

EROSION AND SEDIMENT CONTROL NOTES

MANAGEMENT STRATEGIES AND SEQUENCE OF EROSION CONTROL MEASURES

UNLESS OTHERWISE INDICATED, ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATION OF THE LATEST EDITION OF THE VEGSR AND VEGSB HANDBOOK.

THE FOLLOWING SEQUENCE OF EVENTS AND EROSION CONTROL MEASURES SHALL BE INCORPORATED INTO THE CONSTRUCTION SCHEDULE FOR THIS PROJECT AND SHALL APPLY TO ALL CONSTRUCTION ACTIVITIES WITHIN PROJECT LIMITS:

1. A. TEMPORARY CONSTRUCTION ENTRANCES(S) SHALL BE PROVIDED AT THE LOCATION(S) SHOWN ON THE PLANS. THIS ENTRANCE(S) SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (STD. & SPEC. 3.02). WASHRAKES ARE TO BE PROVIDED WHERE WATER IS AVAILABLE.
- B. WHERE CONSTRUCTION VEHICLES ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PUBLIC ROAD SURFACE, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL SUBDIVISION LOTS AS WELL AS LARGER LAND-DISTURBING ACTIVITIES.
- C. CONSTRUCTION TRAFFIC SHALL BE LIMITED TO ACCESS ROADS. ALL TRAFFIC IS PROHIBITED FROM CROSSING SWALES AND STREAMS EXCEPT WHERE ABSOLUTELY NECESSARY (STD. & SPEC. 3.24 VEGSR HANDBOOK).
2. TEMPORARY SEDIMENT TRAPS, SEDIMENT BARRIERS, CONSTRUCTION ENTRANCE, AND EROSION CONTROL STONE ARE TO BE PLACED PRIOR TO CLEARING AND GRUBBING OR PRIOR TO THE FIRST PHASE OF CONSTRUCTION.
3. ALL PERMANENT STORM WATER MANAGEMENT FACILITIES INCLUDING EROSION CONTROL ARE TO BE INSTALLED AND MADE OPERATIONAL AT THE START OF CLEARING OPERATIONS, INCLUDING APPROVED SEDIMENT BASINS.
4. THE CONTRACTOR SHALL COMPLETE DRAINAGE FACILITIES WITHIN THIRTY (30) DAYS FOLLOWING COMPLETION OF ROUGH GRADING AT ANY POINT WITHIN THE PROJECT.
5. CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
6. AREAS WHICH ARE NOT TO BE DISTURBED WILL BE CLEARLY MARKED BY FENCING, FLAGS, SIGNS, ETC.
7. A. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE.
- B. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN THIRTY (30) DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE (1) YEAR.
- B. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
- C. A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT, IN THE OPINION OF THE LOCAL PROGRAM ADMINISTRATOR OR HIS DESIGNATED AGENT, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION. VEGETAL COVER SHALL BE ESTABLISHED AS FOLLOWS:

SEED	PER VOLUME # OF THE PPM
TOPSOIL	4" THICK PER VDOT SPEC. 602 (CLASS B)
LIME	4000#/AC.
FERTILIZER	1000#/AC. OF 10-10-10
MULCH	2000#/AC.

(HYDROSEEDING MAY BE USED IN PLACE OF MULCHING ON AREAS OTHER THAN DITCH BANKS) STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIVERSIONS AND DITCH OR WATERCOURSE BEDS AND BANKS IMMEDIATELY AFTER INSTALLATION (STD. & SPEC. 3.26 VEGSR HANDBOOK).

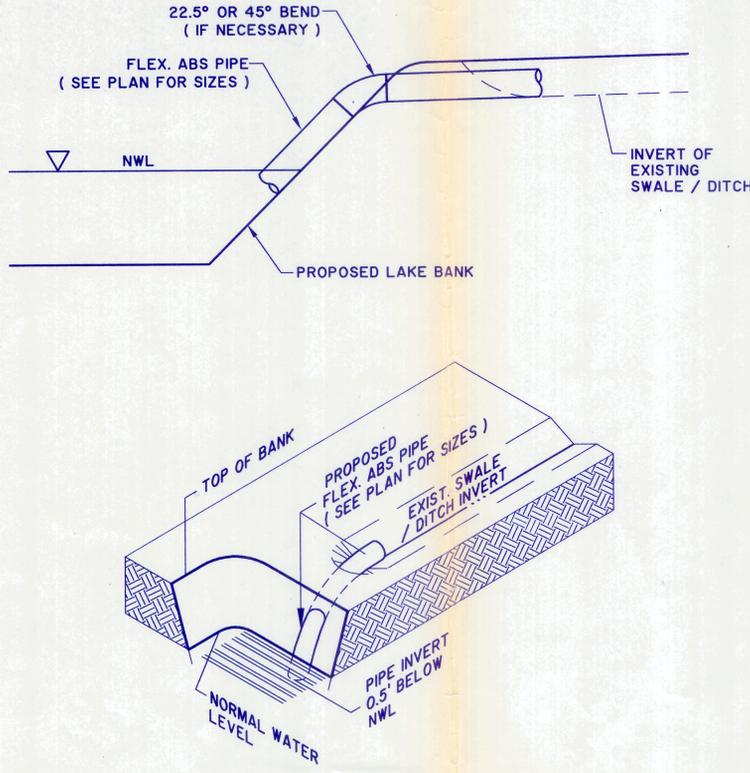
8. A. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LOADED WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
- B. BEFORE NEWLY CONSTRUCTED CHANNELS ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.
9. A. CUT AND FILL SLOPES SHALL BE DESIGNATED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE (1) YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED, AT NO COST TO THE CITY OF CHESAPEAKE.
- B. CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME, OR SLOPE DRAIN STRUCTURE.
10. PERIODIC INSPECTIONS AND REQUIRED MAINTENANCE MUST BE PROVIDED, ESPECIALLY AFTER EACH SIGNIFICANT STORM. THE PROJECT SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.
11. THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE (1) WEEK PRIOR TO THE PRECONSTRUCTION CONFERENCE, ONE (1) WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE (1) WEEK PRIOR TO THE FINAL INSPECTION.
12. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION OR AFTER TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM ADMINISTRATOR. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

MAINTENANCE:
IN GENERAL, ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED AFTER EACH RAINFALL OR WEEKLY, WHICHEVER IS MOST FREQUENT, AND SHOULD BE CLEANED AND REPAIRED ACCORDING TO THE FOLLOWING SCHEDULE:

1. THE SEDIMENT TRAPS WILL BE CHECKED REGULARLY FOR SEDIMENT CLEANOUT.
2. THE SEDIMENT BASIN WILL BE CLEANED OUT WHEN THE LEVEL OF SEDIMENT BUILDUP REACHES THE CLEANOUT POINT INDICATED ON THE RISER PIPE.
3. EROSION AND SEDIMENT CONTROL WILL BE CHECKED REGULARLY FOR UNDERMINING OR TERRORATION AND BUILDUP OR CLOSING WITH SEDIMENT. CORRECTIVE ACTION WILL BE TAKEN IMMEDIATELY.
4. ALL SEEDED AREAS WILL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RESEED AS NEEDED.
5. ALL TEMPORARY EROSION AND SEDIMENT MEASURES SHALL BE DISPOSED OR WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED AND VEGETATION IS ESTABLISHED.

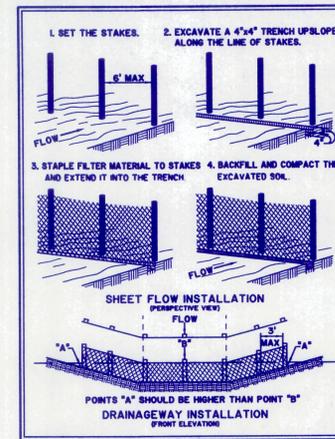
GENERAL NOTES:

1. VERTICAL CONTROL DATUM IS BASED ON THE 1989 ELEVATION ADJUSTMENT OF THE 1929 DATUM RELATIVE TO THE SOURCE BENCH MARK.
2. POWER LINES, TELEPHONE, GAS, AND OTHER RELATED UTILITIES AND EASEMENTS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ONLY THOSE UNDERGROUND UTILITIES AND EASEMENTS THAT CAN BE VERIFIED FROM SURFACE OBSERVATION HAVE BEEN SHOWN. OTHERS MAY EXIST.
3. CONTRACTOR WILL NOTIFY "MISS UTILITIES", TELEPHONE NO. 1-800-552-7000, 48 HOURS IN ADVANCE OF ANY EXCAVATION WORK IN THE CONSTRUCTION AREA TO VERIFY THE LOCATION OF EXISTING UTILITIES. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGES DUE TO HIS FAILURE TO DO SO.
4. ALL MATERIALS AND CONSTRUCTION TO BE IN ACCORDANCE WITH THE CITY OF CHESAPEAKE STANDARDS AND SPECIFICATIONS, PPM VOLUMES "LAND" OR VDOT ROAD AND BRIDGE SPECIFICATIONS DATED JANUARY 1993 AND AS SPECIFIED HEREON.
5. ALL DISTURBED AREAS AFFECTING ROAD SIDE DRAINAGE SHALL BE RESTORED TO EXISTING OR BETTER THAN EXISTING CONDITIONS.
6. TEMPORARY DRAINAGE DURING CONSTRUCTION TO BE PROVIDED BY THE CONTRACTOR TO RELIEVE AREAS THAT MAY BE DAMAGED OR AS DIRECTED BY THE ENGINEER.
7. TOPSOIL, SEED, FERTILIZER, AND MULCH ARE TO BE PLACED IN ACCORDANCE WITH THE VIRGINIA EROSION CONTROL MANUAL. A PERMANENT STAND OF GRASS ADEQUATE TO PREVENT EROSION MUST BE ESTABLISHED.
8. BEFORE ANY WORK OF ANY NATURE IS STARTED WITHIN THE LIMITS OF CITY STREETS RIGHT-OF-WAY, A PERMIT MUST BE OBTAINED FROM THE DEPARTMENT OF PUBLIC WORKS, CITY OF CHESAPEAKE.
9. ADJACENT PROPERTY OWNERS MUST BE NOTIFIED 30 DAYS PRIOR TO COMMENCING CONSTRUCTION.

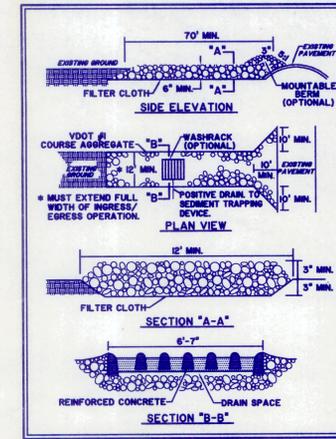


TEMPORARY OUTFALL DETAIL (T.O.)

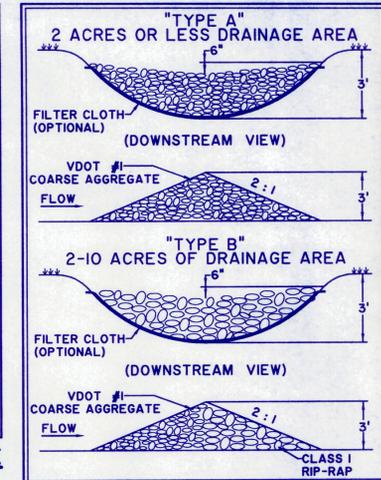
SCALE: NONE



SILT FENCE



CONSTRUCTION ENTRANCE



ROCK CHECK DAM

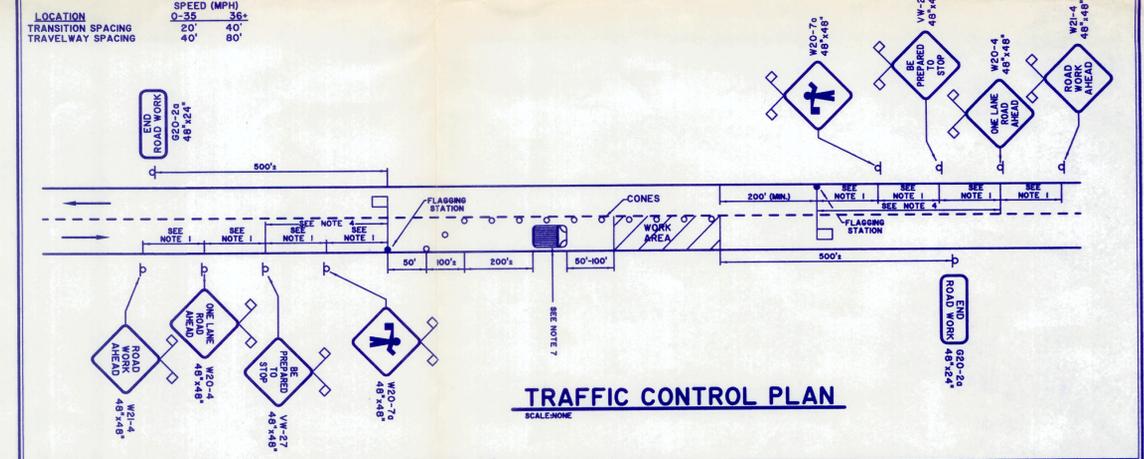
NOTES:

1. SIGN SPACING DISTANCE SHOULD BE 500'-600' WHERE THE POSTED SPEED LIMIT IS GREATER THAN 45 MPH AND 350'-500' WHERE THE POSTED SPEED LIMIT IS 45 MPH OR LESS.
2. WHERE R/W OR GEOMETRIC CONDITIONS PREVENT THE USE OF 48"x48" SIGNS, 36"x36" SIGNS MAY BE USED.
3. FLAGGING STATIONS SHALL BE LOCATED FAR ENOUGH IN ADVANCE OF THE WORK ZONE TO PERMIT APPROACHING TRAFFIC TO REDUCE SPEED AND/OR STOP BEFORE PASSING THE WORK ZONE AND ALLOW SUFFICIENT DISTANCE FOR DEPARTING TRAFFIC IN THE LEFT LANE TO RETURN TO THE RIGHT LANE BEFORE REACHING OPPOSING TRAFFIC.
4. A SUPPLEMENTAL FLAGGER MAY BE REQUIRED IN THIS AREA TO GIVE ADVANCE WARNING OF THE OPERATION AHEAD BY SLOWING APPROACHING TRAFFIC PRIOR TO REACHING THE FLAGGER STATION OR QUEUED TRAFFIC. IF THE QUEUE OF TRAFFIC REACHES THE "BE PREPARED TO STOP" SIGN, THEN THE SIGNS MUST BE READJUSTED AT GREATER DISTANCES.
5. ALL FLAGGERS MUST BE STATE CERTIFIED AND HAVE THEIR CERTIFICATION CARD IN THEIR POSSESSION WHEN PERFORMING FLAGGING DUTIES. (SEE SECTION 6E-2, QUALIFICATIONS FOR FLAGGERS.)
6. CARE SHOULD BE EXERCISED WHEN ESTABLISHING THE LIMITS OF THE WORK ZONE TO INSURE MAXIMUM POSSIBLE SIGHT DISTANCE IN ADVANCE OF THE FLAGGER AND TRANSITION, BASED ON THE POSTED SPEED LIMIT AND EQUAL TO OR GREATER THAN THE VALUES ON PAGE 162.
7. A TRUCK WITH AT LEAST ONE ROTATING AMBER LIGHT OR HIGH INTENSITY AMBER STROBE LIGHT, SHALL BE PARKED 50' - 100' IN ADVANCE OF FIRST WORK CREW.
8. CONE SPACING SHALL BE AT THE FOLLOWING:

LOCATION	SPEED (MPH)	
	0-35	36+
TRANSITION SPACING	20'	40'
TRAVELWAY SPACING	40'	80'

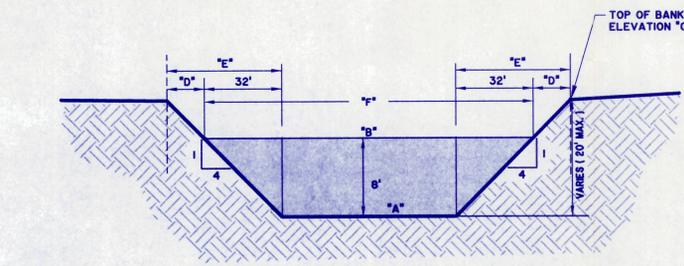
NOTES:

- WORK MAY ONLY BE PERFORMED BETWEEN 8:00 AM AND 4:00 PM
- ALL SIDE STREETS WITHIN WORK ZONE OR SIGN SEQUENCE SHALL ALSO BE SIGNED.
- THE ROADWAY SHALL BE RESTORED TO ALL TRAFFIC BY THE END OF EACH WORKDAY
- ALL OPEN HOLES OR TRENCHES SHALL BE BACKFILLED AND THE SHOULDER MADE READY TO HANDLE EMERGENCY TRAFFIC BE THE END OF EACH WORKDAY
- NO MATERIALS OF CONSTRUCTION SHALL BE STOCKPILED WITHIN THE "CLEAR ZONE" AS DEFINED BY THE VDOT "ROADSIDE DESIGN GUIDE".
- NO EQUIPMENT OR MACHINERY SHALL BE LEFT UNATTENDED, WITHIN THE "CLEAR ZONE" AS DEFINED BY THE VDOT "ROADSIDE DESIGN GUIDE", WHILE WORK IS NOT BEING PERFORMED.
- CONTACT KEVIN EPLY AT 382-3305 AT LEAST 48 HOURS PRIOR TO ANY OPEN CUTTING NEAR SIGNALIZED INTERSECTIONS.
- OPEN HOLES OR TRENCHES SHALL NOT BE LEFT UNATTENDED OR UNPROTECTED WHENEVER WORK IS NOT BEING PERFORMED.
- ANY ALL DAMAGED OR REMOVED TRAFFIC SIGNAL APPURTENANCES, TRAFFIC CONTROL DEVICES, AND/OR PAVEMENT MARKINGS SHALL BE RESTORED BY THE CONTRACTOR.



