EROSION AND SEDIMENT CONTROL NARRATIVE

STABILIZATION.

SEDIMENT TO SETTLE OUT.

PROJECT DESCRIPTION:
THIS PROJECT CONSISTS OF THE PREPARATION OF PROPERTY FOR A RESIDENTIAL SUBDIVISION. THE LIMITS OF CLEARING AND GRADING FOR THIS PROJECT IS APPROXIMATELY 6.7 ACRES.

EXISTING SITE CONDITIONS:
THE EXISTING SITE IS CURRENTLY A PREVIOUSLY CLEARED AREA LOCATED ON RELATIVELY FLAT TERRAIN SLOPING DOWN TO AN EXISTING

ADJACENT PROPERTIES ARE DEVELOPED RESIDENTIAL LOTS ZONED R1 TO THE NORTH, SOUTH, AND WEST AND BROOKFIELD ROAD TO THE EAST.

<u>OFF-SITE</u>:
THERE WILL BE NO OFF-SITE IMPACTS FROM THIS PROJECT.

ON-SITE SOILS WERE IDENTIFIED ON THE "GENERALIZED SOIL PARENT MATERIAL MAP" OF ROANOKE VIRGINIA. SOILS IN THIS AREA ARE GENERALLY IDENTIFIED AS 15D AND 15E, EDGEMONT CHANNERY SANDY LOAM.

SILT FENCES WILL BE USED ALONG WITH SEDIMENT TRAPS, DIVERSION DIKES, TEMPORARY SEEDING, PERMANENT SEEDING, AND MULCHING TO CONTROL EROSION. A CONSTRUCTION ENTRANCE WILL BE USED TO PREVENT THE TRANSPORT OF SEDIMENT ONTO PUBLIC

MANAGEMENT STRATEGIES: CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE. 2. THE GRAVEL CONSTRUCTION ENTRANCE WILL BE INSTALLED AS A FIRST STEP IN CONSTRUCTION. 3. SILT FENCE, DIVERSION DIKES, AND SEDIMENT TRAPS WILL BE INSTALLED BEFORE ANY CLEARING AND GRUBBING WORK SHALL TAKE

5. THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES. 6. AFTER ACHIEVING ADEQUATE STABILIZATION, THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WILL BE CLEANED AND REMOVED.

4. OTHER MEASURES WILL BE INSTALLED AS WORK PROGRESSES INTO THOSE AREAS SUCH AS TEMPORARY SEEDING OR OTHER

ALL AREAS DISTURBED BY CONSTRUCTION WHICH DO NOT RECEIVE PAVING SHALL BE STABILIZED WITH PERMANENT SEEDING AS SPECIFIED. ALL SEEDING SHALL BE TACKED AND MULCHED AND PLACED IMMEDIATELY AFTER REACHING FINISHED GRADE. THE ROADWAY AREA SHALL RECEIVE PAVING.

NO ADDITIONAL STORMWATER MANAGEMENT FACILITY WILL BE REQUIRED FOR THIS DEVELOPMENT. AN EXISTING STORMWATER MANAGEMENT FACILITY WILL BE USED TO CONTROL RUNOFF.

IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY, AND AFTER EACH SIGNIFICANT RAINFALL. IN PARTICULAR:

1. SILT FENCES WILL BE CHECKED REGULARLY FOR UNDERMINING, OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN SEDIMENT REACHES HALF WAY UP ANY GIVEN DEVICE. 2. THE SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RESEEDED AS NEEDED. 3. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL DEVICES IMMEDIATELY AFTER EACH SIGNIFICANT RAINFALL. REPAIR ALL

STRUCTURES AS NECESSARY. INSPECTIONS:
THE GENERAL CONTRACTOR SHALL INSPECT DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED, AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION, STRUCTURAL CONTROL MEASURES, AND THE AREA OF

