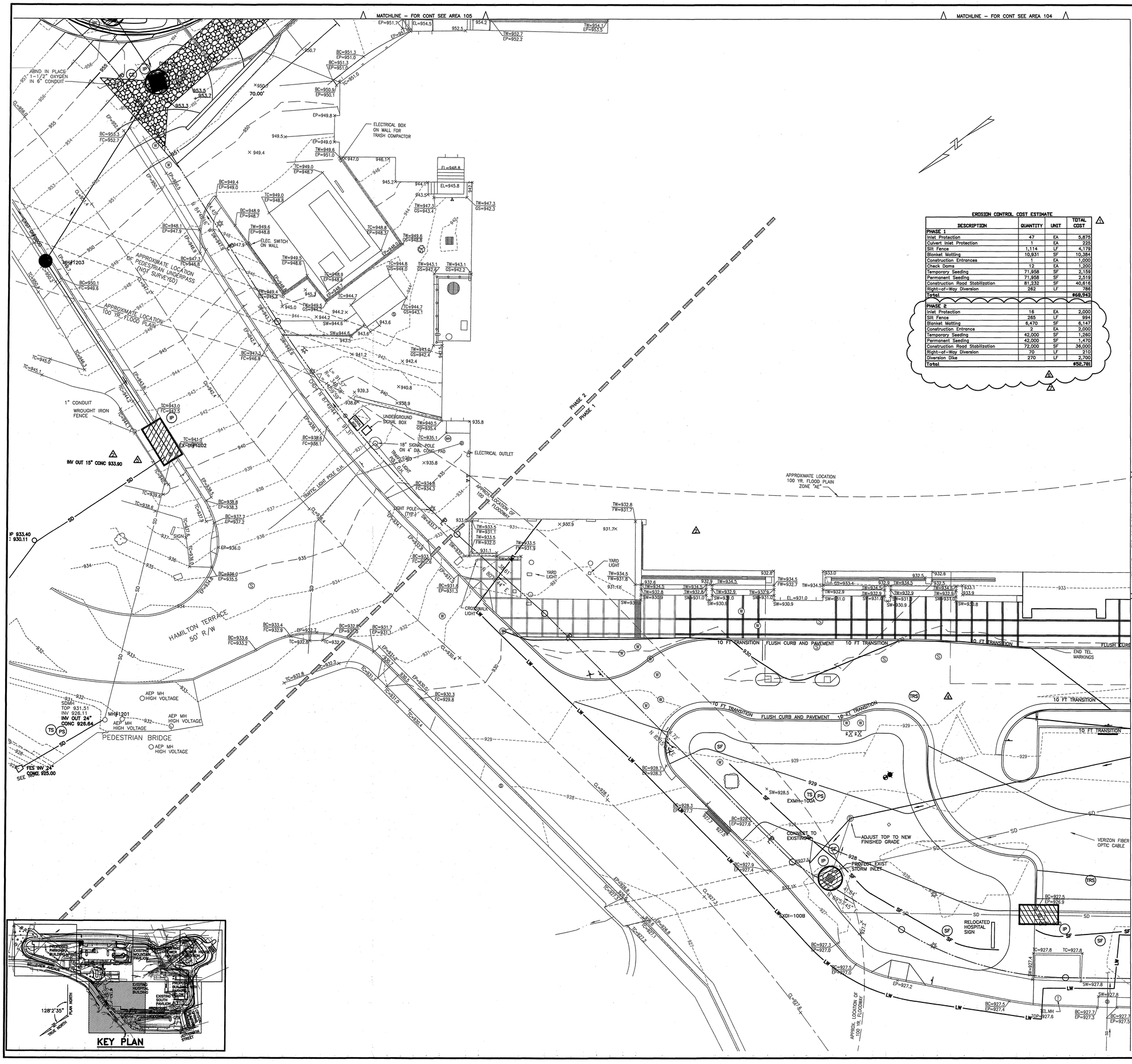

EROSION AND SEDIMENT CONTROL NOTES:

