

May 12, 2011 - 12:43pm By: geonamit

**GENERAL NOTES**

- ALL CONSTRUCTION METHODS AND MATERIALS SHALL BE IN ACCORDANCE WITH THESE PLANS, WITH ALL CURRENT APPLICABLE CODES AND THE LATEST REVISIONS OF THE CITY OF ALEXANDRIA DEPARTMENT OF T&ES CONSTRUCTION STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL DIG TEST PITS AS REQUIRED FOLLOWING NOTIFICATION AND MARKING OF ALL EXISTING UTILITIES TO VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES. TEST HOLES TO BE PERFORMED AT LEAST 30 DAYS PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES ARE TO BE REPORTED IMMEDIATELY TO THE OWNER AND ENGINEER. REDESIGN AND APPROVAL BY REVIEWING AGENCIES SHALL BE OBTAINED IF REQUIRED.
- ANY CONTRACTOR/SUBCONTRACTOR PERFORMING WORK ON THIS PROJECT SHALL FAMILIARIZE HIMSELF WITH THE SITE AND SHALL BE SOLELY RESPONSIBLE FOR HIS OPERATIONS. ANY REMOVAL OR DAMAGE TO EXISTING IMPROVEMENTS SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE AND SHALL BE APPROVED BY THE CITY OF ALEXANDRIA.
- ALL AREAS, ON OR OFF-SITE, WHICH ARE DISTURBED BY THIS CONSTRUCTION AND WHICH ARE NOT PAVED OR BUILT UPON, SHALL BE ADEQUATELY STABILIZED TO CONTROL EROSION AND SEDIMENTATION. THE MINIMUM ACCEPTABLE STABILIZATION SHALL CONSIST OF PERMANENT GRASS OR SEED MIXTURE AS RECOMMENDED BY THE CITY AGENT. ALL SLOPES 3:1 AND GREATER SHALL BE SODDED AND PEGGED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY OF ALEXANDRIA.
- THE CONTRACTOR SHALL TAKE ALL AVAILABLE PRECAUTIONS TO CONTROL DUST. CONTRACTOR SHALL CONTROL DUST BY SPRINKLING WATER OR BY OTHER MEANS APPROVED BY THE CITY OF ALEXANDRIA AND ENGINEER.
- ALL EXCAVATING IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED. UNUSABLE EXCAVATED MATERIAL AND ALL WASTE RESULTING FROM SITE CLEARING AND GRUBBING SHALL BE DISPOSED OF OFF SITE BY THE CONTRACTOR AT HIS EXPENSE.
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ENGINEERING AND SURVEYING FOR LINE AND GRADE CONTROL POINTS RELATED TO EARTHWORK.
- THE CONTRACTOR SHALL SALVAGE AND PROTECT ALL EXISTING UTILITY POLES, SIGNS, MANHOLES, TELEPHONE RISERS, GAS VALVES, TREES, ETC. DURING CONSTRUCTION.
- THE CITY OF ALEXANDRIA SHALL INSPECT ALL CONSTRUCTION. THE CONTRACTOR'S BID PRICE SHALL INCLUDE ALL INSPECTION AND PERMIT FEES.
- CONSTRUCTION STAKEOUT SHALL BE UNDER THE DIRECT SUPERVISION OF A LICENSED LAND SURVEYOR IN THE COMMONWEALTH OF VIRGINIA. THE CONTRACTOR SHALL PROVIDE CONSTRUCTION STAKEOUT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WITH MATCHING MATERIALS ANY PAVEMENT, PAVEMENT MARKINGS, CURB AND GUTTER, SIDEWALK, ETC. THAT ARE DAMAGED DURING CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ZONE SIGNING, DELINEATION, PAVEMENT MARKINGS AND ANY OTHER TRAFFIC CONTROL DEVICES NECESSARY TO PERFORM THE WORK. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL IMMEDIATELY REMOVE ALL TEMPORARY DEVICES.
- UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE LATEST EDITION OF THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS SECTION 4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS.
- T&ES MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENTS OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION. CERTIFIED RESPONSIBLE LAND DISTURBER IS REQUIRED TO ATTEND PRE-CONSTRUCTION MEETINGS.
- ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE 11, CHAPTER 5, WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:  
MONDAY THROUGH FRIDAY FROM 7AM TO 6PM AND  
SATURDAYS FROM 9AM TO 6PM  
NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS
- THE CONTRACTOR SHALL SUBMIT "AS-BUILT" DRAWINGS TO THE CITY OF ALEXANDRIA AND THE FAIRFAX COUNTY UPON JOB COMPLETION AND FINAL INSPECTION.
- ANY NOTES NOT MENTIONED IN THIS SECTION WILL REVERT TO THE CITY OF ALEXANDRIA STANDARDS.
- THE CITY OF ALEXANDRIA T&ES, DIVISION OF ENVIRONMENTAL QUALITY, ALONG WITH FAIRFAX COUNTY, MUST BE NOTIFIED IF UNUSUAL OR UNANTICIPATED CONTAMINATION OR UNDERGROUND STORAGE TANKS, DRUMS, AND CONTAINERS ARE ENCOUNTERED AT THE SITE. IF THERE IS ANY DOUBT ABOUT PUBLIC SAFETY OR A RELEASE TO THE ENVIRONMENT, THE ALEXANDRIA FIRE DEPARTMENT MUST BE CONTACTED IMMEDIATELY BY CALLING 911. THE TANK OR CONTAINER'S REMOVAL, ITS CONTENTS, ANY SOIL CONTAMINATION, AND RELEASE TO THE ENVIRONMENT WILL BE HANDLED IN ACCORDANCE WITH FEDERAL, STATE, AND CITY REGULATIONS.
- ACCORDING TO THE SURVEY PREPARED BY THE CITY OF ALEXANDRIA, DATED JUNE 3, 2009, THE HORIZONTAL DATUM IS BASED ON NAD 83 AND THE VERTICAL DATUM IS BASED ON NAVD 88.

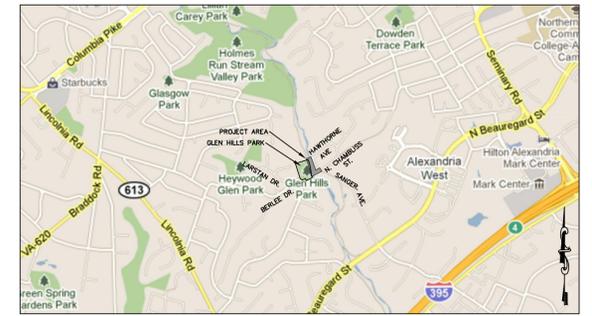
**CONTACTS**

**OWNER:**  
CITY OF ALEXANDRIA  
TRAFFIC AND ENVIRONMENTAL SERVICES  
CITY HALL  
301 KING STREET ROOM 4100  
ALEXANDRIA, VA 22314  
TEL: (703) 838-4966  
FAX: (703) 519-3356  
CONTACT: YON LAMBERT

**CIVIL ENGINEER/LANDSCAPE ARCHITECT:**  
KIMLEY-HORN AND ASSOCIATES, INC.  
13221 WOODLAND PARK ROAD  
SUITE 400  
HERNDON, VIRGINIA 20171  
TEL: (703) 674-1300  
FAX: (703) 674-1350  
CONTACT: KEVIN VAN HISE, RLA

# HOLMES RUN CHAMBLISS CROSSING

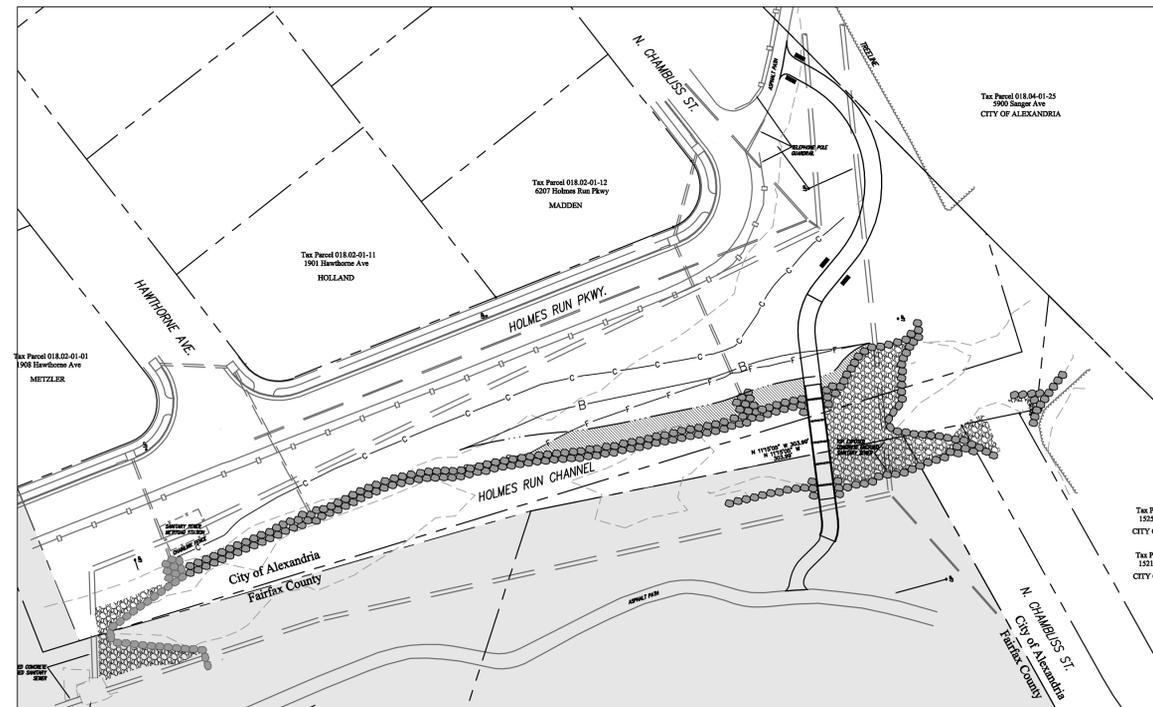
PREPARED FOR:



VICINITY MAP

SCALE: 1" = 2,000'

Sheet List Table	
Sheet Number	Sheet Title
1	COVER SHEET
2	EXISTING CONDITIONS PLAN
3	SITE AND GRADING PLAN
4	TYPICAL SECTIONS
5	SITE DETAILS
6	SITE DETAILS
7	SITE - EROSION DETAILS
8	PUMP-AROUND DETAILS
9	WALLS & SLAB PROFILE AND DETAILS
10	CULVERT DETAILS
11	LANDSCAPE PLAN
12	LANDSCAPE NOTES AND DETAILS
13	EROSION AND SEDIMENT CONTROL PLAN



MISS UTILITY OF VIRGINIA



CALL BEFORE YOU DIG  
1.800.552.7001

CONTEXT MAP

SCALE: 1" = 50'



RECOMMENDED FOR APPROVAL	DATE: _____
DIRECTOR OF ENVIRONMENTAL QUALITY DIVISION	
RECOMMENDED FOR APPROVAL	DATE: _____
CHIEF-ENGINEERING & DESIGN DIVISION	
RECOMMENDED FOR APPROVAL	DATE: _____
CHIEF-CONSTRUCTION & INSPECTION DIVISION	
RECOMMENDED FOR APPROVAL	DATE: _____
DEPUTY DIRECTOR OF TRANSPORTATION	
RECOMMENDED FOR APPROVAL	DATE: _____
DEPUTY DIRECTOR OF ENGINEERING	
RECOMMENDED FOR APPROVAL	DATE: _____
DEPUTY DIRECTOR OF OPERATIONS	
APPROVED	DATE: _____
DIRECTOR	

PRELIMINARY  
NOT FOR CONSTRUCTION

K:\VIA\_LAB\110104000\_Holmes Run\1-COVER.dwg

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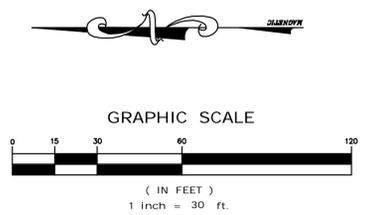
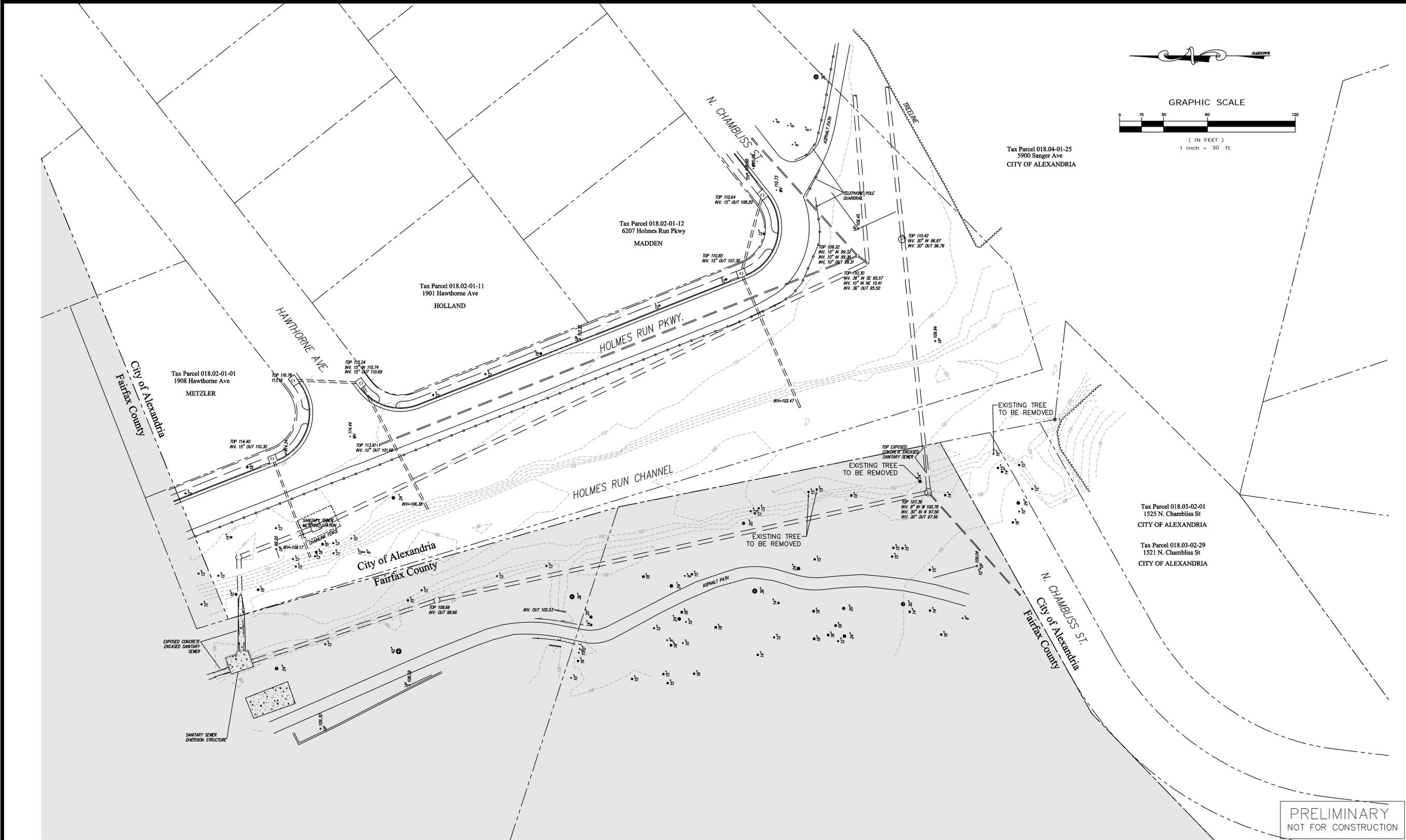
CLIENT:	<b>CITY OF ALEXANDRIA</b>
TITLE:	<b>COVER SHEET</b>

