

QUANTITIES				
ITEM	ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	SUPPLIER
Ø5	295 L.F.			
Ø4	136 L.F.			
MANHOLES	3 EACH			
Ø12 W	221 L.F.			
Ø6 W	17 L.F.			
1-1/2" WHC	111 L.F.			
1/16 H.B.	1 EACH			
1/32 H.B.	1 EACH			
Ø4" INCH VALVE	1 EACH			
Ø4" VALVE	1 EACH			
Ø4" X 6" TEE	1 EACH			
Ø6" VALVE	1 EACH			
Ø" PLUG & BUTTRISS	1 EACH			
FIRE HYDRANT	1 EACH			
CONTINUITY TEST STATION	1 EACH			
SINGLE OUTSIDE METER SETTING	Ø EACH			

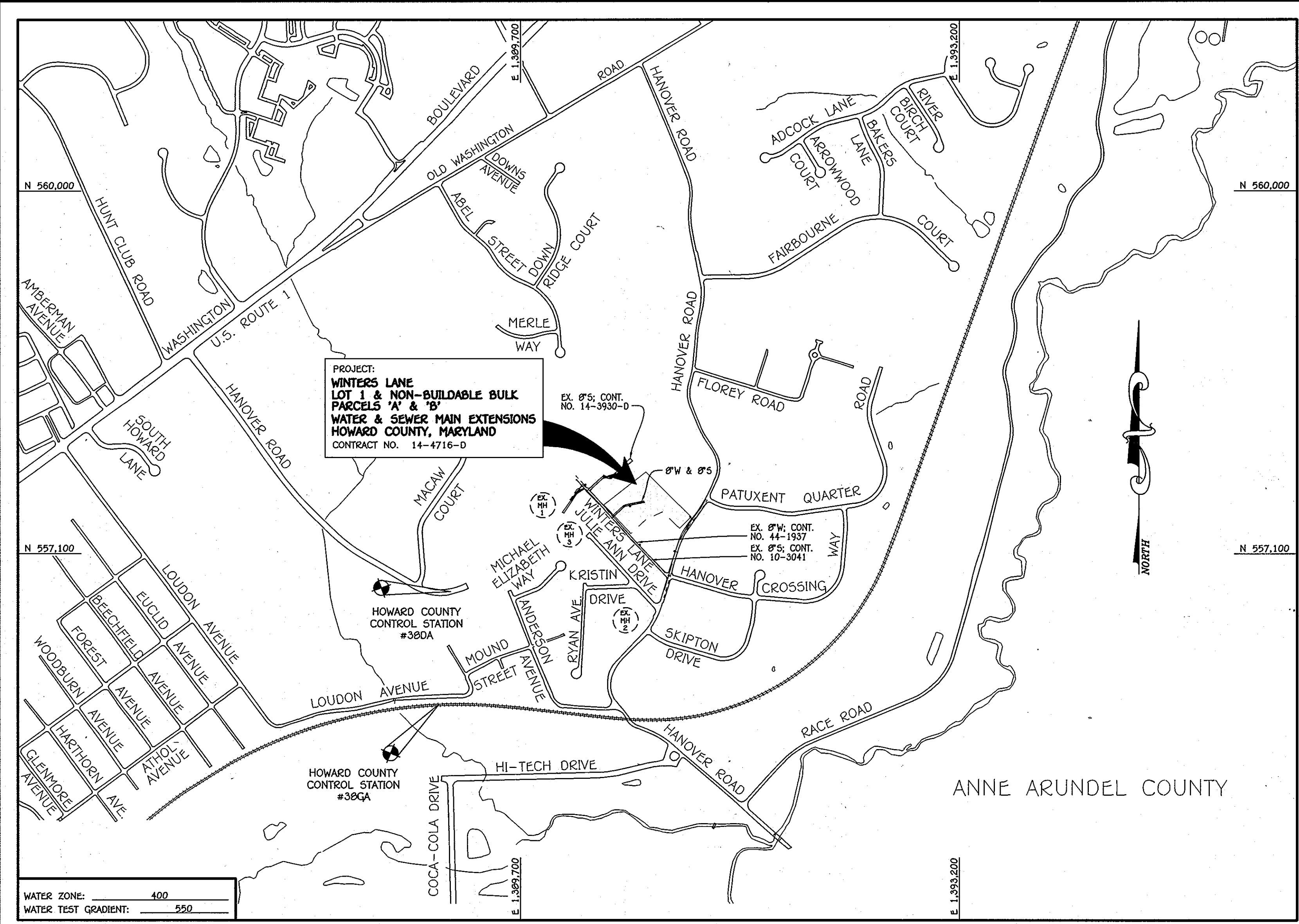
**BENCHMARK INFORMATION**

B.M.#1 - HOWARD COUNTY CONTROL STATION #380A NAD '83 (LOCATED AT THE END OF HANOVER ROAD, EAST OF MACAW COURT) N 556,796.3051 E 1,390,221.4773 ELEVATION = 128.145 - VERTICAL - (NAVD '88)

B.M.#2 - HOWARD COUNTY CONTROL STATION #380A (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 E 1,390,132.1176 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	YES