CONSTRUCTION VEHICLE ACCESS AT LEAST EVERY FOURTEEN (14) CALENDAR DAYS, AND WITHIN 48 HOURS OF THE END OF A STORM EVENT PRODUCING 1/2" OR GREATER OF PRECIPITATION. WHERE AREAS HAVE BEEN FINALLY OR TEMPORARILY STABILIZED OR RUNOFF IS UNLIKELY DUE TO WINTER CONDITIONS (SITE IS COVERED WITH SNOW, ICE, OR FROZEN GROUND EXISTS) SUCH INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH. A) INSPECT DISTURBED AREAS AND AREAS OF MATERIALS STORAGE THAT ARE EXPOSED TO PRECIPITATION FOR EVIDENCE OF, OR

THE POTENTIAL FOR SEDIMENT ENTERING THE STORM DRAIN SYSTEM. INSPECT E&S CONTROLS IN ACCORDANCE WITH REQUIREMENTS STATED HEREIN, AND INSPECT POINTS OF STORM DRAIN DISCHARGE FOR EXCESSIVE SEDIMENTATION. CORRECT SITE CONTROLS AS REQUIRED TO REDUCE SEDIMENTATION OF STORM DRAINS, CULVERTS, AND RECEIVING CHANNELS. B) IF CONTROLS OR SEDIMENT PREVENTION AREAS ARE FOUND TO BE IN NEED OF REPAIR OR MODIFICATION, THE GENERAL CONTRACTOR SHALL PROVIDE ADDITIONAL MEASURES OR MODIFICATIONS TO EXISTING MEASURES AS REQUIRED. ANY ADDITIONAL MEASURES OR MODIFICATIONS TO EXISTING MEASURES SHALL BE RECORDED AS FIELD REVISIONS TO THESE PLANS. IN THE EVENT THAT ADDITIONAL CONTROLS ARE FOUND TO BE REQUIRED, THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING THESE CONTROLS BEFORE THE NEXT ANTICIPATED STORM EVENT. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICAL, THEY SHALL BE IMPLEMENTED AS SOON AS PRACTICAL.

C) A REPORT SUMMARIZING THE SCOPE OF INSPECTIONS, NAME OF INSPECTOR, INSPECTOR'S QUALIFICATIONS, DATES OF INSPECTIONS, MAJOR OBSERVATIONS PERTAINING TO THE IMPLEMENTATION OF THESE EROSION CONTROL PLANS, AND ACTIONS TAKEN SHALL BE MADE AND RETAINED AS A PART OF THESE PLANS. MAJOR OBSERVATIONS OF THESE REPORTS SHALL INCLUDE: THE LOCATIONS OF EXCESSIVE SEDIMENTATION FROM THE SITE: LOCATIONS OF CONTROLS IN NEED OF REPAIR: LOCATIONS OF FAILED OR INADEQUATE CONTROLS; AND LOCATIONS WHERE ADDITIONAL CONTROLS ARE NEEDED.

EROSION AND SEDIMENT CONTROL MEASURES: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, THIRD EDITION" (VESCH). THE MINIMUM STANDARDS OF THE VESCH SHALL BE ADHERED TO UNLESS OTHERWISE DIRECTED BY THE LOCAL PROGRAM ADMINISTRATOR.

STRUCTURAL -CONSTRUCTION ENTRANCE-STD. 3.02.....A STONE PAD, LOCATED AT THE INTERSECTION OF COBBLE RUN AND COBBLE LANE (IF PAVED) OR AT OTHER POINTS OF VEHICULAR INGRESS AND EGRESS TO THE CONSTRUCTION SITE, TO REDUCE THE SOIL TRANSPORTED ONTO PUBLIC ROADS AND OTHER PAVED AREAS.

CONSTRUCTION ROAD STABILIZATION-STD. 3.03.....THE TEMPORARY STABILIZATION OF ACCESS ROADS, TEMPORARY OR PERMANENT, WITH STONE AFTER GRADING TO REDUCE EROSION CAUSED BY VEHICLES DURING WET WEATHER.

SILT FENCE-STD. 3.05.....A TEMPORARY BARRIER CONSTRUCTED ALONG THE PERIMENTER OF THE DISTURBED AREA AS REQUIRED TO INTERCEPT AND DETAIN SEDIMENT.

INLET PROTECTION-STD. 3.07.....A SEDIMENT FILTER OR AN EXCAVATED IMPOUNDING AREA AROUND A STORM DRAIN DROP INLET OR CURB INLET.

