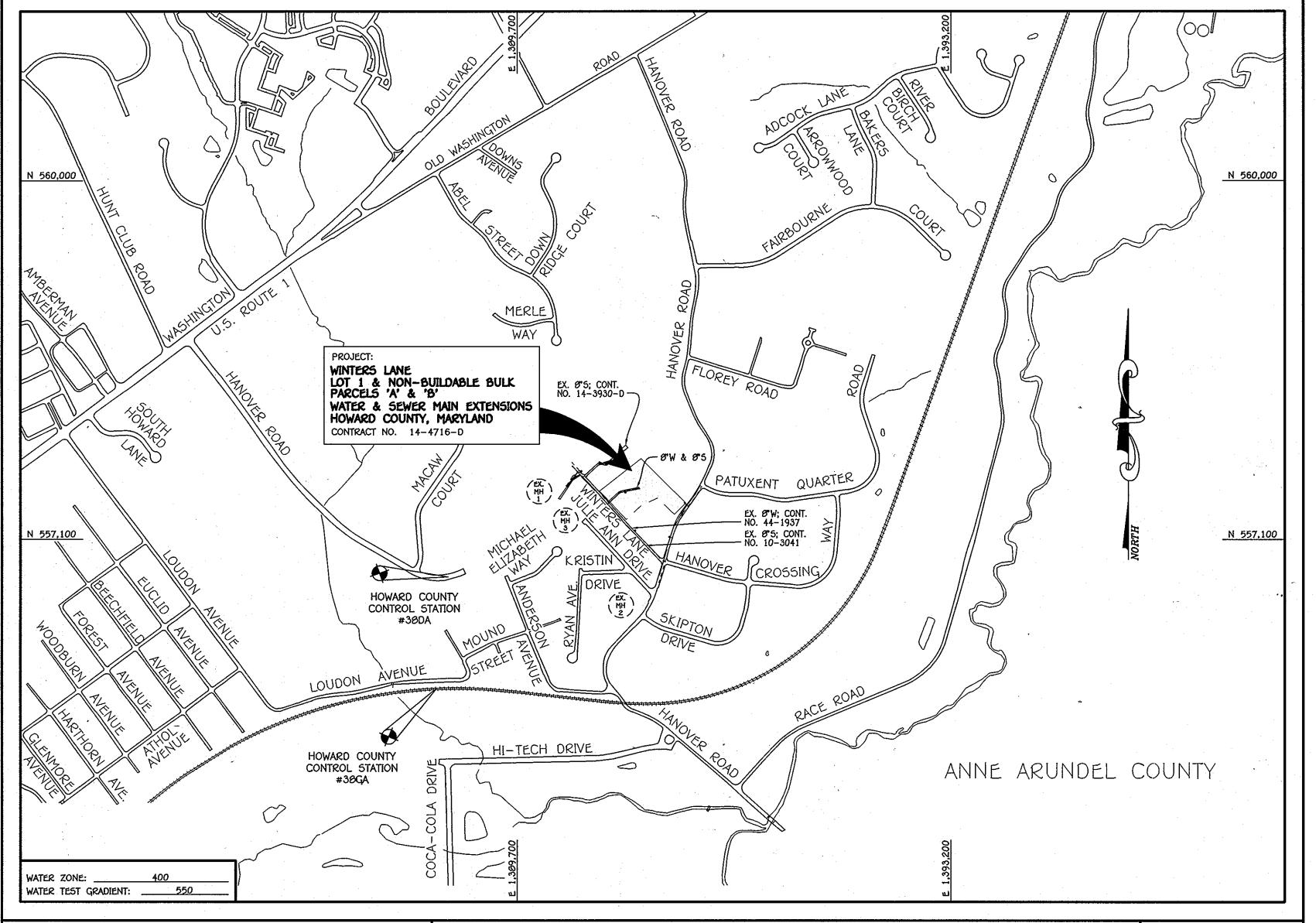
" I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE HOWARD COUNTY DESIGN MANUAL - VOLUME IV: STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION

Paul W. Keichel, FOR:
Winter Lang Thyastments, LLC

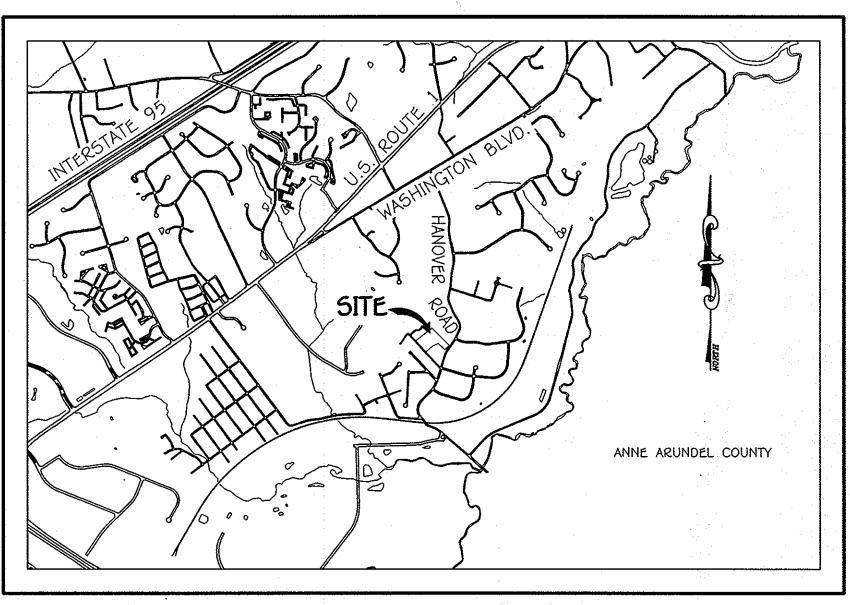
GP-12-XXX

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



CONTRACT NO. 14-4716-D WINTERS LANE

LOT 1 & NON-BUILDABLE BULK PARCELS 'A' & 'B' WATER & SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND



GENERAL NOTES

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.

TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON OR ABOUT FEBRUARY, 2004 BY FISHER, COLLINS & CARTER, INC. HORIZONTAL AND VERTICAL SURVEY CONTROLS: THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '03/91' AS PROJECTED

BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 38DA & NO. 38GA. ALL VERTICAL CONTROLS ARE BASED ON NAVD '66. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS 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'-O' 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

OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF 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

COST INCURRED BY THE OWNER FOR THE BRACING OF THE ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES

HAVE A COPY OF VOLUME IV ON THE JOB SITE. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL • AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE

CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

STATE HIGHWAY ADMINISTRATION 410-531-5533

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 THE CONSTRUCTION OF THE MAIN. THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)-313-7450 AT LEAST FIVE WORKING DAYS

BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 10.114(a) OF THE HOWARD

PART B: WATER MAIN GENERAL NOTES

1. ALL WATER MAINS SHALL BE AWWA C900 PVC; DR16 UNLESS OTHERWISE NOTED. 2. TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED

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

4. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS. 5. 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. 6. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM . Tracer wire and continuity test stations shall be installed on all d.i.p. and PVC water mains in accordance

6. FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF

THE PIPE SUPPLIED TO THE TEST RECORDS RECEIVED. 9. UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, SEVENTEEN (17) POUND SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSES. ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL "TEES" USED WITH PVC MAINS SHALL BE DUCTILE IRON.

PART C: <u>SEWER MAIN GENERAL NOTES</u>

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

2. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED. 3. FORCE MAINS SHALL BE D.I.P. ONLY.

4. MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY. 5. 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. 6. HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED

> DEVELOPER WINTERS LANE INVESTMENTS, LLC 6420 AUTUMN SKY WAY COLUMBIA, MARYLAND 21044

CONTRACT NO. 14-4716-D WINTERS LANE LOT 1 & NON-BUILDABLE BULK PARCELS 'A' & 'B' WATER & SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING

prepared or approved by Me, and that I am a DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 12043 EXPIRATION DATE IS 7/16/12. FISHER, COLLINS & CARTER, INC.

ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2055

TYPE OF BUILDING: RESIDENTIAL: SINGLE FAMILY DETACHED

TREATMENT PLANT: PATAPSCO WASTEWATER TREATMENT

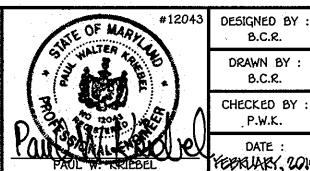
PLANT: CITY OF BALTIMORE

NO. OF WATER HOUSE CONNECTIONS: _

NO. OF SEWER HOUSE CONNECTIONS:_

SEWER SHED: PATAPSCO

NUMBER OF LOTS: 9 TOTAL (1 PROPOSED, 7 FUTURE, 1 OPEN SPACE)



D.C.K.			·		
DRAWN BY : B.C.R.				·	
CHECKED BY :					•
P.W.K.					
DATE :					
EBRUARY, 2012	8Y	NO.	REVISION	DATE	-

WATER & SEWER MAIN EXTENSIONS TITLE SHEET 600' SCALE MAP NO. 38 BLOCK NO. 15 F.C.C. WORK ORDER NO. _ 05129

FILE NAME : WATER & SEWER MAIN EXTENSION TITLE SHEET

PLAN REFERENCE NUMBERS:

