

NOTE: ALL ABBREVIATIONS MAY NOT APPLY TO THIS PROJECT.			
&	AND	L	LENGTH
ADDL	ADDITIONAL	LBS	POUNDS
ADDM	ADDENDUM	LF	LINEAR FEET
ADDN	ADDITION	LIN	LINEAR
ADJ	ADJACENT	LP	LIGHT POLE
AFF	ABOVE FINISHED FLOOR		
AFG	ABOVE FINISHED GRADE	MAX	MAXIMUM
AGGR	AGGREGATE	MAS	MASONRY
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	MATL	MATERIAL
APPD	APPROVED	MECH	MECHANICAL
APPROX	APPROXIMATE	MEMB	MEMBRANE
ARCH	ARCHITECTURE, ARCHITECTURAL	MFR	MANUFACTURER
ASPH	ASPHALT	MH	MANHOLE
AV	AVERAGE	MIN	MINIMUM
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MISC	MISCELLANEOUS
AWS	AMERICAN WELDING SOCIETY		
AWWA	AMERICAN WATER WORKS ASSOCIATION	N	NORTH (COORDINATE)
		N/A	NOT APPLICABLE
BIT	BITUMINOUS	NE	NORTH EAST
BL	BUILDING LINE	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
BLDG	BUILDING	NG	NATURAL GAS
BH	BORING HOLE	NIC	NOT IN CONTRACT
BM	BENCHMARK	NO	NUMBER
BOT	BOTTOM	NOM	NOMINAL
BRKT	BRACKET	NPDES	NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM
		NW	NORTHWEST
C	CHORD LENGTH (CURVE)		
CB	CATCH BASIN	OC	ON CENTER
C/C	CENTER TO CENTER	OD	OUTSIDE DIAMETER
CF	COLUMN FOOTING	OF	OUTSIDE FACE
C&G	CURB AND GUTTER	OPNG	OPENING
CI	CURB INLET	OPP	OPPOSITE
CIP	CAST IRON PIPE	ORIG	ORIGINAL
CIRC	CIRCLE	OSHA	OCCUPATIONAL SAFETY & HEALTH ACT
CL	CLASS, CENTERLINE, COLUMN LINE		
CLR	CLEAR	PAVT	PAVEMENT
CM	CENTIMETER	PC	POINT OF CURVATURE
CMP	CORRUGATED METAL PIPE	PD	PROCESS DRAIN
CMU	CONCRETE MASONRY UNIT	PI	POINT OF INTERSECTION
CO	COMPANY, CLEAN OUT	PL	PROPERTY LINE
COL	COLUMN	PP	UTILITY POLE
CONC	CONCRETE	PROC	PROCESS
CONT	CONTINUE, CONTINUOUS, CONTINUATION	PROP	PROPERTY
CONTR	CONTRACTOR	PSF	POUNDS PER SQUARE FOOT
COORD	COORDINATE	PSI	POUNDS PER SQUARE INCH
CPLG	COUPLING	PT	POINT OF TANGENCY
CULV	CULVERT	PW	POTABLE WATER
CY	CUBIC YARDS		
		R	RADIUS
D	DEGREE OF CURVATURE	RCP	REINFORCED CONCRETE PIPE
DEG	DEGREE	RD	ROAD
DEMO	DEMOLISH, DEMOLITION	REF	REFERENCE