TRAFFIC CONTROL PLAN

SCALE: NONE



TYPICAL LAKE SECTION

SCALE: NONE

LAKE NUMBER	"A"	"B"	"C"	"D"	"E"	"F"
TSB No. 1	ELEV. (-) 3.0	ELEV. 5.0	ELEV. 9.5-11.5	VARIES	VARIES	VARIES

EROSION & SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION
THE PROPOSED 26.91 ACRE SITE IS LOCATED AT THE INTERSECTION OF CENTERVILLE TURNPIKE AND WHITAMORE ROAD IN THE BUTTS ROAD BOROUGH OF THE CITY OF CHESAPEAKE. THE PURPOSE OF THIS PROJECT IS TO PREPARE THE SITE FOR THE CONSTRUCTION OF A GOLF COURSE AND RELATED FACILITIES.

EXISTING SITE CONDITIONS
THE EXISTING SITE IS OPEN WITH THE MAJORITY BEING CULTIVATED FARM LAND. THE SITE IS CROSSED BY EXISTING FARM DITCHES, THAT TRANSPORT STORM WATER RUNOFF FROM THE SITE. THE EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN DESIGNED ACCORDINGLY.

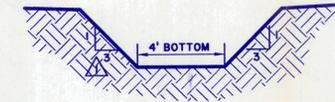
ADJACENT PROPERTIES
CENTERVILLE TURNPIKE BOUNDS THIS SITE TO THE WEST, AND WHITAMORE ROAD LIES TO THE NORTH. PROPERTIES OWNED BY CHARLES TAYLOR & ROBERT G. McDONALD, TRUSTEE BOUND THIS PROPERTY TO THE EAST, AND PROPERTIES OWNED BY MICHAEL E. CALABRESE, LOUIS F. KNIGHT, MICHAEL CORWIN, JAMES A. STEPHENSON, JOSEPH L. LOCASIO, WILLIAM R. STEPHENSON, JERRY K. HENSLEY, JOSEPH E. DIAZ, JR., MARK R. WEST, GEORGE R. ARTHUR, JR., RE. NORFLEET III, BENJAMIN, M. WILLIAMS II, & DEAN LEO PARKER LIE TO THE SOUTH.

OFFSITE AREAS
SOME OFFSITE AREA DRAINS THROUGH THIS SITE THROUGH A CANAL THAT CARRIES PUBLIC WATER. NO INTERRUPTION TO THIS FLOW IS PROPOSED.

SOILS
THE SOILS OF THIS AREA CONSIST OF A MIX OF PORTSMOUTH LOAM, OTHELLO-FALLSINGTON FINE SANDY LOAMS, DRAGSTON FINE SANDY LOAM, WOODBRIDGE SILTY LOAM & ELSTON SILTY LOAM AS SHOWN ON THE SOIL SURVEY OF NORFOLK COUNTY, MAY 1959.

EROSION AND SEDIMENT CONTROL MEASURES
THE METHODS, AS SHOWN ON THIS PLAN, TO BE INSTALLED ARE: SILT FENCE, CONSTRUCTION ENTRANCE AND TEMPORARY SEDIMENT BASINS.

PERMANENT STABILIZATION
REFER TO THE EROSION AND SEDIMENT CONTROL NOTES ON THIS PLAN FOR SEEDING AND STABILIZATION REQUIREMENTS.



PROP. DITCH SECTION

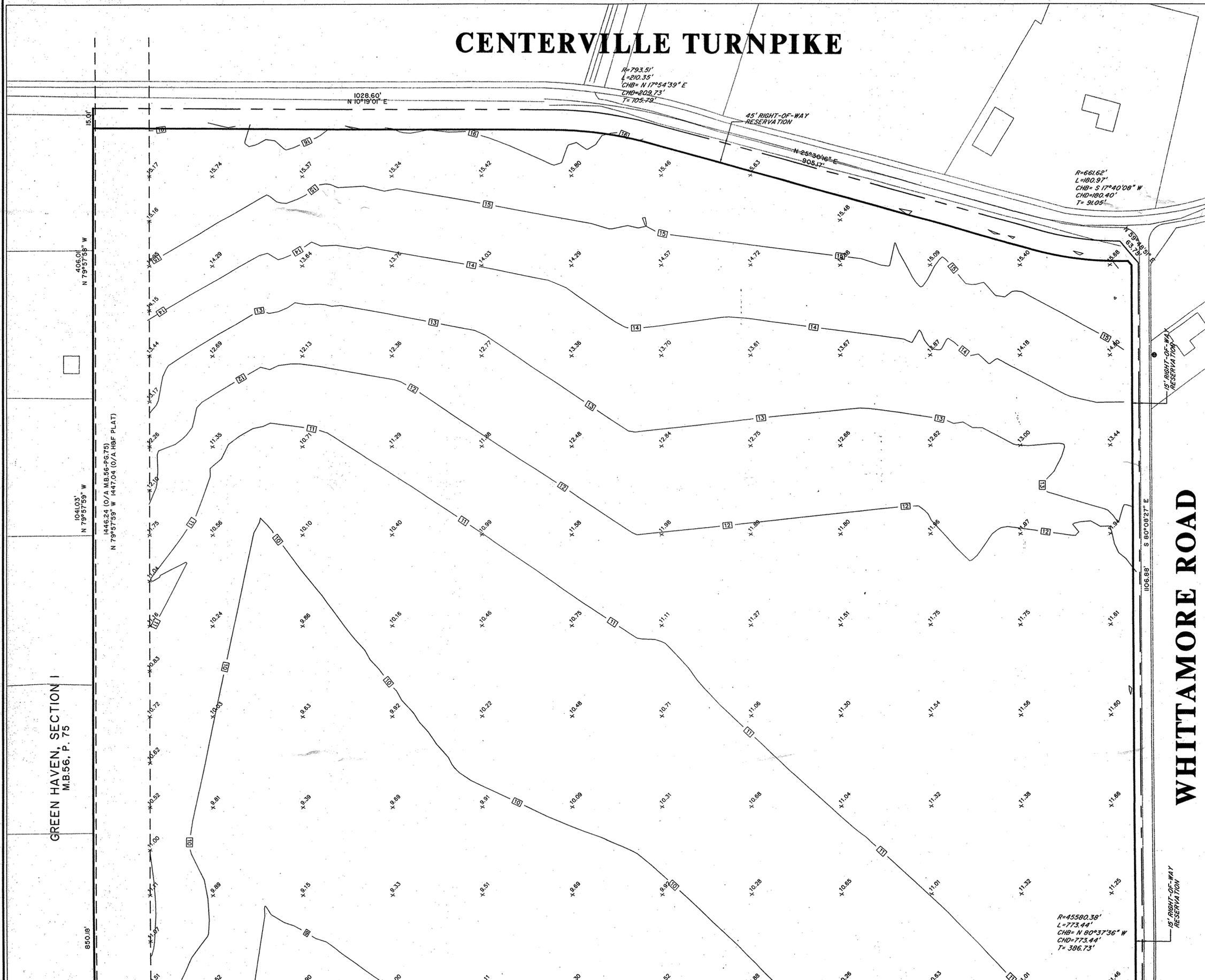
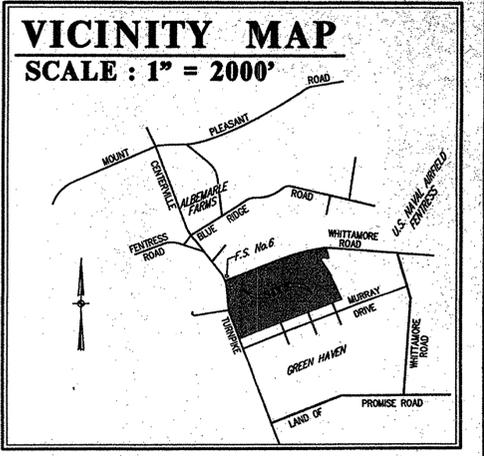
SCALE: NONE

APPROVED PLAN

DATE: MAY 8, 2002

REVISION	DATE	APPR.
REVISED RELOCATED DITCH - ADDED WATER FEATURES	DEC., 2002	
ADDED PROPOSED LAKE CROSS SECTION	APR. 2002	
MARK	REVISION	DATE
FILE NAME: EANDS-CORRECTED.DWG	DRAWER No.:	APPROVAL DATE:
SITE PLAN OF		
ETHERIDGE GREENS		
GOLF COURSE		
T.P. 06200000020		
BUTTS ROAD BOROUGH		CHESAPEAKE, VIRGINIA
DETAILS AND NOTES		
		DATE: DEC., 2001 SCALE: AS NOTED DRAWING NO.: 4 OF 4
HASSELL & FOLKES, P.C. ENGINEERS-SURVEYORS-PLANNERS CHESAPEAKE, VIRGINIA TELEPHONE (757) 547-9531		
DES. G.D.C.	DRN. G.D.C.	CHK. W.W.M. III
PRJ. MGR. W.W.M. III	CONT. NO. 0102	1884

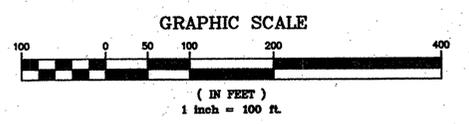
CENTERVILLE TURNPIKE



WHITMORE ROAD

GREEN HAVEN, SECTION I
M.B.56, P. 75

GRADES SHOWN HEREON
ARE THE MINIMUM ELEVATION
OF FLYASH PLACEMENT



$R=45580.38'$
 $L=773.44'$
 $CHB= N 80^{\circ}37'36'' W$
 $CHD=773.44'$
 $T= 386.73'$

MATCH LINE - SEE SHEET 2

MARK	REVISION	DATE	APPR.
FILE NAME: EANDS-CORRECTED.DWG	DRAWER No.:	APPROVAL DATE:	
SITE PLAN OF			
ETHERIDGE GREENS			
GOLF COURSE			
BUTTS ROAD BOROUGH		CHESAPEAKE, VIRGINIA	
BASE GRADE PLAN			
	HASSELL & FOLKES, P.C. ENGINEERS-SURVEYORS-PLANNERS CHESAPEAKE, VIRGINIA TELEPHONE (757) 547-9531		DATE MAR. 2002
	SCALE 1" = 100'		DRAWING NO. 1
DES. J.T.C.	DRW. G.D.C.	CHK. W.W.M., III	PRL. MGR. W.W.M., III CONT. NO. 01012 OF 1885

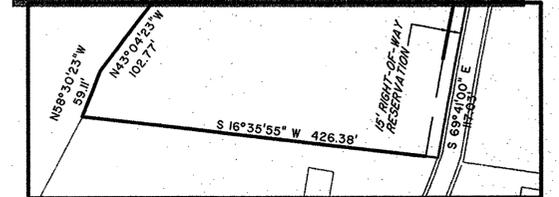
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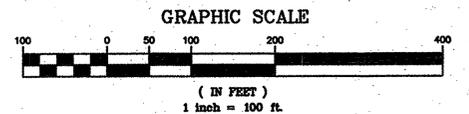


WHITAMORE ROAD

MATCH LINE - THIS SHEET



GRADES SHOWN HEREON ARE THE MINIMUM ELEVATION OF FLYASH PLACEMENT



MARK	REVISION	DATE	APPR.
FILE NAME: EANDS-CORRECTED.DWG	DRAWER No.:	APPROVAL DATE:	
SITE PLAN OF ETHERIDGE GREENS			
GOLF COURSE T.P. 062000000020			
BUTTS ROAD BOROUGH		CHESAPEAKE, VIRGINIA	
BASE GRADE PLAN		DATE MAR, 2002	DRAWING NO. 2
		SCALE 1" = 100'	CONT NO. 01012
DES. J.T.C.	DRN. G.D.C.	CHK. W.W.M., III	PRJ. MGR. W.W.M., III

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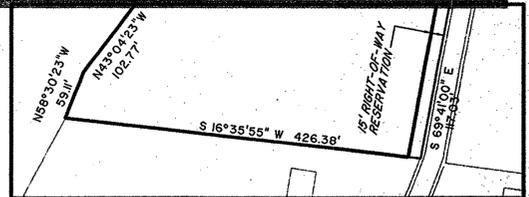
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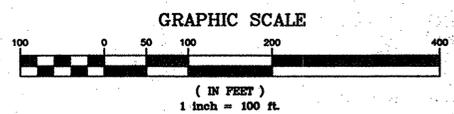
WHITAMORE ROAD

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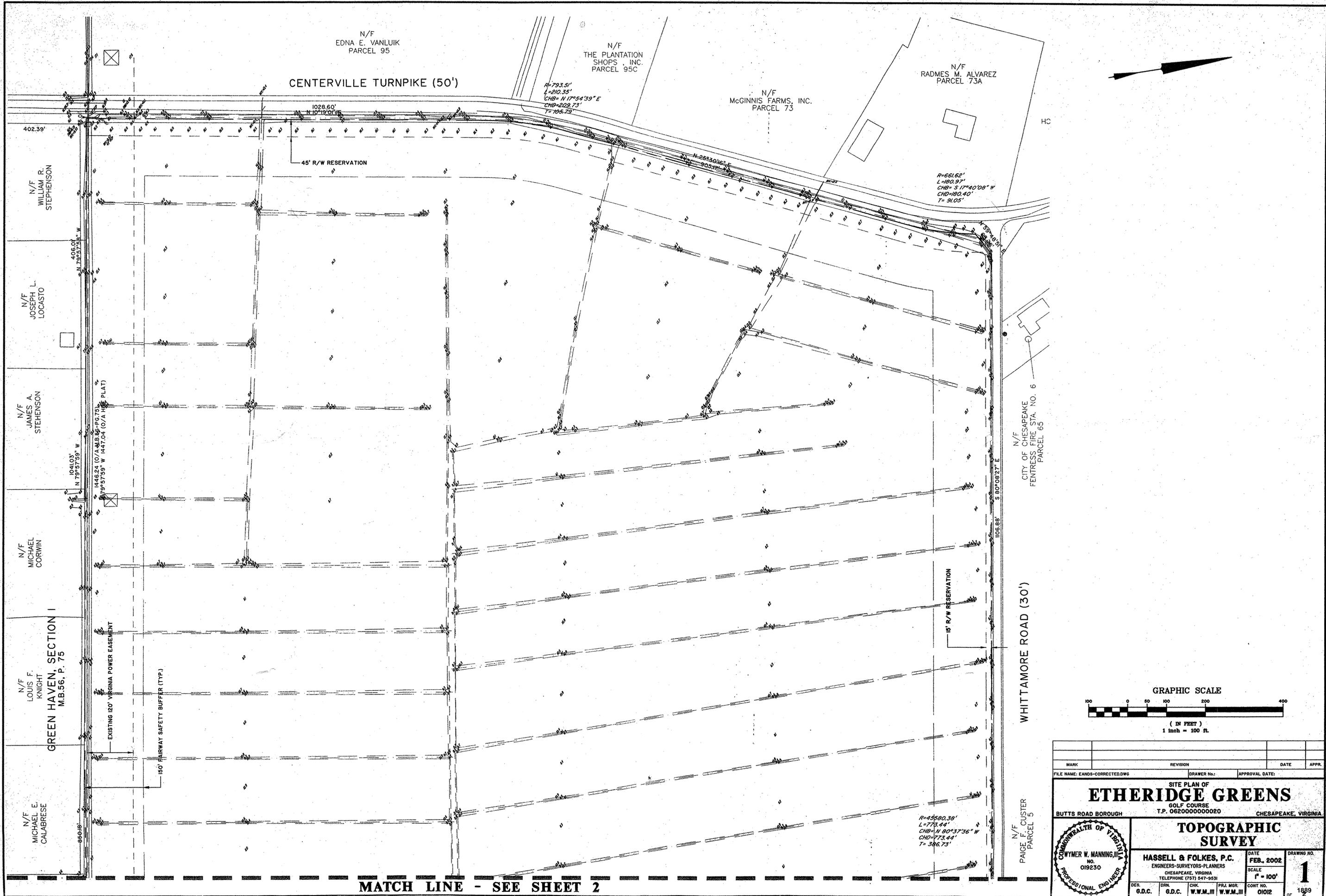
FINISHED ASH PLACEMENT SLOPES

3:1 MAX.
2% MIN.