THE PURPOSE OF THE EROSION CONTROL MEASURES SHOWN ON THESE PLANS SHALL BE TO PRECLUDE THE TRANSPORT OF ALL WATERBORNE SEDIMENTS RESULTING FROM CONSTRUCTION ACTIVITIES FROM ENTERING ONTO ADJACENT PROPERTIES OR STATE WATERS. IF FIELD INSPECTION REVEALS THE INADEQUACY OF THE PLAN TO CONFINE SEDIMENT TO THE PROJECT SITE, APPROPRIATE MODIFICATIONS WILL BE MADE TO CORRECT ANY PLAN DEFICIENCIES.

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH PROCEDURES APPROVED BY THE STATE OF VIRGINIA. THE CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH ALL APPROVED PROCEDURES WHICH MAY BE PERTINENT TO THE PROJECT.
2. WHERE POSSIBLE, POINTS OF CONSTRUCTION INGRESS AND EGRESS SHALL BE PROTECTED BY A TEMPORARY CONSTRUCTION ENTRANCE AT LOCATIONS ON THE SITE AGREED UPON BY THE CITY OF ROANOKE AND THE OWNER'S REPRESENTATIVE. AN ENTRANCE PERMIT FROM CITY OF ROANOKE IS REQUIRED PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN CITY RIGHT-OF-WAYS. CONSTRUCTION ENTRANCES SHALL BE CONSTRUCTED PER VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.
3. SEDIMENT CONTROL DEVICES, SUCH AS SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, CHECK DAMS OR OTHER MEASURES NOT LOCATED IN PROPOSED FILL OR EXCAVATION AREAS, SHALL BE CONSTRUCTED PRIOR TO ALL OTHER LAND DISTURBANCE. THE CONTRACTOR SHALL ARRANGE A PRECONSTRUCTION CONFERENCE WITH THE DEVELOPMENT INSPECTOR.
4. MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE ACCOMPLISHED IN ACCORDANCE WITH PROCEDURES APPROVED BY THE STATE OF VIRGINIA. MAINTENANCE WILL INCLUDE THE REPAIR OF MEASURES DAMAGED BY ANY SUBCONTRACTOR INCLUDING THOSE OF THE PUBLIC UTILITY COMPANIES. AT THE PRECONSTRUCTION MEETING, THE CONTRACTOR WILL SUPPLY CITY OF ROANOKE WITH THE NAME OF THE INDIVIDUAL WHO WILL BE RESPONSIBLE FOR ENSURING MAINTENANCE OF INSTALLED MEASURES ON A DAILY BASIS.
5. SURFACE FLOWS OVER CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER REDIRECTING FLOWS FROM TRANSVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO SAFELY LOWER WATER DOWNSLOPE WITHOUT CAUSING EROSION.
6. SEDIMENT CONTROL MEASURES MAY REQUIRE MINOR FIELD ADJUSTMENTS AT THE TIME OF CONSTRUCTION TO INSURE THEIR INTENDED PURPOSE IS ACCOMPLISHED. CITY OF ROANOKE APPROVAL WILL BE REQUIRED FOR OTHER DEVIATION FROM THE APPROVED PLANS.
7. THE CONTRACTOR SHALL STRIP AND PILE TOPSOIL AT THE LOCATIONS SHOWN ON THIS PLAN OR AS DIRECTED BY THE ENGINEER. SILT FENCE SHALL BE PLACED AT THE TOE OF THE STOCKPILE AFTER STRIPPING OF TOPSOIL IS COMPLETE.
