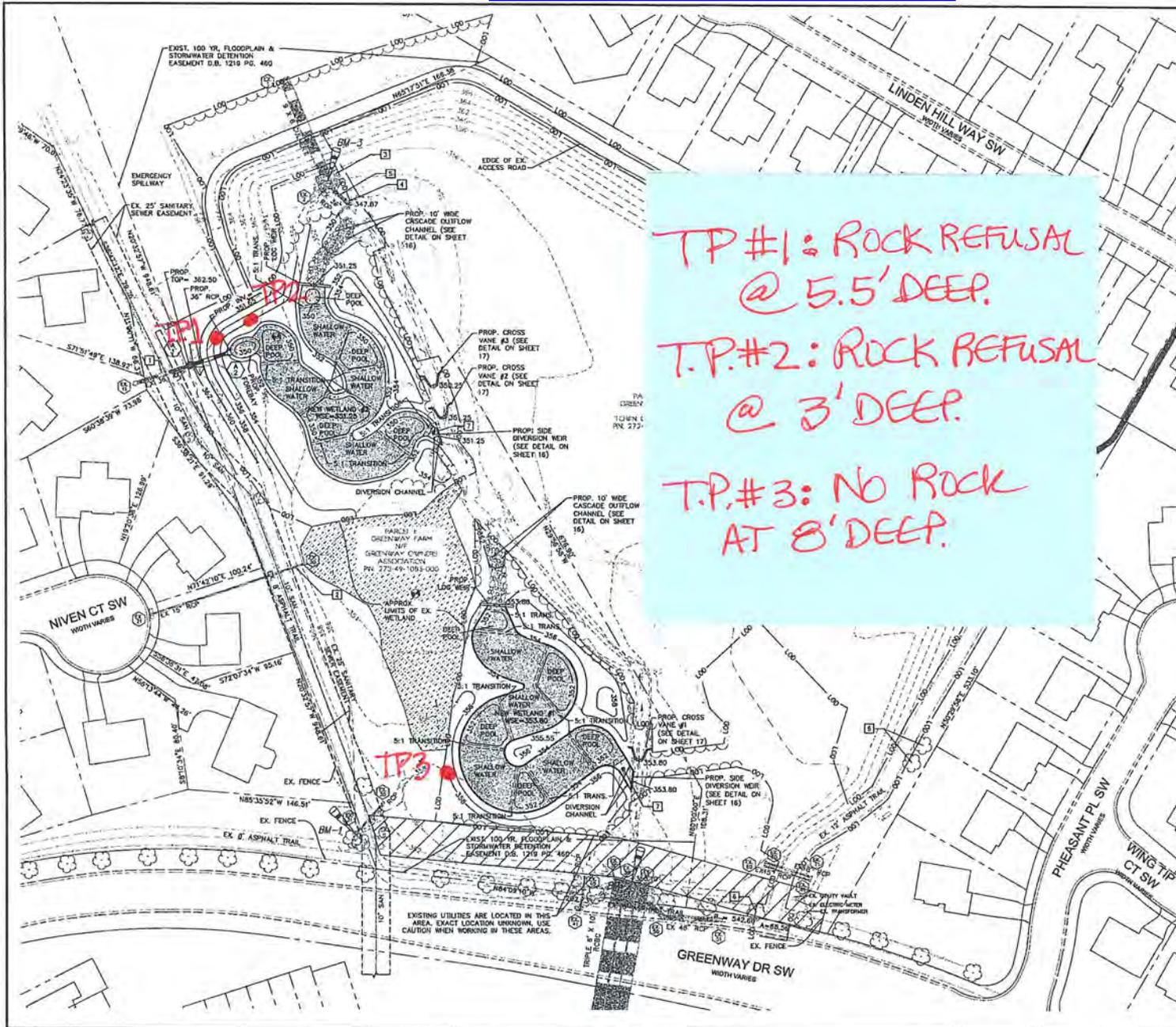


**CHESAPEAKE BAY TMDL PROJECT
(4 PONDS)
IFB No. 15304-FY17-15
Addendum #3
November 10, 2016**

- 1. This is a Lump Sum Contract; the Contractor is responsible for estimating the required rock excavation quantity, and shall carry out all required rock excavation including disposal at no additional cost to the Town. The stipulated rock unit price on page 7 of Instructions to Bidders will be used in the case of additional work beyond the scope of the base contract.**
- 2. Attachment 'A' - Greenway Pond Test Pits**
- 3. Attachment 'B' - Revision to sheet 20 of 28 "Greenway Pond Retrofit".**
- 4. Attachment 'C' - Revision to sheet 21 of 21 "Kohl's Pond Retrofit".**