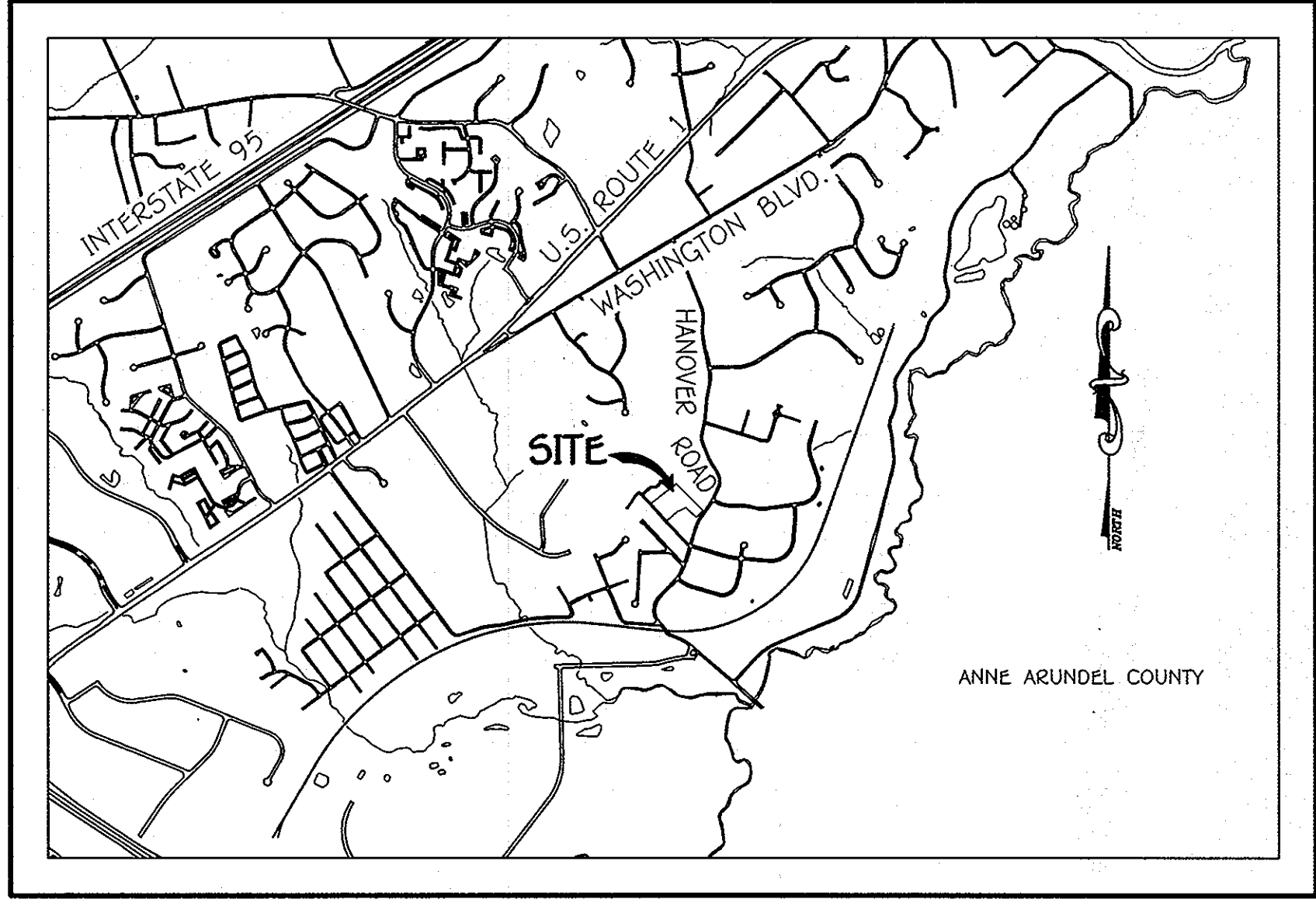
NOTE: WATER METERS WILL NOT BE RELEASED BY HOWARD COUNTY TO ANY NEW BUILDING UNTIL THE EXISTING WELLS AND SEPTIC SYSTEMS HAVE BEEN ABANDONED IN ACCORDANCE WITH HOWARD COUNTY HEALTH DEPARTMENT REGULATIONS AND THE EXISTING BUILDINGS ARE CONNECTED TO THE PUBLIC WATER AND SEWER MAINS.



TYPE OF BUILDING: RESIDENTIAL - SINGLE FAMILY DETACHED	
NUMBER OF LOTS:	9 TOTAL (1 PROPOSED, 7 FUTURE, 1 OPEN SPACE)
NO. OF WATER HOUSE CONNECTIONS:	Ø
NO. OF SEWER HOUSE CONNECTIONS:	Ø
SEWER SHED:	PATAPSCO
TREATMENT PLANT:	PATAPSCO WASTEWATER TREATMENT PLANT, CITY OF BALTIMORE

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

PLAN REFERENCE NUMBERS:	
SDP-12-XXX	F-12-033 (RECORD PLAT)



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

**GENERAL NOTES**

- PART A**
- 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 '83/91' AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 380A & NO. 380A. ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. 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'-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 THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR AT HIS OWN EXPENSE IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
  - THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 

AT&T	1-800-252-1133
BGE (CONTRACTOR SERVICES)	410-637-8713
BGE (EMERGENCY)	410-695-0123
BUREAU OF UTILITIES	410-313-4900
COLONIAL PIPELINE CO	410-795-1390
MISS 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 REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE CONSTRUCTION OF THE MAIN.
  - THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)-313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(a) OF THE HOWARD COUNTY CODE.

- PART B: WATER MAIN GENERAL NOTES**
- ALL WATER MAINS SHALL BE AWMA C900 PVC; DR16 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 BUTTRISSED 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.
  - TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL D.I.P. AND PVC WATER MAINS IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL.
  - FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWMA 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.
  - 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: SEWER MAIN GENERAL NOTES**
- 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 16" 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.
  - HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

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

**DEVELOPER'S CERTIFICATION**

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

Paul W. Keidel, FOR:  
Winters Lane Investments, LLC  
SIGNATURE OF DEVELOPER  
01/06/12  
DATE

**ENGINEER'S CERTIFICATION**

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

Paul W. Keidel  
SIGNATURE OF ENGINEER  
01-06-12  
DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 309 OF THE HOWARD COUNTY DESIGN MANUAL - VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AND AS SHOWN ON THESE PLANS.

Paul W. Keidel, FOR:  
Winters Lane Investments, LLC  
SIGNATURE OF DEVELOPER  
SDP-68-003  
GP-12-XXX  
01/06/12  
DATE

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

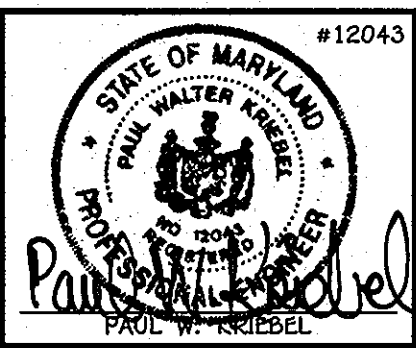
APPROVED:  
John C. Keaton  
HOWARD SOIL CONSERVATION DISTRICT  
2/16/12  
DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
Silva C. Green  
CHIEF, BUREAU OF UTILITIES  
2/16/12  
DATE

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND  
[Signature]  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
2/28/12  
DATE

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.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE, SUITE 1002 BALTIMORE, MARYLAND 21042  
(410) 461-2292



DESIGNED BY:	DATE:
B.C.R.	1/23/12
DRAWN BY:	DATE:
B.C.R.	1/23/12
CHECKED BY:	DATE:
P.W.K.	1/23/12
DATE:	BY:
JANUARY, 2012	BY 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