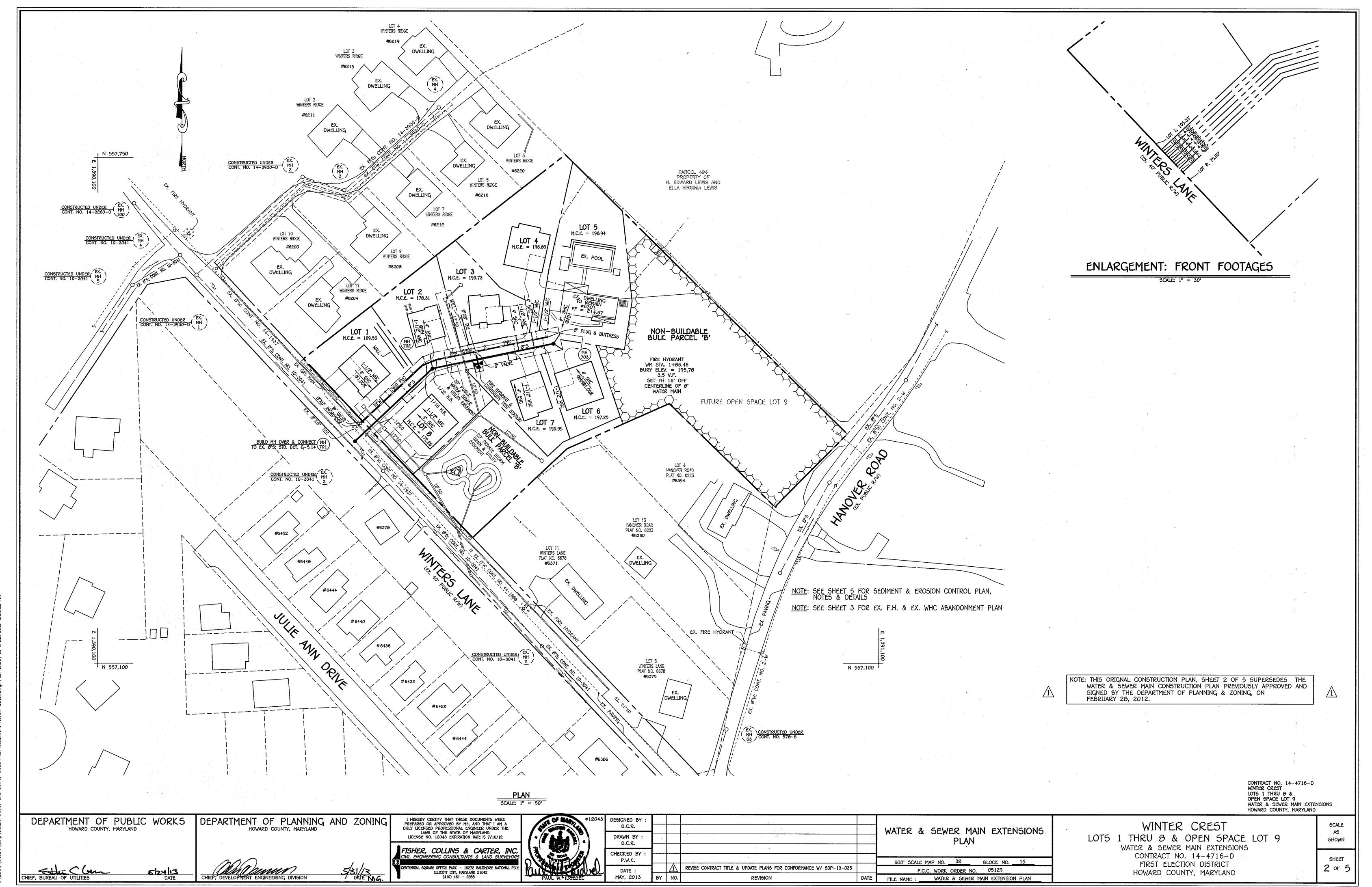
50P-12-XXX F-12-033

WINTERS LANE LOT 1 & NON-BUILDABLE BULK PARCELS 'A' & 'B' WATER & SEWER MAIN EXTENSIONS

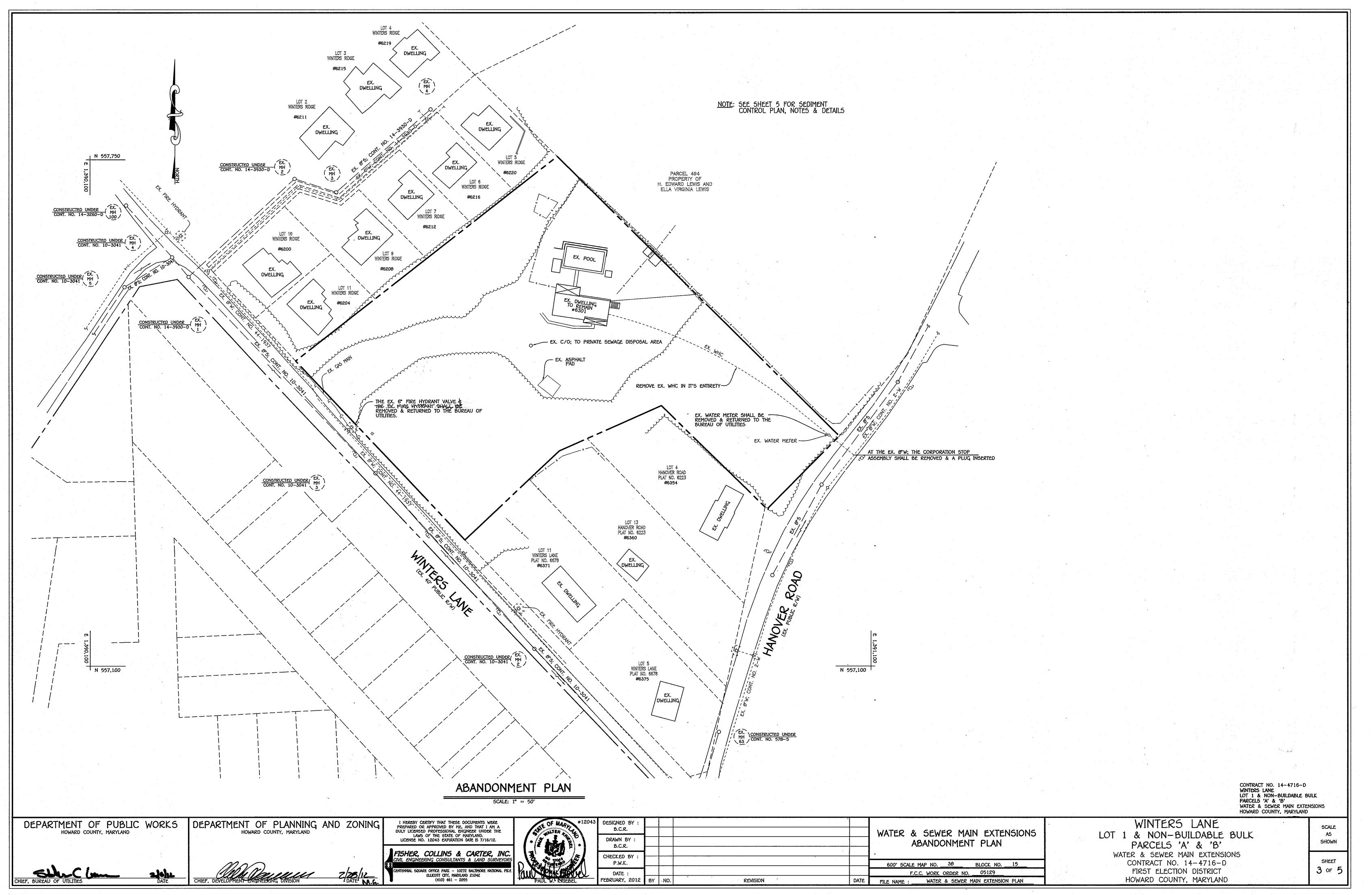
CONTRACT NO. 14-4716-D FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHEET 1 of 5