8. TEMPORARY VEGETATIVE COVER SHALL BE PROVIDED IN ALL AREAS WHICH ARE NOT DESIGNATED FOR PAVING, UNDERGROUND UTILITIES OR STRUCTURAL USES. SUCH AREAS SHALL NOT BE EXPOSED FOR PERIODS EXCEEDING 30 DAYS. TEMPORARY VEGETAL COVER MAY BE ELIMINATED IN FAVOR OF FINAL VEGETAL COVER IF CONSTRUCTION AND SEASONAL CONDITIONS PERMIT. SEE SEEDING SCHEDULE BELOW.
9. ALL AREAS DESIGNATED FOR UNDERGROUND UTILITIES AND STRUCTURAL USE SHALL BE STABILIZED AS SOON AS POSSIBLE, BUT NOT EXCEEDING 15 DAYS FOLLOWING INSTALLATION. NO MORE THAN 300' OF SANITARY SEWER, STORM SEWER, OR WATER LINES ARE TO BE OPEN AT ONE TIME. △1
10. ALL AREAS DESIGNATED FOR PAVING SHALL BE STABILIZED WITH A 6-INCH COURSE OF VDOT #1 COARSE AGGREGATE IMMEDIATELY AFTER GRADING OR THE COMPLETION OF UTILITY INSTALLATION WITHIN THE RIGHT-OF-WAY. △1
11. THE TERM SEEDING, FINAL VEGETATIVE COVER OR STABILIZATION, ON THIS PLAN SHALL MEAN THE SUCCESSFUL GERMINATION AND ESTABLISHMENT OF A STABLE GRASS COVER FROM A PROPERLY PREPARED SEEDBED CONTAINING THE SPECIFIED AMOUNTS OF SEED, LIME, AND FERTILIZER. IRRIGATION SHALL BE REQUIRED AS NECESSARY TO ENSURE ESTABLISHMENT OF GRASS COVER.
12. ALL SLOPES STEEPER THAN 4:1 SHALL REQUIRE THE USE OF EROSION CONTROL BLANKETS SUCH AS EXCELSIOR BLANKETS TO AID IN THE ESTABLISHMENT OF A VEGETATIVE COVER. INSTALLATION SHALL BE IN ACCORDANCE WITH MULCHING AND MANUFACTURER'S INSTRUCTIONS.
13. INLET PROTECTION SHALL BE PROVIDED FOR ALL STORM DRAIN INLETS AS SOON AS PRACTICAL FOLLOWING CONSTRUCTION OF SAME. ALL EXISTING STORM DRAIN INLETS THAT REMAIN ACTIVE UNTIL NEW STORM SYSTEM HAS BEEN INSTALLED SHALL BE PROTECTED WITH INLET PROTECTION PRIOR TO ANY LAND DISTURBING ACTIVITY. △1
14. BASE COURSE MATERIAL SHALL BE PLACED IN ALL STREET AREAS WITHIN 30 DAYS OF FINAL GRADING.
15. TEMPORARY EROSION CONTROL MEASURES ARE NOT TO BE REMOVED UNTIL ALL DISTURBED AREAS ARE STABILIZED. AFTER STABILIZATION IS COMPLETE, ALL MEASURES SHALL BE REMOVED WITHIN 30 DAYS. TRAPPED SEDIMENT SHALL BE SPREAD AND SEEDED.
16. OFF-SITE WASTE OR BORROW AREAS SHALL BE APPROVED BY CITY OF ROANOKE. AN APPROVED EROSION AND SEDIMENT CONTROL PLAN FOR THE BORROW AND WASTE SITE SHALL BE SUBMITTED PRIOR TO THE ISSUANCE OF A LAND DISTURBANCE PERMIT.
17. MINIMIZE DISTURBANCE OF EXISTING RIPRAP DURING CONSTRUCTION. REPLACE DISTURBED RIPRAP WITH CLASS II RIPRAP AS REQUIRED TO PROVIDE ADEQUATE SLOPE STABILIZATION. RIPRAP SHALL BE INSTALLED IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. △1