DATE:	FEB 2011
HORIZONTAL SCALE:	AS NOTED
VERTICAL SCALE:	AS NOTED
DRAWN BY:	NJM
DESIGNED BY:	JD
CHECKED BY:	KVH

PROJECT:	<b>HOLMES RUN CHAMBLISS CROSSING</b>	
ATTACHED REFERENCE FILES:	JOB NUMBER:	SHEET NUMBER:
	110104000	1 of 13

May 12, 2011 - 12:44pm By: sean.millett

K:\VVA\_LAI\110104000\_Holmes Run\EXIST-COVID.dwg



Tax Parcel 018.04-01-25  
5900 Sanger Ave  
CITY OF ALEXANDRIA

Tax Parcel 018.03-02-01  
1525 N. Chambliss St  
CITY OF ALEXANDRIA

Tax Parcel 018.03-02-29  
1521 N. Chambliss St  
CITY OF ALEXANDRIA

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20171  
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Fax: 703-674-1350  
Engineering, Planning, and Environmental Consultants

CLIENT: **CITY OF ALEXANDRIA**

TITLE: **EXISTING CONDITIONS PLAN**

DATE: FEB 2011  
HORIZONTAL SCALE: AS NOTED  
VERTICAL SCALE: AS NOTED  
DRAWN BY: NUM  
DESIGNED BY: JD  
CHECKED BY: KVH

PROJECT: **HOLMES RUN CHAMBLISS CROSSING**

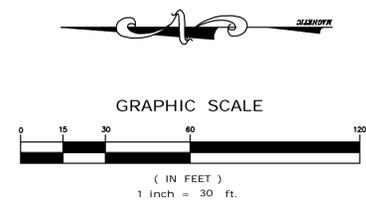
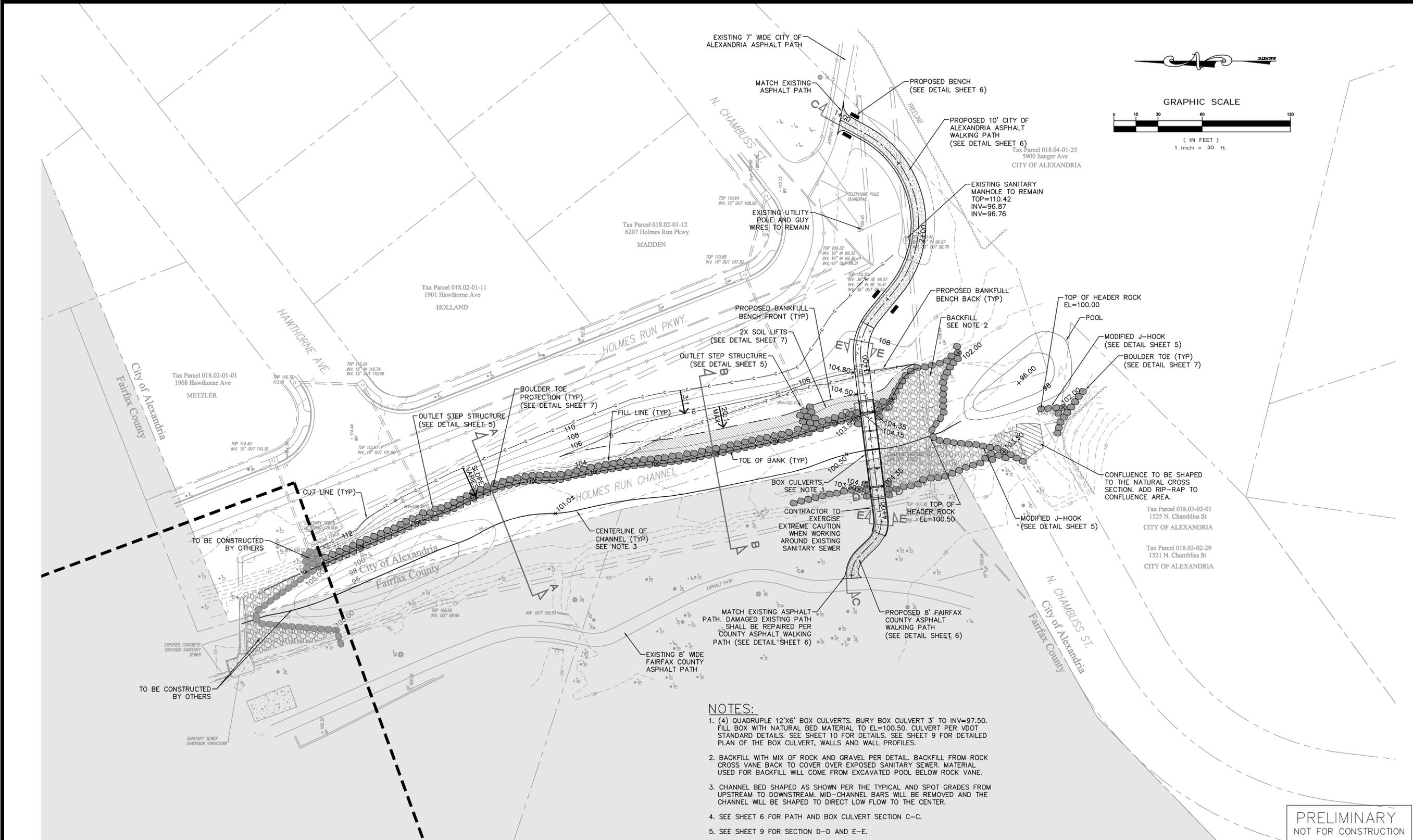
ATTACHED REFERENCE FILES:

JOB NUMBER: 110104000

SHEET NUMBER: **2** OF **13**

May 12, 2011 - 12:44pm By: seasmall

K:\WVA\_LAI\110104000\_Holmes Run\PLAN.dwg



- NOTES:**
- (4) QUADRUPLE 12'x6' BOX CULVERTS. BURY BOX CULVERT 3' TO INV=97.50. FILL BOX WITH NATURAL BED MATERIAL TO EL=100.50. CULVERT PER VDOT STANDARD DETAILS. SEE SHEET 10 FOR DETAILS. SEE SHEET 9 FOR DETAILED PLAN OF THE BOX CULVERT, WALLS AND WALL PROFILES.
  - BACKFILL WITH MIX OF ROCK AND GRAVEL PER DETAIL. BACKFILL FROM ROCK CROSS VANE BACK TO COVER OVER EXPOSED SANITARY SEWER. MATERIAL USED FOR BACKFILL WILL COME FROM EXCAVATED POOL BELOW ROCK VANE.
  - CHANNEL BED SHAPED AS SHOWN PER THE TYPICAL AND SPOT GRADES FROM UPSTREAM TO DOWNSTREAM. MID-CHANNEL BARS WILL BE REMOVED AND THE CHANNEL WILL BE SHAPED TO DIRECT LOW FLOW TO THE CENTER.
  - SEE SHEET 6 FOR PATH AND BOX CULVERT SECTION C-C.
  - SEE SHEET 9 FOR SECTION D-D AND E-E.

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CLIENT: **CITY OF ALEXANDRIA**

TITLE: **SITE AND GRADING PLAN**

DATE: FEB 2011  
 HORIZONTAL SCALE: AS NOTED  
 VERTICAL SCALE: AS NOTED  
 DRAWN BY: NJM  
 DESIGNED BY: JD  
 CHECKED BY: KVH

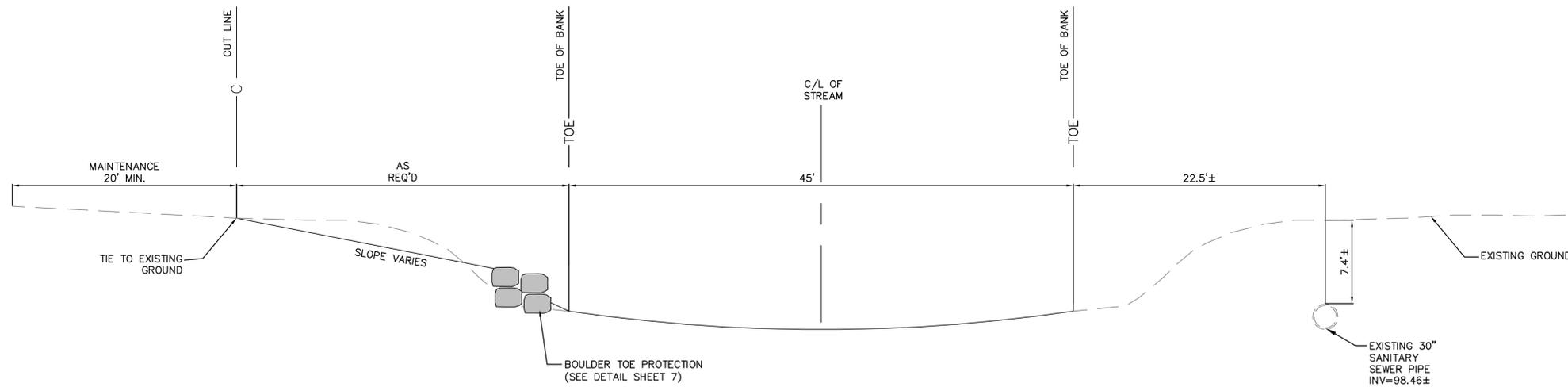
PROJECT: **HOLMES RUN CHAMBLISS CROSSING**

ATTACHED REFERENCE FILES:

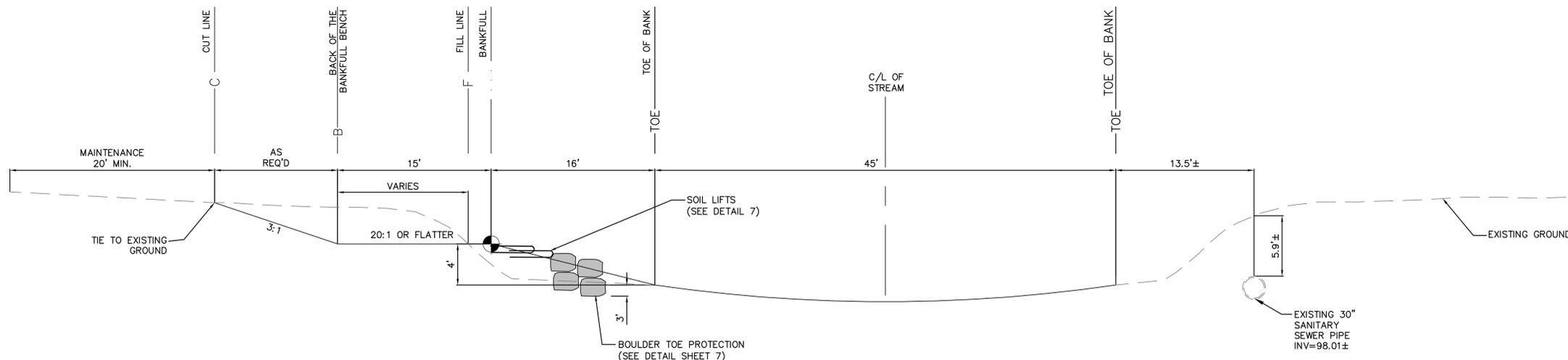
JOB NUMBER: 110104000

SHEET NUMBER: **3** OF **13**

May 12, 2011 - 12:44pm By: sean.millican



UPPER HOLMES RUN SECTION A-A  
NOT TO SCALE



LOWER HOLMES RUN SECTION B-B  
NOT TO SCALE

ELEVATION CONTROL POINT (BANKFULL)

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K:\WVA\_LAP\110104000\_Holmes Run\TYP-SECT.dwg

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CLIENT: **CITY OF ALEXANDRIA**