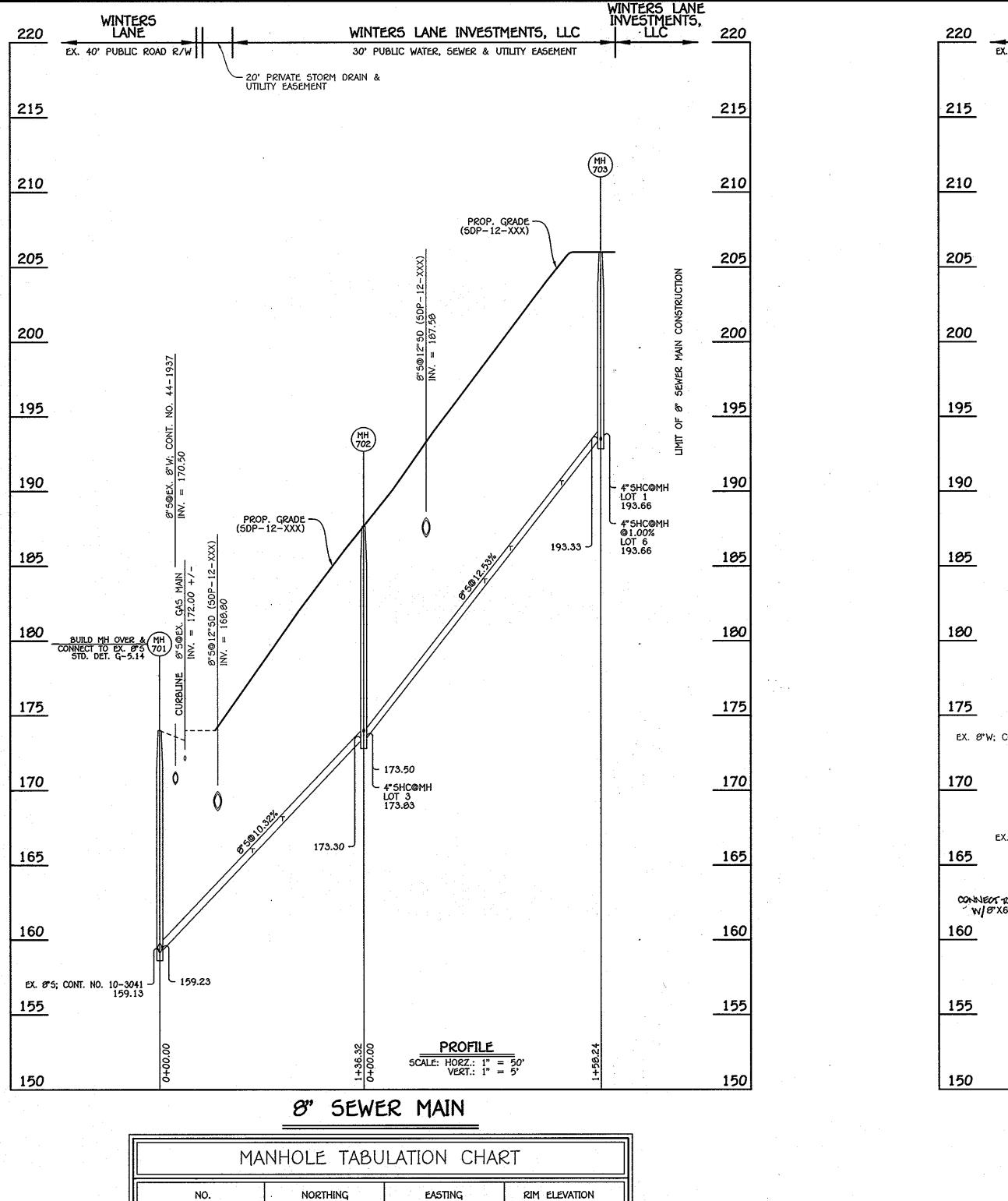
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1:\2005\05129\dwo\05129\Water and Sewer Base Plan (Redline 1 March-2013) dwo Plan Sheet 9 5,722,2013 10:15



[:\2005\05129\dwg\05129 Water and Sewer Base Plan.dwg, 1/31/2012



220	WINTERS LANE	WINTERS LANE INVESTMENTS, LLC	WINTERS LANE INVESTMENTS, LLC 220
	EX. 40' PUBLIC ROAD R/W	30' PUBLIC WATER, SEWER & UTILITY EASEMENT	
		20' PRIVATE STORM DRAIN & UTILITY EASEMENT	
215		Ondri Dochem	215
			OCTO
210			CONSTRUCTION 210
		DOND COANS -	WATER MAIN
205		PROP. GRADE (SDP-12-XXX)	205
205		12 X X X X X X X X X	P P P P P P P P P P P P P P P P P P P
		-d08) -d08)	
200			200
	a contraction	N //	
		W.W. W.W. W.W. W.W. W.W. W.W. W.W. W.W	2+80.57 8° PLUG & BUTTRESS 202.23
195			50 195
190		/ / \ 2+00	190
		193.20	
		PROP. GRADE 1+92.00	
185	Z X	COUPLING (DOWN) 192.95	105
	GAS MAIN 172.00 +/- (50P-12-XXX)	1+06.46 8"X6" F.H. Tee 192.20	
		1+50	
180	Ø"W@EX. INV. = Ø12"5D	1+00	180
	9"W@ INV.	<u>2</u> /180.05	•
	·		
175	CURBLINE	1+15.69	175
	'W: CONT. NO	// 1/16 n.b.	
	'W; CONT. NO 44-1937	192.25	
170		1+35.10 1/32 H.B. 104.99	170
	EX. 8" X6" TEE		
165	EX. 8"X6" TEE		165
	0.00.00		
COHNI	01.00.00 EUT-10 EX.8"X6"EE 10"X6" INCREASER 170.15		
160			_ 160
	0+07.00 Ø VALVE 170.15	SEE WATER MAIN NOTES THIS SHEET (BELOW)	
	0+12.00 4° DEFLECTION COUPLING (UP) 170.15		
155	COUPLING (UP) 170.15 0+47.00		155
	4° DEFLECTION COUPLING (UP 172.60)	
	172.60		
150		5CALE: HORZ.: 1" = 50' VERT.: 1" = 5'	150
		8" WATER MAIN	

