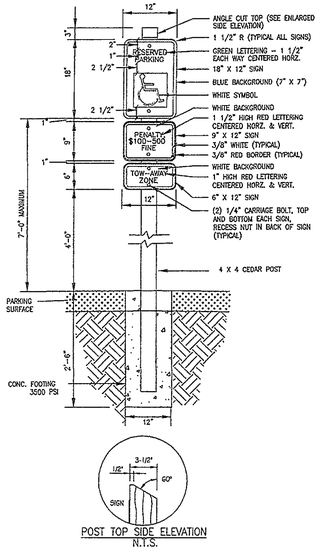
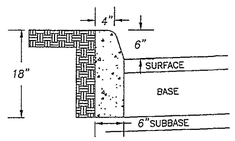


POST TOP SIDE ELEVATION
N.T.S.

HANDICAPPED PARKING SIGN

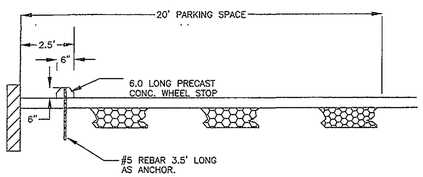


THE DEPTH OF CURB MAY BE REDUCED AS MUCH AS 3" (15" DEPTH) OR INCREASED AS MUCH AS 3" (21" DEPTH) IN ORDER THAT THE BOTTOM OF CURB WILL COINCIDE WITH THE TOP OF A COURSE OF THE PAVEMENT SUBSTRUCTURE. OTHERWISE, THE DEPTH IS TO BE 18" AS SHOWN.

THIS ITEM SHALL BE CAST IN PLACE CONCRETE TO BE 4000 PSI.

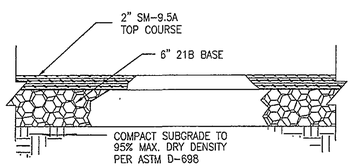
VDOT CG-2 STANDARD 6" CURB

N.T.S



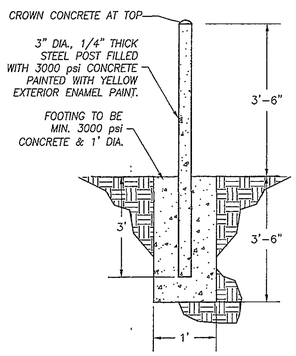
WHEEL STOP DETAILS

NOT TO SCALE



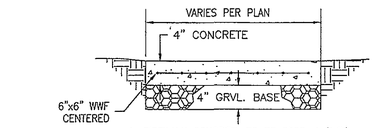
TYPICAL PAVEMENT SECTION

NOT TO SCALE



BOLLARD DETAIL

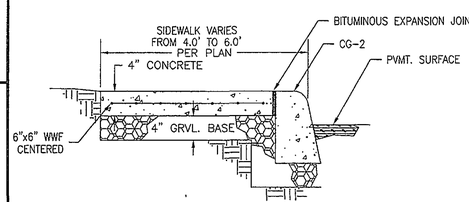
NOT TO SCALE



1. SIDEWALK CONCRETE TO BE 3500psi (A.E.) AS A MINIMUM.
2. SCORE JOINTS SHALL BE PROVIDED @ 5.0' INTERVALS ALONG THE LENGTH OF THE SIDEWALK; BITUMINOUS EXPANSION SHALL BE USED @ 25' INTERVALS.

SIDEWALK CONCRETE PAD DETAIL

NOT TO SCALE



1. SIDEWALK CONCRETE TO BE 3500psi (A.E.) AS A MINIMUM.
2. SCORE JOINTS SHALL BE PROVIDED @ 5.0' INTERVALS ALONG THE LENGTH OF THE SIDEWALK; BITUMINOUS EXPANSION SHALL BE USED @ 25' INTERVALS.

SIDEWALK AT CURB DETAIL

NOT TO SCALE

ENGINEERING CONCEPTS, INC.
3433 BRAMBLETON AVENUE, SUITE 200B
ROANOKE, VIRGINIA 24018
540.776.5715 FAX: 540.776.8543

EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION

This design has been prepared to accommodate a renovated office building and a new Hometown Bank at the Colonial Green Office Village. The proposed site is located at the northwest corner of the Route 419 and Colonial Avenue intersection. The new bank building will be 5,995 SF . Access to the property is via the existing entrance off Colonial Avenue. Approximately 0.93 acre of site area will be disturbed during construction and demolition.

EXISTING SITE CONDITIONS

The affected parcels are all part of the existing office park and are developed with existing office buildings, supporting utilities and parking areas. The topography is gently sloping overall with grades averaging 2%, running generally east to west, within the built area. Outside the built portion of the site the grade rises approximately 15 feet upward to Route 419 along the east boundary. This rise occurs across a steep, 2:1 roadside slope and lessens in elevation difference as it approaches the Route 419 – Colonial Avenue intersection. The site drops approximately five feet down a 2:1 slope along the western boundary to Hooper Field on the North Cross campus .

All storm runoff is collected in a closed pipe system on site and is captured by a 54 inch VDOT pipe that discharges near the center of the south boundary line (onto North Cross property). The VDOT storm drain is within an easement that runs across the property from the Route 419 right-of-way.

Miscellaneous plantings and vegetation are part of the landscape along the Route 419 right-of-way. All building main floors are elevated above the adjacent ground elevation, sitting on basements or crawlspaces. Parking bays that are adjacent to the Colonial Avenue right-of-way are lower in elevation than the roadway.

The existing entrance serving the site is located near the southwest boundary corner and is the only source of ingress and egress for all six tracts within the park. The entrance is approximately 350 feet west of the Route 419 intersection on the north side of Colonial Avenue.