END OF ADDENDUM #3

TEST PITS # 1, 2 & 3

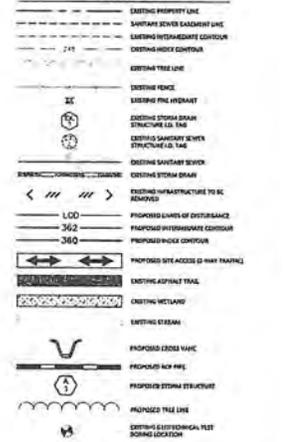


TP #1: ROCK REFUSAL @ 5.5' DEEP.
 T.P.#2: ROCK REFUSAL @ 3' DEEP.
 T.P.#3: NO ROCK AT 8' DEEP.

KEYNOTES

- 1) EXISTING 36" RCP TO REMAIN IN PLACE FROM EXISTING STRUCTURE 15 TO THE PROPOSED STRUCTURE A-1 CONNECTION.
- 2) CONTRACTOR TO CLEAN STORM PIPE FROM EXISTING STRUCTURE 21 TO OUTFALL (EX. STR. 20).
- 3) CONTRACTOR TO PAINT EXISTING RISER STRUCTURE WITH ANTI-CORROSION PAINT (EIGHT INCHES AND OUTSIDE OF STRUCTURE). SEE SHEET 19 FOR SPECIFICATIONS.
- 4) EXISTING DEBRIS RACK TO BE CLEANED AND REMAIN IN PLACE.
- 5) EXISTING 36" RCP TO REMAIN.
- 6) EXISTING TREES ALONG CONSTRUCTION ACCESS SHALL BE PROTECTED FROM CONSTRUCTION TRAFFIC. TREES SHALL NOT BE PRUNED OR CUT WITHOUT PRIOR AUTHORIZATION FROM THE TOWN OF LEEBURG OR ENGINEER OF RECORD.
- 7) DIVERSION CHANNELS SHALL BE LINED WITH REINFORCED CHANNEL BED MIX. SEE DETAIL AND SPECIFICATIONS ON SHEET 16.

LEGEND



CONTROL POINTS BASED ON NAD 83 AND BEING BY 2016

NO.	COORDINATES	ELEVATION	TYPE
BM-1	784040.84	251.66	TEMP. BENCH
BM-2	7842173.32	361.23	STAIN. BENCH
BM-3	7840446.54	362.50	WOOD. STRUCTURE

NOTE: AN APPLICATION FOR "NATIONWIDE PERMIT 43 STORMWATER MANAGEMENT FACILITIES" WILL BE SUBMITTED TO THE USACE. THE JURISDICTIONAL DETERMINATION (JD) IS PENDING AND THE PROJECT FILE NUMBER WILL BE PROVIDED UNDER SEPARATE COVER.

TEST PIT LOCATIONS
 TP-TEST PIT

amec foster wheeler
 Environment & Infrastructure
 1424 Albemarle First Place
 Suite 115
 Charlottesville, Virginia 22911
 Tel: 703-486-3700
 Fax: 703-486-5769
 www.amec.com

TOWN OF LEEBURG
 VIRGINIA

CHESAPEAKE BAY TMDL PROJECT
 PHASE 1
 GREENWAY POND RETROFIT
 100% CONSTRUCTION DOCUMENT

TOWN OF LEEBURG, VIRGINIA

DESIGN BY: MBL/TWJ
 CHECKED BY: MBL/TWJ
 PROJECT NUMBER: 718
 SHEET NUMBER: 500000019
 DRAWING # 2006101712-03
 DATE: 05/20/09
 SCALE: AS SHOWN
 SHEET TITLE: SITE AND GRADING PLAN
 SHEET NO. 09 OF 28