SEWER HOUSE CONNECTION AS-BUILT LOCATION TABLE LOT NUMBER ADDRESS LOCATION DIMENSION 1 LOCATION DIMENSION 2 FUTURE 2 FUTURE 3 FUTURE 4 FUTURE 5 FUTURE 6 FUTURE 7 FUTURE 0

WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE					
LOT NUMBER	ADDRE55	LOCATION DIMENSION 1	LOCATION DIMENSION 2		
1					
FUTURE 2					
FUTURE 3					
FUTURE 4					
FUTURE 5					
FUTURE 6					
FUTURE 7					
FUTURE 0					

WATER MAIN TABULATION CHART							
W.M. STA.	APPURTENANCE	Northing	easting				
	8" WATER MAIN						
0+00.00	0"X6" INCREASER	557403.63	1390431.04				
0+07.00	Ø' VALVE	557400.43	13 9 0436.13				
1+15.60	1/16 H.B.	557402.96	13 9 0515.22				
1+35.10	1/32 H.B.	557490.30	1390533.29				
1+86.46	8"X6" F.H. TEE	557500.69	1390503.51				
2+80.57	8" PLUG & BUTTRESS	557519.76	1390675.67				

- WATER MAIN NOTES:

 1. ALL WATER MAINS SHALL BE AWWA C900 PVC PIPE.

 2. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME II - WATER AND SEWER STANDARDS FOR AWWA C900 PVC WATER PIPE INSTALLATION.
 - 3. DEFLECTION COUPLINGS SHALL BE CERTAIN-TEED PVC HIGH DEFLECTION COUPLINGS.
 - 4. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING

CONTRACT NO. 14-4716-D WINTERS LANE
LOT 1 & NON-BUILDABLE BULK
PARCELS 'A' & 'B'
WATER & SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

701

702

703

STATION

0+62 LT.

0+82 RT.

@MH 702 LT.

0+81 LT. 0+98 RT.

1+32.69 LT.

@MH 703 LT.

@MH 703 RT.

NOTE: SET MH RIMS FLUSH W/PROPOSED GRADE.

557385.56

557479.05

557511.11

SHC INVERT @ EDGE OF EASEMENT

LOT

MH 701 TO MH 702

8

MH 702 TO MH 703

7

5

2 - @1.00%

6 - @1.00%

1390429.09

1390528.30

1390603.26

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

174.00

187.65

206.00

ELEVATION

166.00 168.06

174.21

184.22

186.15

190.70

193.94

193.80

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 12043 EXPIRATION DATE IS 7/16/12. FISHER, COLLINS & CARTER, INC. Square office park — 10272 baltimore national pik ellicott city, maryland 21042 (410) 461 — 2055



DESIGNED BY :					
B.C.R.					WATER & SEWER MAIN EXTENSIONS
DRAWN BY : B.C.R.					PROFILES, CHARTS & TABLES
	l .				
CHECKED BY : P.W.K.					600' SCALE MAP NO. 38 BLOCK NO. 15
DATE :	-				F.C.C. WORK ORDER NO. 05129
FEBRUARY, 2012	βY	NO.	REVISION	DATE	FILE NAME : WATER & SEWER MAIN EXTENSION PROFILES

WINTERS LANE LOT 1 & NON-BUILDABLE BULK PARCELS 'A' & 'B' WATER & SEWER MAIN EXTENSIONS CONTRACT NO. 14-4716-D FIRST ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SCALE SHOWN SHEET

4 of 5

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

AND VISUAL RESOURCES.

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

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 DIMDED 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, INFILITRATION 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, 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.
- NECESSARY FOR TEMPORARY SEEDING. SCHEDULE REQUIRED SOIL TESTS TO DETERMINE SOIL AMENDMENT COMPOSITION AND APPLICATION RATES FOR SITES HAVING

PERFORM ALL GRADING OPERATIONS AT RIGHT ANGLES TO THE SLOPE. FINAL GRADING AND SHAPING IS NOT USUALLY

- 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 FEXTILIZER ON SITES HAVING DISTURBED AREAS OVER 5 ACRES, SOIL ANALYSIS MAY BE PERFORMED BY THE
- PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES. 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 WARRANTEE

UNIVERSITY OF MARYLAND OR A RECOGNIZED COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING

- OF THE PRODUCER. 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 98-100% 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.
- . SEEDBED PREPARATION i. 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,
- b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS. a incorporate line and fertilizer into the top 3-5" of soil by disking or other suitable means.
 - a. MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT: SOIL pH SHALL BE BETWEEN 6.0 AND 7.0.
 - SOUBLE SALTS SHALL BE LESS THAN 500 PARTS PER MILLION (PPM). THE SOIL SHALL CONTAIN LESS THAN 40CLAY, BUT ENOUGH FINE GRAINED MATERIAL (>30% SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION IS IF LOVEGRASS OR SERECIA LESPEDEZAS IS TO BE PLANTED, THEN A SANDY SOIL (<30% SILT PLUS CLAY) WOULD BE

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.