DESC	DESCRIPTION	REINF	REINFORCED, REINFORCEMENT
DET	DETAIL	REQD	REQUIRED
DIA	DIAMETER	REV	REVISION
DI	DUCTILE IRON PIPE	ROW	RIGHT-OF-WAY
DIST	DISTANCE	RP	RADIUS POINT
DWG	DRAWING	RR	RAILROAD
		RVS	REVERSE
E	EAST (COORDINATE)		
EA	EACH	S	SOUTH (COORDINATE)
EF	EACH FACE	SAN	SANITARY
EL, ELEV	ELEVATION	SB	SOIL BORING
ELEC	ELECTRIC, ELECTRICAL	SCH	SCHEDULE
EOP	EDGE OF PAVEMENT	SD	STORM DRAIN
EQ	EQUAL	SE	SOUTHEAST
ETC	ET CETERA	SECT	SECTION
EW	EACH WAY	SHT	SHEET
EXGR	EXPOSED GRADE	SUPRT	SUPPORT
EXIST	EXISTING	SQ	SQUARE
EXP	EXPANSION	SSFM	SANITARY SEWER, FORCE MAIN
		SSMH	SANITARY SEWER MANHOLE
FC	FENCE CORNER	ST	STAINLESS STEEL
FDN	FOUNDATION	ST	STORM DRAIN
FES	FLARED END SECTION	STATN	STATION
F/F	FACE TO FACE	STD	STANDARD
FF	FINISHED FLOOR	STL	STEEL
FH	FIRE HYDRANT	SW	SOUTHWEST, SIDE WALK
FIN	FINISHED		
FLEX	FLEXIBLE	TDF	TURN DOWN FOOTING
FLG	FLANGE	T	TANGENT DISTANCE (CURVE), TELEPHONE LINE
FLR	FLOOR	T/EL	TOP OF CASTING ELEVATION
FM	FORCE MAIN, FACTORY MUTUAL	TOP OF FOOTING	
FP	FIRE PROTECTION	THK	THICK
FT	FOOT	T&B	TOP & BOTTOM
		TC	TOP OF CURB ELEVATION
G	GAS	TP	TOP OF PAVEMENT ELEVATION
GALV	GALVANIZED	TS	THICKENED SLAB
GC	GENERAL CONTRACTOR	TYP	TYPICAL
GI	GRATE INLET	TD	TOP OF DITCH
GM	GAS METER	TOW	TOP OF WALL
GR	GRADE (SLOPE)		
GV	GAS VALVE	UE	UNDERGROUND ELECTRICAL
		UON	UNLESS OTHERWISE NOTED
H	HORIZONTAL	USSS	UNITED STATES GEOLOGICAL SOCIETY
HC	HANDICAPPED	UT	UNDERGROUND TELEPHONE
HD	HEAVY DUTY		
HEX	HEXAGON	V	VERTICALLY, VERTICAL
HGT	HEIGHT	VA	VIRGINIA
HP	HIGH POINT	VCP	VITRIFIED CLAY PIPE
HYD	HYDRANT	VDOT	VIRGINIA DEPARTMENT OF TRANSPORTATION
		VIF	VERIFY IN FIELD
ID	INSIDE DIAMETER		
IE	INVERT ELEVATION	W	WEST, WATERLINE
IN	INCHES	WF	WALL FOOTING
INC	INCORPORATED	W/O	WITHOUT
INCL	INCLUDE	WS	WATER SURFACE
INV	INVERT	WT	WEIGHT
IW	INDUSTRIAL WASTE	WV	WATER VALVE
		WWF	WELDED WIRE FABRIC
JB	JUNCTION BOX	YD	YARD
K	KIPS		
KSF	KIPS PER SQUARE FOOT		
KSI	KIPS PER SQUARE INCH		