10/28/16
 T.P.'s dug - 11/4/16



Dewberry & Davis
 Architects Engineers Planners Surveyors
 8401 Arlington Blvd., Fairfax, VA 22031
 ☎ 703 849-0100

GREENWAY FARM REGIONAL POND
 PRELIMINARY DESIGN

Drawn By JEC
 Designed By OY
 Checked By GLC
 Date SEPT. 1990
 Scale 1" = 50'
 Plan Number
 Zoned
 Sheet 1 of 1
 File Number M-2003

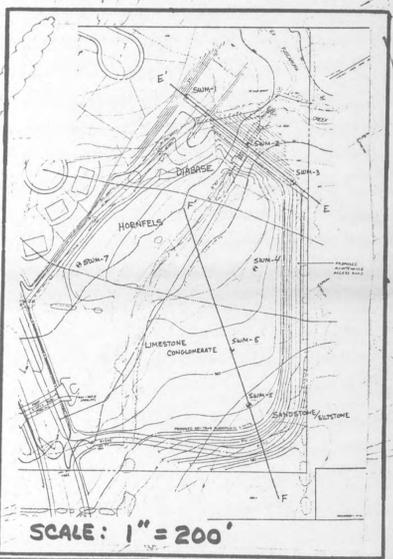
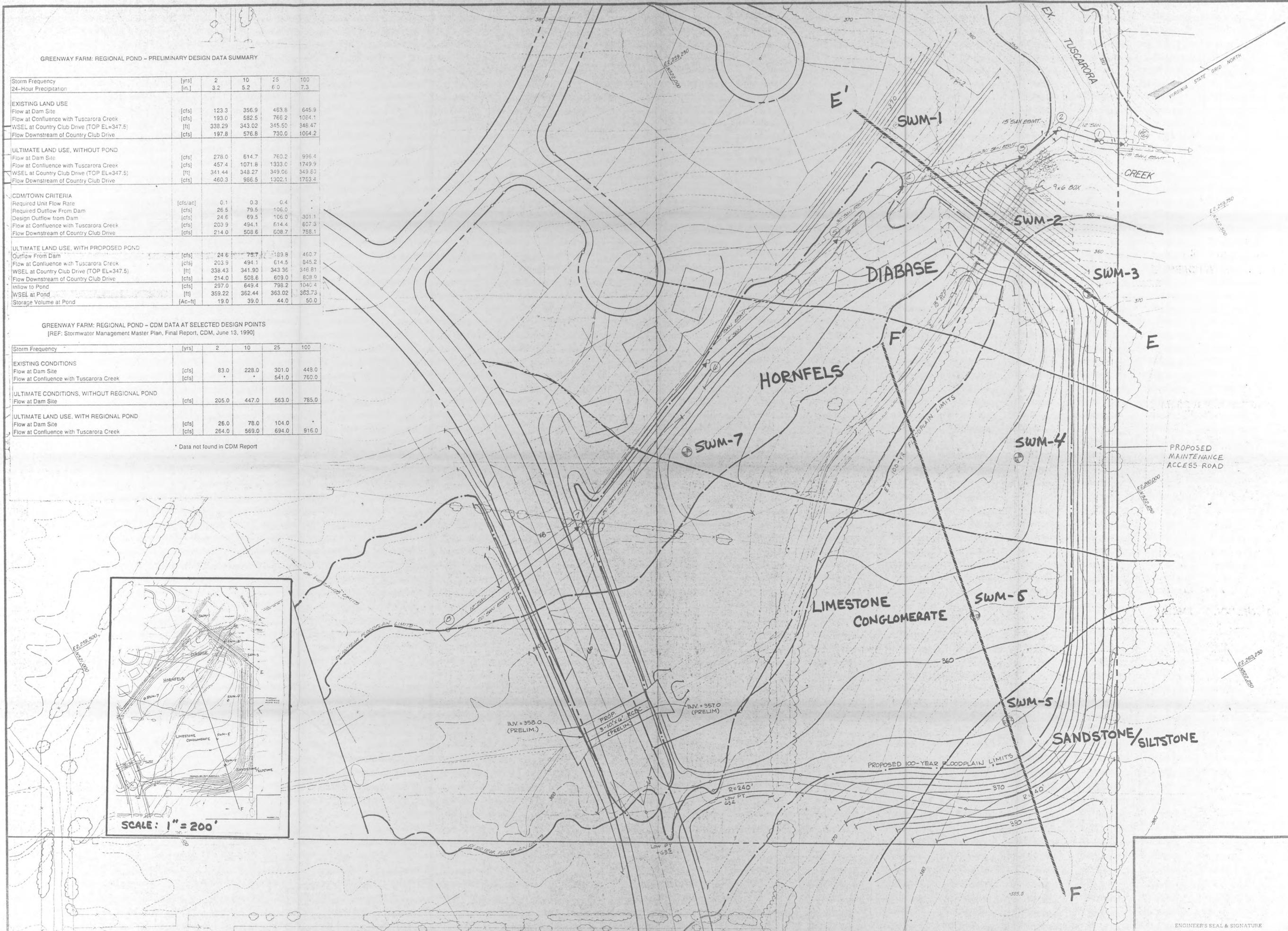
GREENWAY FARM: REGIONAL POND - PRELIMINARY DESIGN DATA SUMMARY