TITLE: **TYPICAL SECTIONS**

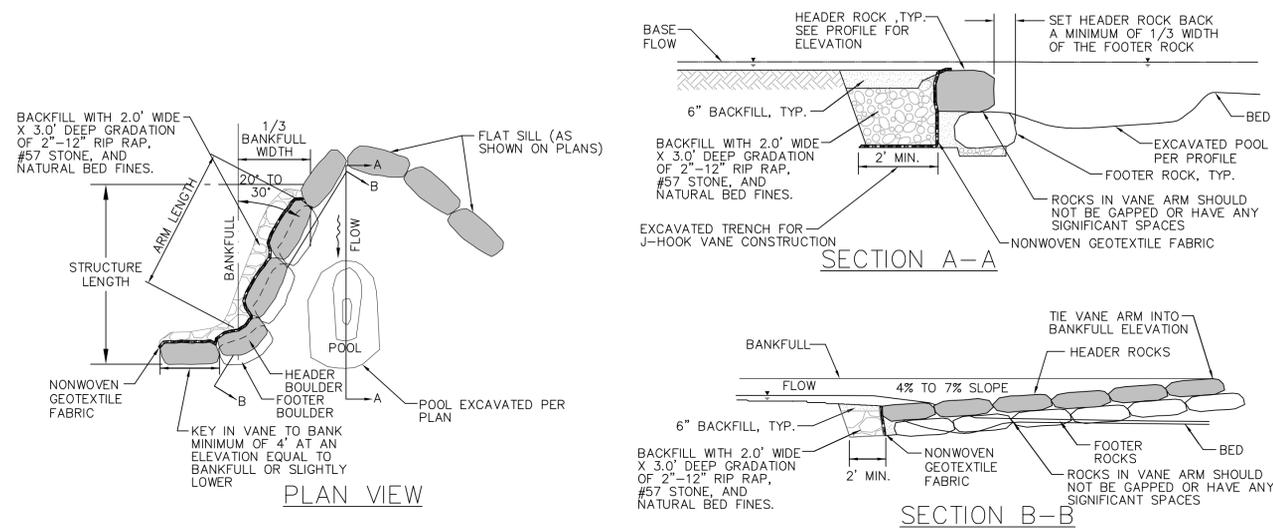
DATE: FEB 2011  
 HORIZONTAL SCALE: AS NOTED  
 VERTICAL SCALE: AS NOTED  
 DRAWN BY: NJM  
 DESIGNED BY: JD  
 CHECKED BY: KVH

PROJECT: **HOLMES RUN CHAMBLISS CROSSING**

ATTACHED REFERENCE FILES:

JOB NUMBER: 110104000

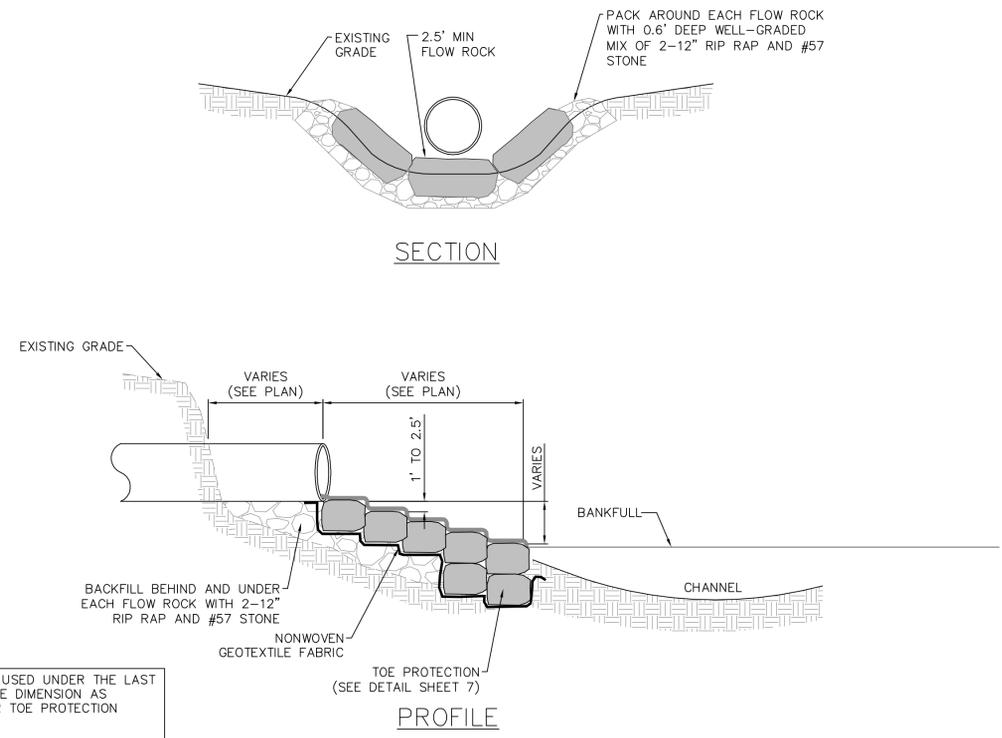
SHEET NUMBER: **4** OF **13**



BOULDER DIMENSIONS			
MINIMUM BOULDER DIMENSIONS	HEIGHT	WIDTH	LENGTH
	3'	3'	4'

- NOTES:**
1. DEEPEST PART OF POOL TO BE IN LINE WITH WHERE VANE ARM TIES INTO BANKFULL
  2. DO NOT EXCAVATE POOL TOO CLOSE TO FOOTER BOULDERS.
  3. CLASS "A" STONE CAN BE USED TO REDUCE VOIDS BETWEEN HEADERS AND FOOTERS.
  4. COMPACT BANKFULL TO EXTENT POSSIBLE OR AT THE DIRECTION OF THE ENGINEER.
  5. POOL DEPTH SHOULD BE ACCORDING PROFILE.

**MODIFIED J-HOOK VANE DETAIL**  
NOT TO SCALE



- FOOTER BOULDER WILL BE USED UNDER THE LAST STEP. IT WILL BE THE SAME DIMENSION AS SPECIFIED IN THE BOULDER TOE PROTECTION DETAIL.
- NUMBER OF STEPS SHOWN MAY NOT BE THE ACTUAL AMOUNT NEEDED TO CREATE THE DIMENSIONS SHOWN.

**OUTLET "STEP" STRUCTURE**  
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Engineering, Planning, and Environmental Consultants

CLIENT: **CITY OF ALEXANDRIA**

TITLE: **SITE DETAILS**

DATE: FEB 2011  
HORIZONTAL SCALE: AS NOTED  
VERTICAL SCALE: AS NOTED  
DRAWN BY: NJM  
DESIGNED BY: JD  
CHECKED BY: KVH

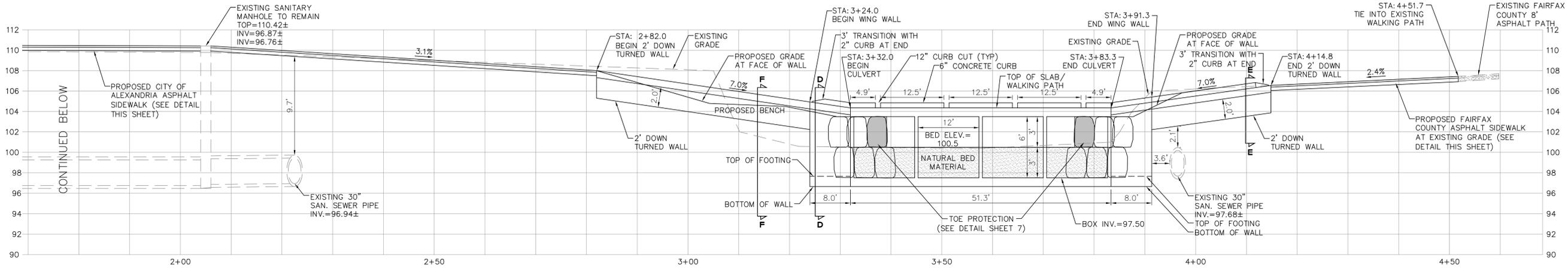
PROJECT: **HOLMES RUN CHAMBLISS CROSSING**

ATTACHED REFERENCE FILES:

JOB NUMBER: 110104000

SHEET NUMBER: **5** OF **13**

May 12, 2011 - 12:44pm By: seasmill

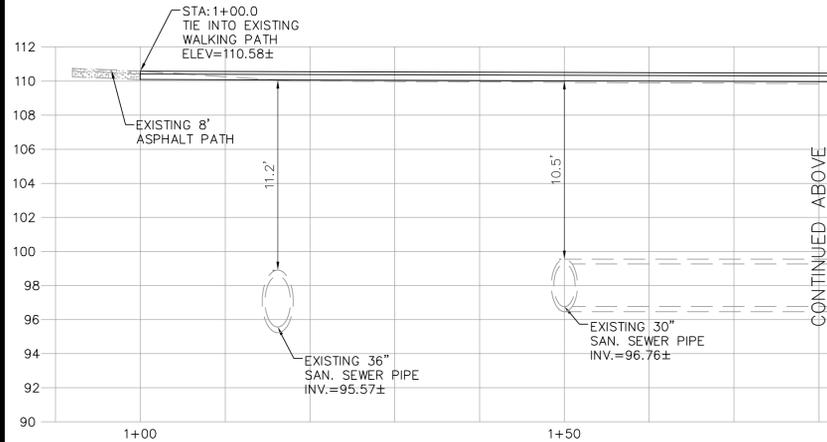


**NOTES**

- SEE SHEET 9 FOR SECTIONS D-D, E-E, AND F-F.
- SEE SHEET 9 FOR BOX CULVERT CONTROL POINTS, WALL PROFILES, AND STRUCTURAL GENERAL NOTES.
- DOWN-TURNED WALL AT BOX CULVERT NOT SHOWN ON SECTION C-C

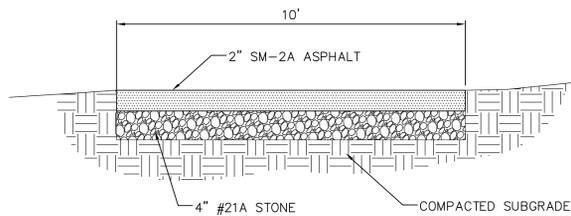
**SECTION C-C**

HORIZ: 1"=10'  
VERT: 1"=5'

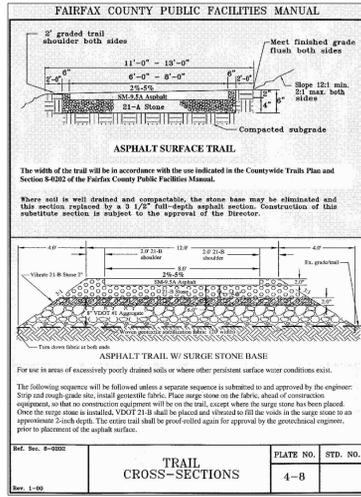
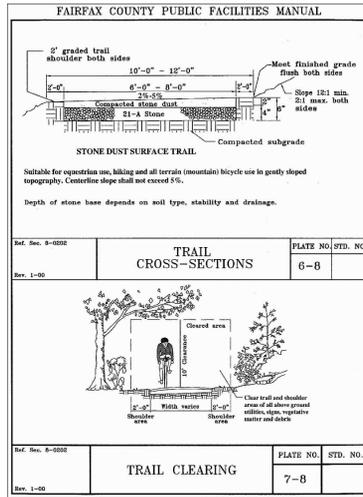


**SECTION C-C**

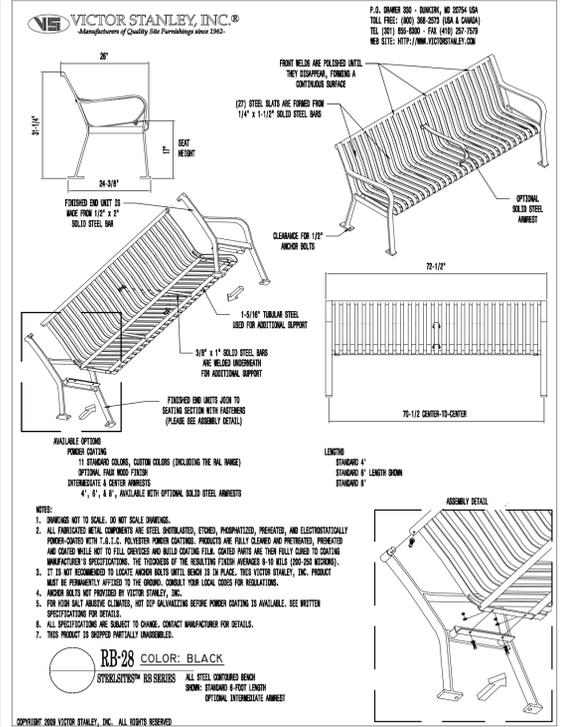
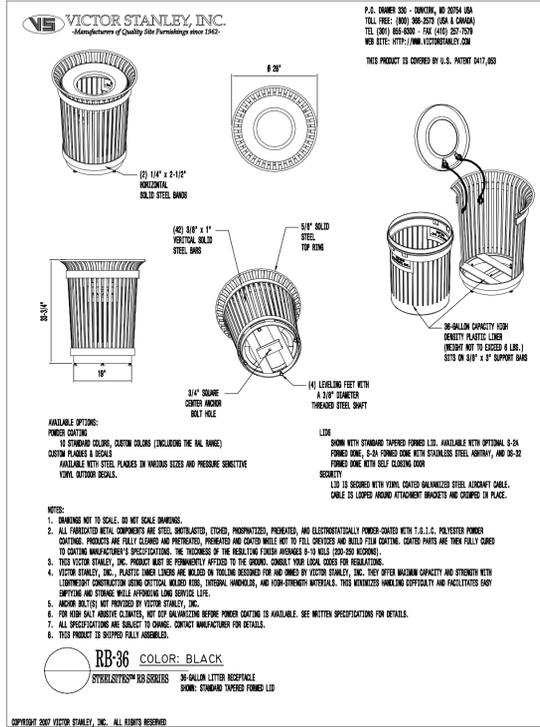
HORIZ: 1"=10'  
VERT: 1"=5'



**CITY OF ALEXANDRIA  
ASPHALT PATH DETAIL**  
NOT TO SCALE



**FAIRFAX COUNTY ASPHALT  
PATH DETAILS**  
NOT TO SCALE



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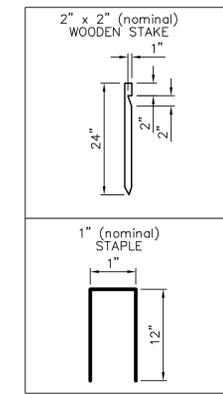
TITLE: **SITE DETAILS**

DATE: FEB 2011  
HORIZONTAL SCALE: AS NOTED  
VERTICAL SCALE: AS NOTED  
DRAWN BY: NJM  
DESIGNED BY: JD  
CHECKED BY: KWH

PROJECT: **HOLMES RUN  
CHAMBLISS CROSSING**

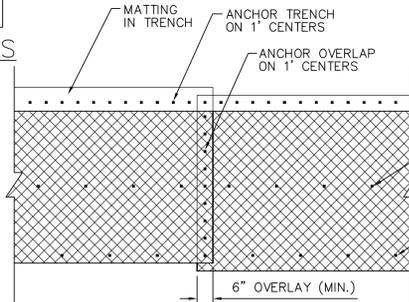
ATTACHED REFERENCE FILES:      JOB NUMBER: 110104000      SHEET NUMBER: 6 OF 13