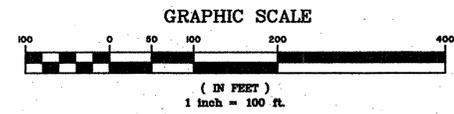


MARK	REVISION	DATE	APPR.
FILE NAME: EANDS-CORRECTED.DWG	DRAWER No.:	APPROVAL DATE:	
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		CLOSURE PLAN DATE: MAR. 2002 SCALE: 1" = 100' CONT. NO. 01012 OF 1888	
DES. J.T.C.	DRN. G.D.C.	CHK. W.W.M., III	PRJ. MGR. W.W.M., III

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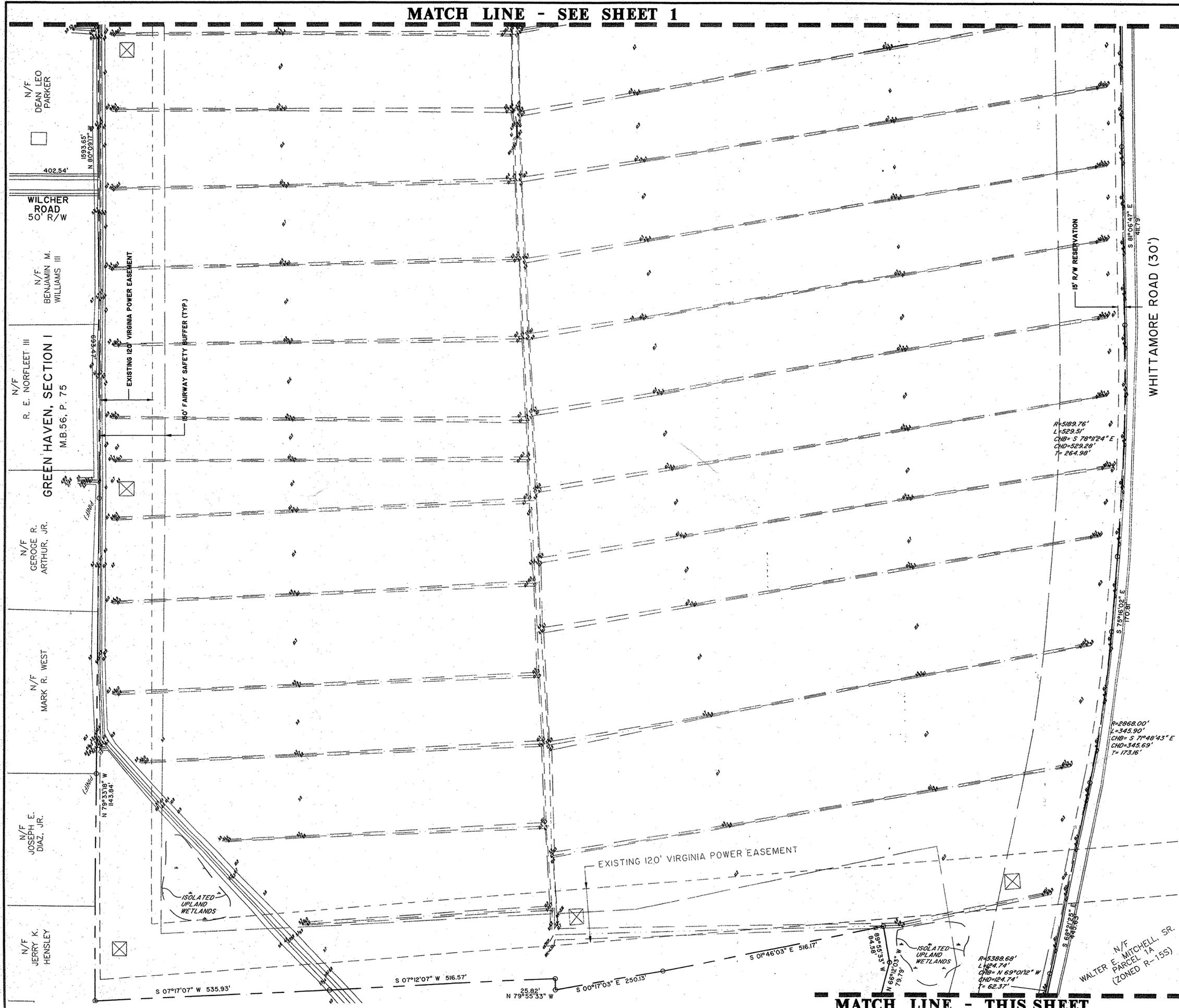


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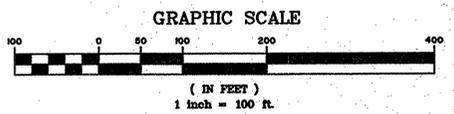
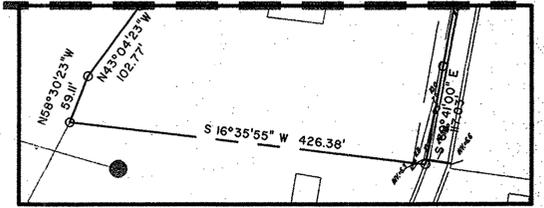
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FILE NAME: EANDS-CORRECTED.DWG	DRAWER No.:	APPROVAL DATE:	
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ETHERIDGE GREENS			
GOLF COURSE			
T.P. 062000000020			
BUTTS ROAD BOROUGH		CHESAPEAKE, VIRGINIA	
TOPOGRAPHIC SURVEY			
	HASSELL & FOLKES, P.C.		DATE
	ENGINEERS-SURVEYORS-PLANNERS		FEB. 2002
CHESAPEAKE, VIRGINIA		SCALE	1
TELEPHONE (757) 547-9531		1" = 100'	
DES. 6.D.C.	DRN. 6.D.C.	CHK. W.W.M.III	PRJ. MGR. W.W.M.III
		CONT. NO.	1889
		0102	

MATCH LINE - SEE SHEET 1



WHITTAMORE ROAD (30')

MATCH LINE - THIS SHEET



MARK	REVISION	DATE	APPR.
FILE NAME: EANDS-CORRECTED.DWG	DRAWER No.:	APPROVAL DATE:	
SITE PLAN OF			
ETHERIDGE GREENS			
GOLF COURSE			
BUTTS ROAD BOROUGH		T.P. 062000000020	
CHESAPEAKE, VIRGINIA			
		TOPOGRAPHIC SURVEY	
		HASSELL & FOLKE, P.C. ENGINEERS-SURVEYORS-PLANNERS CHESAPEAKE, VIRGINIA TELEPHONE (757) 547-9531	
DES.:	DRN.:	CHK.:	PRJ. MGR.:
G.D.C.	G.D.C.	W.W.M., III	W.W.M., III
DATE: FEB. 2002		DRAWING NO.:	
SCALE: 1" = 100'		2	
CONT. NO.:		OF 1890	
0102		2	

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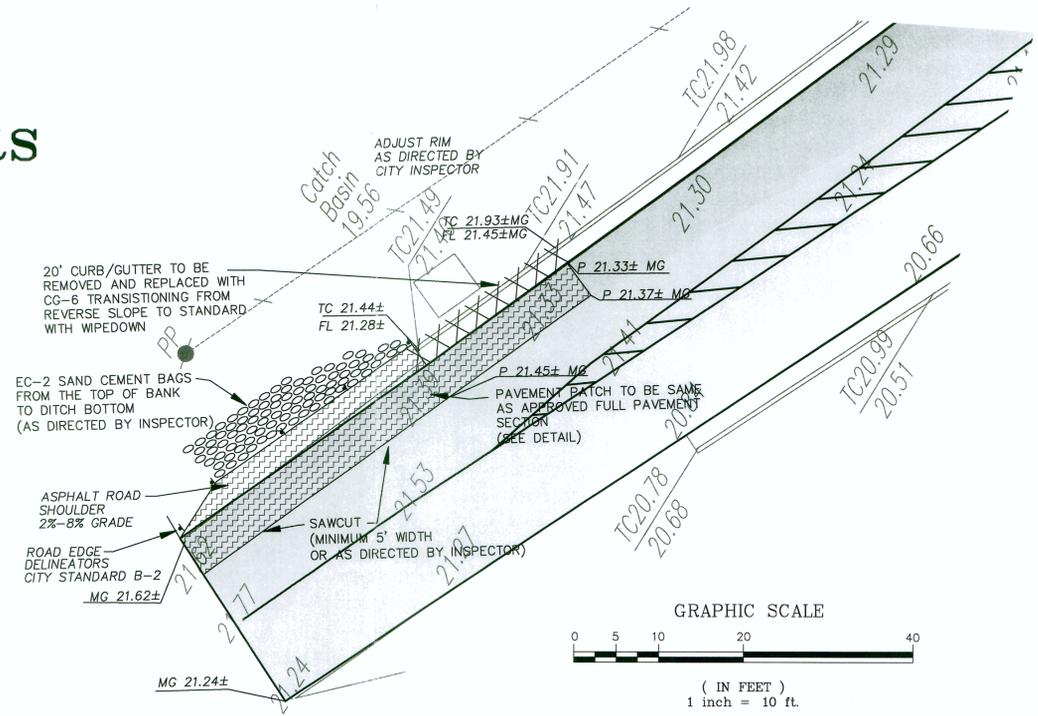
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NOTES AND SPECIFICATIONS
GENERAL NOTES

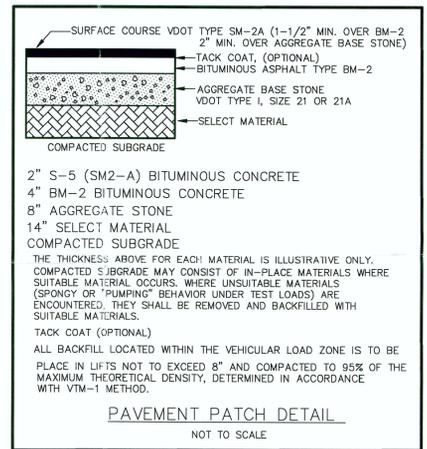
- ALL CONSTRUCTION, INSTALLATION, MATERIALS AND METHODS OF PRACTICE SHALL CONFORM WITH THE CURRENT SPECIFICATIONS AND STANDARDS OF THE DEPARTMENT OF PUBLIC WORKS, CITY OF CHESAPEAKE, VIRGINIA AND VIRGINIA DEPARTMENT OF TRANSPORTATION. CITY CONSTRUCTION STANDARDS AND TECHNICAL SPECIFICATIONS ARE SET FORTH IN THE PUBLIC FACILITIES MANUAL (PFM) VOLUMES I, II, III. A COPY OF EACH MUST BE ON SITE AT ALL TIMES.
- ELEVATIONS AS SHOWN HEREON ARE BASED UPON CITY OF CHESAPEAKE DATUM (NAVD '88).
- PRIOR TO CONSTRUCTION OR EXCAVATION, THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY OF LOCATING ANY UNDERGROUND UTILITIES (PUBLIC OR PRIVATE) THAT MAY EXIST AND CROSS THROUGH THE AREA OF CONSTRUCTION THAT ARE NOT SHOWN ON THESE PLANS. UTILITY COMPANIES SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF ANY EXCAVATION IN THE PROXIMITY OF THEIR UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING, AT HIS EXPENSE, ANY UTILITIES DAMAGED DURING CONSTRUCTION (CALL MISS UTILITY OF TIDEWATER AT 1-800-552-7001).
- THIS PLAN DOES NOT GUARANTEE THE EXISTENCE, NON-EXISTENCE, SIZE, TYPE, LOCATION, ALIGNMENT OR DEPTH OF ANY OR ALL UNDERGROUND UTILITIES OR OTHER FACILITIES. WHERE SURFACE FEATURES (MANHOLES, CATCH BASINS, VALVES, ETC.) ARE UNAVAILABLE OR INCONCLUSIVE, INFORMATION SHOWN MAY BE FROM UTILITY OWNER'S RECORDS AND/OR ELECTRONIC LINE TRACING, THE RELIABILITY OF WHICH IS UNCERTAIN. THE CONTRACTOR SHALL PERFORM WHATEVER TEST EXCAVATION OR OTHER INVESTIGATIONS NECESSARY TO VERIFY TIE-IN INVERTS, LOCATIONS AND CLEARANCES, AND SHALL REPORT IMMEDIATELY ANY DISCREPANCIES.
- PRIOR TO CONSTRUCTION WITHIN ANY EXISTING PUBLIC RIGHT-OF-WAY, THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE CITY OF CHESAPEAKE.
- TEMPORARY DRAINAGE DURING CONSTRUCTION TO BE PROVIDED BY THE CONTRACTOR TO RELIEVE AREAS THAT MAY CAUSE DAMAGE TO ROADWAYS, AS DIRECTED BY THE DEPARTMENT OF PUBLIC WORKS, CITY OF CHESAPEAKE.
- ALL CONCRETE TO BE CLASS "A3" AIR ENTRAINED (3,000 PSI).
- ALL STORM SEWER PIPES SHALL BE CONCRETE. PIPES NOT SUBJECT TO TRAFFIC LOADING MAY BE NON-REINFORCED PIPE AND SHALL CONFORM TO THE SPECIFICATIONS FOR CONCRETE SEWER PIPE ASTM C14, CLASS II. PIPES SUBJECT TO TRAFFIC LOADING SHALL BE REINFORCED PIPE AND SHALL CONFORM TO THE SPECIFICATIONS FOR CONCRETE SEWER PIPE ASTM C76, CLASS III. THE MINIMUM COVER OVER DRIVEWAY SHALL BE 0.75' (9"). ALL STORM SEWER IN RIGHT-OF-WAY SHALL BE CLASS III.
- WHEN MATERIALS ARE UNSUITABLE FOR SUBGRADE OR OTHER ROADWAY PURPOSES WITHIN THE LIMITS OF STREET CONSTRUCTION, THE CONTRACTOR SHALL BE REQUIRED TO EXCAVATE SUCH MATERIAL BELOW THE GRADE ON THE PLANS, AND THE AREAS SO EXCAVATED SHALL BE BACKFILLED WITH APPROVED SUITABLE MATERIALS. THE EXTENT OF UNDERCUTTING AND BACKFILLING TO BE DETERMINED BY THE DEPARTMENT OF PUBLIC WORKS.
- CURBS AND GUTTERS SHALL BE CONSTRUCTED IN SECTIONS OF UNIFORM LENGTHS, APPROXIMATELY 10 FEET, AS NECESSARY TO FORM CLOSURES. PRIOR TO INSTALLATION, ALL ROUGH GRADING MUST BE COMPLETED IN THE RIGHT-OF-WAY.
- ALL STORM SEWER PIPE, DROP INLETS, AND CURB INLETS SHALL BE CLEANED OF DEBRIS AND ERODED MATERIAL AT LAST STAGES OF CONSTRUCTION.
- ALL UNDERGROUND WORK SHOULD BE COMPLETED PRIOR TO PAVING.
- THE DEVELOPER SHALL BE RESPONSIBLE FOR ALL SIGNS, MARKINGS AND ROADWAY LIGHTING.
- THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO ALL OWNERS AND RESIDENTS OF PROPERTY ADJACENT TO A DEVELOPMENT OR OFFSITE IMPROVEMENTS, 30 DAYS PRIOR TO THE COMMENCEMENT OF WORK UNLESS OTHERWISE DIRECTED BY THE CITY. CONSTRUCTION WITHIN EASEMENTS OR ON PUBLIC RIGHT-OF-WAY NECESSitates NOTICE WHETHER ADJACENT TO OR LOCATED ON THE ADJOINING PROPERTY. FAILURE TO PROVIDE THE MINIMUM NOTIFICATION TIME WILL RESULT IN A SUSPENSION OF WORK.
- THE DEVELOPER SHALL BE RESPONSIBLE FOR ALL UTILITY RELOCATIONS.
- ALL PRIVATE UTILITY (IE. GAS, ELEC., COMM.) SERVICES SHALL BE INSTALLED UNDERGROUND.
- SEPARATE PERMITS ARE REQUIRED FOR FENCES, SIGNS, AND FLAGPOLES.
- THE DISPOSITION OF ALL MATERIAL FOR DITCH CONSTRUCTION SHALL BE ON SITE. SPREAD MATERIAL OVER LOTS.
- ALL PAVEMENT MARKINGS AND EMBEDDED PAVEMENT MARKERS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED BY DEVELOPER.

Etheridge Greens Centerville Turnpike Improvements for CPM, Inc.