Storm Frequency	[yrs]	2	10	25	100
24-Hour Precipitation	[in.]	3.2	5.2	6.0	7.3
EXISTING LAND USE					
Flow at Dam Site	[cfs]	123.3	356.9	463.8	645.9
Flow at Confluence with Tuscarora Creek	[cfs]	193.0	582.5	766.2	1064.1
WSEL at Country Club Drive (TOP EL=347.5)	[ft]	338.29	343.02	345.50	346.47
Flow Downstream of Country Club Drive	[cfs]	197.8	576.8	730.0	1064.2
ULTIMATE LAND USE, WITHOUT POND					
Flow at Dam Site	[cfs]	278.0	614.7	760.2	996.4
Flow at Confluence with Tuscarora Creek	[cfs]	457.4	1071.8	1333.0	1749.9
WSEL at Country Club Drive (TOP EL=347.5)	[ft]	341.44	348.27	349.06	349.63
Flow Downstream of Country Club Drive	[cfs]	460.3	986.5	1302.1	1753.4
CDM/TOWN CRITERIA					
Required Unit Flow Rate	[cfs/ac]	0.1	0.3	0.4	
Required Outflow From Dam	[cfs]	26.5	79.5	106.0	
Design Outflow from Dam	[cfs]	24.6	69.5	106.0	301.1
Flow at Confluence with Tuscarora Creek	[cfs]	203.9	494.1	614.4	607.3
Flow Downstream of Country Club Drive	[cfs]	214.0	508.6	608.7	758.1
ULTIMATE LAND USE, WITH PROPOSED POND					
Outflow From Dam	[cfs]	24.6	75.7	109.8	460.7
Flow at Confluence with Tuscarora Creek	[cfs]	203.9	494.1	614.5	845.2
WSEL at Country Club Drive (TOP EL=347.5)	[ft]	338.43	341.90	343.36	346.81
Flow Downstream of Country Club Drive	[cfs]	214.0	508.6	609.0	808.9
Inflow to Pond	[cfs]	297.0	649.4	798.2	1040.4
WSEL at Pond	[ft]	359.22	362.44	363.02	363.73
Storage Volume at Pond	[Ac-ft]	19.0	39.0	44.0	50.0

GREENWAY FARM: REGIONAL POND - CDM DATA AT SELECTED DESIGN POINTS
 [REF: Stormwater Management Master Plan, Final Report, CDM, June 13, 1990]

Storm Frequency	[yrs]	2	10	25	100
EXISTING CONDITIONS					
Flow at Dam Site	[cfs]	83.0	228.0	301.0	448.0
Flow at Confluence with Tuscarora Creek	[cfs]	*	*	541.0	760.0
ULTIMATE CONDITIONS, WITHOUT REGIONAL POND					
Flow at Dam Site	[cfs]	205.0	447.0	563.0	785.0
ULTIMATE LAND USE, WITH REGIONAL POND					
Flow at Dam Site	[cfs]	26.0	78.0	104.0	
Flow at Confluence with Tuscarora Creek	[cfs]	264.0	569.0	694.0	916.0

* Data not found in CDM Report



ENGINEER'S SEAL & SIGNATURE

LOG OF TEST BORING

PROJECT: GREENWAY FARM - SWM POND

BORING NO.: SWM-7

CLIENT: TRAFALGAR HOUSE

GMTI PROJ NO.: 91-E-1046

GROUNDWATER ENCOUNTERED AT: NONE FT.