May 12, 2011 - 12:44pm By: sean.millett



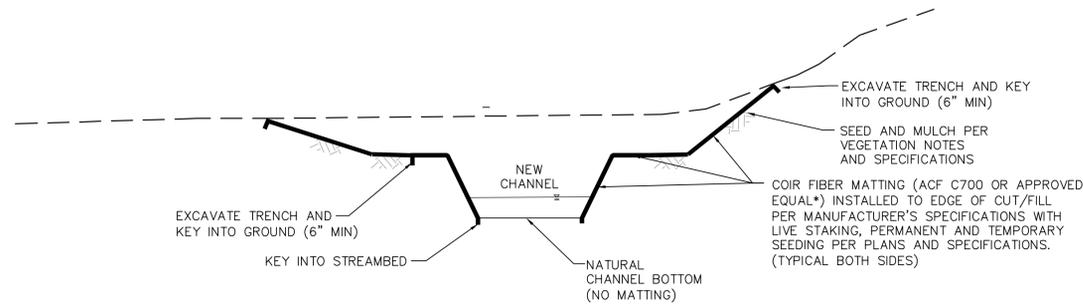
ANCHOR OPTIONS

DIRECTION OF FLOW

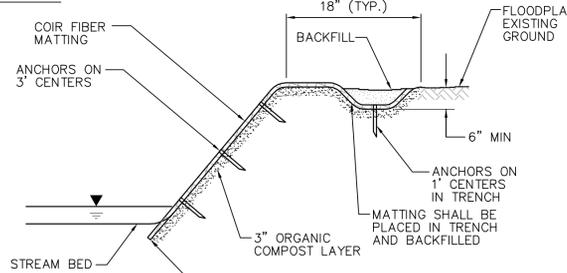


PLAN VIEW

COIR FIBER MATTING  
NOT TO SCALE

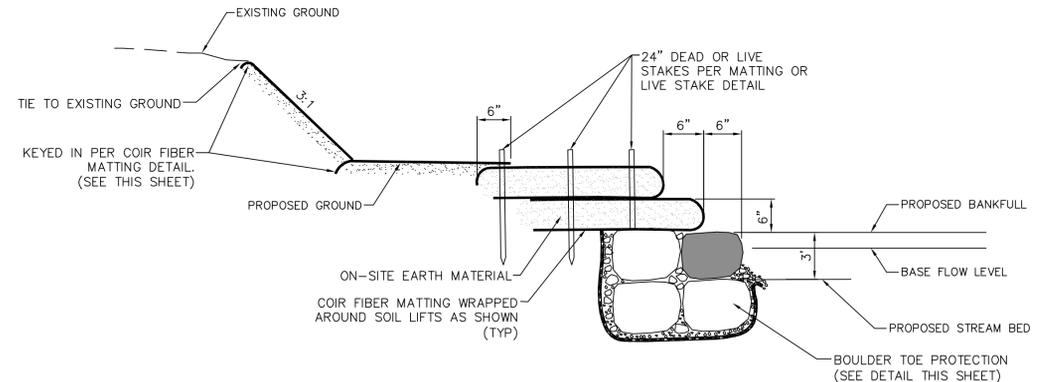


SECTION

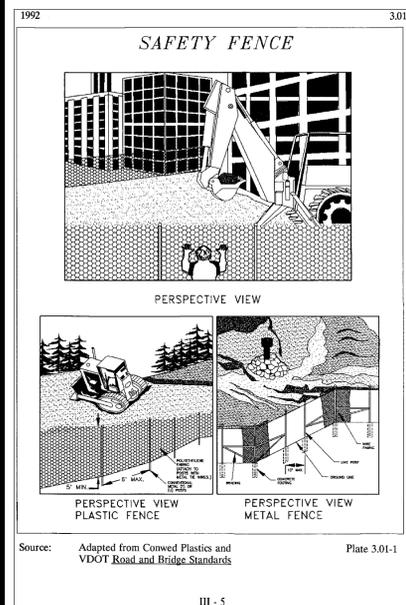


TYPICAL CROSS SECTION

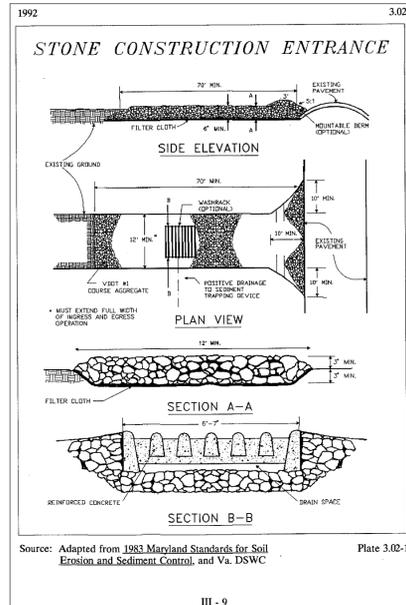
- NOTES:
1. IN AREAS TO BE MATTED, ALL SEEDING, SOIL AMENDMENTS, AND SOIL PREPARATION MUST BE COMPLETED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS PRIOR TO PLACEMENT OF COIR FIBER MATTING.
  2. STAPLES MAY BE USED IN PLACE OF WOODEN STAKES, AS APPROVED BY THE ENGINEER.
  3. USE COIR MAT 700 OR APPROVED EQUIVALENT.



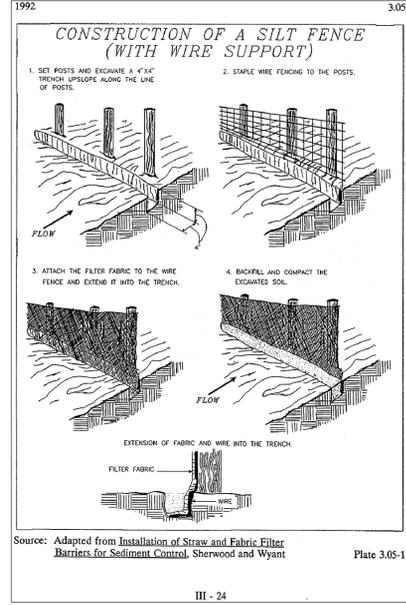
SOIL LIFT  
NOT TO SCALE



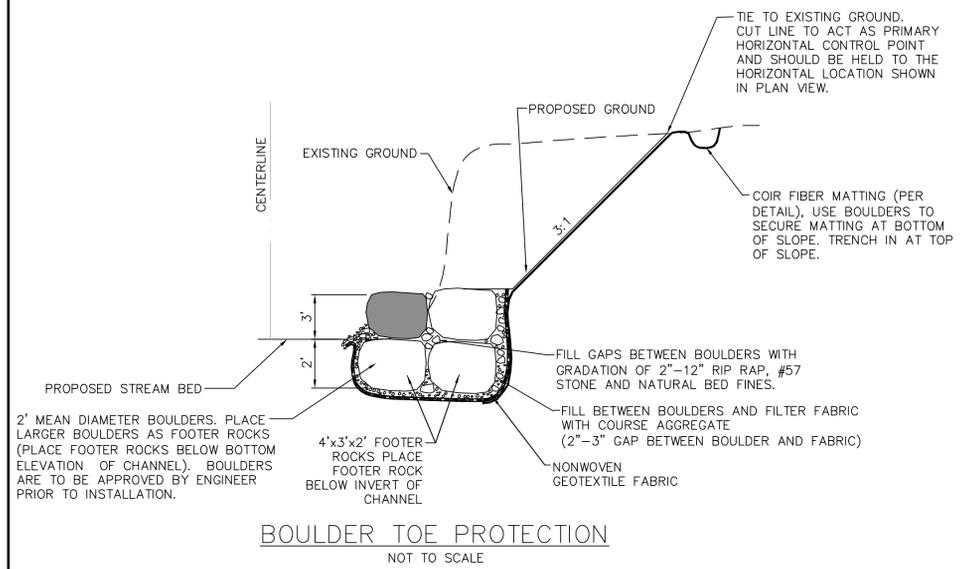
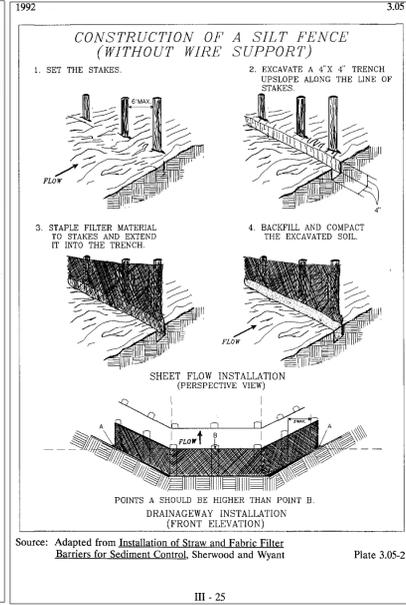
SAFETY FENCE  
NOT TO SCALE



STONE CONSTRUCTION  
ENTRANCE  
NOT TO SCALE



SILT FENCE  
NOT TO SCALE



BOULDER TOE PROTECTION  
NOT TO SCALE

PRELIMINARY  
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CLIENT: **CITY OF ALEXANDRIA**

TITLE: **SITE - EROSION DETAILS**

DATE: FEB 2011  
 HORIZONTAL SCALE: AS NOTED  
 VERTICAL SCALE: AS NOTED  
 DRAWN BY: NJM  
 DESIGNED BY: JD  
 CHECKED BY: KVH

PROJECT: **HOLMES RUN CHAMBLISS CROSSING**

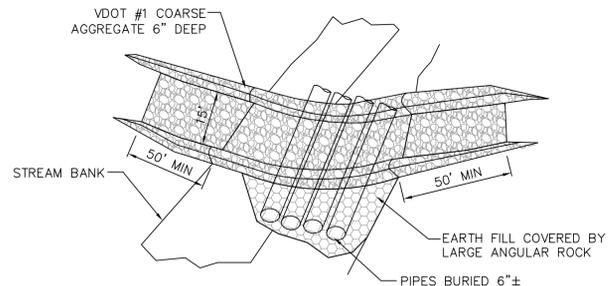
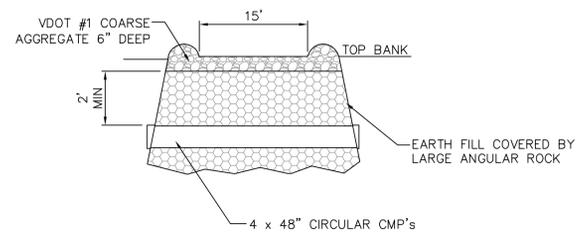
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JOB NUMBER: 110104000

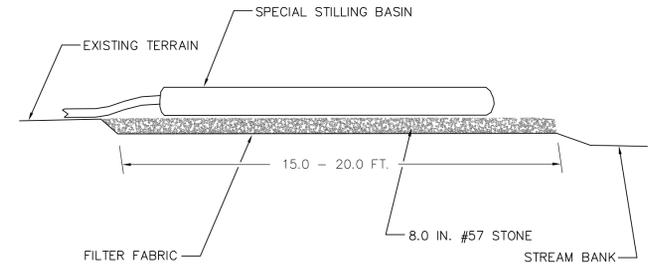
SHEET NUMBER: **7** OF **13**

K:\VVA\_LAB\110104000\_Holmes Run\DET\11.5.dwg

May 12, 2011 - 12:44pm By: sean.millett

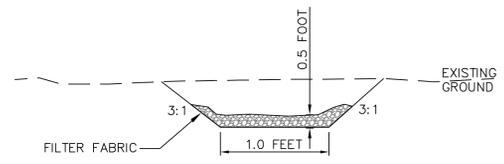


**TEMPORARY STREAM CROSSING**  
NOT TO SCALE  
(MODIFIED VESCH PLATE 3.24-2)



NOTE: IF SPECIAL STILLING BASIN IS PLACED IN EXISTING FLAT PASTURE ADJACENT TO AN UNDISTURBED STREAM NO OUTLET IS REQUIRED (PREFERRED). IF SPECIAL STILLING BASIN IS PLACED ON DISTURBED SOIL THEN A STABILIZED OUTLET/CHANNEL NEEDS TO BE PROVIDED.

THE STABILIZED OUTLET WILL CONSIST OF A 1"-6" WELL GRADED MIX OF RIP RAP A MINIMUM OF 1' THICK PER THE DIMENSIONS BELOW. PLACE FILTER FABRIC BETWEEN THE RIP RAP AND SOIL FOUNDATION. THE STABILIZED OUTLET WILL EXTEND FROM THE SPECIAL STILLING BASIN TO THE BANK OF THE CHANNEL BELOW THE WORK AREA.



**STABILIZED OUTLET**  
**SPECIAL STILLING BASIN WITH ROCK PAD**  
NOT TO SCALE

**GENERAL CONSTRUCTION SEQUENCE REQUIREMENTS:**

- WORK TO BE COMPLETED IN ISOLATED SECTIONS OF CHANNEL.
- THE CHANNEL SHALL BE ISOLATED FROM THE WORK AREAS USING IMPERVIOUS DIKES (PER PROJECT SPECIFICATIONS).
- AT NO TIME SHALL AN IMPERVIOUS DIKE BE CONSTRUCTED THAT DOES NOT AT A MINIMUM MAINTAIN HALF THE WIDTH OF THE CHANNEL FOR PASSAGE OF BASE FLOW AND SMALL STORM FLOWS.
- BASE FLOW MUST NOT COME INTO CONTACT WITH THE WORK AREA.
- CONTRACTOR IS TO WORK IN SMALL ISOLATED SECTIONS OF CHANNEL AT A TIME.
  - THE PROJECT HAS BEEN DIVIDED INTO PHASES FOR STREAM WORK. THE INTENT OF THESE PHASES IS TO KEEP STREAM AND BANK DISTURBANCE TO AN AREA OR BANK LENGTH THAT CAN BE COMPLETED IN 2-3 DAYS.
  - AT THE END OF EACH DAY THE CONTRACTOR MUST REMOVE ALL EQUIPMENT FROM THE STREAM AND TEMPORARILY STABILIZE THE BANKS. TO PREVENT A LOT OF TEMPORARY STABILIZATION - IT IS RECOMMENDED THAT THE CONTRACTOR MAKE EVERY EFFORT TO ONLY DISTURBED STREAM BED AND BANKS THAT CAN BE COMPLETED IN A SINGLE WORKDAY.
  - THE CONTRACTOR MAY SUB-DIVIDE THE PHASES INTO SMALLER PHASES.
  - THE CONTRACTOR CAN'T WORK IN TWO STREAM PHASE OR CULVERT PHASES AT SAME TIME UNLESS USING MULTIPLE CREWS. IF USING MULTIPLE CREWS THEN EACH CREW MUST BE CAPABLE OF FULLY COMPLETING THE WORK THEY START.
  - THE CULVERT PHASE CAN CONCUR CONCURRENTLY WITH THE STREAM PHASES.
- GROUND WATER OR RAINWATER THAT COMES INTO THE WORK ZONE (BEHIND THE IMPERVIOUS DIKE) CAN'T BE DISCHARGED DIRECTLY INTO THE STREAM. TURBID/DIRTY WATER FROM THE WORK AREA MUST BE PUMPED THROUGH A SILT BAG OR SPECIAL STILLING BASIN.
- THE CONTRACTOR IS TO CONTINUOUSLY MONITOR WEATHER. IF RAIN IS PREDICTED THEN THE SITE SHOULD BE TEMPORARILY STABILIZED PRIOR TO THE PREDICTED RAINFALL. TEMPORARY STABILIZATION WOULD INCLUDE MATTING ALL EXPOSED BANKS AND REMOVING ANY DEBRIS FROM THE CHANNEL THAT COULD BE WASHED DOWNSTREAM.