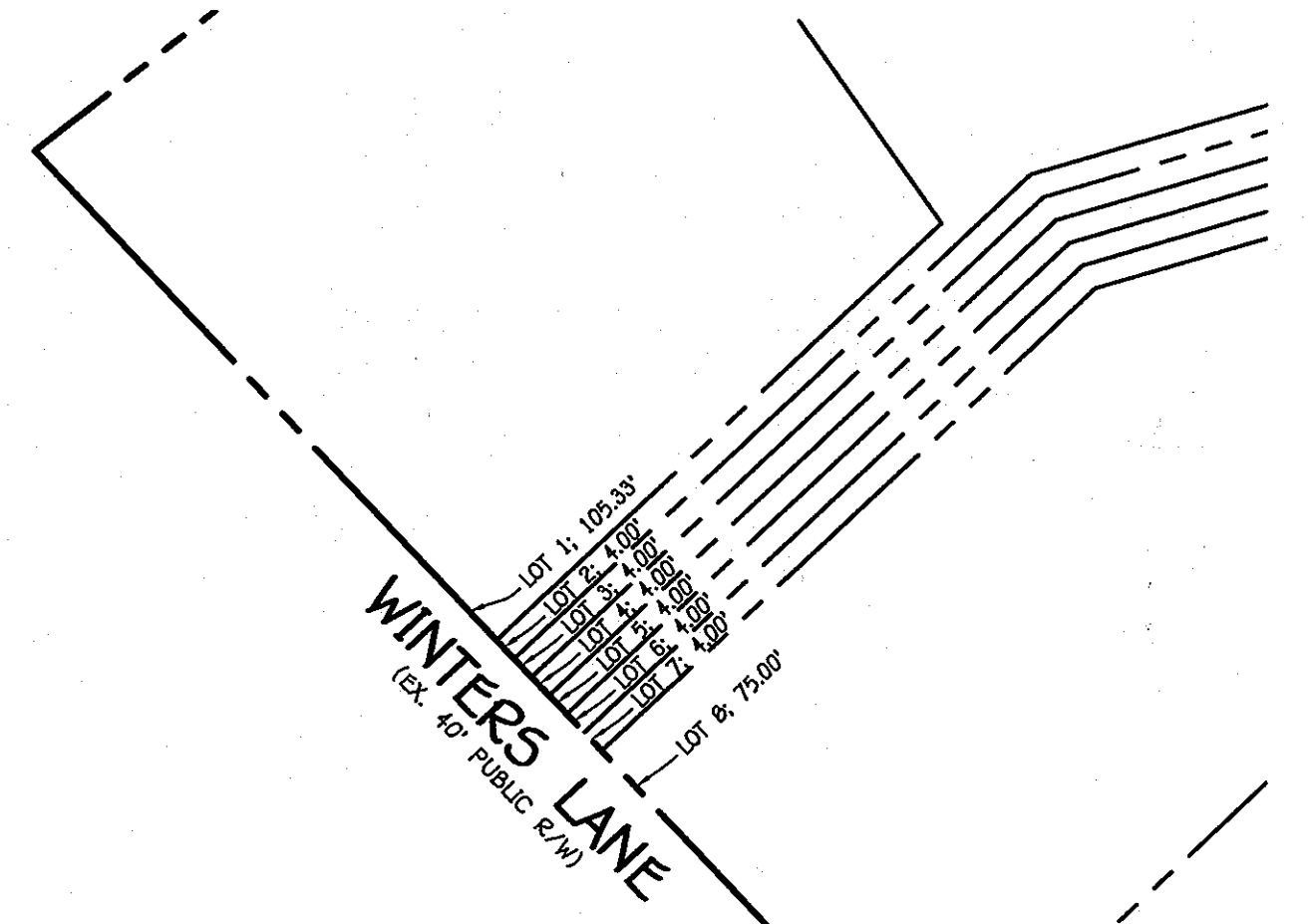
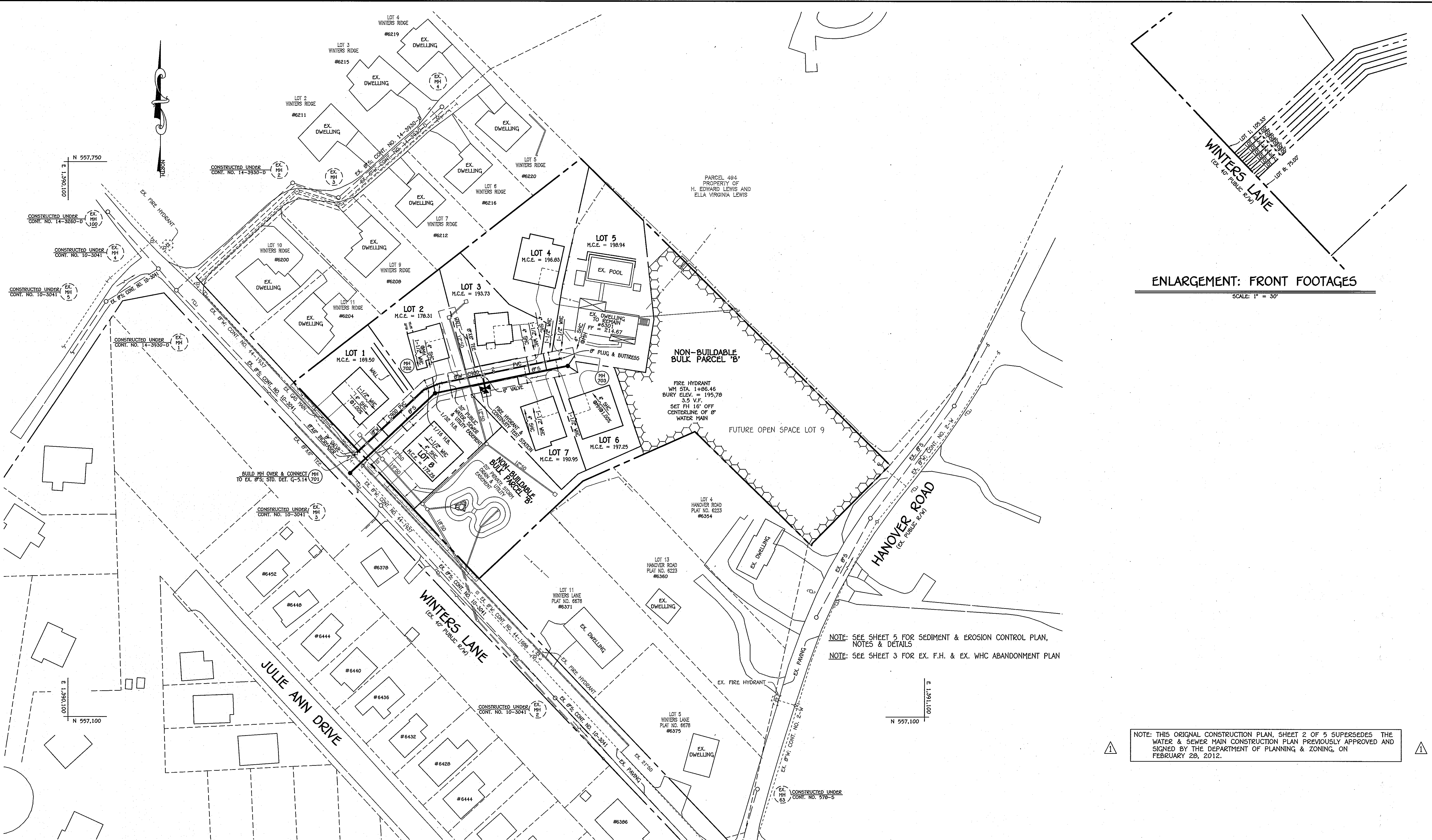
**DEVELOPER**  
WINTERS LANE INVESTMENTS, LLC  
6420 AUTUMN SKY WAY  
COLUMBIA, MARYLAND 21044

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

**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 AS SHOWN  
SHEET 1 OF 5





**ENLARGEMENT: FRONT FOOTAGES**  
SCALE: 1" = 30'

NOTE: SEE SHEET 5 FOR SEDIMENT & EROSION CONTROL PLAN, NOTES & DETAILS  
NOTE: SEE SHEET 3 FOR EX. F.H. & EX. W.H.C ABANDONMENT PLAN

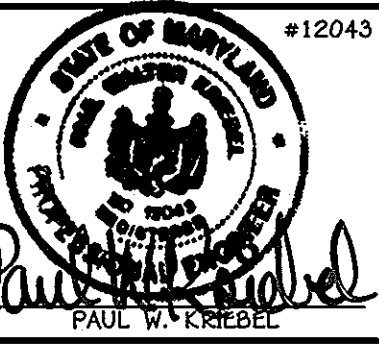
NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 2 OF 5 SUPERSEDES THE WATER & SEWER MAIN CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING & ZONING, ON FEBRUARY 28, 2012.