ELEVATION: 359.09 FT.

GROUNDWATER AT COMPLETION: DRY FT.

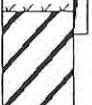
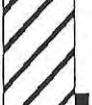
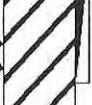
DATE DRILLED: 07/01/91

GROUNDWATER ON 07/02/91 (24 HRS): 6.5 FT.

CAVE-IN DEPTH: 6.8 FT.

DRILLING METHOD: HOLLOW STEM AUGER

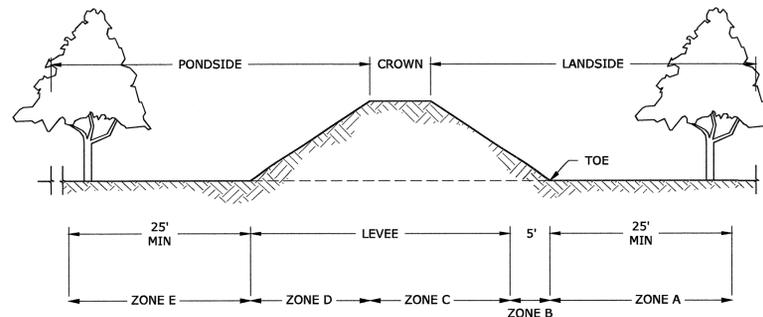
SCALE: 1 INCH = 2.5 FT.

ELEVATION DEPTH	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	DESCRIPTION	NATURAL MOISTURE	LIQUID LIMIT	PLAS. INDEX	% -200 SIEVE	SPT N-VALUE
360 0			14" TOPSOIL					9
357.5 2.5		CL CH	GRAY BROWN SILTY CLAY (MED.-HIGH PLASTICITY) WITH TRACE SAND	21.8	51	25	83.7	13
355 5								7
352.5 7.5								2
350 10								

BOTTOM OF BORING AT 10.0 FT.



amec foster wheeler
 Environment & Infrastructure
 14424 Albemarle Point Place
 Suite 115
 Charlottesville, Virginia 20151
 Tel. 703-488-3700
 Fax. 703-488-3701
 www.amecfw.com



1 MINIMUM VEGETATION FREE ZONE
 N.T.S.

- **ZONE A** EXTENDS TWENTY FIVE (25) FEET LANDWARD OF THE LANDSIDE (OR PROTECTED SIDE) TOE OF THE LEVEE EMBANKMENT, OR TO THE EASEMENT LIMITS IF LESS THAN 15 FEET.
- **ZONE B** EXTENDS 5 FEET PONDWARD FROM THE LANDSIDE LEVEE TOE. THIS IS A ZONE OF PARTICULAR CONCERN WITH RESPECT TO SEEPAGE DISCHARGE AND MAY CONTAIN FORMAL LEVEE DRAINAGE FEATURES SUCH AS TOE DRAINS OR RELIEF WELLS.
- **ZONE C** INCLUDES THE LANDSIDE SLOPE AND CREST OF THE LEVEE EMBANKMENT.
- **ZONE D** INCLUDES THE POND SIDE SLOPE OF THE LEVEE EMBANKMENT.
- **ZONE E** EXTENDS TWENTY-FIVE (25) FEET PONDWARD OF THE POND SIDE (OR UNPROTECTED SIDE) TOE OF THE LEVEE EMBANKMENT.

- NOTE:**
1. IMPOUNDING STRUCTURE OWNERS SHALL NOT PERMIT GROWTH OF TREES AND OTHER WOODY VEGETATION AND SHALL REMOVE ANY SUCH VEGETATION FROM THE SLOPES AND CREST OF EMBANKMENTS AND THE EMERGENCY SPILLWAY AREA, AND WITHIN A DISTANCE OF 25 FEET FROM THE TOE OF THE EMBANKMENT AND ABUTMENTS OF THE DAM.
 2. BACKFILL PLACED IN ALL TREE REMOVAL EXCAVATIONS MUST BE COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698.