**SPECIAL STILLING BASIN**

THE SPECIAL STILLING BASIN(S) SHALL BE A WATER PERMEABLE FABRIC BAG THAT TRAPS SAND, SILT, AND FINES AS SEDIMENT LADEN WATER IS PUMPED INTO IT. THIS DEVICE SHALL BE CONSTRUCTED SUCH THAT IT IS PORTABLE AND CAN BE USED ADJACENT TO THE PUMP HOSE OUTLET.

THE FILTER FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 1056 OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) STANDARD SPECIFICATIONS FOR TYPE 2 FABRIC.

STONE SHALL BE FOR EROSION CONTROL CONTROL STONE (#57).

CONSTRUCTION METHODS:  
THE SPECIAL STILLING BASIN(S) SHALL BE A BAG CONSTRUCTED TO A MINIMUM SIZE OF 10'X15' (3MX4.6M) MADE FROM A NONWOVEN FABRIC. IT SHALL HAVE A SEWN-IN 8-INCH (20.3CM) MAXIMUM SPOUT FOR RECEIVING PUMP DISCHARGE. THE BAG SEAMS SHALL BE SEWN WITH A DOUBLE NEEDLE MACHINE USING A HIGH STRENGTH THREAD. THE SEAMS SHALL HAVE A MINIMUM WIDE WIDTH STRENGTH AS FOLLOWS:

TEST METHOD	MINIMUM SPECIFICATIONS
ASTM D-4884	60 LB/IN (10.7 KG/CM)

THE FABRIC USED TO CONSTRUCT THE BAG SHALL BE STABILIZED TO PROVIDE RESISTANCE TO ULTRA-VIOLET DEGRADATION AND MEET THE FOLLOWING SPECIFICATIONS FOR FLOW RATES, STRENGTH, AND PERMEABILITY:

PROPERTY	TEST METHOD	UNITS		MINIMUM	
		ENGLISH	METRIC	ENGLISH	METRIC
WEIGHT	ASTM D-3776	Oz/YD	G/m	8.0	248.03
GRAB TENSILE	ASTM D-4632	LB	Kg	200.0	90.72
PUNCTURE FLOW RATE	ASTM D-4833	LB	Kg	130.0	58.97
PERMITTIVITY	ASTM D-4491	GAL/MIN/SF	L/S/SM	80.0	0.47
UV RESISTANCE	ASTM D-4991	1/SEC		1.5	
	ASTM D-4355	%		70.0	

THE SPECIAL STILLING BASIN(S) SHALL BE PLACED SO THE INCOMING WATER FLOWS INTO AND THROUGH THE BAG WITHOUT CAUSING EROSION. THE NECK OR SPOUT OF THE BAG SHALL BE TIED OFF TIGHTLY TO STOP THE WATER FROM FLOWING OUT OF THE BAG WITHOUT GOING THROUGH THE WALLS.

THE SPECIAL STILLING BASIN(S) SHALL BE REPLACED AND DISPOSED OF WHEN IT IS 3/4 FULL OF SEDIMENT. WHEN IT IS IMPRACTICAL FOR THE BAG TO FILTER THE SEDIMENT OUT AT A REASONABLE FLOW RATE, OR WHEN IT BECOMES PUNCTURED OR TORN.

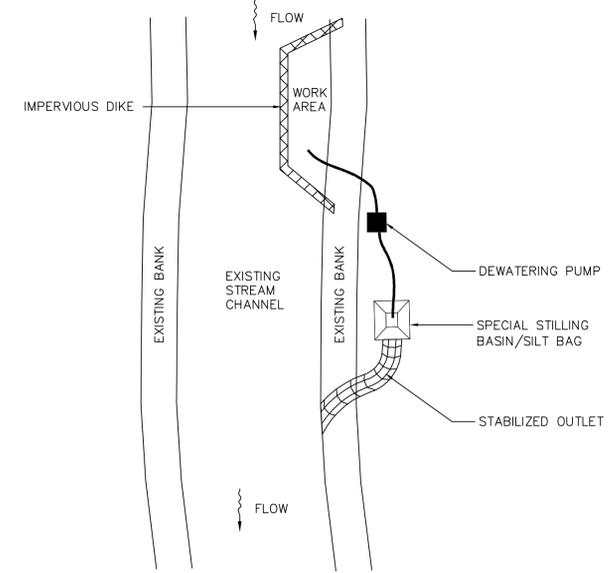
THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A SUFFICIENT QUANTITY OF BAGS TO CONTAIN SILT FROM PUMPED EFFLUENT DURING CONSTRUCTION.

**IMPERVIOUS DIKE**

THE IMPERVIOUS DIKE SHALL NOT PERMIT SEEPAGE OF WATER INTO THE CONSTRUCTION SITE OR CONTRIBUTE TO SILTATION OF THE STREAM. THE IMPERVIOUS DIKE SHALL BE CONSTRUCTED OF AN ACCEPTABLE MATERIAL IN THE LOCATIONS NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

ACCEPTABLE MATERIALS SHALL INCLUDE BUT NOT BE LIMITED TO SHEET PILES, SANDBAGS, AND/OR THE PLACEMENT OF AN ACCEPTABLE SIZE STONE LINED WITH POLYPROPYLENE OR OTHER IMPERVIOUS FABRIC.

EARTH MATERIAL SHALL NOT BE USED TO CONSTRUCT AN IMPERVIOUS DIKE WHEN IT IS IN DIRECT CONTACT WITH THE STREAM UNLESS VEGETATION CAN BE ESTABLISHED BEFORE CONTACT WITH THE STREAM TAKES PLACE.



**EXAMPLE OF PUMP-AROUND OPERATION**  
NOT TO SCALE

PRELIMINARY  
NOT FOR CONSTRUCTION

K:\WVA\_LAB\10104000\_Holmes Run\DETAILED.dwg

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Engineering, Planning, and Environmental Consultants

CLIENT: **CITY OF ALEXANDRIA**

TITLE: **PUMP-AROUND DETAILS**

DATE: FEB 2011  
HORIZONTAL SCALE: AS NOTED  
VERTICAL SCALE: AS NOTED  
DRAWN BY: NJM  
DESIGNED BY: JD  
CHECKED BY: KVVH

PROJECT: **HOLMES RUN CHAMBLISS CROSSING**

ATTACHED REFERENCE FILES: \_\_\_\_\_

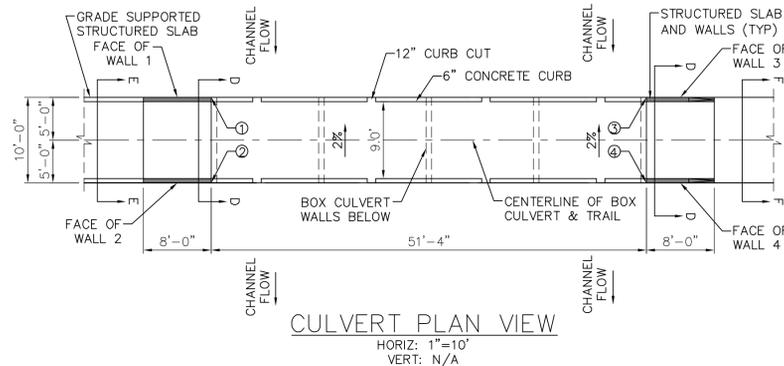
JOB NUMBER: 110104000

SHEET NUMBER: **8** OF **13**

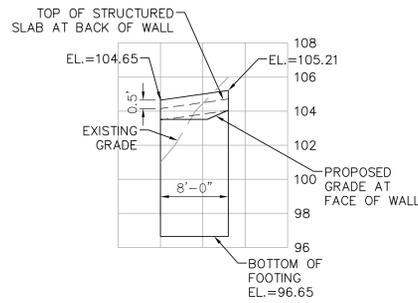
May 12, 2011 - 12:45pm By: gscummit

**STRUCTURAL GENERAL NOTES:**

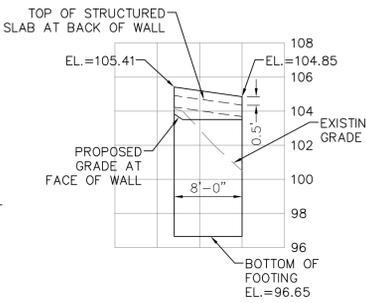
- DESIGN CRITERIA:  
AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION  
AASHTO GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, 2009 EDITION  
VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT), 2007 ROAD AND BRIDGE SPECIFICATIONS
- DESIGN LOADS:  
PEDESTRIAN LIVE LOAD: 90 PSF  
VEHICULAR LIVE LOAD: 5 TON VEHICLE (10 FOOT AXLE SPACING)
- PRELIMINARY DESIGN OF FOUNDATIONS ARE BASED ON THE FOLLOWING SOIL PARAMETERS:  
DRY UNIT WEIGHT: 120 PCF  
SUBMERGED UNIT WEIGHT: 100 PCF  
FRICTION ANGLE: 28.0 DEGREES  
AT REST PRESSURE COEFFICIENT: 0.53  
ALLOWABLE BEARING PRESSURE: 2,500 PSF  
  
CONTRACTOR SHALL VERIFY SOIL PARAMETERS PRIOR TO CONSTRUCTION, AND SHALL NOTIFY ENGINEER OF ANY DIFFERING CONDITIONS. CONSTRUCTION SHALL NOT PROCEED WITHOUT THE APPROVAL OF THE ENGINEER.
- CONCRETE AND REINFORCEMENT FOR THE BOX CULVERT SHALL BE IN ACCORDANCE WITH THE VDOT ROAD AND BRIDGE SPECIFICATIONS AND THE VDOT STANDARD DETAILS.
- CONCRETE FOR THE WALLS AND STRUCTURED SLABS SHALL CONFORM TO THE REQUIREMENTS OF VDOT ROAD AND BRIDGE SPECIFICATION SECTION 217 FOR CLASS A4.
- ALL REINFORCEMENT SHALL BE GRADE 60 AND SHALL CONFORM TO THE REQUIREMENTS OF VDOT ROAD AND BRIDGE SPECIFICATION SECTION 223. CLEAR DIMENSIONS FROM FACE OF CONCRETE TO MAIN STEEL SHALL BE AS SHOWN ON THE DRAWINGS. WHERE CLEAR DIMENSION IS NOT SHOWN, THE GUIDELINES IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION SHALL BE USED.
- CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI PRIOR TO THE REMOVAL OF FORMWORK.
- CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, PROTECTING, AND RELOCATING AS REQUIRED, WITH THE APPROVAL OF THE ENGINEER, ALL SERVICE AND UTILITIES IN THE VICINITY OF THE WORK SITE. ALL EXCAVATIONS SHALL BE CARRIED OUT WITH EXTREME CAUTION.
- CONSTRUCTION OF BOX CULVERTS AND WALLS SHALL BE IN ACCORDANCE WITH VDOT ROAD AND BRIDGE SPECIFICATIONS, SECTION 302, EXCEPT AS MODIFIED BY THESE PLANS AND NOTES.
- THE BOX CULVERT SHALL BE CONSTRUCTED PER THE VDOT STANDARD DETAILS INCLUDED IN THIS PLAN, EXCEPT, THE VDOT STANDARD WING WALLS SHALL NOT BE CONSTRUCTED. THE NOSING FOR THE INTERIOR WALLS OF THE CULVERTS FOR BOTH THE UPSTREAM AND DOWNSTREAM ENDS SHALL BE CONSTRUCTED PER THE VDOT DETAILS SHOWN FOR THE UPSTREAM END OF THE CULVERT WITH WING WALL REMOVED. THE CURB AND EDGE OF TOP SLAB SHALL BE PER THE VDOT DETAILS SHOWN FOR THE DOWNSTREAM END EXCEPT THE CURB SHALL BE 6"x6".
- ALL EXPOSED CONCRETE SHALL RECEIVE A CLASS 2 FINISH PER VDOT ROAD AND BRIDGE SPECIFICATION SECTION 404.07 (b) UNLESS NOTED OTHERWISE.
- THE TOP OF THE BOX CULVERT TOP SLAB AND THE TOP SURFACE OF THE STRUCTURED SLABS ARE THE WEARING SURFACE FOR THE TRAIL, AND SHALL BE CONSTRUCTED TO THE LINE AND GRADE SHOWN IN THESE PLANS. THE WEARING SURFACE OF CONCRETE STRUCTURES SHALL RECEIVE A CLASS 7 FINISH PER VDOT ROAD AND BRIDGE SPECIFICATION SECTION 404.07 (g).
- ALL EXPOSED EDGES OF STRUCTURED SLAB SHALL HAVE A 3/4" x 3/4" CHAMFER.
- THE WALLS AND STRUCTURED SLAB SHALL BE TIED INTO THE BOX CULVERT, AND THE STRUCTURED SLAB ON GRADE SHALL BE TIED INTO THE STRUCTURED SLAB AND WALLS WITH 4'-0" #5 BARS CENTERED ON THE COLD JOINT. THE #5 BARS SHALL BE SPACED AND LOCATED WITH THE BARS IN THE WALLS AND STRUCTURED SLABS.
- CHANNEL EXCAVATION WITHIN THE ACTIVE, EXISTING CHANNEL SHALL ONLY BE PERFORMED IN DRY OR ISOLATED SECTIONS OF THE CHANNEL. DRY OR ISOLATED SECTIONS OF THE CHANNEL WILL PERTAIN TO THE DIVERSION OF FLOWING WATER AROUND THE WORK AREA. A VIABLE DIVERSION METHOD SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL WHEN WORK IS CONCURRENT WITH FLOWING WATER. IF THE DIVERSION METHOD REQUIRES AN ENGINEERED SYSTEM, THE SYSTEM SHALL BE ENGINEERED, SIGNED, AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF VIRGINIA.
- ALIGNMENT REFERENCE LINE IS AT FACE OF WALL.
- CONTROL JOINTS SHALL BE CONSTRUCTED AT 10'-0" ON CENTER, BEGINNING AT END OF WING WALL, IN GRADE SUPPORTED STRUCTURED SLAB AND SHALL CONFORM TO THE REQUIREMENTS OF VDOT ROAD AND BRIDGE SPECIFICATION SECTION 504.03 (a) 1.
- CONTROL JOINTS IN GRADE SUPPORTED STRUCTURED SLAB SHALL EXTEND UP THE FACE, ACROSS THE TOP, AND DOWN THE BACK OF THE CURB.
- THE GRADING FOR THE GRADE SUPPORTED STRUCTURED SLAB AND THE BEDDING MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF VDOT ROAD AND BRIDGE SPECIFICATION SECTION 504.