PLEASANT GROVE BOROUGH CHESAPEAKE, VIRGINIA

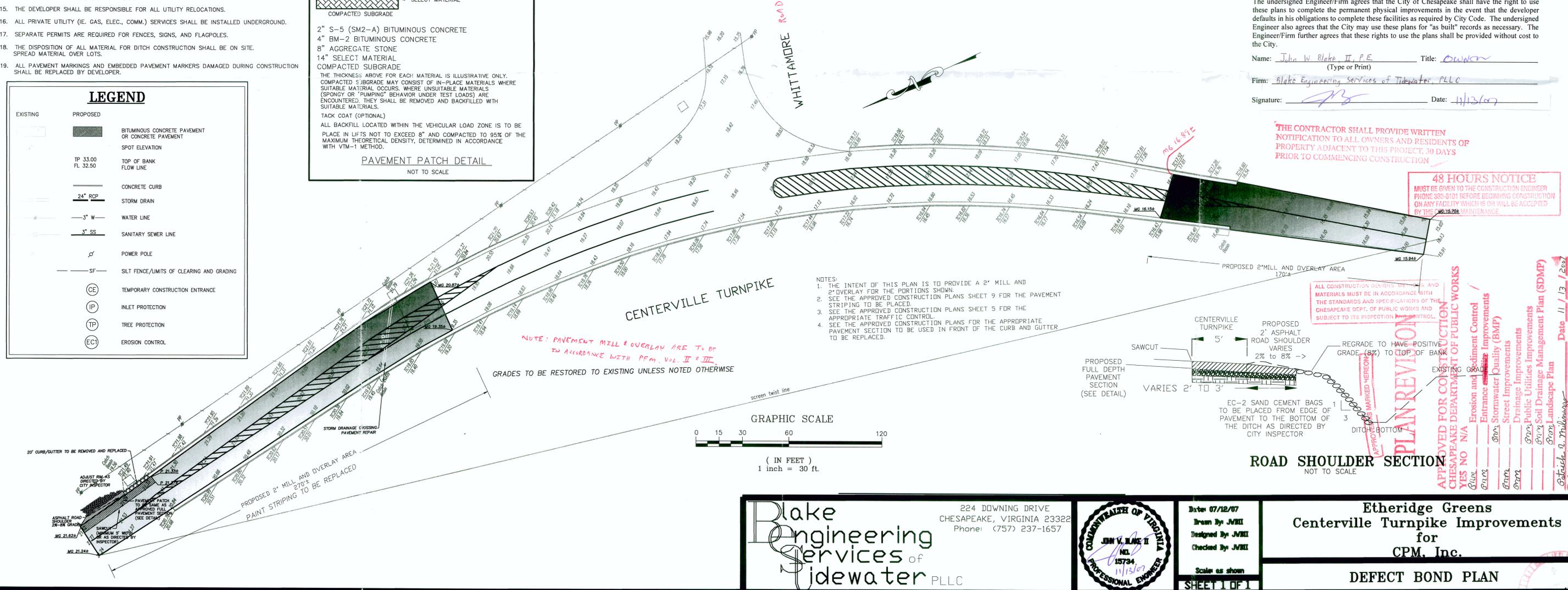


CITY OF CHESAPEAKE
1999 GEODETIC SURVEY MARK
AND RECOVERY DATA
STATION 031 1995
CITY OF CHESAPEAKE
BRASS BORN SET IN CONCRETE
±2' BELOW GROUND SURFACE
08-07-05
08-07-05

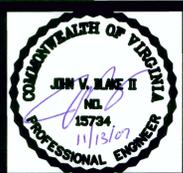


LEGEND

EXISTING	PROPOSED	DESCRIPTION
[Symbol]	[Symbol]	BITUMINOUS CONCRETE PAVEMENT OR CONCRETE PAVEMENT
[Symbol]	[Symbol]	SPOT ELEVATION
[Symbol]	[Symbol]	TOP OF BANK FLOW LINE
[Symbol]	[Symbol]	CONCRETE CURB
[Symbol]	[Symbol]	STORM DRAIN
[Symbol]	[Symbol]	WATER LINE
[Symbol]	[Symbol]	SANITARY SEWER LINE
[Symbol]	[Symbol]	POWER POLE
[Symbol]	[Symbol]	SILT FENCE/LIMITS OF CLEARING AND GRADING
[Symbol]	[Symbol]	TEMPORARY CONSTRUCTION ENTRANCE
[Symbol]	[Symbol]	INLET PROTECTION
[Symbol]	[Symbol]	TREE PROTECTION
[Symbol]	[Symbol]	EROSION CONTROL



Blake Engineering Services of Tidewater PLLC
224 DOWNING DRIVE
CHESAPEAKE, VIRGINIA 23222
Phone: (757) 237-1657



Date: 07/12/07
Drawn By: JWH
Designed By: JWH
Checked By: JWH
Scale: as shown
SHEET 1 OF 1

Etheridge Greens
Centerville Turnpike Improvements
for
CPM, Inc.
DEFECT BOND PLAN

SITE PLAN FOR BATTLEFIELD GOLF CLUB AT CENTERVILLE CHESAPEAKE, VIRGINIA TAX PARCEL NO. 062000000020

SHEET INDEX:

- 1 COVER SHEET
- 2 SITE PLAN
- 3 RIGHT-OF-WAY PLAN AND OVERALL BOUNDARY
- 4 GENERAL NOTES AND DETAILS
- 5 DETAILS

GENERAL NOTES:

1. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF CHESAPEAKE, VIRGINIA AND THE VIRGINIA DEPARTMENT OF TRANSPORTATION.
2. ALL CAST IN PLACE CONCRETE TO BE "A-3" AIR ENTRAINED (3,000 P.S.I.) ALL DISTURBED AREAS WITHIN RIGHT-OF-WAY ARE TO BE TOP SOILED AND SEEDED AS DIRECTED BY THE DEPARTMENT OF PUBLIC WORKS, CITY OF CHESAPEAKE.
3. ALL STORM PIPES AND STRUCTURES TO BE CLEARED OF DEBRIS AND ERODED MATERIAL UPON COMPLETION OF CONSTRUCTION.
4. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN SILT TRAPS SUFFICIENT TO PREVENT SOIL FROM BEING ERODED FROM THE SITE INTO ANY ADJACENT DRAINAGE SYSTEM, DITCHES OR WATERCOURSES. ANY MATERIAL THAT IS SO ERODED SHALL BE PROMPTLY REMOVED.
5. BEFORE ANY WORK OF ANY NATURE IS STARTED WITHIN THE LIMITS OF CITY STREETS RIGHT-OF-WAY, A PERMIT MUST BE OBTAINED FROM THE DEPARTMENT OF PUBLIC WORKS, CITY OF CHESAPEAKE.
6. WHEN MATERIALS WHICH ARE UNSUITABLE FOR FOUNDATIONS, SUB GRADES OR OTHER ROADWAY PURPOSES OCCUR WITHIN THE LIMITS OF CONSTRUCTION, THE CONTRACTOR SHALL BE REQUIRED TO EXCAVATE SUCH MATERIAL BELOW THE GRADE SHOWN ON THE PLANS AND THE AREAS SO EXCAVATED SHALL BE BACK FILLED WITH APPROVED SUITABLE MATERIAL. THE EXTENT OF UNDERCUTTING AND BACK FILLING TO BE DETERMINED BY THE ENGINEER.
7. BACK FILL FOR ROADWAYS, PARKING LOTS, AND BENEATH BUILDING SLAB SHALL BE MADE OF APPROVED MATERIAL AND SHALL BE BUILT IN LAYERS NOT EXCEEDING EIGHT (8) INCHES OF LOOSE MATERIAL AND COMPACTED TO 95% MAXIMUM THEORETICAL DENSITY AT OPTIMUM MOISTURE CONTENT.
8. ALL PERMANENT ELECTRICAL LINES CARRYING LESS THAN 50,000 VOLTS AND PERMANENT TELEPHONE, CABLE TV, SAN & GAS SHALL BE INSTALLED UNDERGROUND.
9. ALL DETAILS AND ITEMS LISTED ARE CITY OF CHESAPEAKE STANDARD.
10. THE DEVELOPER IS RESPONSIBLE FOR ALL SIGNS, PAVEMENT MARKINGS, AND LIGHTING.

DOMINION VIRGINIA POWER NOTES:

- DOMINION VIRGINIA POWER SUBMITS THE FOLLOWING COMMENTS, HOWEVER, THIS DOES NOT CONSTITUTE THE EXTENT OF THE CUSTOMER/DEVELOPER RESPONSIBILITIES
- THE CUSTOMER/DEVELOPER IS RESPONSIBLE FOR CALLING THE CUSTOMER SERVICE CENTER OF DOMINION VIRGINIA POWER AT 1-888-667-3000 TO ESTABLISH A WORK REQUEST BEFORE SITE WORK IS TO BEGIN
- THE CUSTOMER/DEVELOPER WILL BE RESPONSIBLE FOR ANY CONSTRUCTION COSTS ASSOCIATED WITH THE RELOCATION OF ANY PERMANENT POWER
- THE CUSTOMER/DEVELOPER WILL BE RESPONSIBLE FOR ANY CONSTRUCTION COSTS ASSOCIATED WITH THE INSTALLATION OF PERMANENT POWER
- DOMINION VIRGINIA POWER WILL REQUIRE RIGHT OF WAY FROM THE PROPERTY OWNER BEFORE ANY LOTS ARE SOLD
- DOMINION VIRGINIA POWER WILL REQUIRE RIGHT OF WAY FOR ALL LINE EXTENSIONS
- THE CUSTOMER/DEVELOPER WILL BE RESPONSIBLE FOR CLEARING THE RIGHT OF WAY BEFORE DOMINION VIRGINIA POWER FACILITIES WILL BE INSTALLED
- THE CUSTOMER/DEVELOPER WILL BE RESPONSIBLE FOR INSTALLATION OF DOMINION VIRGINIA POWER REQUIRED CONDUITS
- ALL DOMINION VIRGINIA POWER FACILITIES WILL BE LOCATED IN THE FRONT OF THE PROPOSED PROPERTIES
- ANY WORK IN A DOMINION VIRGINIA POWER TRANSMISSION RIGHT OF WAY WILL REQUIRE APPROVAL BEFORE ANY WORK IS STARTED

THIS DOCUMENT IS THE SOLE PROPERTY OF (SIA) SITE IMPROVEMENT ASSOCIATES, INC. THE REPRODUCTION IN WHOLE OR IN PART OR THE MODIFICATION OF ANY DETAIL OR DESIGN MAY NOT BE MADE WITHOUT EXPRESS WRITTEN CONSENT FROM AN OFFICER OF (SIA) SITE IMPROVEMENT ASSOCIATES, INC.

SIA SITE IMPROVEMENT
Civil Engineers, Surveyors & Site Contractors

EMAIL: cad@siteimprovement.net
Office: 757.671.9000 • Fax: 757.671.9288
800 Juniper Crescent, Suite A • Chesapeake, Va. 23320



COVER SHEET FOR BATTLEFIELD GOLF CLUB AT CENTERVILLE
CHESAPEAKE, VIRGINIA
T.P. 062000000020

JOB # 07106
DWG FILE: LO-4-REV
DATE: 12/14/07
SCALE: NONE
SHEET NUMBER 1 OF 5

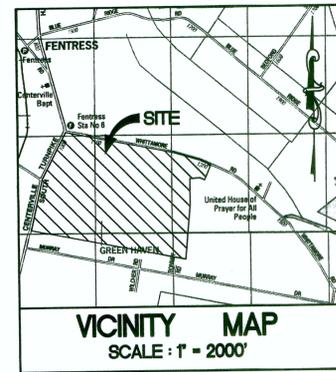
CITY COUNCIL STIPULATIONS

JUNE 20, 2001
#UP-01-03

G. UP-01-03. PROJECT: Etheridge Greens. APPLICANT: Robert G. Dierachis AGENCY: Hassell & Folke, P.C. PROPOSAL: A conditional use permit to construct & operate a golf course, golf driving range & related facilities on a 217.2 acre site. ZONE: A-1 Agricultural District. SIC CODE: 7992, 7999. LOCATION: Southeast corner of the intersection of Centerville Turnpike & Whittemore Road. TAX MAP SECTION/PARCEL: 062000000020. BOROUGH: Belle Road.

1. As agreed upon by the applicant, the applicant shall be responsible for providing a left turn lane on Centerville Turnpike at Whittemore Road prior to the initial delivery of fly ash to the site.
2. As agreed upon by the applicant, the applicant shall be responsible for providing a minimum twenty-four (24) foot width of pavement on Whittemore Road from the project entrance to the intersection of Centerville Turnpike. These improvements shall be completed prior to the initial delivery of fly ash to the site.
3. A subdivision plat shall be submitted for recordation prior to final site plan approval for the purpose of providing a 45 foot right-of-way reservation along Centerville Turnpike and any right-of-way dedication that may be necessary for detour and shoulder improvements along Centerville Turnpike, as determined by the Department of Public Works.
4. As agreed upon by the applicant, the applicant shall implement corrective measures to ensure the safety of motorists along Centerville Turnpike and Whittemore Road from errant golf balls if required by the Department of Public Works.
5. As agreed upon by the applicant, an enhanced street buffer varying from 10 feet to 50 feet in width will be provided along Centerville Turnpike and Whittemore Road in order to soften the appearance from the public rights-of-way and to avoid a rigid linear effect. Landscaping shall be subject to approval by the City Architect.
6. The applicant agrees that a five percent tree canopy coverage of the property shall be provided prior to final site plan approval and formal opening of the golf course. The canopy coverage shall be accomplished through a combination of reforestation areas, street buffers and plantings internal to the golf course, subject to approval by the City Architect. Reforestation areas shall be planted with large and small canopy tree seedlings a minimum of 6" to 12" in height at the time of planting and at a spacing of one tree per 400 sq. ft., subject to approval by the City Architect. Street buffer trees and internal golf course trees shall be in accordance with the specifications of the Chesapeake Zoning Ordinance.
7. A dry hydrant shall be provided drawing supply from the proposed lake in accordance with the Public Facilities Manual (PFM) prior to the issuance of a certificate of occupancy.
8. If approved by the City Council, the building setback for the Maintenance Building shall be at least 50 feet from the right-of-way reservation line along Whittemore Road. Landscaping, subject to approval by the City Architect, shall be provided that screens the Maintenance Building from public view from the street if the setback is approved to be less than 150 feet.
9. A 12' x 35' loading space shall be indicated on the final site plan and provided prior to the issuance of a certificate of occupancy.
10. In the event any private potable well located within a 2,000 foot radius of the subject property's boundaries fails due to contamination or diminution of groundwater, the applicant agrees to promptly provide a replacement well equal in water quality to the failed well. The applicant agrees that he will provide such replacement wells upon receiving a complaint of well damage unless professional hydrologic and/or water quality studies show conclusively that the diminution of groundwater and/or contamination was not caused or contributed to by the construction or operation of the golf course and related facilities. The applicant agrees to post and maintain a twenty-four hour telephone number at the entrance to the site during construction of the golf course to ensure an immediate response to local inquiries. The applicant's obligations under this stipulation shall apply only to potable wells existing at the time that construction of the golf course begins and shall expire seven (7) years from the date of the approval of the conditional use permit (UP-01-03).

City Clerk Moore identified the following speakers:
James R. Bradford, 325 Volvo Parkway, representing Hassell & Folke, P.C., spoke in support of Public Hearing Item (G) - UP-01-03.
T. J. Caraway, 330 Hurdle Drive, representing self, spoke in opposition to Public Hearing Item (G) - UP-01-03.
Vice Mayor Cogswore, on a motion seconded by Council Member Blevins, moved for approval of UP-01-03 with stipulations.
Mayor Ward asked that James Bradford, agent and C. Max Bartholomew, Jr., of Virginia Power explain the use of the fly ash and its impacts. Mr. Bradford and Mr. Cogswore explained the use of the fly ash and its impacts. Mr. Bradford and Mr. Cogswore explained the use of the fly ash and its impacts. Mr. Bradford and Mr. Cogswore explained the use of the fly ash and its impacts.
There was no additional discussion.
On the motion, voting yes: Council Members Cogswore, de Triquet, Edge, Krasnow, Riser, Parker, Ward, Waters and Willis.
Voting no: None.



CITY OF CHESAPEAKE 1995 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA			
HORIZONTAL DATA		LOCATION MAP (SCALE: 1"=4000')	
VIRGINIA STATE PLANE COORDINATES SOUTH ZONE (NAD 83) (1994 WITH 2011 ADJUST)			
DATE	NORTHING	EASTING	
M.U.H.S.	1942591.856	5767185.962	
U.S. SURVEY FT.	3426570.11'	7152764.302'	
	ANG. ULIC		
	2541.39.20179" N	75°10'55.74884" W	
CONVERGENCE: 1 01'24"23.73"			
SCALE FACTOR: 1.00001394			
AZIMUTH MARK LOCATIONS			
OBJECTS	DATUM	DISTANCE	WVD 88 RELY
VERTICAL DATA			
NCVD 29 (72ADJ)	NAV 05		
ELEVATION IN FEET	ELLIPSOID IN FEET		
5.22	14.254		
STATION NUMBER: 051		FIELD BOOKS	
		P.S. 491 PG. 33	
GPS SERVICES PROVIDED BY: ECLUSE-SRINE ASSOCIATES, LTD. (MAY 1995)		P.S. 507 PG. 27	

CONSTRUCTION PLAN ASSIGNMENT

RE: SITE PLAN FOR BATTLEFIELD GOLF CLUB AT CENTERVILLE

THE UNDERSIGNED ENGINEER/FIRM AGREES THAT THE CITY OF CHESAPEAKE SHALL HAVE THE RIGHT TO USE THESE PLANS TO COMPLETE THE PERMANENT PHYSICAL IMPROVEMENTS IN THE EVENT THAT THE DEVELOPER DEFAULTS IN HIS OBLIGATIONS TO COMPLETE THESE FACILITIES AS REQUIRED BY CITY CODE. THE UNDERSIGNED ENGINEER ALSO AGREES THAT THE CITY MAY USE THESE PLANS FOR "AS BUILT" RECORDS AS NECESSARY. THE ENGINEER/FIRM FURTHER AGREES THAT THESE RIGHTS TO USE THE PLANS SHALL BE PROVIDED WITHOUT COST TO THE CITY.

NAME: ISSAM H. BARAKI TITLE: VICE PRESIDENT

FIRM: SITE IMPROVEMENT ASSOCIATES, INC.