1. TREES LESS THAN 2 INCHES IN DIAMETER: TREES OR OTHER WOODY VEGETATION HAVING A TRUNK OR STEM DIAMETER LESS THAN 2 INCHES SHOULD BE CUT FLUSH WITH THE GROUND SURFACE AT ALL ZONES TO FACILITATE MOWING. IT ASSUMED THAT THE ROOT SYSTEM ASSOCIATED WITH VEGETATION OF THIS SIZE DOES NOT POSE A SIGNIFICANT RISK OF FORMING SEEPAGE PATHS WITHIN THE LEVEE EMBANKMENT AND DOES NOT REQUIRE SPECIAL REMOVAL EFFORT. IF RIPRAP IS PRESENT, THE TREE IS TO BE CUT FLUSH WITH THE RIPRAP SURFACE AND TREATED WITH APPROPRIATE HERBICIDES TO PREVENT RENEWED GROWTH FROM THE STUMP.

2. TREES GREATER THAN 4 INCHES IN DIAMETER: TREES OR OTHER WOODY VEGETATION HAVING A TRUNK OR STEM DIAMETER GREATER THAN 4 INCHES SHOULD BE CUT FLUSH WITH THE GROUND SURFACE AT ALL ZONES. TREATMENT OF THE REMAINING TRUNK AND ROOT SYSTEM WILL VARY DEPENDING UPON THE LOCATION OF THE TREE RELATIVE TO THE LEVEE EMBANKMENT AS FOLLOWS:

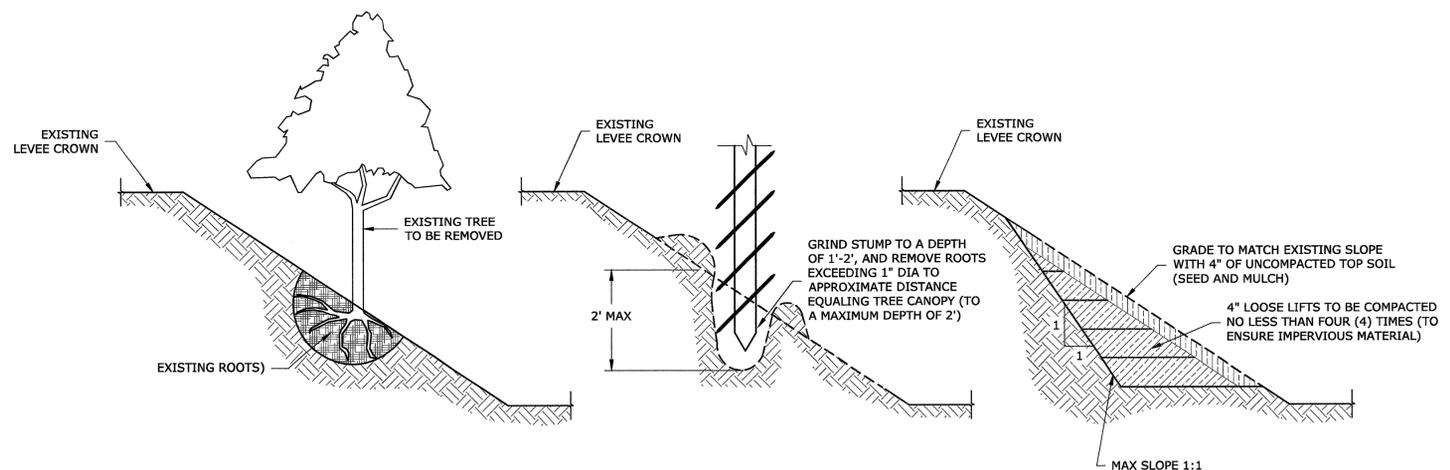
ZONES A AND B: AFTER CUTTING THE TREE, ROOTS HAVING A DIAMETER EXCEEDING APPROXIMATELY 1 INCH SHOULD BE REMOVED TO A MAXIMUM DEPTH OF TWO (2) FEET BELOW THE GROUND SURFACE FOR A DISTANCE APPROXIMATELY EQUAL TO THE TREE CANOPY. ROOTS SHOULD BE CUT FREE AT THE EXCAVATION LIMITS RATHER THAN PULLED USING EXCAVATION EQUIPMENT. AFTER CUTTING THE LARGER ROOTS INCLUDING ANY TAP ROOT IMMEDIATELY BENEATH THE TREE, THE REMAINING TREE STUMP SHOULD BE REMOVED. THE CAVITY RESULTING FROM THE ROOT SYSTEM REMOVAL SHOULD BE CLEANED OF ALL DEBRIS AND LOOSE EARTH MATERIALS, AND THE EDGES FLATTENED TO SLOPES NOT STEEPER THAN 1 VERTICAL ON 1 HORIZONTAL. BACKFILL SHOULD CONSIST OF WELL-GRADED GRANULAR DRAINAGE FILL TO ACCOMMODATE SEEPAGE THAT MAY OCCUR ALONG REMAINING ROOTS AFTER THEY DECAY. THE FILL SHOULD BE PLACED IN 4-INCH LOOSE LIFTS AND COMPACTED WITH NOT LESS THAN FOUR (4) COMPLETE COVERAGES WITH A MECHANICAL HAND-TAMPER. THE SURFACE OF THE DRAINAGE FILL SHOULD BE COVERED WITH APPROXIMATELY 4 INCHES OF UNCOMPACTED TOPSOIL AND SEEDED TO RE-ESTABLISH TURF.