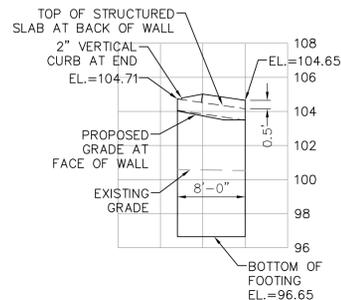
POINT	DESCRIPTION	NORTHING	EASTING	ELEVATION
①	TOP OF CURB	6,988,561.63	11,871,757.02	104.65
②	TOP OF CURB	6,988,551.71	11,871,758.28	104.85
③	TOP OF CURB	6,988,568.12	11,871,807.94	104.65
④	TOP OF CURB	6,988,558.20	11,871,809.20	104.85



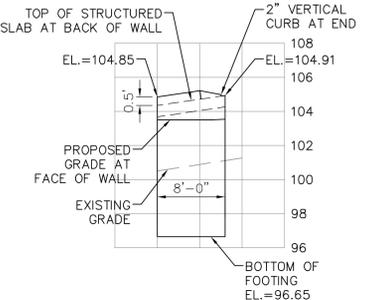
**WALL 1 PROFILE**  
STANDING UPSTREAM  
LOOKING DOWNSTREAM  
HORIZ: 1"=10'  
VERT: 1"=5'



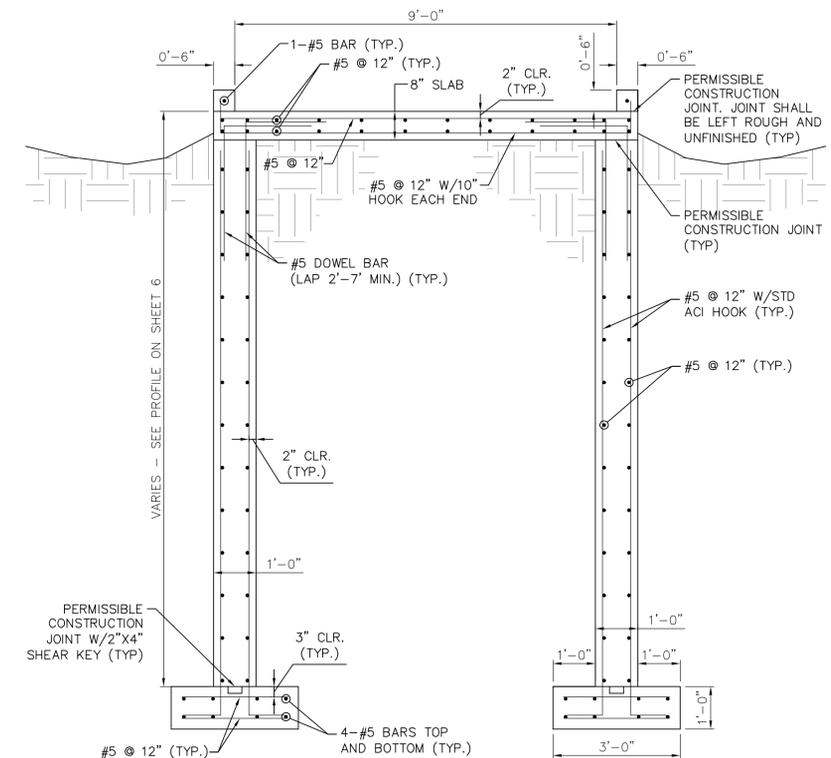
**WALL 2 PROFILE**  
STANDING DOWNSTREAM  
LOOKING UPSTREAM  
HORIZ: 1"=10'  
VERT: 1"=5'



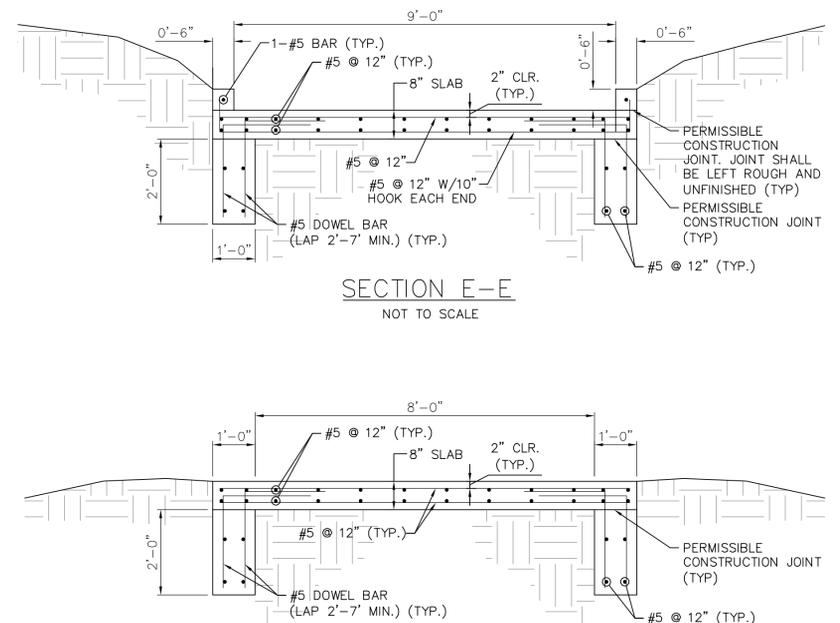
**WALL 3 PROFILE**  
STANDING UPSTREAM  
LOOKING DOWNSTREAM  
HORIZ: 1"=10'  
VERT: 1"=5'



**WALL 4 PROFILE**  
STANDING DOWNSTREAM  
LOOKING UPSTREAM  
HORIZ: 1"=10'  
VERT: 1"=5'



**SECTION D-D**  
NOT TO SCALE



**SECTION E-E**  
NOT TO SCALE

**SECTION F-F**  
NOT TO SCALE

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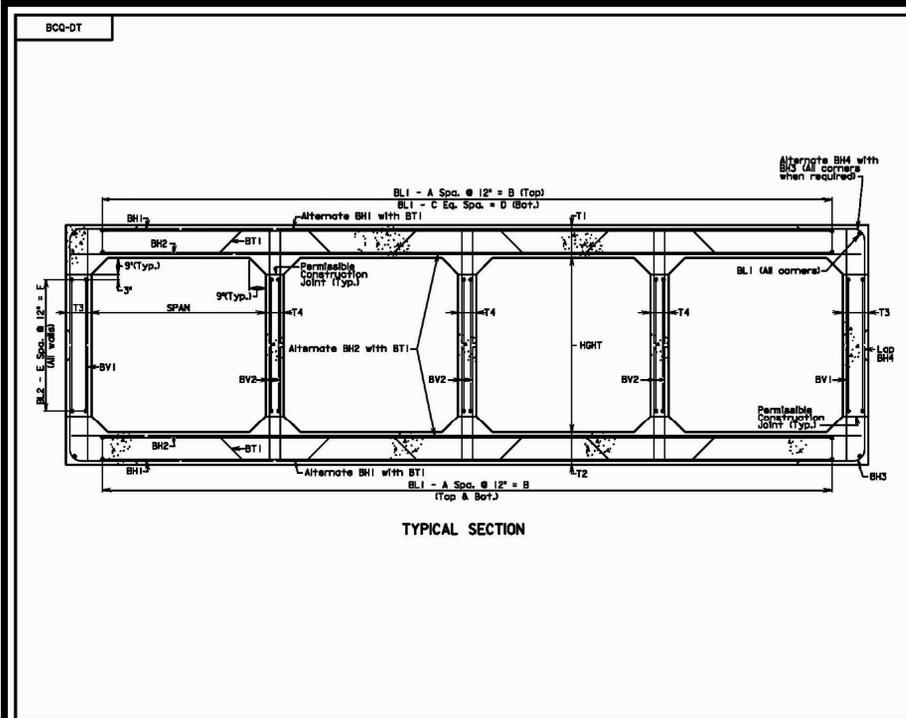
TITLE: **WALLS-SLAB PROFILE AND DETAILS**

DATE: FEB 2011  
HORIZONTAL SCALE: AS NOTED  
VERTICAL SCALE: AS NOTED  
DRAWN BY: NJM  
DESIGNED BY: JD  
CHECKED BY: KVV

PROJECT: **HOLMES RUN CHAMBLISS CROSSING**

ATTACHED REFERENCE FILES: \_\_\_\_\_  
JOB NUMBER: 110104000  
SHEET NUMBER: 9 of 13

May 12, 2011 - 12:45pm By: sean.millett



**GENERAL NOTE**

Capacity: HS20-44 Loading and Alternate Military Loading.

Specifications:

Construction - Va. Department of Transportation Road and Bridge Specifications, 2007.

Design - AASHTO Standard Specifications for Highway Bridges, 1983 including Interim Specifications 1984, 1985 and VDOT Modifications, using Load Factor Design.

All concrete shall be Class A4.

Deformed reinforcing bars shall conform to ASTM A615, Grade 60. Reinforcing bar dimensions on the detailed drawings are to centers of bars except where otherwise noted and are subject to fabrication and construction tolerances.

Construction joints shall be constructed and bonded in accordance with the current Road and Bridge Specifications.

Barrels more than 35' in length shall be poured in sections by providing vertical construction joints, not exceeding 25' between joints nor more than 30' from ends of barrels.

\*\* All bends shall be made with a pin diameter as listed in TABLE A except for Bars BH3 & BH4 which shall have a pin diameter of 24 bar diameters.

Dimensions on bar diagrams are out-to-out of bars. Bars are straight and #4 in size unless otherwise shown. BL2 shall be #3 in size.

The number of BL1 & BL2 bars shown in the table is the number of longitudinal bars shown in the Typical Section and may not equal the total number of bars required. BL1 & BL2 shall have a lap of 30 bar diameters at splices. At construction joints, first placed bars shall project 30 bar diameters beyond the joint. Estimated QUAN./LF shown for reinforcing steel does not include quantity for laps of BL1 & BL2 bars. The additional weight per longitudinal lap is shown in the table.

The centers of main reinforcing bars shall be 2" from the face of the concrete.

When concrete protective coating is required, all steel shall be epoxy-coated. All reinforcing steel for culverts under 0 to 2 foot fills shall be epoxy-coated.

At the Contractor's option, BV1 & BV2 bars may be spliced at the permissible construction joint in order to facilitate construction. No additional compensation shall be provided for the increase in reinforcing steel quantity due to the splices.

Bar HW2 shall be 4" less than culvert height in length.

Headwall quantities shown assume wingwalls are to be built at a 45° angle to the headwall.

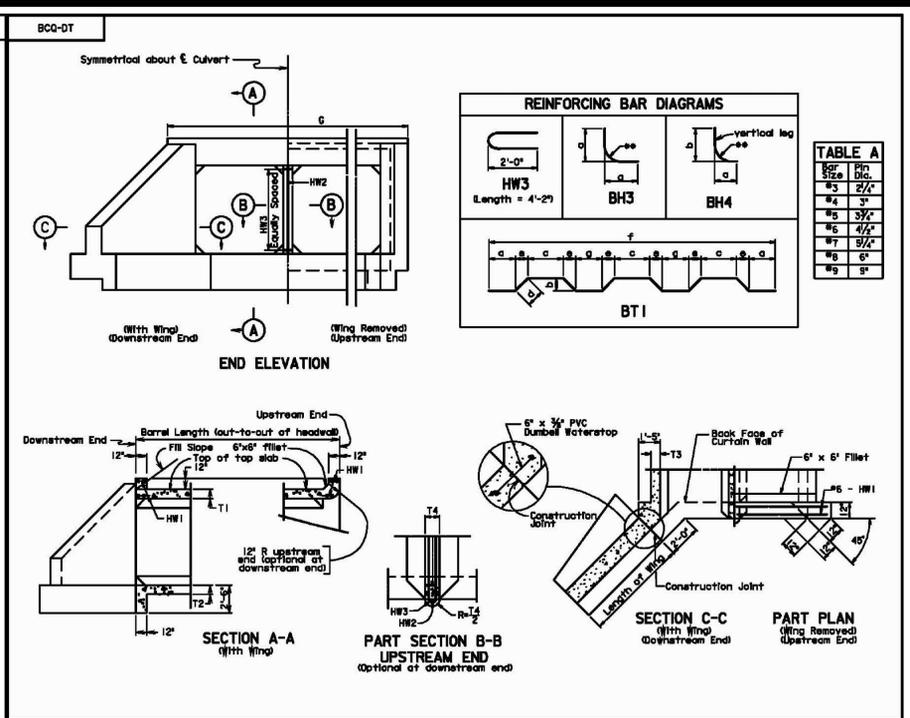
The designs are applicable to the fill height and other conditions indicated. Any change in the conditions invalidates these designs.