SIGNATURE: _____ DATE: _____

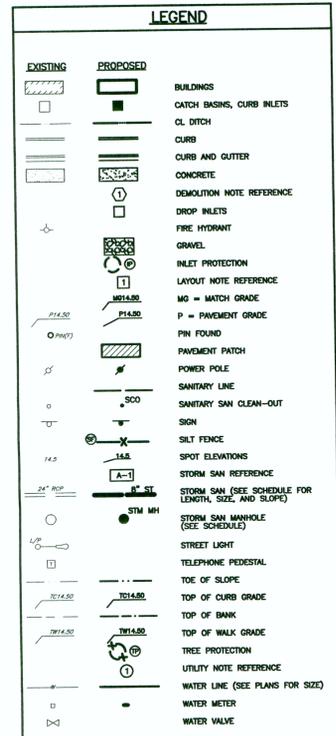
ENGINEER'S ESTIMATE OF REQUIRED PUBLIC IMPROVEMENTS			
ITEM DESCRIPTION	# OF UNITS	UNIT PRICE	TOTAL
Land Disturbing (E&S)			
DISTURBED ACREAGE	2.09 AC	\$1,000.00 1ST AC \$500.00 EA. ADD. AC.	\$1,525.00 \$3,116.25
SILT FENCE	1,385 LF	\$2.25/LF	\$3,116.25
	Subtotal		\$4,641.25
STREETS AND STORM			
CG-11 ENTRANCE REGRADE DITCH	1 EA 30 CY	\$6,900.00/EA \$8.05/CY	\$6,900.00 \$241.50
	Subtotal		\$7,141.50
	Total		\$11,782.75
	Contingency (15% of total)		\$1,767.41
	Grand Total		\$13,550.16

SITE DATA:

- LEGAL REFERENCE: D.B. 6943, PG. 305; M.B. 143, PG. 136
- TAX PARCEL NUMBER: 0620000000620
- SITE ADDRESS: 1001 CENTERVILLE TURNPIKE, SOUTH
- CURRENT ZONING: A-1
- PROPOSED USE: GOLF COURSE/DRIVING RANGE
- CURRENT USE: VACANT LOT
- SITE AREA:
TOTAL SITE AREA: 9,445,376 SF OR 216.84 AC
DISTURBED AREA: 91,225 SF OR 2.09 AC
EXISTING IMPERVIOUS AREA: 0 AC
PROPOSED IMPERVIOUS AREA:
PROPOSED BUILDING AREA: 2,734 SF OR 0.06 AC
PROPOSED PAVEMENT AREA: 59,952 SF OR 1.38 AC
PROPOSED SIDEWALK AREA: 904 SF OR 0.02 AC
TOTAL PROPOSED IMPERVIOUS AREA: 63,590 SF OR 1.46 AC
- PROPOSED BUILDING HEIGHT = NOT TO EXCEED 35'
- PARKING SPACES:
REQUIRED: 80 SPACES
PROVIDED: 83 SPACES (INCL. 4 H.C. SPACES)
- INTERIOR GREENSPACE REQUIRED: 83 SP. x 30 SF/SP. = 2,490 SF
- INTERIOR GREENSPACE PROVIDED: 2,983 SF
- WATER SERVICE WILL BE PROVIDED BY PRIVATE ON-SITE WELL.
- SANITARY SEWER SERVICE WILL BE PROVIDED BY ON-SITE TREATMENT SYSTEM
- EXISTING SEWAGE FLOW:
AVERAGE: 500 GPD
PEAK: 1000 GPD
- NEEDED FIRE FLOW: 18x(2734)**0.5 = 945 GPM (MIN 1,500 GPM) FIRE DEPARTMENT
- THIS PARCEL IS IN FLOOD ZONE 'X' AS SHOWN ON FEMA MAP COMMUNITY PANEL # 510034 0051C, DATED MAY 5, 1999, AREA DETERMINED TO BE OUTSIDE THE 500 YR. FLOOD ELEVATION.
- HORIZONTAL DATUM: THIS PLAN IS BASED ON THE VIRGINIA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD 1983/1993 (HARN). COORDINATE VALUES SHOWN ARE EXPRESSED IN U.S. SURVEY FEET.
- VERTICAL CONTROL: THIS PLAN IS BASED ON NAVD, 1988
- RIGHT OF WAY DEDICATION: NONE
- NO CITY REFUSE COLLECTION WILL BE PROVIDED TO THIS SITE.

OWNER/DEVELOPER:

MIKE WAUGH
1001 CENTERVILLE TURNPIKE
CHESAPEAKE, VA 23322
PH: (757) 482-4779



ABBREVIATIONS:
EXIST. = EXISTING
PROP. = PROPOSED
SAN. = SANITARY
INV. = INVERT

TYP. = TYPICAL
STD. = STANDARD
TB = TOP OF BANK

NOTES:
THIS PLAN DOES NOT GUARANTEE THE LOCATION OF EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO DETERMINE ACTUAL LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MOBILIZATION. IF CONFLICTS EXIST, NOTIFY ENGINEER.
BEFORE DIGGING CONTACT "MISS UTILITY" AT 1-800-552-7001.

NOTE:
THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO ALL OWNERS AND RESIDENTS OF PROPERTY ADJACENT TO A DEVELOPMENT OR OFFSITE IMPROVEMENTS, 30 DAYS PRIOR TO THE COMMENCEMENT OF WORK UNLESS OTHERWISE DIRECTED BY THE CITY. CONSTRUCTION WITHIN EASEMENTS OR ON PUBLIC RIGHT-OF-WAY NECESSITATES NOTICE, WHETHER ADJACENT TO OR LOCATED ON THE ADJOINING PROPERTY. FAILURE TO PROVIDE THE MINIMUM NOTIFICATION TIME WILL RESULT IN A SUSPENSION OF WORK.

THIS DEVELOPMENT IS PARTIALLY OR WHOLLY WITHIN AN AIRCRAFT NOISE AND/OR ACCIDENT ZONE AND MAY BE SUBJECT TO ABOVE AVERAGE NOISE LEVELS (INCLUDING NOISE LEVELS EXPERIENCED IN UNITED STATES NAVY AIR INSTALLATION COMPATIBLE USE ZONES (ACUZ) NOISE ZONE GREATER THAN 75 dB Ldn, NOISE ZONE 3) OR TO AIRCRAFT ACCIDENTS.

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE CHESAPEAKE CITY CODE AND ALL VOLUMES OF THE CHESAPEAKE PUBLIC FACILITIES MANUAL.

SIGNED _____ P.E. OR C.L.S.

LAYOUT NOTES:

- 1 SEE ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSION AND DETAILS
- 2 HANDICAP SIGN (VAN ACCESSIBLE), SYMBOL, AND MARKING PER ADA STANDARD, SEE DETAIL (TYP.).
- 3 9' x 18' PARKING SPACE (TYP.), \odot = NUMBER OF SPACES.
- 4 CONC. SIDEWALK.
- 5 CHES. STD. CG-11 ENTRANCE, SEE DETAIL FOR PAVEMENT SECTION.
- 6 6' HIGH FENCE ENCLOSURE.
- 7 CHES. STD. CG-2 CURB.
- 8 CHES. STD. CG-5 CURB & GUTTER.
- 9 WIPE DOWN CURB.
- 10 NORMAL DUTY PAVEMENT SECTION.
- 11 EXTEND EXISTING 18" RCP 8 FEET ON EACH END. PROP. INV.(EAST)=±9.48 (MG), PROP. INV.(WEST)=9.90
- 12 FIRE LANE, SEE DETAIL.
- 13 UNDERCUT AND FILL EXISTING DITCH TO LIMITS SHOWN.
- 14 PROPOSED DITCH, SEE DITCH SECTION.
- 15 ENTRANCE PROFILE, SEE DETAIL.
- 16 10'x30' CONCRETE DUMPSTER PAD W/ ENCLOSURE.
- 17 CHES. STD. EC5B, EROSION CONTROL WITH SAND CEMENT BAGS.
- 18 ENTRANCE CONNECTION TO WHITAMORE ROAD TO BE CHES. STD. PC-3 IN ACCORDANCE WITH PFM, VOL II FOR SAWCUT OF EXISTING PAVEMENT TO FULL DEPTH OF PAVEMENT SECTION.

UTILITY NOTES:

- 1 PROP. WATER WELL SITE.
- 2 PROP. 8" D.I. FIRE MAIN.
- 3 PROP. DRY FIRE HYDRANT.
- 4 4" PVC (SDR-35) SAN. SEWER LATERAL AT 1.00% MIN. W/ CLEANOUT.
- 5 1,500 GAL. FIBERGLASS ORENCO (FRP) SEPTIC TANK WITH V-COM SIMPLEX PANEL.
- 6 1,500 GAL. FIBERGLASS ORENCO (FRP) RECIRCULATION TANK.
- 7 AdvanTex AX20(2) TREATMENT SYSTEM, SEE DETAIL.
- 8 UV DISINFECTION CHAMBER (USE 2 SALCOR 30 UNITS INSTALLED IN SERIES).
- 9 6" GRAVITY SAN. SEWER DISCHARGE LINE @ 1.00%.

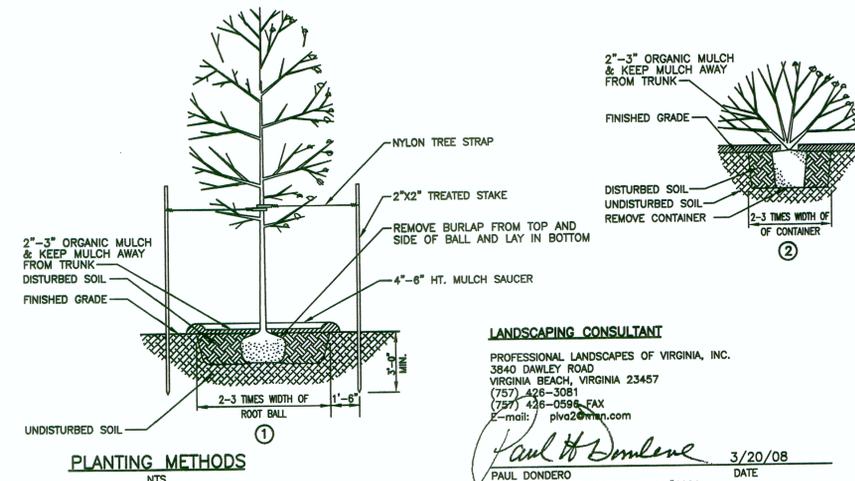
STORM SEWER SCHEDULE

- | | |
|----------------------------------|---|
| 1 CB-1
RIM=19.20
INV.=8.71 | 1 TO 2 52' - 15" STM @ 0.23%
2 TO 3 83' - 15" STM @ 0.55%. |
| 2 CB-1
RIM=19.00
INV.=8.59 | |
| 3 PIPE END
INV.=8.13 | |
- *STORM SEWER PIPE SHALL BE RCP OR APPROVED EQUAL. ALL RCP WITHIN THE RIGHT-OF-WAY SHALL BE CLASS III RCP.

FIRE PREVENTION ADVISORY COMMENTS:

- A. A PERMIT IS REQUIRED PRIOR TO INSTALLATION OF THE DRY HYDRANT BY THE INSTALLING CONTRACTOR.
- B. THE DRY HYDRANT CONNECTION AVAILABLE TO THE FIRE ENGINE MUST BE A MALE CONNECTION.

PLANT SCHEDULE					
SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	SPACE
TREES					
PA	6	PLATANUS x ACERIFOLIA	LONDON PLANE TREE	2 1/2" CALIPER	AS SHOWN
ZS	8	JAPANESE ZELKOVA	ZELKOVA SERRATA 'VILLAGE GREEN'	2 1/2" CALIPER	AS SHOWN
SHRUBS					
MC	13	MYRICA CERIFERA	WAX MYRTLE	36" HT.	4'



LANDSCAPING CONSULTANT

PROFESSIONAL LANDSCAPES OF VIRGINIA, INC.
3840 DAWLEY ROAD
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E-mail: pivo2@plv.com

Paul D. Dondoro 3/20/08
DATE

PAUL DONDERO
VIRGINIA CERTIFIED NURSERYMAN #1001
EXPIRES 12-31-2010

Handwritten note:
Irrigation well
Feb 25, 2002
390' from drive
190' from Whitmore
static water level 3' Private
cased 0-36
gravel pipe 30-50' dia. 1/2"
grout 0-2' screened 37-40'

PROPOSED PRIVATE STORMWATER MANAGEMENT FACILITY EASEMENT, SEE RIGHT-OF-WAY PLAN FOR DIMENSIONS

STATION 051
CITY OF CHESAPEAKE BRASS DISK SET IN CONCRETE 4" BELOW GROUND SURFACE ELEV.=14.25 (NAVD 88)



No.	Date	Description
1	3-19-08	REVISED PER CITY COMMENTS, LTR DATED 1-29-08

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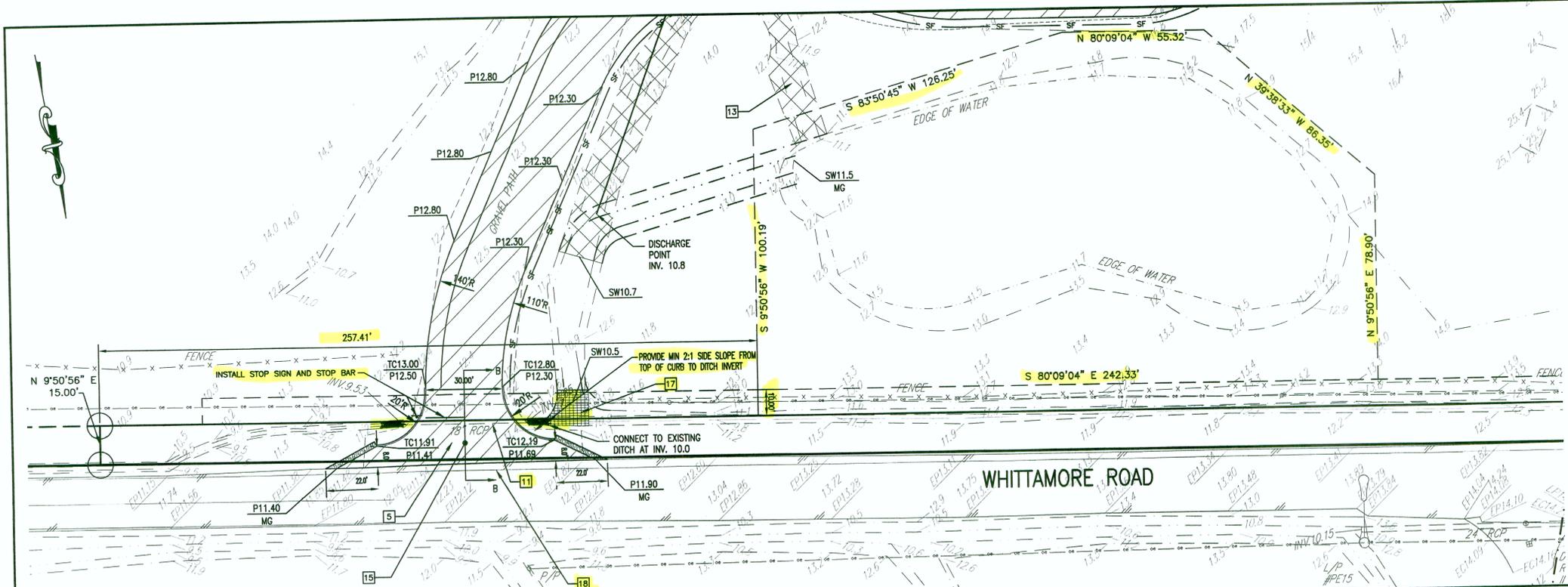
SIA SITE IMPROVEMENT
Civil Engineers, Surveyors & Site Contractors

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Office: 757.671.9000 Fax: 757.671.9288
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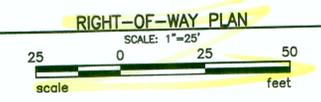


SITE PLAN FOR BATTLEFIELD GOLF CLUB AT CENTERVILLE
CHESAPEAKE, VIRGINIA
T.P. 062000000020

JOB #	07106
DWG FILE:	LO-4-REV
DATE:	12/14/07
SCALE:	1"=40'
SHEET NUMBER	2 OF 5



- LAYOUT NOTES:**
- 5 CHES. STD. CG-11 ENTRANCE, SEE DETAIL FOR PAVEMENT SECTION.
 - 11 EXTEND EXISTING 18" RCP 8 FEET ON EACH END. PROP. INV.(EAST)=±9.48 (MG), PROP. INV.(WEST)=9.90
 - 13 UNDERCUT AND FILL EXISTING DITCH TO LIMITS SHOWN.
 - 15 ENTRANCE PROFILE, SEE DETAIL.
 - 17 CHES. STD. ECSB, EROSION CONTROL WITH SAND CEMENT BAGS.
 - 18 ENTRANCE CONNECTION TO WHITAMORE ROAD TO BE CHES. STD. PC-3 IN ACCORDANCE WITH PFM, VOL. II FOR SAWCUT OF EXISTING PAVEMENT TO FULL DEPTH OF PAVEMENT SECTION.



3/03/08 City of Chesapeake Reforestation Guidelines

When reforestation is required, whether it be for uplands or for riparian buffers in non-tidal wetlands as in the Chesapeake Bay Preservation Area (CBPA) Resource Protection Area (RPA), a standard policy has been established. This policy follows guidance from the Virginia Department of Forestry, and the Chesapeake Bay Local Assistance Department's Riparian Buffer guidance Manual. The reforestation shall be depicted on a landscape plan that is a scale drawing, showing area to be planted, along with a plant list which includes species, size, number, and packaging.

- The basic density of plantings is 300 large canopy trees per acre. This is approximately 12' on center. In order to provide the desired diversity and flexibility in a reforestation project, the following guidelines are provided:
 - The plant list must show a diversity of no more than 20% of any single species of tree. (For example, 10 Live Oaks, 10 Willow Oaks, 10 Loblolly Pines, 10 Bald Cypress, 10 Black Gum, out of a 50 tree requirement).
 - 10 shrubs may be substituted for one large canopy tree.
 - 2 small trees (Dogwood, Red Bud, etc.) may be substituted for one large canopy tree.
 - At least one third of the reforestation should be evergreen.
 - At least two thirds of the reforestation must be large canopy trees.
- Minimum size of required trees is 6-8" (seedlings can be used as per page 2.1c).
- Minimum size of required shrubs is 18-24" or 3 gallon size.
- The entire reforestation area should be covered with 2-4" of organic mulch. This will help retain moisture and provide a beneficial environment for the reforestation.
- For reforesting empty lots within subdivisions and along right of ways, see the Reforestation Supplementary Guidelines on page 2.