DIVERSION DIKE-STD. 3.09.....A RIDGE OF COMPACTED SOIL CONSTRUCTED AT THE TOP OR BASE OF A SLOPING DISTURBED AREA WHICH DIVERTS OFF-SITE RUNOFF AWAY FROM UNPROTECTED SLOPES AND TO A STABILIZED OUTLET OR TO DIVERT SEDIMENT LADEN RUNOFF TO SEDIMENT TRAPPING STRUCTURE.

RIGHT-OF-WAY DIVERSION-STD, 3.11.....A RIDGE OF COMPACTED SOIL OR LOOSE ROCK OR GRAVEL CONSTRUCTED WITHIN A SLOPING RIGHT-OF-WAY, THEREBY REDUCING THE EROSION POTENTIAL BY DIVERTING STORM RUNOFF TO A STABILIZED OUTLET. SEDIMENT TRAP-STD. 3.13....A TEMPORARY PONDING AREA FORMED BY CONSTRUCTING AN EARTHEN EMBANKMENT WITH A STONE OUTLET TO DETAIN SEDIMENT-LADEN RUNOFF FROM SMALL DISTURBED AREAS LONG ENOUGH TO ALLOW THE MAJORITY OF THE

OUTLET PROTECTION-STD. 3.18.....STRUCTURALLY LINED APRONS OR OTHER ACCEPTABLE ENERGY DISSIPATING DEVICES PLACED AT THE OUTLETS OF PIPES OR PAVED CHANNEL SECTIONS.

RIPRAP-STD. 3.19....A PERMANENT EROSION-RESISTANT GROUND COVER OF LARGE, LOOSE, ANGULAR STONE INSTALLED WHEREVER SOIL CONDITIONS, WATER TURBULENCE AND VELOCITY, EXPECTED VEGETATIVE COVER, ETC. ARE SUCH THAT SOIL MAY ERODE UNDER DESIGN FLOW CONDITIONS.

TOPSOILING-STD. 3.30.....TOPSOIL SHALL BE REMOVED FROM WITHIN THE LIMITS OF THE PROJECT AND STORED FOR LATER USE. AFTER GRADING OPERATIONS ARE COMPLETE, TOPSOIL MATERIAL SHALL BE PLACED ALONG THE TOP OF THE EMBANKMENT AND AT ADDITIONAL AREAS WITHIN THE POND AREAS TO STABILIZE THE SIDE SLOPES, ETC.

TEMPORARY SEEDING-STD. 3.31....ESTABLISHMENT OF A TEMPORARY VEGETATIVE COVER ON DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR PERIODS OF 30 DAYS TO 1-YEAR BY SEEDING WITH AN APPROPRIATE RAPIDLY GROWING SEED

PERMANENT SEEDING-STD. 3.32....ESTABLISHMENT OF A VEGETATIVE COVER BY PLANTING SEED ON ALL FINAL GRADED AREAS THAT WILL NOT RECEIVE AN IMPERVIOUS COVER OR RECEIVE TOPSOIL MATERIAL TO PROVIDE A STABILIZED SITE AFTER THE PROJECT IS COMPLETE.

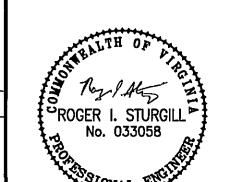
MULCHING-3.35.....MULCH SHALL BE APPLIED TO ALL TEMPORARY AND PEMANENT SEEDING OPERATIONS TO PROMOTE THE GROWTH OF VEGETATION AND TO PROTECT THE SOIL SURFACE FROM RAINDROP IMPACTS.

SOIL STABILIZATION BLANKETS & MATTING-3.36.....UPON COMPLETION OF GRADING OPERATIONS, A DEGRADABLE BLANKET SHALL BE INSTALLED ON ALL SLOPES 3:1 OR GREATER TO PROMOTE STABILIZATION DUE TO SEEDING OPERATIONS.