- SOIL SHALL CONTAIN 1.5% MINIMUM ORGANIC MATTER BY WEIGHT.
- SOIL MUST CONTAIN SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION. IF THESE CONDITIONS CANNOT BE MET BY 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 FROM SLIDING DOWN A SLOPE
- APPLY SOIL AMENOMENTS AS PER SOIL TESTS OR AS INCLUDED ON THE PLANS. MIX SOIL AMENOMENTS 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 TACS SHALL BE MADE AVAILABLE TO THE INSPECTOR TO VERIFY TYPE AND RATE OF SEED USED. INOCULATION - THE INOCULANT FOR TREATING LEGIME SEED IN THE SEED MIXTURES SHALL BE A PURE CULTURE OF NTROGEN-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 RECONPLENDED RATE WHEN HYDROGEEDING. 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 i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer). Broadcast or DROP SEEDED, OR A CULTIPACKER SEDER.
 - 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 LB5/AC; K20 (POTA55IUM); 200 LB5/AC. b. LIME - USE ONLY GROUND AGRICULTURAL LIMESTONE, (UP TO 3 TONS PER ADRE 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 TIME WHEN HYDROGEFOING.
 - c. SEED AND FERTILIZER SHALL BE MIXED ON SITE AND SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT
- 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 PROMDE 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 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 promide at least 1/4 inch
- OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING WHERE PRACTICAL, SEED SHOULD BE APPLIED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. F. MULCH SPECIFICATIONS (IN ORDER OF PREFERENCE)
- STRAW SHALL CONSIST OF THOROUGHLY THRESHED WHEAT, RYE OR OAT STRAW, REASONABLE BRIGHT IN COLOR, AND SHALL NOT BE MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY AND SHALL BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW.
- WOOD CELLULOSE FIBER MULCH (WCFM) a. WCFM SHALL CONSIST OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE
- b. WOFM 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. WOFM, INCLUDING DYE, SHALL CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
- WOFM MATERIALS SHALL BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER ACTTATION 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
- ORASS SEEDLINGS. e. WCFM MATERIAL SHALL CONTAIN NO ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE
- WOFM 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.

- G. MULCHING SEEDED AREAS MULCH SHALL BE APPLIED TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING. i. If grading is completed outside of the seeding season, mulch alone shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance WITH THESE SPECIFICATIONS. ii. WHEN STRAW MULCH IS USED, IT SHALL BE SPREAD OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS/ACRE. MULCH
 - SHALL BE APPLIED TO A UNIFORM LOOSE DEPTH OF BETWEEN 1" AND 2". MULCH APPLIED SHALL ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. IF A MULCH ANCHORING TOOL IS TO BE USED,
 - THE RATE SHOULD BE INCREASED TO 2.5 TONS/ACRE. iii. WOOD CELLULOSE FIBER USED AS A MULCH SHALL BE APPLIED AT A NET DRY WEIGHT OF 1,500 LBG. PER ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER, AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LBG. OF WOOD
- CELLULOSE FIBER PER 100 GALLONS OF WATER. H. 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 AS TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF TWO (2) INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD BE
- LISED ON THE CONTOLIR 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 (ACRO-TACK), DCA-70 PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- NETTING IS USUALLY AVAILABLE IN ROLLS 4' TO 15' FEET WIDE AND 300 TO 3,000 FEET LONG. I. 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'. ii. CONSTRUCTION SEQUENCE (REFER TO FIGURE 3 BELOW):
- a. EXCAVATE AND STABILIZE ALL TEMPORARY SWALES, SIDE DITCHES, OR BERMS THAT WILL BE USED TO CONNEY 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 PREMOUSLY 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
- J. 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.
- iii. AT THE END OF EACH DAY, TEMPORARY BERMS AND PIPE SLOPE DRAINS SHOULD BE CONSTRUCTED ALONG THE TOP EDGE OF THE EMBANKMENT TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER TO A SEDIMENT TRAPPING DEVICE. iv. CONSTRUCTION SEQUENCE: REFER TO FIGURE 4 (BELOW):

a. EXCAVATE AND STABILIZE ALL TEMPORARY SWALES, SIDE DITCHES, OR BERMS THAT WILL BE USED TO DIVERT

- RUNOFF AROUND THE 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 I EMBANKMENT, DRESS, AND STABILIZE. c. Place Phase 2 Embankment, Dress, and Stabilize.
- d. Place final phase embankment, dress, and stabilize. Overseed previously seeded areas as neccessary. 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 UOT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.
- SEDIMENT CONTROL NOTES 1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY
- DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIMISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR
- SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO. 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. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52), TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR
- PROPER GERMINATION AND ESTABLISHMENT OF GRASSES. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARI TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL
- 7) SITE ANALYSIS:
- TOTAL FILL > N/A OFFSITE WASTE/BORROW AREA LOCATION N/A CU. Y05. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR CONSTRUCTION OF THE WASTEWATER PUMPING STATION, ACCESS DRIVEWAY &
- 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

UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

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

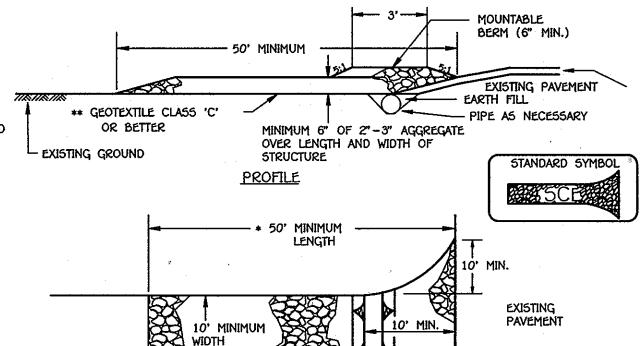
WORKING DAY, WHICHEVER IS SHORTER.