ZONES C AND D: AFTER CUTTING THE TREE, GRIND THE STUMP TO A DEPTH 1 TO 2 FEET BELOW THE GROUND SURFACE USING EQUIPMENT SPECIFICALLY INTENDED FOR TREE STUMP REMOVAL. ROOTS HAVING A DIAMETER EXCEEDING APPROXIMATELY 1 INCH SHOULD BE REMOVED TO A MAXIMUM DEPTH OF TWO (2) FEET BELOW THE GROUND SURFACE FOR A DISTANCE APPROXIMATELY EQUAL TO THE TREE CANOPY. ROOTS SHOULD BE CUT FREE AT THE EXCAVATION LIMITS RATHER THAN PULLED USING EXCAVATION EQUIPMENT. THE CAVITY RESULTING FROM THE ROOT SYSTEM REMOVAL SHOULD BE CLEANED OF ALL DEBRIS AND LOOSE EARTH MATERIALS, AND THE EDGES FLATTENED TO SLOPES NOT STEEPER THAN 1 VERTICAL ON 1 HORIZONTAL. BACKFILL SHOULD CONSIST OF IMPERVIOUS FILL SIMILAR TO THE MATERIAL COMPRISING THE LEVEE EMBANKMENT. MATERIAL EXCAVATED FROM THE EMBANKMENT DURING THE TREE REMOVAL PROCESS CAN BE REUSED PROVIDED IT IS FREE OF VEGETATION MATTER AND OTHER NON-SOIL DEBRIS. THE FILL SHOULD BE PLACED IN 4-INCH LOOSE LIFTS AND COMPACTED WITH NOT LESS THAN FOUR (4) COMPLETE COVERAGES WITH A MECHANICAL HAND-TAMPER. THE SURFACE OF THE COMPACTED FILL SHOULD BE COVERED WITH APPROXIMATELY 4 INCHES OF UNCOMPACTED TOPSOIL AND SEEDED TO RE-ESTABLISH TURF.