MINIMUM STANDARDS

THE FOLLOWING STANDARDS ARE TO BE PROVIDED OR ADDRESSED ON EVERY DEVELOPMENT PROJECT EXCEEDING 5000 S.F. IN AREA OF DISTURBANCE. THESE STANDARDS ARE CONSIDERED A MINIMUM AND MAY REQUIRE ADDITIONAL MEASURES AS DEEMED NECESSARY BY THE LOCAL APPROVING AUTHORITY OR THE CONSULTING ENGINEER.

No.	CRITERIA, TECHNIQUE OR METHOD	PRACTICES PROVIDED
140.	PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL	TRACTICES PROVIDED
1	GRADE HAS BEEN REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY 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.	TS PS MU FOR ALL DENUDED AREAS
2	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.	TS PS MU FOR PROVIDED STOCKPILE
3	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 DESIGNATED AGENT, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.	TS PS MU FOR ALL DENUDED AREAS
4	SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, 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.	ST) FOR ALL DRAINAGE DIVIDES
5	STABILIZATION METHODS SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.	TS PS MU FOR ALL EARTHEN STRUCTURES
6	SEDIMENT TRAPS AND BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.	SEE SUPPLEMENTAL CALCULATIONS
7	CUT AND FILL SLOPES SHALL BE 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 STABILIZATION MEASURES UNTIL THE PROBLEM IS CORRECTED.	TS PS MU FOR ALL ERODING SLOPES
8	CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.	NOT APPLICABLE SHOULD SEEPS OCCUR IN ANY EXISTING OR NEW CUT
9	WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.	OR FILL SLOPE, THE CONTRACTOR SHALL FIRST INSUE THAT THERE ARE NOT AREAS OF PONDED WATER AT THE TOPS OF THE SLOPES, AND THEN SHALL CONTAC BOTH THE DESIGN ENGINEER AND THE PROJECT GEOTECHNICAL ENGINEER FOR ON-SITE EVALUATION OF THE AREAS OF SEEPAGE.
10	ALL STORM SEWER 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.	FOR ALL STORM WATER INTAKES
11	BEFORE NEWLY CONSTRUCTED STORMWATER 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.	FOR ALL STORMWATER OUTLETS
12	WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.	NOT APPLICABLE NO STREAMS WITHIN LIMITS OF DISTURBANCE
13	WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX (6) MONTH PERIOD, A TEMPORARY STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL.	NOT APPLICABLE NO STREAMS WITHIN LIMITS OF DISTURBANCE
14	ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET. THE BEDS AND BANKS OF ANY WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.	NOT APPLICABLE NO STREAMS WITHIN LIMITS OF DISTURBANCE
15	THE BEDS AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.	NOT APPLICABLE NO STREAMS WITHIN LIMITS OF DISTURBANCE
16	UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA: 1)NO MORE THAN 500 LINEAR FEET OF ANY TRENCH MAY BE OPENED AT ONE TIME. 2)EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES. 3)EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF—SITE PROPERTY. 4)MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION. 5)RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS. 6)APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.	NOT APPLICABLE ALL UTILITY PIPING ON—SITE
17	WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. 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.	CE FOR ALL POINTS OF INGRESS/EGRESS
18	ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM ADMINISTRATOR. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.	TS PS MU SELF-EXPLANATORY
19	PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24—HOUR DURATION IN ACCORDANCE WITH THE APPLICABLE CRITERIA.	SEE SUPPLEMENTAL CALCULATIONS, PERMANENT SWM FACILITIES PROVIDED





REFLECTING TOMORROW www.balzer.cc PLANNERS • ARCHITECTS ENGINEERS • SURVEYORS

1208 Corporate Circle Roanoke, Virginia 24018 Phone: 540/772-9580 FAX: 540/772-8050

501 Branchway Road Richmond, Virginia 23236 Phone: 804/794-0571 FAX: 804/794-2635

880 Technology Park Drive Glen Allen, Virginia 23059 Phone: 804/553-0132 FAX 804/553-0133

102 Hubbard Street Blacksburg, Virginia 24060 Phone: 540/961-0961

1557 Commerce Road Verona, Virginia 24482 Phone, 540/248-3220 FAX+ 540/248-3221

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