**PLAN**  
SCALE: 1" = 50'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

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.



DESIGNED BY:	B.C.R.
DRAWN BY:	B.C.R.
CHECKED BY:	P.W.K.
DATE:	MAY, 2013
BY NO.	
REVISION	
DATE	

<b>WATER &amp; SEWER MAIN EXTENSIONS PLAN</b>	
600' SCALE MAP NO. 38	BLOCK NO. 15
F.C.C. WORK ORDER NO. 05129	
FILE NAME: WATER & SEWER MAIN EXTENSION PLAN	

**WINTER CREST**  
LOTS 1 THRU 8 & OPEN SPACE LOT 9  
WATER & SEWER MAIN EXTENSIONS  
CONTRACT NO. 14-4716-D  
FIRST ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 2 OF 5

CHIEF, BUREAU OF UTILITIES  
DATE: 5/21/13

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 5/21/13

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
BLOOMING GARDENS, MARYLAND 21044  
(410) 461-2295

I:\2005\03129\03129.dwg, 03129 Water and Sewer Base Plan (Ecdline 1 March-2013).dwg, Plan Sheet 2, 5/22/2013 10:15:32 AM

NOTE: SEE SHEET 5 FOR SEDIMENT CONTROL PLAN, NOTES & DETAILS



**ABANDONMENT PLAN**

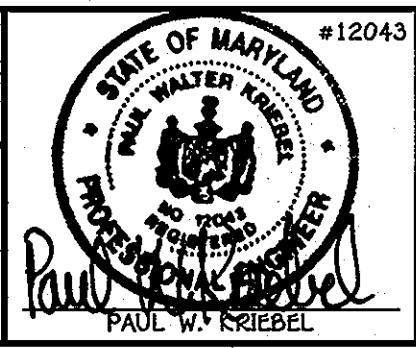
SCALE: 1" = 50'

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  
HOWARD COUNTY, MARYLAND

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LICENSE NO. 12043 EXPIRATION DATE IS 7/16/12.



**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL Pkwy  
ELLSWORTH CITY, MARYLAND 21042  
(410) 461-2925

DESIGNED BY :	B.C.R.	DATE:	FEBRUARY, 2012
DRAWN BY :	B.C.R.	BY :	-NO-
CHECKED BY :	P.W.K.	REVISION	

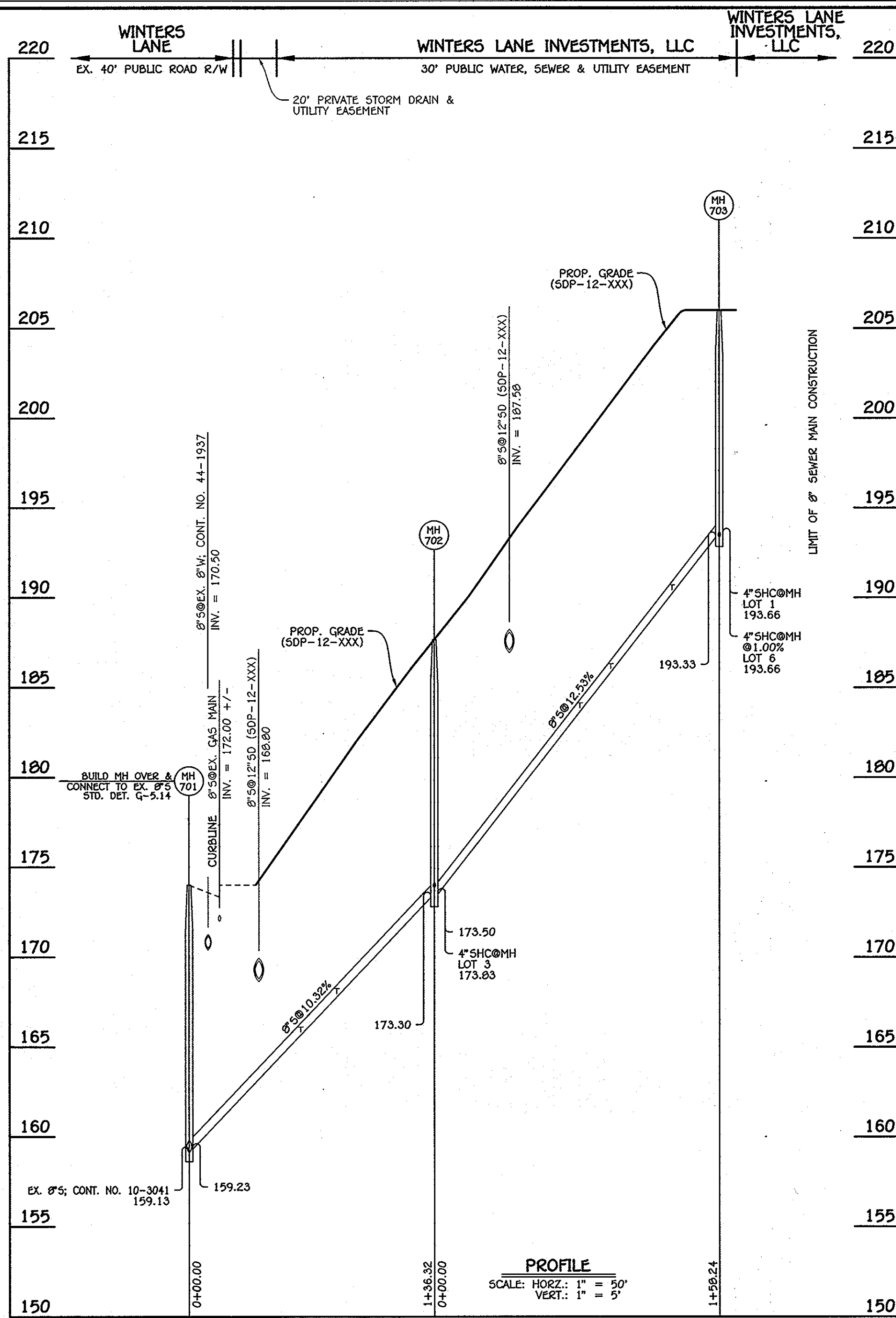
WATER & SEWER MAIN EXTENSIONS ABANDONMENT PLAN	
600' SCALE MAP NO. 30	BLOCK NO. 15
F.C.C. WORK ORDER NO. 05129	
FILE NAME : WATER & SEWER MAIN EXTENSION PLAN	