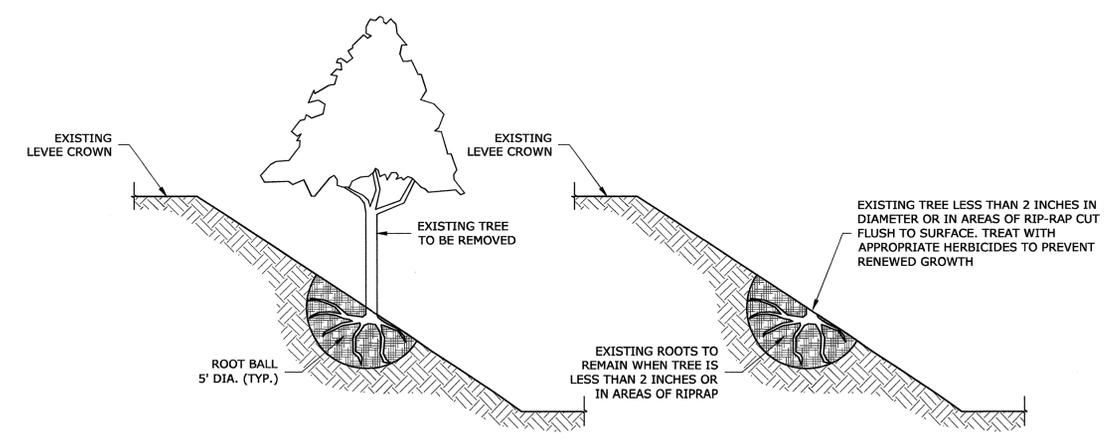
IN THE CASE WHERE THE ZONE D SLOPE HAS RIPRAP, THE TREE IS TO BE CUT FLUSH WITH THE RIPRAP SURFACE AND TREATED WITH APPROPRIATE HERBICIDES TO PREVENT RENEWED GROWTH FROM THE STUMP.

ZONE E: AFTER CUTTING THE TREE, GRIND THE STUMP TO A DEPTH 1 TO 2 FEET BELOW THE GROUND SURFACE USING EQUIPMENT SPECIFICALLY INTENDED FOR TREE STUMP REMOVAL. ROOTS HAVING A DIAMETER EXCEEDING APPROXIMATELY 2 INCHES SHOULD BE REMOVED TO A MAXIMUM DEPTH OF TWO (2) FEET BELOW THE GROUND SURFACE FOR A DISTANCE APPROXIMATELY EQUAL TO THE TREE CANOPY. ROOTS SHOULD BE CUT FREE AT THE EXCAVATION LIMITS RATHER THAN PULLED USING EXCAVATION EQUIPMENT. THE CAVITY RESULTING FROM THE ROOT SYSTEM REMOVAL SHOULD BE CLEANED OF ALL DEBRIS AND LOOSE EARTH MATERIALS, AND THE EDGES FLATTENED TO SLOPES NOT STEEPER THAN 1 VERTICAL ON 1 HORIZONTAL. BACKFILL SHOULD CONSIST OF IMPERVIOUS FILL SIMILAR TO THE MATERIAL COMPRISING THE LEVEE EMBANKMENT. MATERIAL EXCAVATED DURING THE TREE REMOVAL PROCESS CAN BE REUSED PROVIDED IT IS FREE OF VEGETATION MATTER AND OTHER NON-SOIL DEBRIS. THE FILL SHOULD BE PLACED IN 4-INCH LOOSE LIFTS AND COMPACTED WITH NOT LESS THAN FOUR (4) COMPLETE COVERAGES WITH A MECHANICAL HAND-TAMPER. THE SURFACE OF THE COMPACTED FILL SHOULD BE COVERED WITH APPROXIMATELY 4 INCHES OF UNCOMPACTED TOPSOIL AND SEEDED TO RE-ESTABLISH TURF.

2 TREE REMOVAL NOTES
 N.T.S.



3 TREE REMOVAL FROM LEVEE/SLOPEFACE AND CREST
 N.T.S.

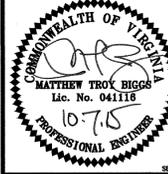


4 TREE REMOVAL FROM LEVEE/SLOPEFACE AND CREST IN RIP-RAP AND UNDER 2" DIA
 N.T.S.

NO.	DATE	DESCRIPTION	BY



CHESAPEAKE BAY TMDL PROJECT
PHASE 1
KOHL'S POND RETROFIT
 100% CONSTRUCTION DOCUMENT
 TOWN OF LEESBURG, VIRGINIA
 CATOCHTIN ELECTION DISTRICT



DESIGN BY: MB/JGR DRAWN BY: MEG
 REVIEWED BY: MB/JGR
 PROJECT MANAGER: TB
 AMEC FOSTER WHEELER PROJECT #: 565500011
 CONTRACT #: 300810-FY12-03
 DATE: 2015-08-18 SHEET SIZE: D
 SCALE: AS SHOWN
 SHEET TITLE:
TREE REMOVAL GUIDANCE

11/10/16