EXISTING		SURVEYED	
	CONTOUR MAJOR		2080
	CONTOUR MINOR		
EXISTING		PROPOSED	
	SANITARY SEWER		
	WATER		
	ELECTRIC		
	TELEPHONE		
	STREAM/SWALE		
	RIGHT-OF-WAY		
	PROPERTY LINE		
	SIDE OF CURB		
	EDGE OF ROAD		
	LIMITS OF TOPOGRAPHICAL SURVEY		
	BUILDING		
	ABANDONED PIPE		
	PERMANENT EASEMENT		
	CONSTRUCTION EASEMENT		
	CLEAN OUT		
	SANITARY MANHOLE		
	POWER POLE		
	TREE		
	FIRE HYDRANT		
	LIGHT POLE		
	WATER VALVE		
	ROAD SIGN		
	SILT FENCE		
	PERMANENT SEEDING		
	MULCH		
	TEMPORARY SEEDING		
	STRAW BALE/SILT FENCE PIT		
	STRUCTURAL STREAMBANK STABILIZATION		
	UTILITY STREAM CROSSING		

SHEET NO.	DESCRIPTION
GENERAL	
G001	COVER SHEET
G002	LEGEND SHEET
CIVIL	
C100	OVERALL PLAN
C101	PLAN & PROFILE – RIVER CROSSING
C102	PROPOSED SITE PLAN – SEWER LINE REPLACEMENT
C103	PROPOSED SITE PLAN – SEWER LINE REPLACEMENT
C104	JUNCTION BOXES _ PLAN AND SECTION
C501	TYPICAL CIVIL DETAILS
C502	TYPICAL CIVIL DETAILS

1. THE FIELD SURVEY WAS PROVIDED BY LUMSDEN ASSOCIATES, PC AND WAS PROVIDED ON THE SAME DATUM AS THE ACOE FLOOD REDUCTION PROJECT-NVGD 29. ALL ELEVATIONS IN THE DESIGN INCLUDING SEWER INVERT, RIM, ETC., IS PROVIDED ON THIS DATUM.
2. THE BASE MAPPING WAS TAKEN FROM THE AUTHORITY'S GIS AND IS DATUM NVGD 88.
3. CONTRACTOR SHALL FIELD VERIFY SIZE AND INVERTS OF ALL SANITARY SEWERS AND PROVIDE THIS INFORMATION AS PART OF THE SHOP DRAWING SUBMITTALS OF MANHOLES AND PIPES.
4. CONTRACTOR SHALL NOTIFY THE CITY OF ROANOKE PARKS AND RECREATION DEPARTMENT IN WRITING AT LEAST TWO WEEKS PRIOR TO ANY WORK IN WASENA PARK.
5. ALL WORK IN THE ROANOKE RIVER SHALL BE IN ACCORDANCE VMRC AND ACOE PERMITS.
6. CONTRACTOR IS RESPONSIBLE FOR ALL EROSION AND SEDIMENT CONTROL MEASURES AS REQUIRED BY THE AUTHORITY, CITY OF ROANOKE AND DCR.

## GENERAL EROSION AND SEDIMENT CONTROL NOTES

ES-1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS (4VAC50-30).

ES-2: THE PLAN-APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION. THE NAME OF THE RESPONSIBLE LAND DISTURBER MUST BE PROVIDED TO THE PLAN-APPROVING AUTHORITY PRIOR TO ACTUAL ENGAGEMENT IN THE LAND-DISTURBING ACTIVITY SHOWN ON THE APPROVED PLAN. IF THE NAME IS NOT PROVIDED PRIOR TO ENGAGING IN THE LAND-DISTURBING ACTIVITY, THE PLAN'S APPROVAL WILL BE REVOKED.

ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.

ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

ES-5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN-APPROVING AUTHORITY.

ES-6: THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN-APPROVING AUTHORITY.

ES-7: ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED, AFTER WHICH, UPON APPROVAL OF THE PLAN-APPROVING AUTHORITY, THE CONTROLS SHALL BE REMOVED. TRAPPED SEDIMENT AND THE DISTURBED AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

ES-8: DURING DEWATERING OPERATIONS, WATER SHALL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

ES-9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES AT LEAST EVERY 2 WEEKS AND IMMEDIATELY AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

ES-10: THE CONTRACTOR IS RESPONSIBLE FOR THE DAILY REMOVAL OF SEDIMENT THAT HAS BEEN TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE.

ES-11: GRADING OPERATIONS SHALL BE INITIATED WITHIN 7 DAYS AFTER REACHING FINAL GRADE OR UPON SUSPENSION OF GRADING OPERATIONS FOR ANTICIPATED DURATION OF GREATER THAN 30 DAYS OR UPON COMPLETION OF GRADING OPERATIONS FOR A SPECIFIC AREA.

ES-12: THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING SURFACE AND AIR MOVEMENT OF DUST FROM EXPOSED SOILS WHICH MAY PRESENT HEALTH HAZARDS, TRAFFIC SAFETY PROBLEMS, OR HARM ANIMAL OR PLANT LIFE.