**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

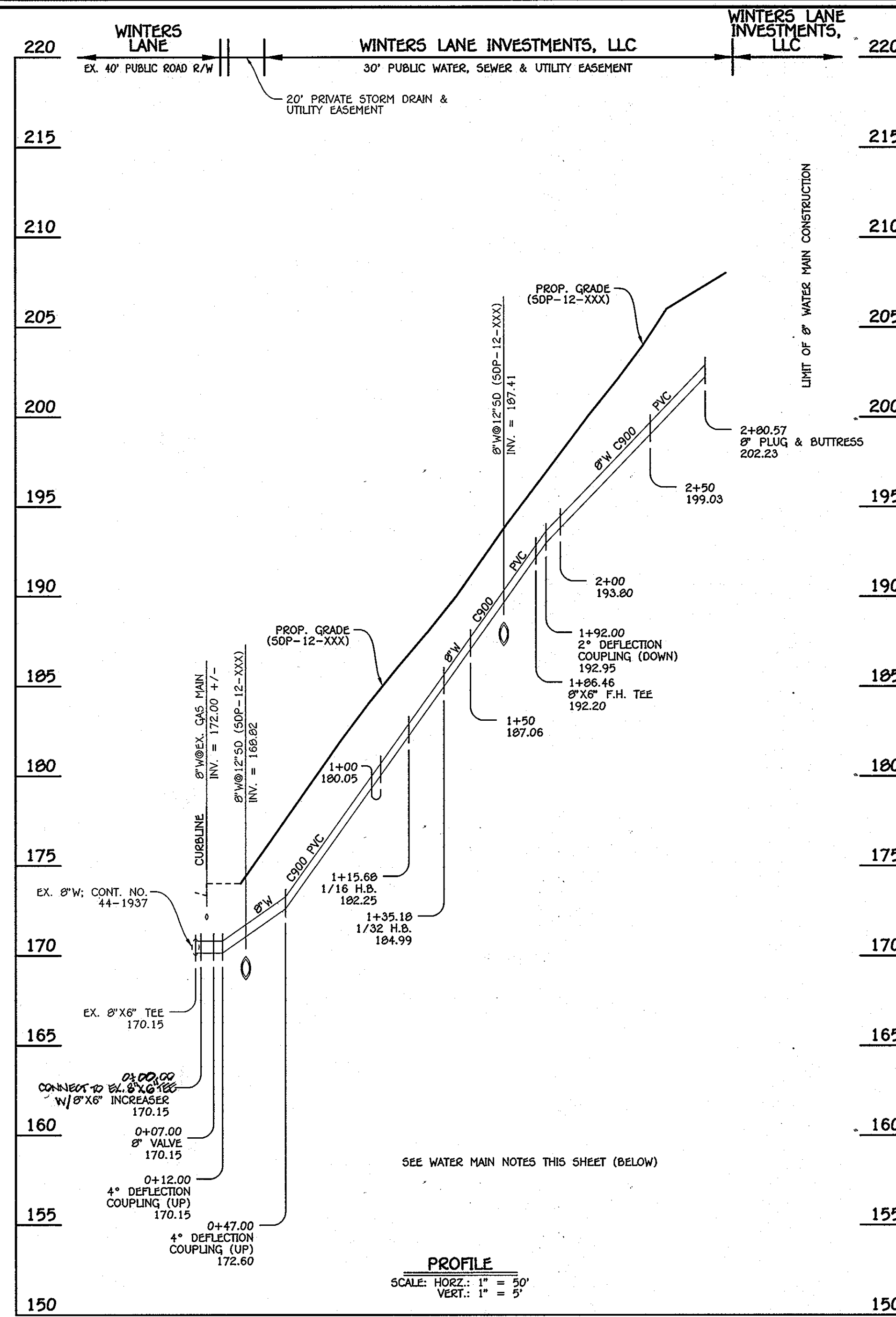
SCALE AS SHOWN  
SHEET 3 OF 5

13:00:05:05129:dwg:05129 Water and Sewer Main Plan.dwg, 1/31/2012 2:36:43 PM





8" SEWER MAIN



8" WATER MAIN

LOT NUMBER	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
1			
FUTURE 2			
FUTURE 3			
FUTURE 4			
FUTURE 5			
FUTURE 6			
FUTURE 7			
FUTURE 8			

LOT NUMBER	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
1			
FUTURE 2			
FUTURE 3			
FUTURE 4			
FUTURE 5			
FUTURE 6			
FUTURE 7			
FUTURE 8			

NO.	NORTHING	EASTING	RIM ELEVATION
701	557385.56	1390429.09	174.00
702	557479.05	1390528.30	187.65
703	557511.11	1390683.26	206.00

NOTE: SET MH RIMS FLUSH W/PROPOSED GRADE.

STATION	LOT	ELEVATION
MH 701 TO MH 702		
0+62 LT.	2 - @1.00%	166.00
0+82 RT.	8	168.06
@MH 702 LT.	3	174.21
MH 702 TO MH 703		
0+81 LT.	4	184.22
0+98 RT.	7	186.15
1+32.69 LT.	5	190.70
@MH 703 LT.	1	193.94
@MH 703 RT.	6 - @1.00%	193.80

W.M. STA.	APPURTENANCE	NORTHING	EASTING
8" WATER MAIN			
0+00.00	8"X6" INCREASER	557403.63	1390431.04
0+07.00	8" VALVE	557408.43	1390436.13
1+15.66	1/16 H.B.	557482.96	1390515.22
1+35.18	1/32 H.B.	557490.30	1390533.29
1+86.46	8"X6" F.H. TEE	557500.69	1390583.51
2+80.57	8" PLUG & BUTTRESS	557519.76	1390675.67

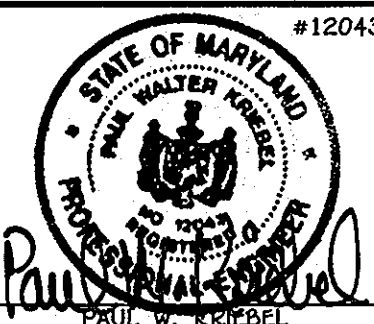
- WATER MAIN NOTES:
1. ALL WATER MAINS SHALL BE AWWA C900 PVC PIPE.
  2. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME II - WATER AND SEWER STANDARDS FOR AWWA C900 PVC WATER PIPE INSTALLATION.
  3. DEFLECTION COUPLINGS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

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

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LICENSE NO. 12043 EXPIRATION DATE IS 7/16/12.

FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10722 BALTIMORE NATIONAL PIKE  
ELICOTT CITY, MARYLAND 21042  
(410) 461-5955



DESIGNED BY:	B.C.R.			
DRAWN BY:	B.C.R.			
CHECKED BY:	P.W.K.			
DATE:	FEBRUARY, 2012	BY NO.		
REVISION		DATE		

WATER & SEWER MAIN EXTENSIONS  
PROFILES, CHARTS & TABLES

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

SHEET  
4 OF 5

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



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

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

**DEFINITION**  
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.

**PURPOSE**

**CONDITIONS WHERE PRACTICE APPLIES**

THIS PRACTICE SHALL BE USED ON DISTURBED AREAS AS SPECIFIED ON THE PLANS AND MAY BE USED ON HIGHLY ERODIBLE OR CRITICALLY ERODING AREAS. THIS SPECIFICATION IS LIMITED TO 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 LOOSE BETWEEN CONSTRUCTION PHASES, SHIM DORIES, ETC. AND FOR PERMANENT SEEDING ARE: LAWNS, DAMS, CUT AND FILL SLOPES AND OTHER AREAS AT FINAL GRADE, FORMER STOCKPILES 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, TRANSPERSION, 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 ABSORBING 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**

- SITE PREPARATION**
  - INSTALL EROSION AND SEDIMENT CONTROL STRUCTURES (EITHER TEMPORARY OR PERMANENT) SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BARRIERS, WATERWAYS, OR SEDIMENT CONTROL BARRIERS.
  - 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.
- SOIL AMENDMENTS (FERTILIZERS 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 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 APPLICABLE STATE AGENCIES. FERTILIZERS SHOULD BE APPLIED 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 BURNT LIME MAY BE SUBSTITUTED) WHICH CONTAINS AT LEAST 90% TOTAL OXIDES (CALCIUM OXIDE PLUS 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.
  - INCORPORATE LIME AND FERTILIZER INTO THE TOP 3-5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
- SEEDING PREPARATION**
  - TEMPORARY SEEDING**
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    - 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 CHESEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED IT SHOULD NOT BE ROLLED OR DRAGGED SHOULD, BUT LEFT IN THE REQUIRED 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.
    - APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
  - PERMANENT SEEDING**
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    - MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT:
      - SOIL pH SHALL BE BETWEEN 6.0 AND 7.0.
      - SOLUBLE SALTS SHALL BE LESS THAN 500 PARTS PER MILLION (PPM).
      - THE SOIL SHALL CONTAIN LESS THAN 400 PPM OF FINELY GRAINED MATERIAL (>300 SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION IS IF LOWGROSS OR SERGIDA LESPEDEZAS IS TO BE PLANTED, THEN A SANDY SOIL (<200 SILT PLUS CLAY) WOULD BE ACCEPTABLE.
      - SOIL SHALL CONTAIN 1.5% MINIMUM ORGANIC MATTER BY WEIGHT.
      - SOIL MUST CONTAIN SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
      - IF THESE CONDITIONS CANNOT BE MET BY 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 SCARPED 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.
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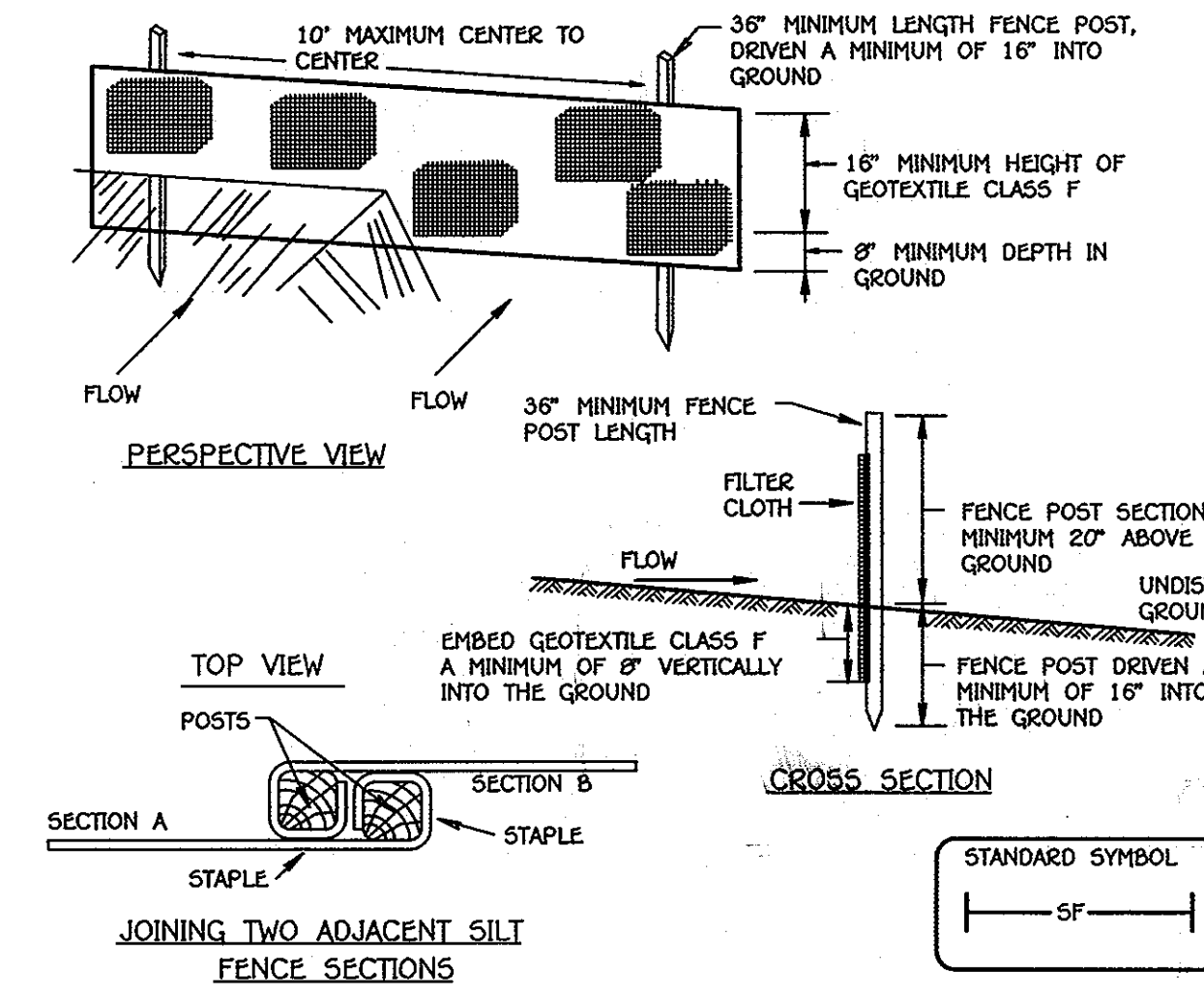
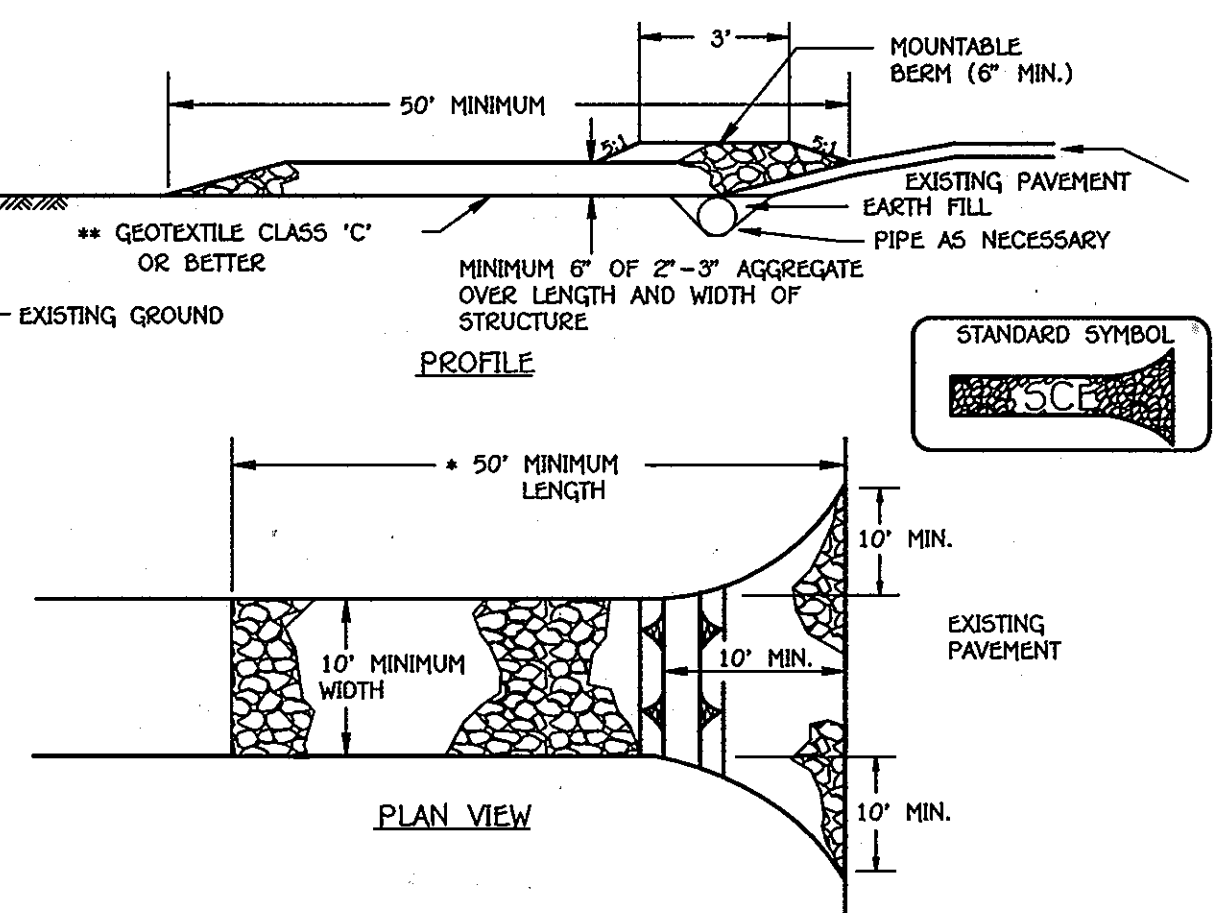
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DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 12043 EXPIRATION DATE 8/7/16/12.	DESIGNED BY : B.C.R. DRAWN BY : B.C.R. CHECKED BY : P.W.K. DATE : FEBRUARY, 2012	REVISION
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**CONSTRUCTION SPECIFICATIONS**