EROSION CONTROL COST ESTIMATE

DESCRIPTION	QUANTITY	UNIT	TOTAL COST
PHASE 1			
Inlet Protection	47	EA	5,875
Culvert Inlet Protection	1	EA	225
Silt Fence	1,114	LF	4,179
Blanket Matting	10,931	SF	10,384
Construction Entrances	1	EA	1,000
Check Dams	12	EA	1,200
Temporary Seeding	71,958	SF	2,159
Permanent Seeding	71,958	SF	2,519
Construction Road Stabilization	81,232	SF	40,616
Right-of-Way Diversion	262	LF	786
Total			**$68,943**
PHASE 2			
Inlet Protection	16	EA	2,000
Silt Fence	265	LF	994
Blanket Matting	6,470	SF	6,147
Construction Entrance	2	EA	2,000
Temporary Seeding	42,000	SF	1,260
Permanent Seeding	42,000	SF	1,470
Construction Road Stabilization	72,000	SF	36,000
Right-of-Way Diversion	70	LF	210
Diversion Dike	270	LF	2,700
Total			**$52,781**

△1 △2

SEEDING SCHEDULE

	TYPE	RATE	TIME
GRASS			
TEMPORARY	ANNUAL RYEGRASS REDTOP	100 POUNDS/ACRE 2 POUNDS/ACRE	
PERMANENT	TALL FESCUE BLUEGRASS RYEGRASS	187 POUNDS/ACRE 27 POUNDS/ACRE 7 POUNDS/ACRE	APRIL 1 TO MAY 31 OR AUGUST 16 TO OCTOBER 15
MULCH	CLEAN WHEAT OR BARLEY STRAW		
LIMESTONE			
	TYPE		RATE
TEMPORARY	GRANULATED LIMESTONE		PER SOIL TEST
PERMANENT	GRANULATED LIMESTONE		PER SOIL TEST
FERTILIZER			
	TYPE		RATE
TEMPORARY	5-10-10 GRANULAR OR PELLETED		PER SOIL TEST
PERMANENT	15-30-15 GRANULAR OR PELLETED		PER SOIL TEST

EROSION AND SEDIMENT CONTROL LEGEND

- SF — SILT FENCE
- IP — INLET PROTECTION △1
- CD — CHECK DAM
- RWD — RIGHT-OF-WAY DIVERSION
- OP — OUTLET PROTECTION
- RR — RIPRAP
- FLOW PATTERN INDICATOR
- SBL — SOIL STABILIZATION BLANKETS AND MATTING
- LW — LIMIT OF CONSTRUCTION
- TS — TEMPORARY SEEDING
- PS — PERMANENT SEEDING
- TRS — TEMPORARY ROAD STABILIZATION
- CRS — CONSTRUCTION ROAD STABILIZATOIN △1
- DD — DIVERSION DIKE △1

△2

GRAPHIC SCALES 1"=10' 10' 0 10' 20'

SEALS

CONSULTANT

HELLMUTH, OBATA + KASSABAUM, INC.
ARCHITECTS, ENGINEERS, PLANNERS, INTERIOR DESIGNERS
St. Louis, Missouri 63102 USA

CARILION Health System

CMC CONSOLIDATION
CARILION ROANOKE MEMORIAL HOSPITAL
ROANOKE, VIRGINIA

HSMM
ARCHITECTS ENGINEERS PLANNERS
HAYES, SEAY, MATTERN & MATTERN, INC.
415 S. JEFFERSON ST.
ROANOKE, VA 24016
(540) 857-3100 WWW.HSMM.COM

REV	DATE	DESCRIPTION	APP
1	7/9/04	PHASE I AND II SITE PACKAGE SUBMITTAL	BJC
2	10/11/04	VALUE ENGINEERING	BJC
3	12/03/04	PHASE II APPROVAL SUBMITTAL	BJC
4	2/14/05	CITY APPROVED - INCLUDES SI#01 -SI#15	BJC
5	04/29/05	OWNER REVISIONS	BJC
6	06/24/05	OWNER REVISIONS	BJC
7	07/25/05	SI#35 REVISED PHASE II SITE	BJC

COMM NO: 40044A
ISSUE DATE: JUN 04, 2004
DESIGNED BY: MDD
DRAWN BY: MDD
CHECKED BY: MLC
SUBMITTED BY: BJC

© HAYES, SEAY, MATTERN, & MATTERN, INC., 2005. ALL RIGHTS RESERVED.

CIVIL

EROSION CONTROL PLAN

CC101