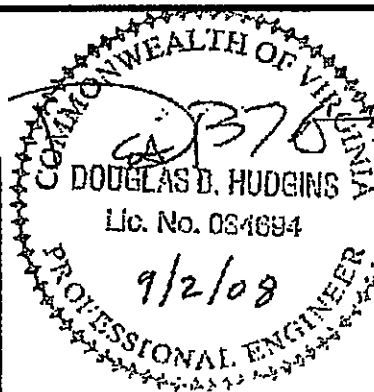
ES-13: A VIRGINIA STORMWATER MANAGEMENT PROGRAM PERMIT (VSMPP) FOR THE DISCHARGE OF STORMWATER FROM CONSTRUCTION ACTIVITIES IS REQUIRED FOR PROJECTS DISTURBING 1 ACRE OR GREATER. A VSMPP IS ALSO REQUIRED FOR PROJECTS DISTURBING 2,500 SQUARE FEET OR GREATER IN A DESIGNATED CHESAPEAKE BAY PRESERVATION AREA. VISIT THE VIRGINIA STORMWATER MANAGEMENT PROGRAM PERMITTING WEB PAGE AT <http://www.dcr.state.va.us/sw/vsmpp.htm> FOR MORE INFORMATION.

1. TEMPORARY SEEDING OR MULCHING  
TEMPORARY SEEDING OR MULCHING WILL BE APPLIED TO ALL AREAS OF THE SITE THAT WILL NOT BE BROUGHT TO FINAL GRADE WITHIN 30 DAYS.
2. PERMANENT SEEDING  
PERMANENT SEEDING WILL BE APPLIED TO ALL DENUDED AREAS AFTER CONSTRUCTION IS COMPLETE.

1. TEMPORARY STOCKPILE(S) AS MAY BE REQUIRED SHALL BE SURROUNDED BY SILT FENCE AND CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE SPECIFICATIONS AND THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. STOCKPILE LOCATIONS ARE TO BE APPROVED BY THE ENGINEER PRIOR TO USE.
2. ALL EROSION & SEDIMENT CONTROL DEVICES SHALL BE INSPECTED BY THE CONTRACTOR AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL. DAMAGED OR NON-FUNCTIONING DEVICES SHALL BE REPAIRED IMMEDIATELY.
3. RESTORATION OF PORTIONS OF THE SITE NOT TO BE CONSTRUCTED UPON SHALL OCCUR WITHIN 7 DAYS OF FINAL GRADING.
4. ALL DISTURBED AREAS OPEN OVER THIRTY (30) DAYS ARE TO RECEIVE TEMPORARY SEEDING.
5. WHEREVER POSSIBLE, EXISTING VEGETATION SHALL BE LEFT UNDISTURBED TO AID IN EROSION CONTROL.
6. THE CONTRACTOR SHALL APPOINT A "RESPONSIBLE LAND DISTURBER" (RLD) FOR THE PROJECT. THE RLD SHALL TAKE RESPONSIBILITY FOR MAINTENANCE, INSPECTION, AND REPAIR OF ALL INSTALLED EROSION CONTROL DEVICES.
7. THE TOTAL LAND DISTURBED ASSOCIATED WITH THIS PROJECT IS GREATER THAN ONE ACRE, THEREFORE A VPDES GENERAL CONSTRUCTION PERMIT IS REQUIRED, AND WILL BE OBTAINED BY THE WVWA.

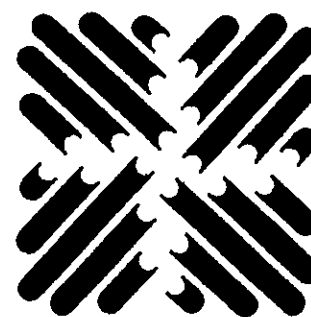
Bar Scale measures 1  
on original drawing

0" 1"



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WESTERN VIRGINIA WATER AUTHORITY  
INTERCEPTOR IMPROVEMENTS AT WASENA PARK

## LEGEND SHEET

					B	ID	ISSUE /REQ REVIEW	Description	8/27/08	Date	DBH	By
Designed: ETA												
Drawn: MJM												
Checked: DBH												
Date: AUG 2008												
Scale: AS SHOWN												
Job No. 12307.08												
Archived File Name:												

**G002**