Wingwalls referenced by letter apply when the acceptable foundation levels is the same for both box and wing. If foundation levels are different, the height of the wingwall shall be adjusted by selection of another lettered wingwall of appropriate height. For wingwall details, refer to standard series BCW for the appropriate fill slope.

For details of extending details boxes, refer to Standard BCE-01.

For modification of details for skewed culverts, see the Skewed Box Details included in the road plans.

This standard shall be used with the BCQ standard series.



VDOT ROAD AND BRIDGE STANDARDS		SPECIFICATION REFERENCE	
SHEET 1 OF 3	REVISION DATE		
1005.01			

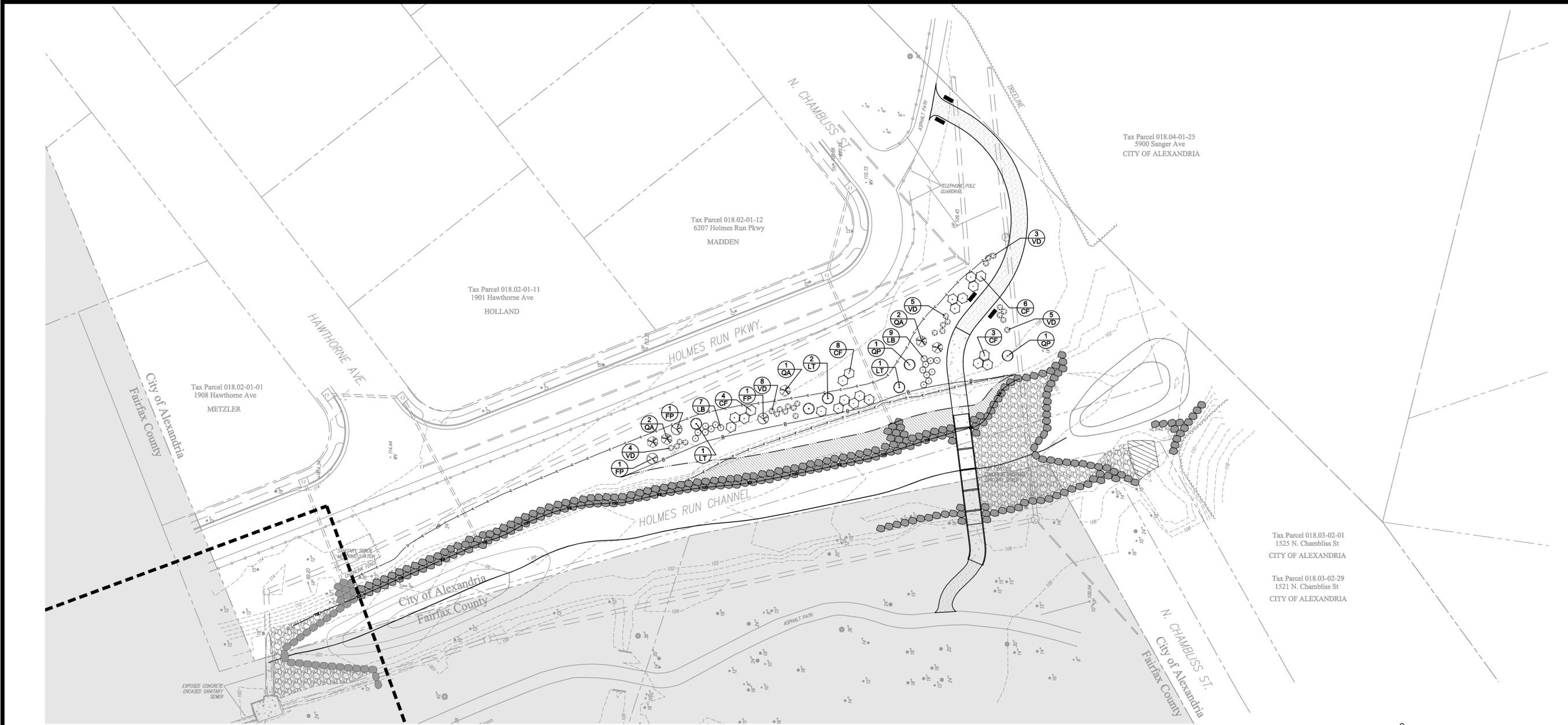
VDOT ROAD AND BRIDGE STANDARDS		SPECIFICATION REFERENCE	
REVISION DATE	SHEET 2 OF 3		
10/09	1005.02		

VDOT ROAD AND BRIDGE STANDARDS		SPECIFICATION REFERENCE	
REVISION DATE	SHEET 3 OF 3		
1005.03			

REINFORCING STEEL														
QUADRUPLE BOX CULVERTS 0 TO 2 FT. FILLS														
FOR TYPICAL SECTION, NOTES AND OTHER DETAILS, REFER TO STANDARD BCQ-DT.														
SPAN/HEIGHT	T1	T2	T3	T4	BH1	BH2	BH3	BH4	BV1	BV2	HW1	HW2	HW3	HW4
(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)
3	3	3	3	3	13	13	13	13	4	4	12	12	12	12
4	4	4	4	4	13	13	13	13	4	4	12	12	12	12
5	5	5	5	5	13	13	13	13	4	4	12	12	12	12
6	6	6	6	6	13	13	13	13	4	4	12	12	12	12
7	7	7	7	7	13	13	13	13	4	4	12	12	12	12
8	8	8	8	8	13	13	13	13	4	4	12	12	12	12
9	9	9	9	9	13	13	13	13	4	4	12	12	12	12
10	10	10	10	10	13	13	13	13	4	4	12	12	12	12
11	11	11	11	11	13	13	13	13	4	4	12	12	12	12
12	12	12	12	12	13	13	13	13	4	4	12	12	12	12
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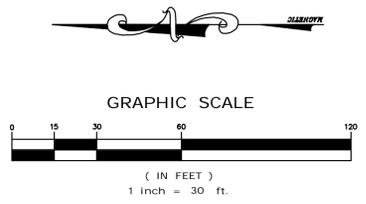
May 12, 2011 - 12:45pm By: sean.millett

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**TREES AND SHRUBS - BARE ROOT / TUBELINGS  
(ZONE B AND C - SEE DETAIL)**

SYMBOL	BOTANICAL NAME	COMMON NAME	TREE/SHRUB	SPACING	QTY.
⊙	QUERCUS PRINUS	CHESTNUT OAK	TREE	4'-5'	2
⊕	CORNUS FLORIDA	FLOWERING DOGWOOD	TREE	4'-5'	21
⊙	LINDERA BENZOIN	SPICEBUSH	SHRUB	4'-5'	16
⊙	LIRIODENDRON TULIPIFERA	YELLOW POPLAR	TREE	4'-5'	4
⊕	FRAXINUS PENNSYLVANICA	GREEN ASH	TREE	4'-5'	3
⊙	QUERCUS ALBA	WHITE OAK	TREE	4'-5'	5
⊕	VIBURNUM DENTATUM	SOUTHERN ARROWWOOD	SHRUB	4'-5'	25



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 Engineering, Planning, and Environmental Consultants

CLIENT: **CITY OF ALEXANDRIA**

TITLE: **LANDSCAPE PLAN**

DATE: FEB 2011  
 HORIZONTAL SCALE: AS NOTED  
 VERTICAL SCALE: AS NOTED  
 DRAWN BY: NUM  
 DESIGNED BY: JD  
 CHECKED BY: KVH

PROJECT: **HOLMES RUN CHAMBLISS CROSSING**

ATTACHED REFERENCE FILES: \_\_\_\_\_

JOB NUMBER: 110104000

SHEET NUMBER: **11** OF **13**

### TREES AND SHRUBS - BARE ROOT / TUBELINGS (ZONE B AND C - SEE DETAIL)

COMMON NAME	BOTANICAL NAME	TREE/SHRUB	SPACING	ZONE	
				B	C
GREEN ASH	FRAXINUS PENNSYLVANICA	SHRUB	5'	■	■
ALTERNATE-LEAF DOGWOOD	CORNUS ALTERNIFOLIA	TREE	5'	■	■
RED MAPLE	ACER RUBRUM	TREE	5'	■	■
YELLOW POPLAR	LIRIODENDRON TULIPIFERA	TREE	5'	■	■
SOUTHERN ARROWWOOD	VIBURNUM DENTATUM	SHRUB	5'	■	■
VIRGINIA WILLOW	ITEA VIRGINICA	SHRUB	5'	■	■
HAZEL ALDER	ALNUS SERRULATA	TREE	5'	■	■

NO SPECIES TO COMPRISE MORE THAN 20%  
TUBELINGS = 18" TO 24" IN HEIGHT

### HERBACEOUS PLUGS (ZONES D AND E - SEE DETAIL)

COMMON NAME	BOTANICAL NAME	SPACING
SOFT RUSH	JUNCUS EFFUSUS	18" O.C.
ROSE MALLOW	HIBISCUS MOSCHEUTOS	18" O.C.
SWEETFLAG	ACORUS CALAMUS	18" O.C.
SEDGE	CAREX STRICTA	18" O.C.
BLUE-FLAG IRIS	IRIS VIRGINICA	18" O.C.
SWAMP MILKWEED	ASCLEPIAS INCARNATA	18" O.C.
WOOL-GRASS/BULL RUSH	SCIRPUS CYPERINUS	18" O.C.
IRON WEED	VERNONIA NOVEBORACENSIS	18" O.C.

NO SPECIES TO COMPRISE MORE THAN 20%  
SHALL BE A MINIMUM OF 2-INCHES

### WOODY VEGETATION - LIVE STAKING (ZONES D AND E - SEE DETAIL)

COMMON NAME	BOTANICAL NAME	PERCENTAGE	SPACING	ZONE	
				D	E
SILKY WILLOW	SALIX SERICEA	25	48"	■	■
SILKY DOGWOOD	CORNUS AMOMUM	25	48"	■	■
ELDERBERRY	SAMBUCUS CANADENSIS	25	48"	■	■
BUTTON BUSH	CEPHALANTHUS OCCIDENTALIS	25	48"	■	■

LIVE STAKES ARE 1/2" TO 3" IN DIAMETER AND 2'-3' IN LENGTH

### PERMANENT SEEDING - UPLAND SEED MIX (ZONE B - SEE DETAIL)

COMMON NAME	BOTANICAL NAME	PERCENTAGE
TALL COREOPSIS	COREOPSIS TRIPTERIS	20
TEN-PETALED SUNFLOWER	HELIANTHUS DECAPETALES	20
CUT-LEAVED CONEFLOWER	RUDBECKIA LACINIATA	30
UPLAND BENTGRASS	AGROSTIS PERENNANS	30

APPLICATION RATE 15 LBS/ACRE

### PERMANENT SEEDING - RIPARIAN SEED MIX (ZONES C, D AND E - SEE DETAIL)

COMMON NAME	BOTANICAL NAME	PERCENTAGE (%)
INDIAN GRASS	SORGHASTRUM NUTANS	10
VIRGINIA WILD RYE	ELYMUS VIRGINICUS	20
DEER TONGUE	DICHANTHELIUM CLANDESTINUM	10
SWEET WOODREED	CINNA ARUNDINACEA	5
FOX SEDGE	CAREX VULPINOIDEA	5
LURID SEDGE	CAREX LURIDA	5
FRANK'S SEDGE	CAREX FRANKII	5
COMMON RUSH	JUNCUS EFFUSUS	5
PATH RUSH	JUNCUS TENUIS	5
WOOL GRASS	SCIRPUS CYPERINUS	5
COMMON MILKWEED	ASCLEPIAS SYRIACA	3
SWAMP MILKWEED	ASCLEPIAS INCARNATA	3
SPOTTED JOE-PYE WEED	EUPATORIUM MACULATUM	3
NEW YORK IRONWEED	VERONIA NOVEBORACENSIS	2
PENNSYLVANIA SMARTWEED	POLYGONUM PENNSYLVANICUM	4
HEATH ASTER	SYMPHYOTRICHUM PILOSUM	4
GRASS-LEAVED GOLDENROD	EUTHAMIA GRAMINIFOLIA	3
BLUESTEMMED GOLDENROD	SOLIDAGO CAESIA	3

APPLICATION RATE 20 LBS/ACRE

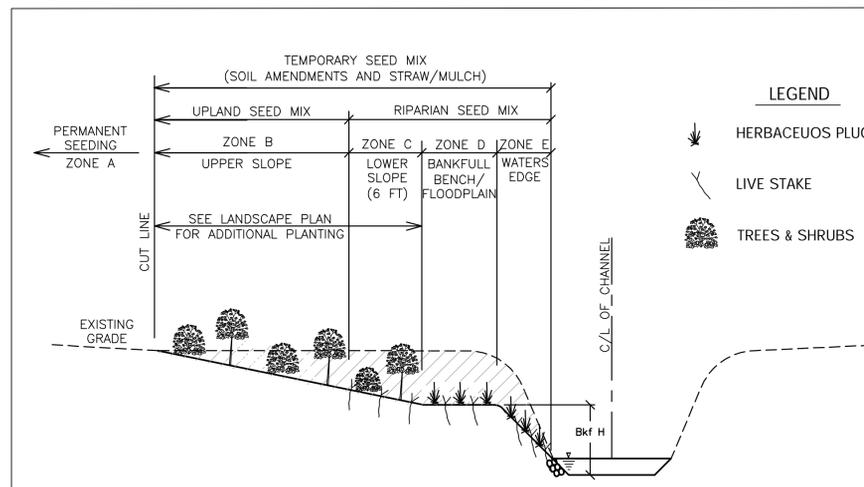
### PERMANENT SEEDING - OUTSIDE OF CUT SLOPE SEED MIX (ZONE A)

COMMON NAME	BOTANICAL NAME	PERCENTAGE
KY-31 TALL FESCUE	FESTUCA ARUNDINACEA	50
HARD FESCUE	FESTUCA OVINA	50

APPLICATION RATE 200 LBS/ACRE

### TEMPORARY SEEDING (ALL ZONES)

COMMON NAME	BOTANICAL NAME	RATE (LB/ACRE)	SEEDING WINDOW	
RYE GRAIN	SECALE CEREALE	15	AUG 15	MAY 1
BROWNTOP MILLET	PANICUM RAMOSUM	15	MAY 1	AUG 15