- SECTION 21 STANDARD AND SPECIFICATIONS FOR TOPSOIL
- . DEFINITION: PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.
- . SPECIFICATIONS: A. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. B. TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING SUBSOILS. C. TOPSOIL SHALL CONTAIN LESS THAN 5% BY VOLUME OF 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 LIGHT 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 CONDITIONS.

SEQUENCE OF CONSTRUCTION

- OBTAIN THE REQUIRED GRADING PERMIT. NOTIFY MISS UTILITY 40 HOURS BEFORE ANY WORK (1-800-257-7777). NOTIFY HOWARD COUNTY CONSTRUCTION/INSPECTION DIVISION 24 HOURS BEFORE STARTING ANY WORK ((410)313-1870). INSTALL THE REQUIRED SEDIMENT AND EROSION CONTROL DEVICES AS INDICATED ON SHEET 6.
- CLEAR AND CRUB AS NECESSARY, ONLY AS REQUIRED FOR CONSTRUCTION OF THE WASTEWATER PUMPING STATION, ACCESS DRIVEWAY & UTILITIES. NOTE: THE LENGTH OF OPEN UTILITY TRENCH SHALL BE LIMITED TO THREE (3) PIPE LENGTHS OR THAT WHICH WILL BE
- BACKFILLED AND STABILIZED WITHIN ONE (1) WORKING DAY, WHICHEVER IS CONSTRUCT THE WASTEWATER PUMPING STATION, ACCESS DRIVEWAY &
- 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



CONSTRUCTION SPECIFICATIONS

PLAN VIEW

- 1. LENGTH MINIMUM OF 50' (*30' FOR SINGLE RESIDENCE LOT). 2. WIDTH - 10' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING
- 3. GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE. **THE PLAN APPROVAL AUTHORITY MAY NOT REQUIRE SINGLE FAMILY RESIDENCES TO USE CEOTEXTILE.
- 4. STONE CRUSHED ACCRECATE (2" TO 3") OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT SHALL BE PLACED AT LEAST 6" DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE 5. SURFACE WATER - ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED THROUGH THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE PIPE INSTALLED THROUGH THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROTECTED WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 6" OF STONE OVER THE PIPE PIPE HAS TO BE SIZED ACCORDING TO THE DRAINAGE. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY A PIPE WILL NOT BE NECESSARY. PIPE SHOULD BE SIZED ACCORDING TO THE AMOUNT OF RUNOFF TO BE CONVEYED. A 6" MINIMUM WILL BE
- 6. LOCATION A STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE. VEHICLES LEAVING THE SITE MUST TRAVEL OVER THE ENTIRE LENGTH OF THE STABILIZED CONSTRUCTION

STABILIZED CONSTRUCTION ENTRANCE ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL ZEPRESENTS 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.

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 DEPARTMEN 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

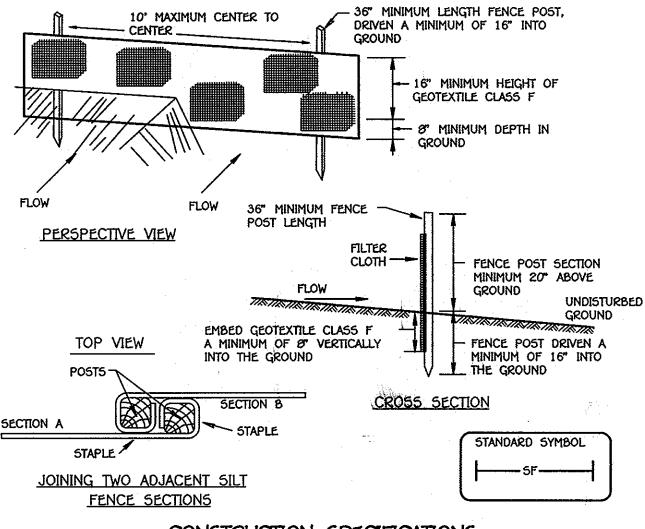
Paul W Keichel; FOR:

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 LOOSENED. SOIL AMENOMENTS: APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS. PER 1000 SQ.FT.). SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15. SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS. PER 1000 SQ.FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14. SEED WITH 3 LBS. PER ACRE OF WEEPING LOVE GRASS (0.07 LBS. PER 1000 SQ.FT.). 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 SOO. <u>MULCHING : APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS, PER 1000 SQ.FT.)</u> OF UNROTTED SMALL GRAIN straw immediately after seeding, anchor mulch immediately after application using mulch anchoring TOOL OR 218 GAL PER ACRE (5 GAL PER 1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 347 GAL. PER ACRE (8 GAL. PER 1000 SQ.FT.) FOR ANCHORING, REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT CONFRED.

PERMANENT SEEDING NOTES

- APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.
- <u> SEEDBED PREPARATION : LOOGEN UPPER THREE INCHES OF SOIL BY RAKING, </u> DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED. <u> 501L AMENDMENTS : IN LIEU OF SOIL TEST RECOMMENDATIONS. USE ONE OF</u> HE FOLLOWING SCHEDULES :
- PREFERRED APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS. PER 1000 SQ.FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS. PER 1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL AT TIME OF SEEDING, APPLY 400 LBS. PER AORE 30-0-0 UREAFORM FERTILIZER (9 LBS. PER 1000 SQ.FT.). 2. ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS. PER 1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS. PER 1000 SQ.FT.) BEFORE SEEDING, HARROW OR DISC INTO UPPER THREE INCHES OF SOIL
- 5<u>EEDING: FOR THE PERIOD MARCH 1 THRU APRIL 30 AND FROM AUGUST 1</u> THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (1.4 LBS. PER 1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBG. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBG. PER ACRE (0.05 LBG. PER 1000 SQ.FT.) OF WEEPING LOVE GRASS. DURING THE PERIOD OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY ONE OF THE FOLLOWING OPTIONS: 2 TONS PER ACRE OF WELL-ANCHORED MULCH STRAW AND SEED AS SOON AS POSSIBLE IN THE SPRING.
- USE 500. . SEED WITH 60 LBG. PER ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONG PER ACRE WELL ANCHORED STRAW. YULCHING: APPLY 1-1/2 TO 2 TONG PER ACRE (70 TO 90 L85, PER 1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING, ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL. PER 1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 347 CAL PER ADRE (8 CAL PER 1000 SQ.FT.) FOR ANCHORING. <u>MAINTENANCE : INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS.</u> replacements and reseedings.