- LENGTH - MINIMUM OF 50' (40' FOR SINGLE RESIDENCE LOT).
- WIDTH - 10' MINIMUM, SHOULD BE PLACED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE WITH PLAN APPROVAL AUTHORITY MAY NOT REQUIRE SINGLE FAMILY RESIDENCES TO USE GEOTEXTILE.
- STONE - CRUSHED AGGREGATE (2" TO 3") OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT SHALL BE PLACED AT LEAST 6" DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE.
- SURFACE WATER - ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD CONSTRUCTION OF THE EMBANKMENT TO AUTOMATIC SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER TO A SEDIMENT TRAPPING DEVICE.
- CONSTRUCTION SEQUENCE: REFERENCE TO FIGURE 4 (BELOW):
  - EXCAVATE AND STABILIZE ALL TEMPORARY SHALES, SIDE DITCHES, OR BERRIS THAT WILL BE USED TO DIVERSE 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 SEEDER AREAS NECESSARY.

**SEDIMENT CONTROL NOTES**

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND 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:
  - 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES.
  - 14 DAYS AS TO ALL OTHER SLOPES AND ALL SLOPES STEEPER THAN 3:1.
- ALL PERIMETER SEDIMENT CONTROL STRUCTURES MUST BE MAINTAINED AND MONITORED AS SHOWN WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.
- 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.
- PERMANENT SEEDING (SEC. 51), SOO (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 PERIMETER SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 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.

**STABILIZED CONSTRUCTION ENTRANCE ENGINEER'S CERTIFICATION**

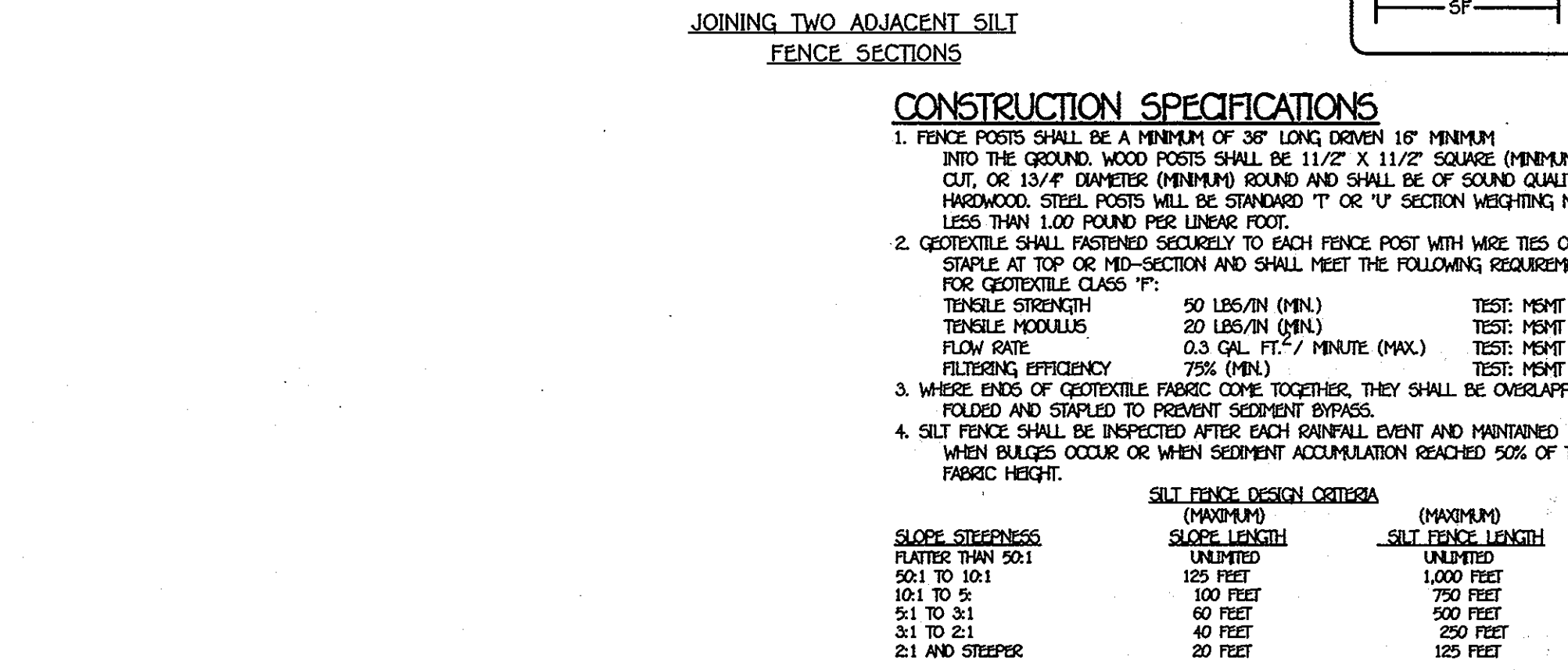
I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY CONSERVATION DISTRICT.