### PLANTING ZONE AS SHOWN IN BUFFER DETAIL

A - UPLAND (MEADOW AREA)	UPLAND SEED MIX
B - UPPER SLOPE BUFFER	TREES AND SHRUBS
	UPLAND SEED MIX
C - LOWER SLOPE (LOWER 6' OF BANK)	LIVE STAKES
	TREES AND SHRUBS
	RIPARIAN SEED MIX
D - BANKFULL BENCH/FLOODPLAIN	LIVE STAKES
	HERBACEOUS PLUGS
	RIPARIAN SEED MIX
E - WATER'S EDGE	LIVE STAKES
	HERBACEOUS PLUGS
	RIPARIAN SEED MIX

### SOIL AMENDMENTS

APPLY SOIL AMENDMENTS ACCORDING TO THE FOLLOWING TABLE AT 700 LBS/ACRE:

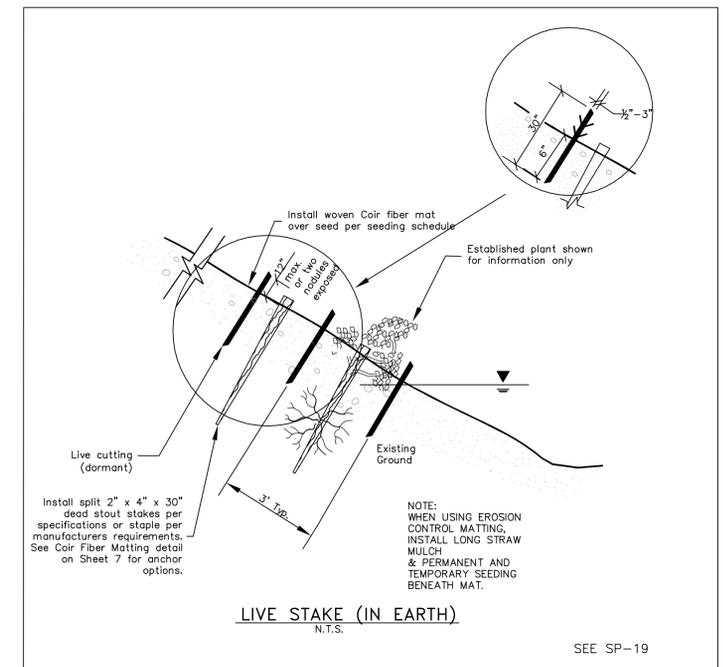
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MULCH  
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING, WITH BIODEGRADABLE NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE  
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE PER SECTION 6.10 OF NCDENR EROSION AND SEDIMENT CONTROL DESIGN MANUAL.

NOTE: GROUND COVER SHALL BE ESTABLISHED ON EXPOSED SLOPES WITHIN 21 WORKING DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING.

- ### GENERAL NOTES
- IN ALL DISTURBED AREAS ZONES B, C, D, AND E SHOULD BE RAKED/ROUGHENED (A MINIMUM OF 5"), A 3" BLANKET OF CERTIFIED ORGANIC COMPOST APPLIED, SEEDED (PERMANENT AND TEMPORARY), STRAWED, AND THEN COVERED WITH EROSION CONTROL MATTING PER THE MANUFACTURERS RECOMMENDATIONS. ONCE THE MATTING IS DOWN INSTALL THE LIVE STAKES AND HERBACEOUS PLUGS THROUGH THE MATTING.
  - IMMEDIATELY FOLLOWING THE PLACEMENT OF THE PERMANENT SEED, THE CONTRACTOR SHALL HYDROSEED ACCORDING TO ONE OF THE FOLLOWING METHODS:
    - APPLY FIBERMULCH AND ANNUAL RYE (LOLIUM MULTIFLORUM) AT A RATE OF 60 LB/ACRE OVER THE DRILLED SEED AREA. WINTER WHEAT COULD BE SUBSTITUTED FOR ANNUAL RYE IF SEEDING AFTER OCTOBER 1ST. CLEAN WHEAT STRAW MAY BE USED IN PLACE OF FIBERMULCH.
    - ORGANIC COMPOST MAY BE USED INSTEAD OF DRILLING. IF ORGANIC COMPOST IS USED, THEN HYDROSEED CAN BE SOWN DIRECTLY ONTO THE COMPOST AND NO ADDITIONAL MULCHING IS REQUIRED.
  - COIR MATS MUST BE USED IN STREAM BANKS AND STEEP SLOPE AREAS.
  - O.C. = ON-CENTER
  - IF DROUGHT CONDITIONS EXIST THE CONTRACTOR WILL WATER THE INSTALLED VEGETATION WITH WATER FROM THE CREEK TO ENSURE 85% SURVIVAL AT THE END OF THE 1-YEAR WARRANTY PERIOD.



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CLIENT: **CITY OF ALEXANDRIA**

TITLE: **LANDSCAPE NOTES AND DETAILS**

DATE: FEB 2011  
HORIZONTAL SCALE: AS NOTED  
VERTICAL SCALE: AS NOTED  
DRAWN BY: NJM  
DESIGNED BY: JD  
CHECKED BY: KVH

PROJECT: **HOLMES RUN  
CHAMBLISS CROSSING**

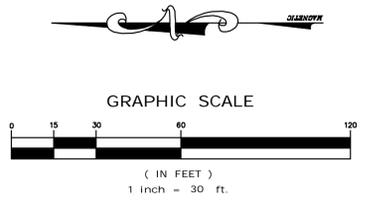
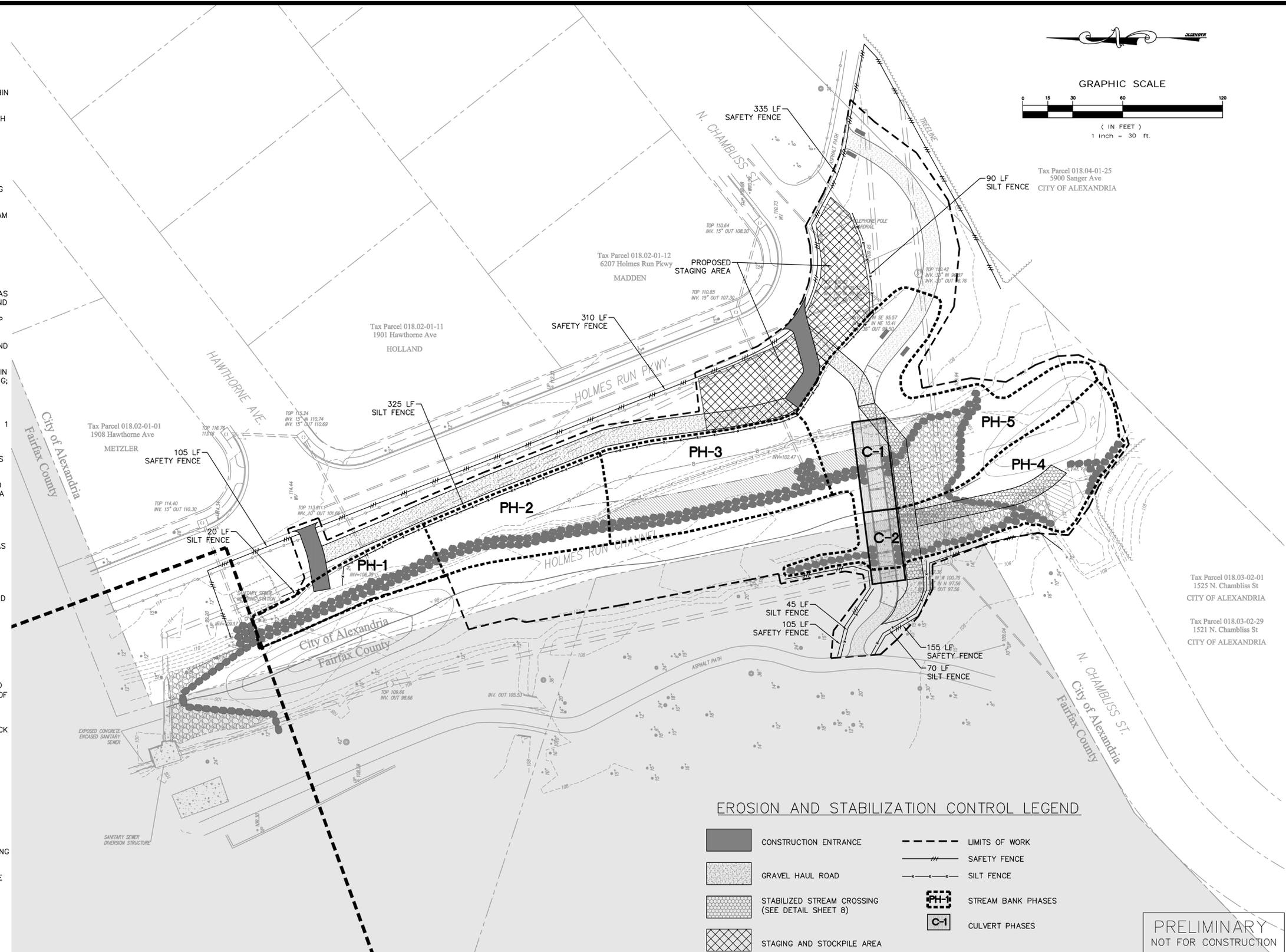
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JOB NUMBER: 110104000

SHEET NUMBER: **12** OF **13**

**EROSION CONTROL:**

- ERECTOR OF SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH STATE AND LOCAL EROSION CONTROL REGULATIONS.
- THE CONTRACTOR SHALL INSTALL AND MAINTAIN THROUGHOUT THE PROJECT CONSTRUCTION ALL EROSION CONTROL MEASURES SHOWN WITHIN THESE PLANS IN ACCORDANCE WITH APPLICABLE STATE EROSION AND SEDIMENT CONTROL REGULATIONS. THE CONTRACTOR MAY ADJUST LOCATION OF HAUL ROADS AND SILT FENCE AS NECESSARY AFTER SUCH PROPOSED CHANGES HAVE BEEN APPROVED BY THE ENGINEER.
- ALL CONSTRUCTION WORK SHALL BE IN COMPLIANCE WITH REGULATIONS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER GENERAL PERMIT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING A RAIN GAUGE ON THE PROJECT SITE & FOR RECORDING DAILY RAINFALL AMOUNTS DURING CONSTRUCTION.
- SILT FENCE SHOULD BE LOCATED BETWEEN THE HAUL ROAD AND STREAM WHERE HAUL ROADS ARE LOCATED NEAR A SECTION OF STREAM THAT WILL NOT BE WORKED ON AS PART OF THIS PROJECT, OR WILL NOT BE WORKED ON WITHIN A WEEK OF CONSTRUCTING THE HAUL ROAD.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED CONTINUOUSLY, RELOCATED WHEN AND AS NECESSARY, AND SHALL BE CHECKED FOR MAINTENANCE ISSUES AFTER EVERY RAINFALL.
- STABILIZATION IS THE BEST FORM OF EROSION CONTROL. SEEDED AREAS SHALL BE CHECKED REGULARLY AND SHALL BE WATERED, RESEEDED AND MULCHED AS NECESSARY TO OBTAIN A DENSE STAND OF GRASS. ALL DISTURBED AREAS THAT ARE NOT OTHERWISE STABILIZED SHALL BE TOP SOILED AND SEEDED, TEMPORARILY OR PERMANENTLY IN ACCORDANCE WITH THE SEDIMENT CONTROL REGULATIONS. PERMANENT SEEDING AND GRASS ESTABLISHMENT IS REQUIRED PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.
- CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED AREAS WITHIN 7 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING; PERMANENT GROUND COVER FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT. APPLY TEMPORARY STABILIZATION TO AREAS THAT WILL REMAIN DORMANT FOR MORE THAN 30 DAYS. APPLY PERMANENT STABILIZATION TO AREAS THAT WILL REMAIN DORMANT FOR MORE THAN 1 YEAR.
- CONTRACTOR SHALL KEEP ALL SURROUNDING PUBLIC ROADWAYS AND DRAINAGE SYSTEMS FREE FROM DIRT, MUD, AND CONSTRUCTION DEBRIS AT ALL TIMES. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE 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.
- CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL ACCESS LOCATIONS PER THE PLANS AND SPECIFICATIONS. WHEN A CRUSHED STONE CONSTRUCTION ENTRANCE HAS BEEN COVERED WITH SOIL OR HAS BEEN PUSHED INTO THE SOIL BY CONSTRUCTION TRAFFIC, IT SHALL BE REPLACED WITH A DEPTH OF STONE EQUAL TO THAT OF THE ORIGINAL APPLICATION.
- ALL DRAINAGE INLETS SHALL BE PROTECTED FROM SILTATION. INEFFECTIVE PROTECTION DEVICES SHALL BE IMMEDIATELY REPLACED AND THE INLET CLEANED. FLUSHING IS NOT AN ACCEPTABLE METHOD OF CLEANING.
- DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR 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.
- ALL HAUL ROAD LOCATIONS ONSITE MAY BE ADJUSTED IN THE FIELD TO PROTECT EXISTING TREES LARGER THAN 6" DBH. THE FINAL STAKING OF THE HAUL ROADS SHALL BE APPROVED BY THE ENGINEER BEFORE CLEARING COMMENCES.
- SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, TEMPORARY SILT CHECK DAMS, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.
- STABILIZATION MEASURES SHALL BE APPLIED TO STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
- DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL EROSION CONTROL MEASURES NOT SHOWN ON THE PLANS BUT NECESSARY TO CONTROL EXCESS SEDIMENT, IF DETERMINED TO BE NECESSARY BY THE DESIGNER.
- THE CONTRACTOR SHALL CONSTRUCT TO A STABLE FORM BEFORE MOVING OUT OF THE WORK AREA PER THE SHOWN PHASING PLAN.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER SITE ACCEPTANCE.



**EROSION AND STABILIZATION CONTROL LEGEND**

- CONSTRUCTION ENTRANCE
- GRAVEL HAUL ROAD
- STAGING AND STOCKPILE AREA
- LIMITS OF WORK
- SAFETY FENCE
- SILT FENCE
- STREAM BANK PHASES
- CULVERT PHASES

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CLIENT: **CITY OF ALEXANDRIA**

TITLE: **EROSION AND SEDIMENT CONTROL PLAN**

DATE: FEB 2011  
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 DESIGNED BY: JD  
 CHECKED BY: KVV

PROJECT: **HOLMES RUN CHAMBLISS CROSSING**

ATTACHED REFERENCE FILES: \_\_\_\_\_

JOB NUMBER: 110104000

SHEET NUMBER: **13** OF **13**