City of Chesapeake Reforestation Supplementary Guidelines Page 2

- Criteria for reforesting empty residential lots along right of ways. f. Utilize the reforestation guidelines on page one.
- The area between curb and sidewalk, and a 10' wide buffer adjacent to the sidewalk (away from the street) shall be kept mowed and clear in accordance with Chesapeake City Code 62-2.
- Reforestation by seedlings, (1-3' tall) as opposed to saplings as described on page one is permitted with the following criteria:
 - Density and diversity must be as described on page 1.
 - Establishment of an annual monitoring plan to ensure that the required density is maintained.
- All reforestation areas are to be clearly marked with "Reforestation / no mow" signage at 50' intervals (see sample below minimum dimensions are 8"x4"). Where there is no sidewalk, the signage is to be installed at the edge of the right of way easement. These signs must be visible and be maintained until trees reach an average of 6' height. Failure to maintain these signs could result in action by the city to have the area moved per City Code 62-2.

REFORESTATION AREA
NO MOWING NO DUMPING

Mik Lestyan, City Arborist
Department of Neighborhood Services

NO MOW AREA RESERVED FOR REFORESTATION. TOTAL AREA = ±5.58 ACRES. SEE REFORESTATION GUIDELINES, THIS SHEET.

PLANT SCHEDULE (REFORESTATION)

QUANTITY	COMMON NAME	BOTANICAL NAME	SIZE	SPACING
20% OF TOTAL	* LIVE OAK	QUERCUS VIRGINIANA	SEE GUIDELINES	SEE GUIDELINES
20% OF TOTAL	* WILLOW OAK	QUERCUS PHELLOS	SEE GUIDELINES	SEE GUIDELINES
20% OF TOTAL	* LOBLOLLY PINE	PINUS TAEDA	SEE GUIDELINES	SEE GUIDELINES
20% OF TOTAL	* BALD CYPRESS	TAXODIUM DISTICHUM	SEE GUIDELINES	SEE GUIDELINES
20% OF TOTAL	* BLACK GUM	NYSSA SYLVATICA	SEE GUIDELINES	SEE GUIDELINES

* OR APPROVED EQUAL PER THE DISCRETION OF THE CITY ARBORIST.

OR APPROVED EQUAL PER THE DISCRETION OF THE CITY ARBORIST.

CURVE TABLE

NO.	RADIUS	DELTA	LENGTH	TANGENT	CHORD	CH. BEARING
1	773.51'	18°11'15"	205.04'	103.12'	204.44'	N 17°54'02" E
2	681.62'	17°04'09"	203.08'	102.29'	202.31'	N 16°57'34" E
3	45,580.38'	0°58'20"	773.43'	386.72'	773.42'	S 80°38'14" E
4	5189.76'	5°50'45"	529.51'	264.98'	529.28'	S 78°12'02" E
5	2868.00'	6°54'37"	345.90'	173.16'	345.69'	S 71°42'21" E
6	5388.68'	1°19'35"	124.75'	62.38'	124.74'	S 69°01'50" E

PROPOSED 15' DEDICATION FOR ROAD WIDENING (0.3842 ACRES)

215.4517 ACRES
(DB. 5050 PG. 169)
TP #062000000020
CPM VIRGINIA L.L.C.

PLANT SCHEDULE (STREET FRONTAGE, BUFFER "F")

QUANTITY	COMMON NAME	BOTANICAL NAME	SIZE	SPACING
3 PER 100' OF FRONTAGE	** JAPANESE ZELKOA	ZELKOVA SERRATA	2 1/2" CALIPER	50' O.C.
25 PER 100' OF FRONTAGE	** DWARF BURFORD HOLLY	Ilex Cornuta 'Dwarf Burford'	18"-24" HT.	3' O.C.

** OR APPROVED EQUAL PER THE DISCRETION OF THE CITY ARBORIST.

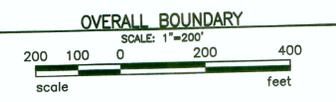


FREE-STANDING SIGNAGE REQUIRES A RECORDED WAIVER IF LOCATED IN THE RIGHT-OF-WAY RESERVATION.

INSTALL "BUFFER F" LANDSCAPING ALONG ENTIRE LENGTH OF WHITAMORE ROAD AND CENTERVILLE TURNPIKE. SEE DETAIL FOR TYPICAL 100' SECTION.

PROPOSED 10' PUBLIC DRAINAGE EASEMENT

PROPOSED 15' RIGHT-OF-WAY RESERVATION



WHITAMORE ROAD (30' R/W)
(MB. 70 PGS. 87 & 87A)

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SIA SITE IMPROVEMENT
Civil Engineers, Surveyors & Site Contractors

ESAM H. BARBER
Lic. No. 22992
PROFESSIONAL

RIGHT-OF-WAY PLAN AND OVERALL BOUNDARY FOR BATTLEFIELD GOLF CLUB AT CENTERVILLE
CHESAPEAKE VIRGINIA
T.P. #062000000020

JOB # 07106
DWG FILE: LO-4-REV
DATE: 12/14/07
SCALE: AS SHOWN
SHEET NUMBER 3 OF 5

Revised Per	Date	Description
1	3-19-08	REVISED PER CITY COMMENTS, LTR DATED 1-29-08

Officer: 757.671.9000 • Fax: 757.671.9288
800 Juniper Crescent, Suite A • Chesapeake, Va. 23320

GENERAL NOTES:

- ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM WITH THE CURRENT SPECIFICATIONS AND STANDARDS OF THE DEPARTMENT OF PUBLIC WORKS, CITY OF CHESAPEAKE, VIRGINIA (DPW). EXCEPT WHERE OTHERWISE NOTED, DPW'S CONSTRUCTION STANDARDS ARE SET FORTH IN THEIR PUBLIC UTILITIES MANUAL, VOLUME 1, A COPY OF WHICH MUST BE PURCHASED FROM DPW BY THE CONTRACTOR AND KEPT AT THE JOB SITE AT ALL TIMES. REFERENCES TO VDOT SHALL BE REFERENCES TO VDOT SHALL MEAN THE CURRENT STANDARDS AND/OR SPECIFICATIONS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION.
- ALL STORM SEWER PIPES SHALL BE REINFORCED CONCRETE TONGUE AND GROOVE CONFORMING TO ASTM C-76. PIPES NOT SUBJECT TO TRAFFIC LOADING SHALL BE CLASS II AND PIPES SUBJECT TO TRAFFIC LOAD AND ALL PIPES WITH STREET RIGHT-OF-WAY SHALL BE CLASS III. CONCRETE PIPE JOINTS SHALL BE SEALED WITH A RING OF MASTIC-TYPE SUCH AS RAM-NEX, RUBR-NEX, OR BUTYL-TITE, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS, AND CONFORMING TO ASTM C-76. CLEARANCE OF 12" BETWEEN STORM AND OTHER UTILITIES IS REQUIRED UNLESS OTHERWISE NOTED.
- TEMPORARY DRAINAGE DURING CONSTRUCTION SHALL BE PROVIDED BY THE CONTRACTOR TO RELIEVE AREAS THAT MAY CAUSE DAMAGE TO ROADWAYS, AS DIRECTED BY THE DPW.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WITH MATCHING MATERIALS ANY PAVEMENT, DRIVEWAYS, WALKS, CURBS, ETC., THAT MUST BE CUT OR THAT ARE DAMAGED DURING CONSTRUCTION.
- CURB & GUTTERS SHALL BE CONSTRUCTED IN SECTIONS OF UNIFORM LENGTHS, APPROXIMATELY 10 FEET, AS NECESSARY TO FORM CLOSURES. EXPANSION JOINTS SHALL BE FORMED AT INTERVALS OF APPROXIMATELY 120 FEET USING 5/8" PREMOLDED BITUMINOUS FIBER JOINT FILLER.
- THIS PLAN DOES NOT GUARANTEE THE EXISTENCE, NON-EXISTENCE, SIZE, TYPE, LOCATION ALIGNMENT OR DEPTH OF ANY OR ALL UNDERGROUND UTILITIES OR OTHER FACILITIES. WHERE SURFACE FEATURES (MANHOLES, CATCH BASINS, VALVES, ETC.) ARE UNAVAILABLE OR INCONCLUSIVE, INFORMATION SHOWN MAY BE FROM UTILITY OWNER'S RECORDS AND/OR ELECTRONIC LINE TRACING, ELECTRONIC LINE TRACING THE RELIABILITY OF WHICH IS UNCERTAIN. THE CONTRACTOR SHALL PERFORM WHATEVER TEST EXCAVATION OR OTHER INVESTIGATION IS NECESSARY TO VERIFY THE INVERTS, LOCATIONS AND CLEARANCES, AND SHALL REPORT IMMEDIATELY ANY DISCREPANCIES TO BENITSON, DWELL, ELKIN & TITUS, LTD. AT 490-3566. UTILITY COMPANIES SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF ANY EXCAVATION IN THE PROXIMITY OF THEIR UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AT HIS EXPENSE ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
- THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN SILT TRAPS SUFFICIENT TO PREVENT SOIL FROM BEING ERODED FROM THE SITE INTO ANY ADJACENT DRAINAGE SYSTEMS, DITCHES OR WATERCOURSES. ANY MATERIAL THAT IS SO ERODED SHALL BE PROMPTLY REMOVED.
- ELEVATIONS AS SHOWN HEREON ARE IN FEET AND ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929, 1972 ADJUSTMENT.
- THE CONTRACTOR SHALL BE REQUIRED TO EXCAVATE BELOW PLAN GRADE ANY MATERIALS WHICH ARE UNSUITABLE FOR FOUNDATIONS, SUBGRADES, OR OTHER ROADWAY PURPOSES AND BACKFILL THESE AREAS WITH FILLER MATERIAL. THE EXTENT OF UNDERCUTTING AND BACKFILLING SHALL BE DETERMINED BY DPW, AS TO STREET RIGHT-OF-WAY AND THE ENGINEER OR ARCHITECT IN OTHER AREAS. COMPENSATION SHALL BE AS SET FORTH IN THE CONTRACT DOCUMENTS.
- EXISTING TREES THAT ARE TO BE RETAINED AFTER CONSTRUCTION SHALL BE PROTECTED DURING CONSTRUCTION IN THE FOLLOWING WAYS: (LEGEND: AND AS PER VIRGINIA EROSION AND SEDIMENT CONTROL STANDARD SPECIFICATION 1.03).
 - PRIOR TO ANY CLEANING, GRADING OR CONSTRUCTION, PROTECTIVE BARRIERS SHALL BE PLACED AROUND ALL TREES TO BE RETAINED ON THE SITE TO PREVENT THE DESTRUCTION OR DAMAGE OF TREES. THESE ARE TO BE LOCATED IN A CIRCULAR PATTERN WITH A RADIUS EQUAL TO THE LENGTH OF THE BRANCHES TO BE PROTECTED. BRANCHES WILL NOT BE STOCKPILED WITHIN THIS DEFINED AREA AND VEHICLES AND OTHER EQUIPMENT ARE TO BE EXCLUDED TO AVOID SOIL COMPACTION. THE ONLY EXCEPTION TO THIS REQUIREMENT WILL BE THOSE SPECIFICALLY ALLOWED BY THESE STANDARDS AND SPECIFICATIONS.
 - BOARDS OR WIRES OF A NON-PROTECTIVE NATURE WILL NOT BE NAILED OR ATTACHED TO TREES DURING BUILDING OPERATIONS.
 - HEAVY EQUIPMENT OPERATORS WILL BE CAUTIONED TO AVOID DAMAGE TO EXISTING TREE TRUNKS AND ROOTS DURING LAND LEVELING OPERATIONS. FEEDER ROOTS SHOULD NOT BE CUT IN AN AREA EQUAL TO TWICE THE TREE CIRCUMFERENCE (MEASURED 4'-1/2" ABOVE GROUND LINE IN INCHES). EXPRESSED IN FEET (EXAMPLE - CIRCUMFERENCE OF TEN INCHES WOULD HAVE A TWO FOOT ZONE OF TWENTY FEET IN ALL DIRECTIONS FROM THE TREE). THIS SHOULD APPLY TO DITCHING FOR ALL UTILITIES SERVICES, IF FEASIBLE. THE TREE TRUNKS AND EXPOSED ROOTS DAMAGED DURING EQUIPMENT OPERATIONS WILL BE PAINTED IMMEDIATELY WITH A GOOD GRADE OF "TREE PAINT".
 - ALL TREE LIMBS DAMAGED DURING BUILDING OR LAND LEVELING, OR REMOVED FOR ANY OTHER REASON, WILL BE SWATH FLUSH TO TREE TRUNK AND PAINTED WITH A "TREE PAINT".
- ALL STORM WATER PIPES AND INLETS SHALL BE CLEANED OF DEBRIS AND ERODED MATERIAL AT LAST STAGES OF CONSTRUCTION.
- ALL SANITARY SEWER GRAVITY LINES SHALL BE PVC PIPE, MAX. SDR OF 31, ASTM D-3034 OR ABS COMPOSITE PIPE WITH SOLVENT CEMENTED JOINTS (UNLESS OTHERWISE NOTED). PVC JOINTS SHALL CONFORM TO ASTM D-3212-73-1, JOINTS FOR DRAIN & SEWER PLASTIC PIPES USING FLEXIBLE PLASTOMERIC SEALS.
- SUB-SURFACE UTILITY WARNING TAPE AS MANUFACTURED BY THE GRIFFOLYN COMPANY OR EQUAL SHALL BE PLACED AT AN ELEVATION NOT LESS THAN 6-INCHES NOR MORE THAN 12-INCHES BELOW THE PROPOSED FINISHED GRADE ABOVE NON-CONDUCTIVE SEWER, WATER AND SEWER FORCE MAIN IN PUBLIC RIGHTS-OF-WAY OR EASEMENTS. THE TAPE SHALL BE OF A DURABLE, METALIZED, PLASTIC FILM SIMILAR TO TERRA TAPE D FOR IDENTIFICATION BY LOCATING DEVICE AS WELL AS VISUAL IDENTIFICATION. THE TAPE FOR SEWER FORCE MAIN LINE SHALL BE BRIGHT GREEN WITH THE FOLLOWING IMPRINTED LEGEND "CAUTION - SEWER LINE BELOW". THE TAPE FOR WATER LINES SHALL BE BRIGHT BLUE WITH THE FOLLOWING IMPRINTED LEGEND "CAUTION - WATER LINE BELOW".
- FOR LINES LAID ON CURVES, DEFLECTIONS SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATIONS.
- A MINIMUM VERTICAL SEPARATION OF 18" SHALL BE MAINTAINED BETWEEN SANITARY SEWER AND WATER LINES AND A FULL JOINT OF WATER LINE PIPE SHALL BE CENTERED ON CROSSING WHERE WATER LINE CROSSES OVER SANITARY SEWER. WHERE CLEARANCE IS LESS THAN 18" BUT GREATER THAN 12", SANITARY SEWER SHALL BE PRESSURE TESTED DUCTILE IRON PIPE 10" FROM WATER MAIN WHEN WATER LINE CROSSES UNDER SANITARY SEWER, 18" MINIMUM CLEARANCE MUST BE MAINTAINED, AND SANITARY SEWER SHALL BE PRESSURE TESTED DUCTILE IRON PIPE 10" FROM WATER MAIN.
- ALL DRAINAGE STRUCTURES INVERTS TO BE SHAPED IN ACCORDANCE WITH CHESAPEAKE STANDARD IS-1.
- ALL WATER AND FORCE MAINS SHALL BE DUCTILE IRON, OR PVC MEETING THE REQUIREMENTS OF ANNA C-900 (POLYVINYL CHLORIDE (PVC) PRESSURE PIPE, CLASS 150 (SDR 18), "BLUE BRUTE" OR APPROVED EQUAL. (PVC JOINTS SHALL BE INTEGRAL BELL & SPIGOT TYPE WITH SOLID ELASTOMERIC RING CONFORMING TO ASTM D-1869, "RUBBER RINGS FOR ASBESTOS CEMENT PIPES"); ALL FITTINGS AND CAST OR DUCTILE IRON PIPE SHALL BE CEMENT LINED CAST OR DUCTILE IRON CLASS 150/22 AND MANUFACTURED IN ACCORDANCE WITH ANNA C105 (PIPE) AND ANSI 21.10 (FITTINGS) EXCEPT WHERE OTHERWISE NOTED, WATER AND SEWER FORCE MAINS SHALL BE LAID WITH A MINIMUM COVER OF 36 INCHES.
- VALVES 10" AND SMALLER SHALL BE METROPOLITAN PATTERN (BY H & H MUELLER, DARLING OR A.P. SMITH) GATE VALVES, OPEN-RIGHT, WITH NON-RISING STEMS, UN-OPEATED, DOUBLE-DISC).
- VALVES 12" AND OR GREATER SHALL BE DRESSER "450" OR AMERICAN DARLING, CLASS 150-B, OPEN-RIGHT BUTTERFLY VALVES, SWING-TYPE WITH COUNTERWEIGHT.
- FIRE HYDRANTS SHALL BE A.P. SMITH, MUELLER #107 OR AMERICAN DARLING B-508 QUICK FIX, OPEN-RIGHT, 4-1/2" VALVE OPENING WITH BREAKAWAY SAFETY FLANGE, AND INSTALLATION SHALL INCLUDE A 6" GATE VALVE AND VALVE BOX.
- THE FOLLOWING STORM DRAINAGE STRUCTURES, IF LESS THAN 6.0' DEEP, MAY BE CONSTRUCTED OF BRICK IN ACCORDANCE WITH THE FOLLOWING STANDARDS THAT WERE IN EFFECT PRIOR TO PUBLICATION OF VOLUME 1 OF THE PUBLIC UTILITIES MANUAL:
 - CB-1 CATCH BASIN (12" - 18" PIPE SIZE)
 - MCB-1 TOP & CB-2 STRUCTURE: MULTIPLE CATCH BASIN (21" & LARGER PIPE SIZE)
 - SD-1 SHALLOW DROP INLET (12" TO 18" PIPE)
 - MH-1 MANHOLE FOR 12" - 48" PIPE CULVERTS
 - CB-2 CATCH BASIN (21" AND LARGER PIPE SIZE)
 - MCB-2 MULTIPLE CATCH BASIN
 - SD-2 SHALLOW DROP INLET (21" TO 24" PIPE)
- A TWO (2) YEAR DEFECT BOND MUST BE FURNISHED BY THE OWNER FOR ALL STORM DRAINAGE STRUCTURES CONSTRUCTED OF BRICK. THE 6-FOOT DEPTH LIMITATION AND DEFECT BOND REQUIREMENT SHALL APPLY ONLY TO STRUCTURES IN PUBLIC RIGHT-OF-WAY OR EASEMENT.
- STORM SEWER PIPES AS SHOWN ON THE PLAN VIEW ARE MEASURED FROM THE CENTERLINE OF EACH STRUCTURE. INVERT ELEVATIONS ARE ESTABLISHED BASED ON THIS CENTERLINE DISTANCE. LENGTH CALLOUTS FOR PIPES WITH FLARED END SECTIONS WILL BE MEASURED TO THE JOINT. CONTRACTORS SHALL LOCATE ALL END SECTIONS TO MATCH THE BANK WITH LENGTHS ADJUSTED AS NECESSARY AND THE PIPE SLOPE SHALL REMAIN AS PER THE PLAN.
- CONSTRUCTION OF ON-SITE DRAINAGE STRUCTURES AND PIPE WILL REQUIRE A PERMIT FROM THE PLUMBING INSPECTOR OF THE INSPECTIONS DEPARTMENT.