CONSTRUCTION SPECIFICATIONS

Tensile modullis

. FENCE POSTS SHALL BE A MINIMUM OF 38" LONG DRIVEN 16" MINIMUM INTO THE GROUND, WOOD POSTS SHALL BE 11/2" X 11/2" SQUARE (MINIMUM) CUT, OR 13/4" DIAMETER (MINIMUM) ROUND AND SHALL BE OF SOUND QUALITY HARDWOOD. STEEL POSTS WILL BE STANDARD 'T' OR 'U' SECTION WEIGHTING NOT

WHEN BULGES OCCUR OR WHEN SEDIMENT ACCUMULATION REACHED 50% OF THE

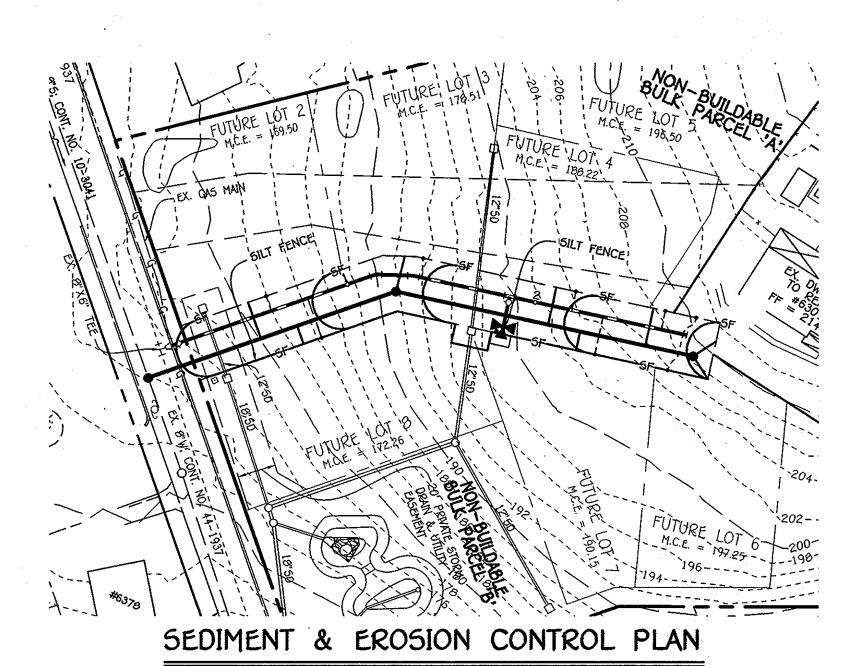
LESS THAN 1.00 POUND PER LINEAR FOOT. 2. GEOTEXTILE SHALL FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLE AT TOP OR MID-SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS 'F': TENSILE STRENGTH TEST: MSMT 509

20 LB5/IN (MIN.) TEST: MSMT 509 0.3 GAL FT.4/ MINUTE (MAX.) TEST: MSMT 322 FILTERING EFFICIENCY 75% (MIN.) TEST: MSMT 322 3. WHERE ENDS OF GEOTEXTILE FABRIC COME TOGETHER, THEY SHALL BE OVERLAPPED, FOLDED AND STAPLED TO PREVENT SEDIMENT BYPASS. 4. SILT FENCE SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND MAINTAINED

FABRIC HEIGHT SILT FENCE DESIGN CRITERIA SLOPE STEEPNESS FLATTER THAN 50:1 SLOPE LENGTH SILT FENCE LENGTH 50:1 TO 10:1 125 FFFT 1.000 FFFT 10:1 TO 5: 750 FEET 60 FEET 500 FFFT 5:1 TO 3:1 3:1 TO 2:1 250 FEE 20 FEET 2:1 AND STEEPER 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

SILT FENCE



CONTRACT NO. 14-4716-D WINTERS LANE LOT 1 & NON-BUILDABLE BULK PARCELS 'A' & 'B'

WATER & SEWER MAIN EXTENSIONS

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

SEDIMENT CONTROL DEVICES. DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 12043 EXPIRATION DATE IS 7/16/12.

DESIGNED BY B.C.R. DRAWN BY B.C.R. CHECKED BY P.W.K. DATE ebruary, 2012 🛮 by 📗 No. 🖯 REVISION

SEDIMENT CONTROL PLAN, NOTES & DETAILS

600' SCALE MAP NO. 38 BLOCK NO. 15 F.C.C. WORK ORDER NO. 05129

WINTERS LANE LOT 1 & NON-BUILDABLE BULK PARCELS 'A' & 'B' WATER & SEWER MAIN EXTENSIONS CONTRACT NO. 14-4716-D

FIRST ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SHOWN

SCALE

75HER, COLLINS & CARTER, INC ENGINEERING CONSULTANTS & LAND SURVEYO DUARE OFFICE PARK - 10272 BALTIMORE NATIONAL. PLLICOTT CITY, MARYLAND 21042 (410) 461 - 2855

FILE NAME: WATER & SEWER MAIN EXTENSION SED SHEET

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