*Paul W. Reed* 02/01/12  
SIGNATURE OF ENGINEER DATE

**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 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 DEEMED NECESSARY.

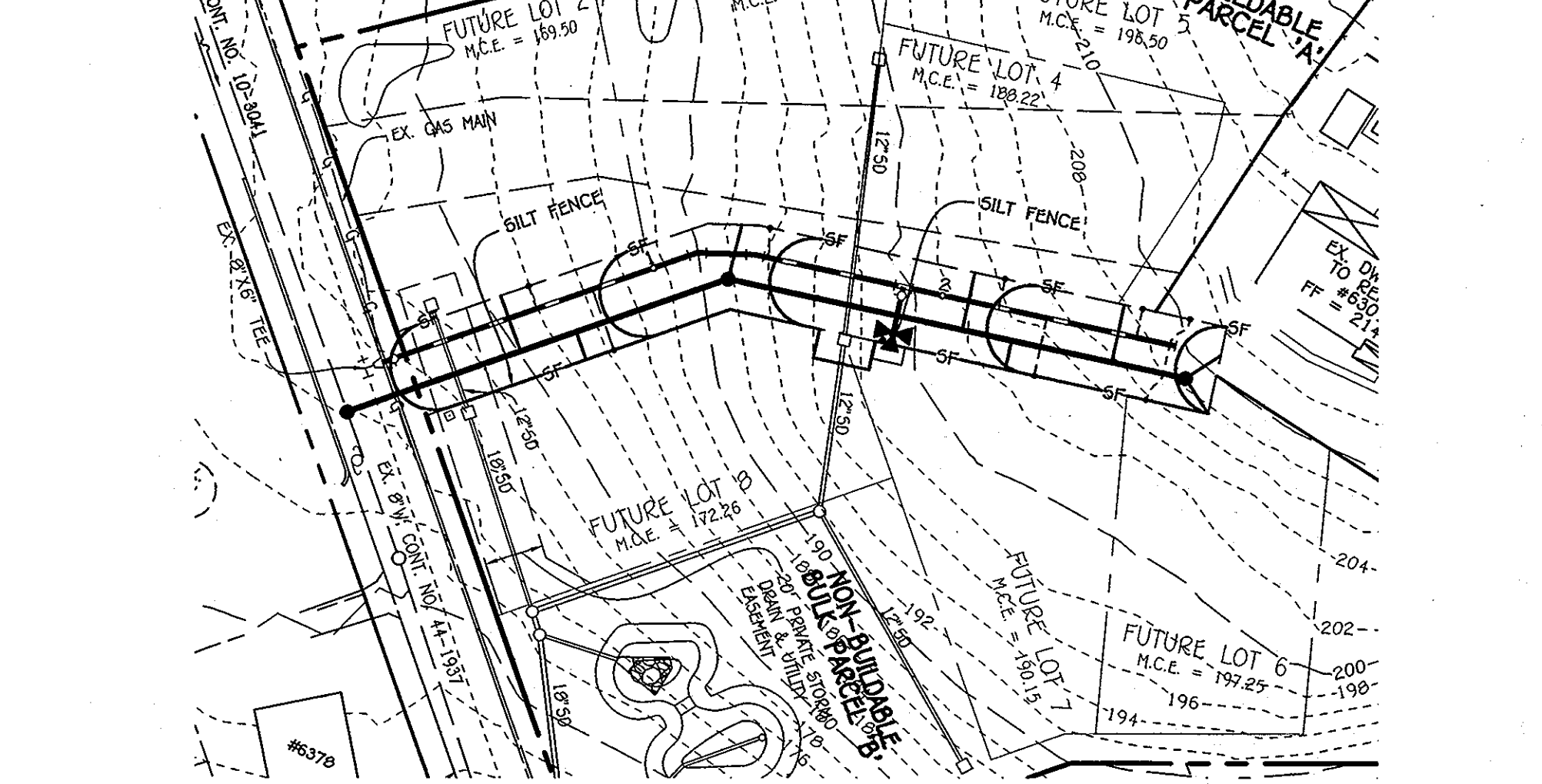
*Paul W. Reed* FOR:  
Winters Lane Investments, LLC 02-01-12  
SIGNATURE OF DEVELOPER DATE



**SILT FENCE DESIGN CRITERIA**

SLOPE STEEPNESS	SILT FENCE LENGTH (MINIMUM)	SILT FENCE HEIGHT (MINIMUM)
FLATTER THAN 5:1	UNLIMITED	UNLIMITED
5:1 TO 10:1	125 FEET	1200 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) MINIMUM SLOPE LENGTH AND SILT FENCE LENGTH WILL BE UNLIMITED. IN THESE AREAS A SILT FENCE MAY BE THE ONLY PERIMETER CONTROL REQUIRED.



**TEMPORARY SEEDING NOTES**

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE RE-DISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED. SEEDING PREPARATION - LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING. IF NOT PREVIOUSLY LOOSENED, SOIL AMENDMENTS - APPLY 600 LBS. PER ACRE (5 GAL. PER 1000 SQ.FT.) OF PHOSPHORUS (14 LBS. PER 1000 SQ.FT.). SEEDING - FOR PERIOD 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 15 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.

**PERMANENT SEEDING NOTES**

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED. SEEDING PREPARATION - LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING. IF NOT PREVIOUSLY LOOSENED, SOIL AMENDMENTS - IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

1. PREFERRED - APPLY 2 TONS PER ACRE DOLOMITE 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 THE TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREA-PHOSPHORUS FERTILIZER (9 LBS. PER 1000 SQ.FT.).
2. ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITE 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.

SEEDING - FOR THE PERIOD MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 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 LBS. PER ACRE (1.4 LBS. PER 1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE OF WEEPING LOVE GRASS. DURING THE PERIOD OCTOBER 15 THRU FEBRUARY 28, PROTECT SITE BY ONE OF THE FOLLOWING OPTIONS:

1. 2 TONS PER ACRE OF WELL-ANCHORED MULCH STRAW AND SEED AS SOON AS POSSIBLE IN THE SPRING.
2. USE SOO.
3. SEED WITH 60 LBS. PER ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS. PER 1000 SQ.FT.) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL, OR 210 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.

MAINTENANCE - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDING.

**SEDIMENT & EROSION CONTROL PLAN**

SCALE: 1" = 50'

600' SCALE MAP NO. 38	BLOCK NO. 15
F.C.C. WORK ORDER NO. 05129	REVISION
FILE NAME: WATER & SEWER MAIN EXTENSION SED SHEET	DATE

**CONTRACT NO. 14-4716-D**  
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 AS SHOWN  
SHEET 5 OF 5