EROSION AND SEDIMENT CONTROL NOTES:

- MANAGEMENT STRATEGIES AND SEQUENCES OF EROSION CONTROL MEASURES UNLESS OTHERWISE INDICATED. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE LATEST EDITION OF THE VEASOR AND VEASOR HANDBOOK.
- THE FOLLOWING SEQUENCE OF EVENTS AND EROSION CONTROL MEASURES SHALL BE INCORPORATED INTO THE CONSTRUCTION SCHEDULE FOR THIS PROJECT. THESE SHALL APPLY TO ALL CONSTRUCTION ACTIVITIES WITHIN PROJECT LIMITS:
- TEMPORARY CONSTRUCTION ENTRANCE(S) SHALL BE PROVIDED AT THE LOCATION(S) SHOWN ON THE PLANS. THIS ENTRANCE(S) SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE VEASOR EROSION AND SEDIMENT CONTROL HANDBOOK (STD. & SPEC. 3.02). WASH RACKS ARE TO BE PROVIDED WHERE WATER IS AVAILABLE.
 - WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PUBLIC ROAD SURFACE, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROAD BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL SUBDIVISION LOTS AS WELL AS LARGER LAND-DISTURBING ACTIVITIES.
 - CONSTRUCTION TRAFFIC SHALL BE LIMITED TO ACCESS ROADS. ALL TRAFFIC IS TO BE THROUGH THE EXISTING DRIVEWAY CHANNELS AND STREAMS EXCEPT WHERE ABSOLUTELY NECESSARY (STD. & SPEC. 3.24 VEASOR HANDBOOK).
 - TEMPORARY SEDIMENT TRAPS, SEDIMENT BARRIERS, CONSTRUCTION ENTRANCE, AND EROSION CONTROL STONE ARE TO BE PLACED PRIOR TO CLEANING AND GRUBBING PRIOR TO THE FIRST PHASE OF CONSTRUCTION.
 - ALL PERMANENT STORM WATER MANAGEMENT FACILITIES INCLUDING EROSION CONTROL ARE TO BE INSTALLED AND MADE OPERATIONAL AT THE START OF CLEANING OPERATIONS, INCLUDING APPROVED SEDIMENT BASINS.
 - THE CONTRACTOR SHALL COMPLETE DRAINAGE FACILITIES WITHIN THIRTY (30) DAYS FOLLOWING COMPLETION OF ROUGH GRADING AT ANY POINT WITHIN THE PROJECT.
 - CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
 - AREAS WHICH ARE NOT TO BE DISTURBED WILL BE CLEARLY MARKED BY FENCING, FLAGS, SIGNS, ETC.
 - PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENIED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENIED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN THIRTY(30) DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE (1) YEAR.
 - DURING CONSTRUCTION OF PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES OR SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
 - A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENIED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT, IN THE OPINION OF THE LOCAL PROGRAM ADMINISTRATOR OR HIS DESIGNATED AGENT, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION. VEGETATIVE COVER SHALL BE ESTABLISHED AS FOLLOWS:

SEED	PER VOLUME III OF THE PFM
TOPSOIL	4" THICK PER VDOT SPEC. 602(CLASS B)
LIME	4000#/AC.
FERTILIZER	1000#/AC. OF 10-10-10
MULCH	2000#/AC.

 (HYDROSEEDING MAY BE USED IN PLACE OF MULCHING ON AREA OTHER THAN DRIVEWAYS). STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS PERMANENT DRAINAGE CHANNELS OR WATERCOURSE BEDS AND BANKS IMMEDIATELY AFTER INSTALLATION (STD. & SPEC. 3.36 VEASOR HANDBOOK).
 - ALL STORM SANI INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
 - BEFORE NEWLY CONSTRUCTED CONVEYANCE CHANNELS ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.
 - CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE (1) YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.
 - CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME, OR SLOPE DRAIN STRUCTURE.
 - PERIODIC INSPECTIONS AND REQUIRED MAINTENANCE MUST BE PROVIDED, ESPECIALLY AFTER EACH SIGNIFICANT STORM. THE PROJECT SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.
 - THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE (1) WEEK PRIOR TO THE PRECONSTRUCTION CONFERENCE, ONE (1) WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE (1) WEEK PRIOR TO THE FINAL INSPECTION.
 - ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN THIRTY(30) DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED. TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM ADMINISTRATOR. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
- MAINTENANCE:
- IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED AFTER EACH RAINFALL OR WEEKLY, WHICHEVER IS MOST FREQUENT, AND SHOULD BE CLEANED AND REPAIRED ACCORDING TO THE FOLLOWING SCHEDULE:
- THE SEDIMENT TRAPS WILL BE CHECKED REGULARLY FOR SEDIMENT CLEANOUT.
 - THE SEDIMENT BASIN WILL BE CLEANED OUT WHEN THE LEVEL OF SEDIMENT BUILDUP REACHES THE CLEANOUT POINT INDICATED ON THE RISER PIPE.
 - EROSION AND SEDIMENT CONTROL WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OR BUILDUP OR CLOGGING WITH SEDIMENT. CORRECTIVE ACTION WILL BE TAKEN IMMEDIATELY.
 - ALL SEEDED AREAS WILL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RESEED AS NEEDED.
 - ALL TEMPORARY EROSION AND SEDIMENT MEASURES SHALL BE DISPOSED OF WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED AND VEGETATION IS ESTABLISHED.

CONSTRUCTION SEQUENCING

- ACQUIRE NECESSARY PERMITS.
- INSTALL E & S MEASURES AS SHOWN. ADDITIONAL E & S MEASURES MAY BE REQUIRED IN THE FIELD PER THE CITY INSPECTOR.
- CLEAR AND GRUB.
- ROUGH GRADE.
- INSTALL UNDERGROUND UTILITIES AND STORM DRAINAGE AND PROVIDE APPROVED PROTECTIVE MEASURES AT NEW DRAINAGE STRUCTURES. COMPLETE ALL TESTING AND BACKFILL.
- DRESS AND OVERSEED ALL DISTURBED AREAS AND IMMEDIATELY ESTABLISH PERMANENT VEGETATIVE COVER, MAINTAIN VEGETATIVE COVER THROUGHOUT DURATION OF PROJECT.
- REPAIR ANY INADVERTENT EROSION AND REMOVE ANY INADVERTENT SEDIMENTATION.
- REMOVE REMAINING TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WITHIN THIRTY (30) DAYS AFTER FINAL SITE IS STABILIZED WITH VEGETATIVE GROWTH.
- ANY AND ALL MATERIAL OR DEBRIS TRACKED ONTO A PUBLIC ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY AND BE TRANSPORTED TO A SEDIMENT CONTROLLED AREA.
- ALL EXCAVATED MATERIAL SHALL BE DISPOSED OF IN A LAWFUL MANNER.

508.5.7 Dry Hydrant installation, testing and maintenance.

- (a) When a dry hydrant is required by the City of Chesapeake Public Facilities Manual to meet fire flow requirements, as per NFPA 1142, the plan for the dry hydrant system must be submitted, reviewed and approved by the Fire Official prior to construction. The responsible party for the property shall also be responsible for demonstrating the proper operation of the dry hydrant before a certificate of occupancy approval is granted from the Fire Department. This test shall contain, at a minimum, the following elements:
- A written plan must be submitted and approved by the Fire Official which details how the responsible party will ensure that the water supply for the dry hydrant system shall be maintained with an adequate amount of water during drought conditions.
 - The dry hydrant test shall be composed of 2 parts.
 - Part A: The dry hydrant shall be tested and certified by an independent third party testing agency. A Fire Department representative must witness this test.
 - This test shall be conducted using a centrifugal pump.
 - The dry hydrant shall be flushed before testing.
 - The dry hydrant must deliver the required fire flow for a minimum of 1/4 of the required fire flow time period (30 minutes) as required by NFPA standards. The water flow must reach the pump within 1 minute. No more than 3 attempts shall be made to draw water to the pump.
 - If the testing pump is damaged during this test, the required fire flow (gpm) is not obtained or sufficient water is not present for a 2-hour supply of water, the dry hydrant system shall not be accepted.
 - Part B: The dry hydrant shall be successfully tested by a Fire Department pump. The pump test must adhere to all Fire Department policies and procedures. A member of the Fire Marshal's Office must witness this test.
 - Any damage sustained to the pump as a result of this test must be documented and submitted to the Fire Department.
 - The dry hydrant shall be successfully tested by a Fire Department pump. The pump test must adhere to all Fire Department policies and procedures. A member of the Fire Marshal's Office must witness this test.
 - When a dry hydrant is grouted and/or required to meet fire flow requirements, the responsible party for the property shall be responsible for demonstrating the proper operation of the dry hydrant annually. This test shall contain, at a minimum, the elements as listed in NFPA 1142 Figure B-5.4.1 Maintenance Record for Dry Hydrant. A copy of this test shall be provided to the Fire Department.
 - The dry hydrant shall be tested and certified by an independent third party testing agency. This test shall contain, at a minimum, the following elements:
 - Part A: The dry hydrant shall be tested and certified by an independent third party testing agency. A Fire Department representative must witness this test.
 - This test shall be conducted using a centrifugal pump.
 - The dry hydrant shall be flushed before testing.
 - Part B: The dry hydrant must deliver the required fire flow for a minimum of 1/4 of the required fire flow time period (30 minutes) as required by NFPA standards. The water flow must reach the pump within 1 minute. No more than 3 attempts shall be made to draw water to the pump.
 - If the testing pump is damaged during this test, the required fire flow (gpm) is not obtained or sufficient water is not present for a 2-hour supply of water, the dry hydrant system shall not be accepted.

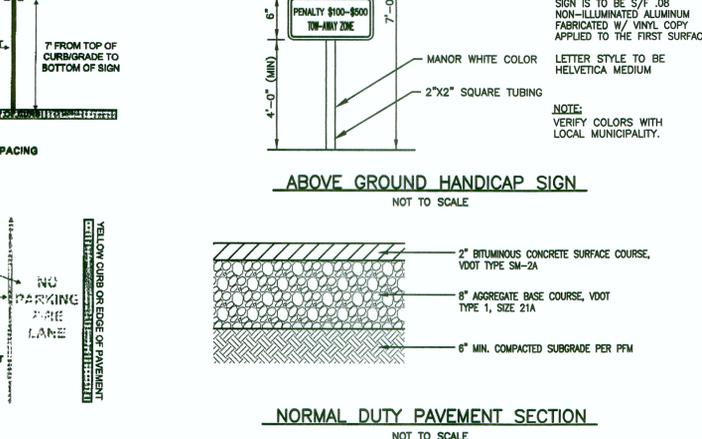
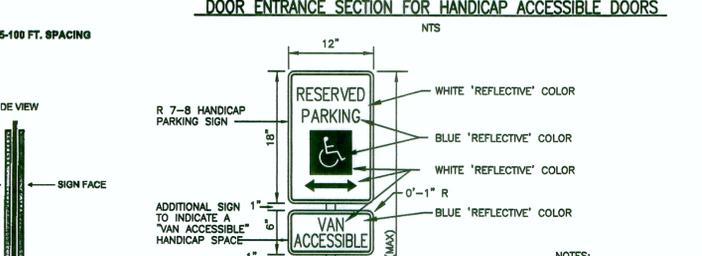
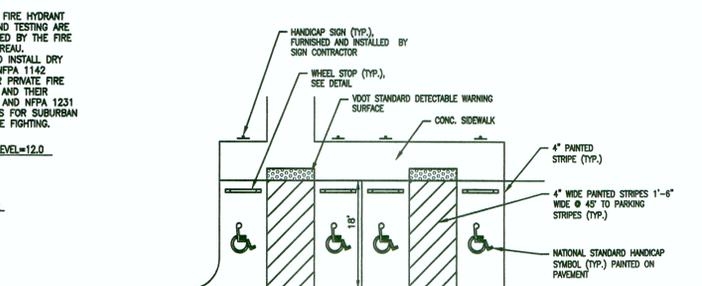
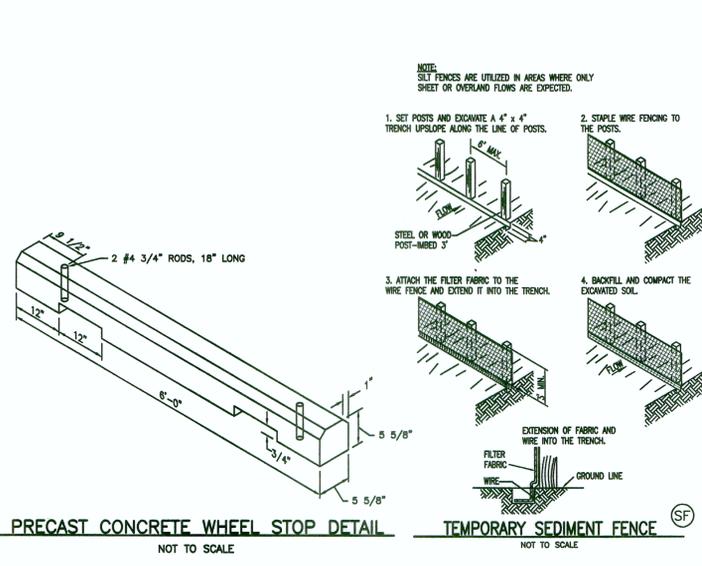
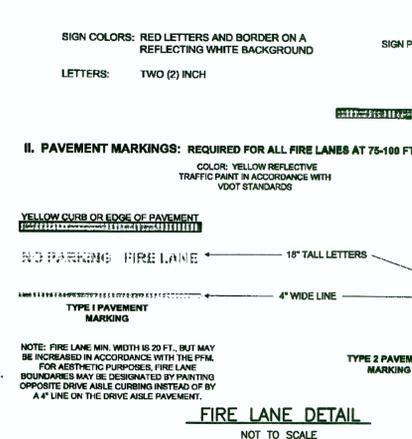
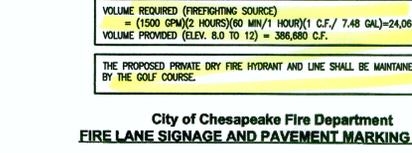
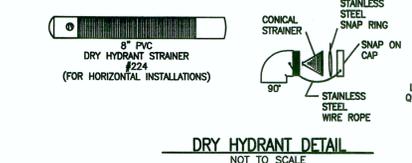
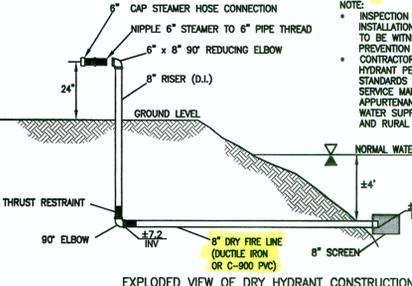


TABLE 3.32-E (Revised June 2003) PERMANENT SEEDING SPECIFICATIONS FOR COASTAL PLAIN AREA

LAND USE	SEED SPECIES	APPLICATION RATES
Minimum Care Lawn (Commercial or Residential)	Tall Fescue ¹ or Bermudagrass ²	175-200 lbs.
	Tall Fescue ¹ or Bermudagrass ² (seed)	75 lbs.
High-Maintenance Lawn	Tall Fescue ¹ or Bermudagrass ² (seed)	200-250 lbs.
	Bermudagrass ² (by other vegetative establishment method, see Std. & Spec. 3.34)	40 lbs. (unhulled) or 30 lbs. (hulled)
General Slope (3:1 or less)	Tall Fescue ¹ Red Top Grass or Creeping Red Fescue Seasonal Nurse Crop ²	129 lbs. 2 lbs.
	Tall Fescue ¹ Bermudagrass ² Red Top Grass or Creeping Red Fescue Seasonal Nurse Crop ²	20 lbs. 20 lbs.
Low-Maintenance Slope (Sloeper than 3:1)	Tall Fescue ¹ Bermudagrass ² Red Top Grass or Creeping Red Fescue Seasonal Nurse Crop ²	93-108 lbs. 0-15 lbs. 2 lbs. 20 lbs. 20 lbs.
	Seriesa Lespedeza ³	TOTAL: 150 lbs.

1- When selecting varieties of turfgrasses, use the Virginia Crop Improvement Association (V CIA) recommended turfgrass variety list. Quality seed will bear a label indicating that they are approved by V CIA. A current turfgrass variety list is available at the local County Extension Office or through V CIA at 804-746-4364 or at <http://vciac.vciac.org/vciac/vciac.html>

2- Use seasonal nurse crop in accordance with seeding dates as stated below:

February, March - April	Annual Rye
May 1 st - August	Foxtail Millet
September, October - November 15 th	Annual Rye
November 16 th - January	Winter Rye

3- May through October, use hulled seed. All other seeding periods, use unhulled seed. If Weeping Lovegrass is used, include in any slope or low maintenance mixture during warmer seeding periods, increase to 30-40 lbs/acre.

FERTILIZER & LIME

- Apply 10-20-10 fertilizer at a rate of 800 lbs./acre (or 12 lbs./1,000 sq. ft.)
- Apply Fertilized Agricultural Limestone at a rate of 2 tons/acre (or 90 lbs./1,000 sq. ft.)

NOTE: A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site. Incorporate the lime and fertilizer into the top 4-8 inches of the soil by disk or by other means. When applying Slowly Available Nitrogen, use rates available in Erosion & Sediment Control Technical Bulletin # 4.2003 Nutrient Management for Development Sites at <http://www.dcr.state.va.us/efw/efw.htm#ubs>

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REVISIONS

No.	Date	Description
1	3-19-08	REVISED PER CITY COMMENTS. ITR DATED 1-29-08

SIA SITE IMPROVEMENT

Civil Engineers, Surveyors & Site Contractors

800 Juniper Crescent, Suite A
Chesapeake, Va. 23320

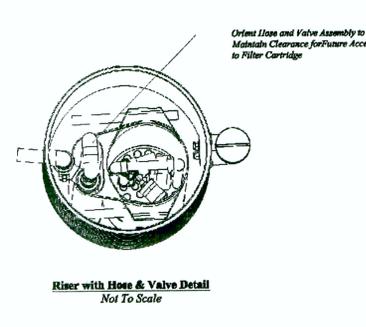
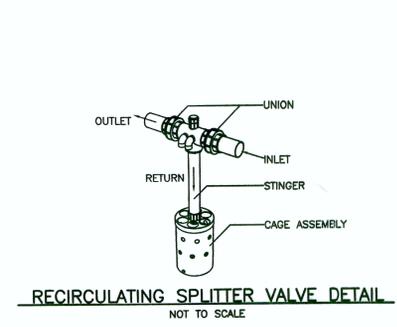
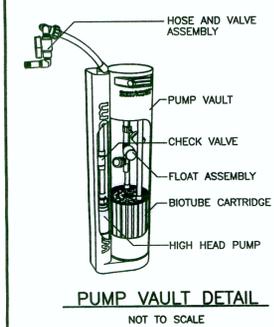
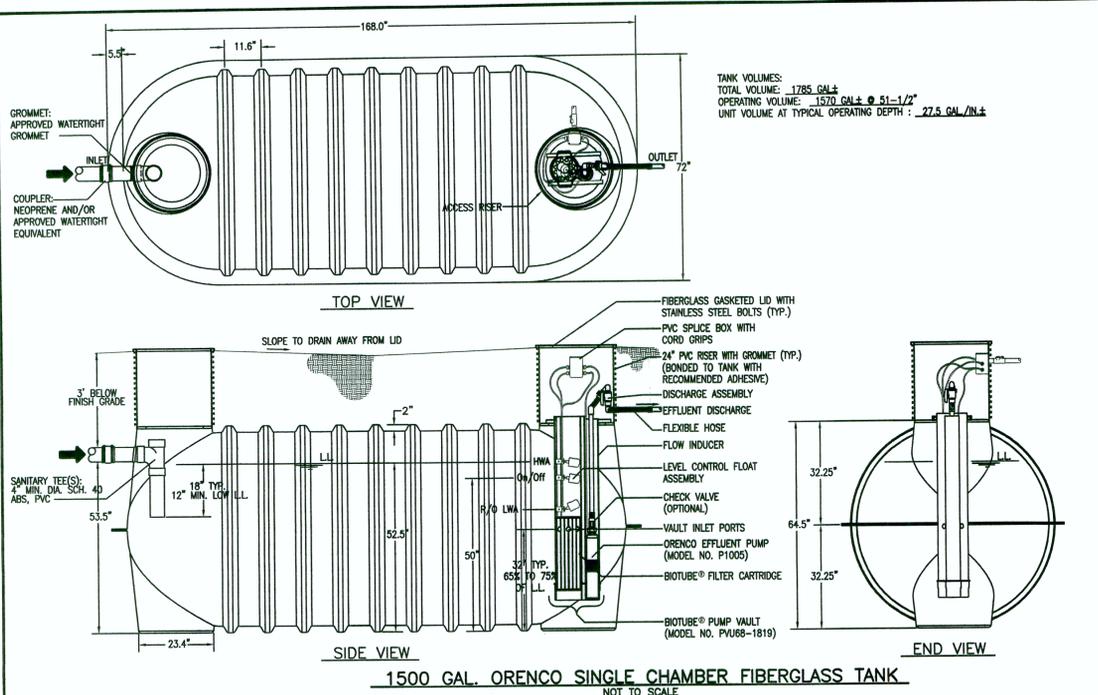
EMAIL: cad@siteimprovement.net
Office: 757.671.9288
Fax: 757.671.9288

COMMUNITY OF VIRGINIA REGISTERED PROFESSIONAL ENGINEER
SSAM H. BARAKAT
Lic. No. 22992

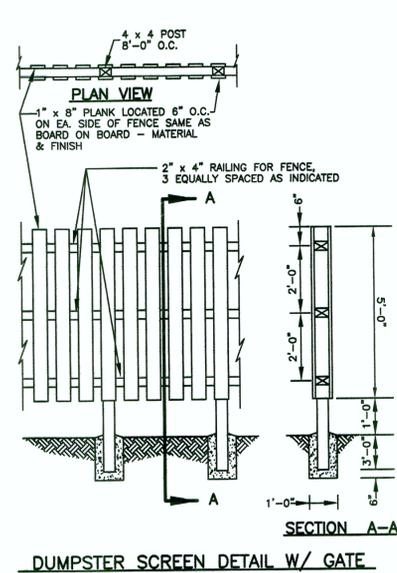
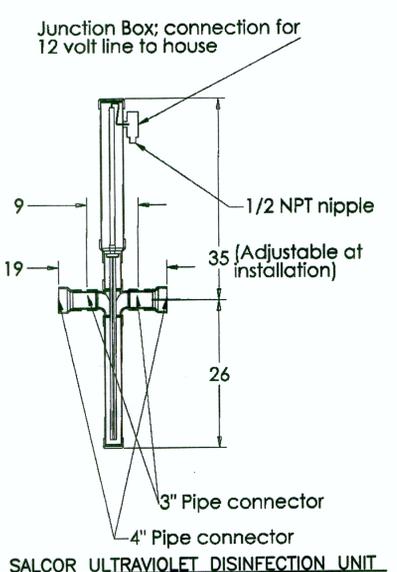
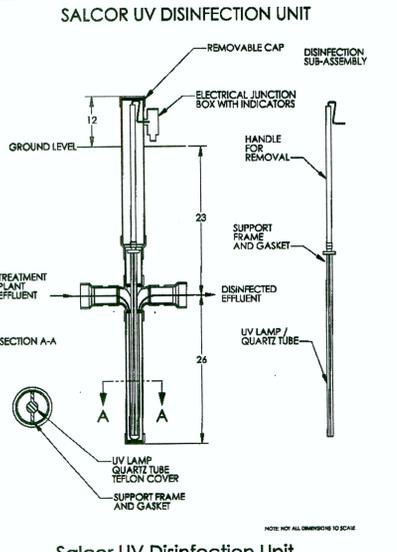
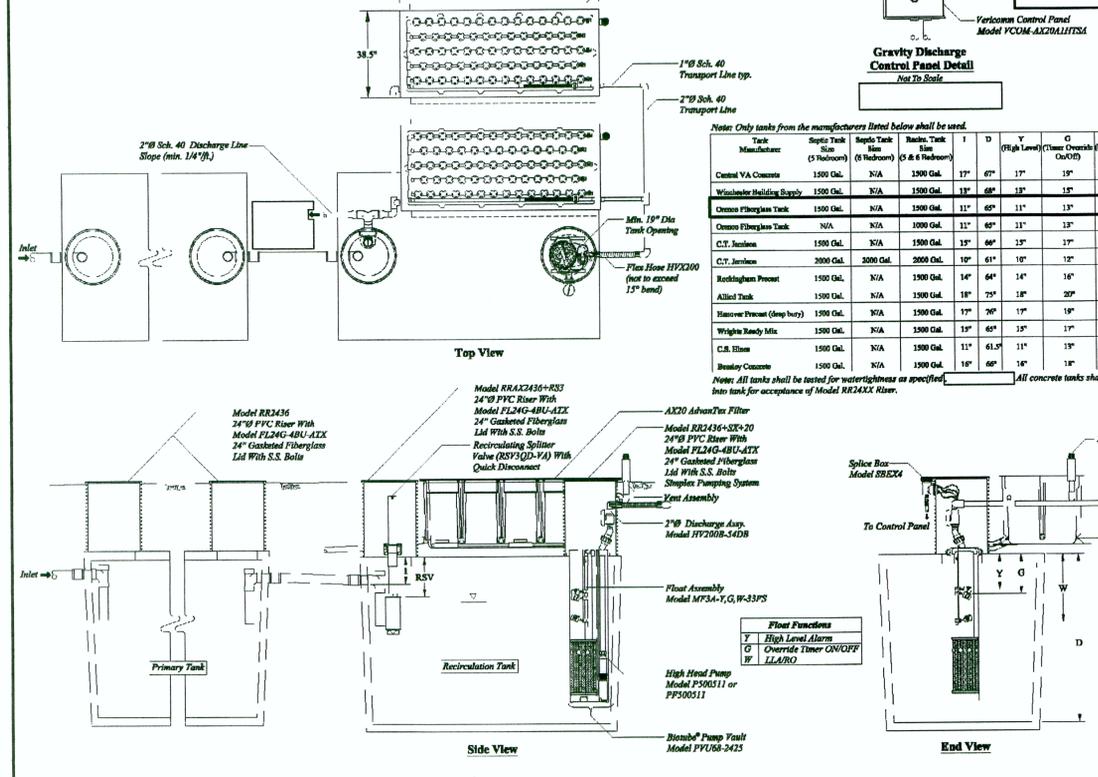
DETAILS AND GENERAL NOTES FOR BATTLEFIELD GOLF CLUB AT CENTERVILLE

CHESAPEAKE, VIRGINIA
T.P. 06200000020

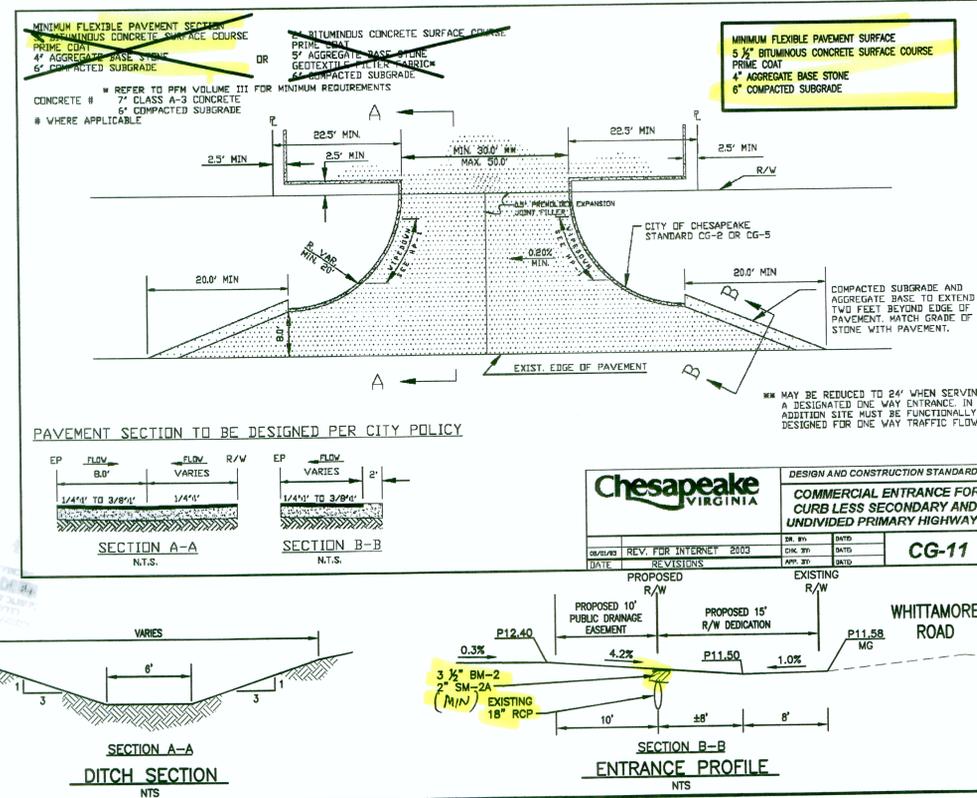
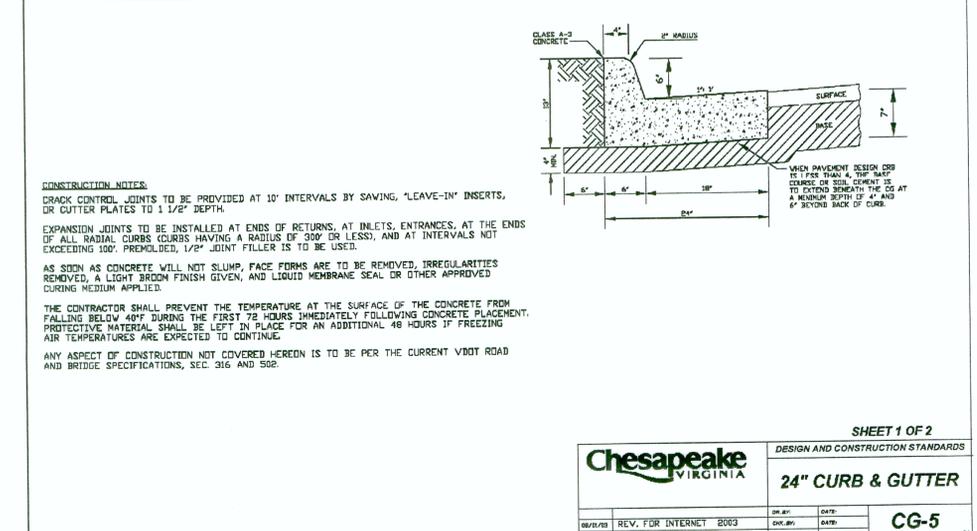
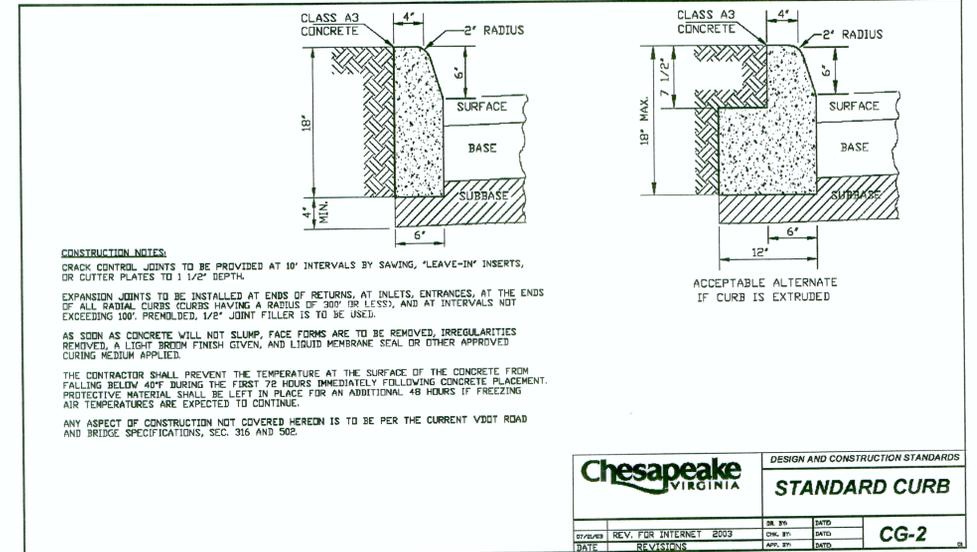
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DWG FILE:	LO-4-REV
DATE:	12/14/07
SCALE:	NONE
SHEET NUMBER	4 OF 5



**Advantex® AX20 (2) - Virginia
2 Pod / 2 Tank**



Tank Testing Specifications:
 Concrete tanks may be allowed 24 hours to absorb water prior to hydrostatic testing.
 All Tanks shall be tested in the field by filling the tank with water to 2 (two) inches above the riser / tank tops. The water level shall be maintained 2 inches into the riser for a minimum of 2 hours.
 Any drop in the water level indicates leakage. The tank may be drained and the installer and tank manufacturer may make one attempt to repair the tank to make the tank watertight. The tank shall be retested according to the procedure specified above. If the tank tests during the retest, it shall be removed from the site and replaced with a structurally sound watertight tank at no cost to the homeowner.



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SIA SITE IMPROVEMENT
 Civil Engineers, Surveyors & Site Constructors

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REVISIONS

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JOB # 07106
 DWG FILE: LO-4-REV
 DATE: 12/14/07
 SCALE: NONE
 SHEET NUMBER 5 OF 5