The phase one temporary bank will be converted to office space. The ATM and teller windows will be demolished or relocated to the new phase two building. The phase one teller lane designations will be removed or new pavement will be installed.

ADJACENT PROPERTY

All properties adjoining this property are designated as C1 zoned tracts. Route 419 borders along the north and east, Colonial Avenue is contiguous along the south and Hooper Field at North Cross School is adjacent to the west. No disturbance of adjacent areas will occur with the installation of perimeter devices as shown on the E&S plan.

OFFSITE AREAS

No offsite areas will be disturbed during this phase of development.

SOILS SUMMARY

The primary soil type identified within the USDA Soils Survey data for Roanoke County is 52, Udorthents – Urban land complex (0 – 30% slopes). The general characteristics of this complex include existing urban developments where more than 80% of the area is covered by generally impervious surfaces. Soils characteristics vary greatly in these areas however the underlying soils are typically deep and well drained. A capability subclass is not assigned for this soil unit.

CRITICAL AREAS

Given the relatively flat characteristics within the disturbed areas, there are no critical erosion areas to address.

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 1992 Virginia Erosion and Sediment Control Handbook. The minimum standards of the Virginia Erosion and Sediment Control Regulations shall be adhered to unless otherwise waived or approved by a variance.

- *STRUCTURAL PRACTICES*

1. CE - TEMPORARY CONSTRUCTION ENTRANCE - 3.02
The existing asphalt entrance off Colonial Avenue will serve as the construction entrance for this project.

2. SF - SILT FENCE BARRIER - 3.05
Silt fence barriers will be installed downslope of areas with minimal grade to filter sediment laden runoff from sheet flow.

3. IN-INLET PROTECTION-3.07
Prevents sediment from entering the storm drain system prior to permanent site stabilization.

- *VEGETATIVE PRACTICES*

1. TS – TEMPORARY SEEDING – 3.31
The establishment of a temporary vegetative cover on disturbed areas by seeding with appropriate rapidly growing annual plants.

2. PS - PERMANENT SEEDING - 3.32
All final-graded areas where permanent cover is desired or rough-graded areas that will not be brought to final grade for a year or more shall be seeded with perennial vegetation within 7 days of reaching final grade.

3. MU - MULCH – 3.35
Application of plant residues or other suitable materials to the soil surface.

PERMANENT STABILIZATION

All areas disturbed by construction shall be stabilized with permanent seeding within 7 days of reaching final grades. Seeding shall be done with Kentucky 31 Tall Fescue according to Std. and Spec. 3.32, PERMANENT SEEDING, of the 1992 Virginia Erosion and Sediment Control Handbook. Mulch (straw or fiber) will be used on all seeded areas. In all seeding operations, seed, fertilizer and lime will be applied prior to mulching. Erosion control blankets may be installed over fill slopes which have been brought to final grade and have been seeded to protect the slopes properly.

MAINTENANCE

In general, all erosion and sediment control measures will be checked daily and after each significant rainfall. The following items will be checked in particular:

1. The silt fence barriers will be checked regularly for undermining or deterioration of the fabric. Sediment shall be removed when the level of sediment deposition reaches half way to the top of the barrier.

2. The seeded areas will be checked regularly to ensure that a good stand is maintained. Areas should be fertilized and re-seeded as needed.

STORMWATER MANAGEMENT

The existing office park does not have a stormwater management facility. All storm runoff generated within the existing office village is collected in a closed pipe system and is discharged through a 54 inch VDOT pipe that outfalls near the center of the west boundary line (onto North Cross property). The VDOT storm drain is within an easement that runs across this property from the Route 419 right-of-way. This outfall as it exists is stable and will be unaffected as a result of the proposed re-development.

The existing office park does not have a stormwater management facility. As with our Phase I wavier request, Phase II of development does not increase runoff. Post-developed conditions indicates a zero increase in runoff due to an equal reinstallation of impervious surface for the permanent bank versus that removed in Phase I. The following calculations show the net reduction in impervious area and associated Q10 runoff volume. The calculations assume a worst case scenario of Tc = 5 minuets.

Phase I Calculations (wavier previously approved)

Added impervious at temporary bank = 500 S.F.
Removed impervious in office building demo area = 12,940 S.F.

Net removed impervious area: 12,940 – 500 = 12,440 S.F. = 0.29 acres @ C = 0.9
$Q_{10} = C\ I_{10}\ A = 0.9 \times 6.8 \times 0.29 = 1.8$ cfs I_{10} at 5 min. Tc = 6.8 in \ hr

Net replaced with grass: 12,440 S.F. = 0.29 @ c = 0.35
$Q_{10} = C\ I_{10}\ A = 0.35 \times 6.8 \times 0.29 = 0.7$ cfs I_{10} at 5 min. Tc = 6.8 in \ hr

Net Q_{10} runoff reduction: 1.8 cfs – 0.7 cfs = 1.1 cfs

Phase II Calculations

Net impervious demo Phase I: 12,940 – 500 = 12,440 S.F. = 0.29 acres @ C = 0.9
$Q_{10} = C\ I_{10}\ A = 0.9 \times 6.8 \times 0.29 = 1.8$ cfs I_{10} at 5 min. Tc = 6.8 in \ hr

Net impervious added Phase II: 0.29 @ c = 0.90
$Q_{10} = C\ I_{10}\ A = 0.90 \times 6.8 \times 0.29 = 1.8$ cfs I_{10} at 5 min. Tc = 6.8 in \ hr

Net Q_{10} runoff reduction: 1.8 cfs – 1.8 cfs = 0 cfs

4VAC50-30-40 Minimum Standards.
An erosion and sediment control program adopted by a district or locality must be consistent with the following criteria, techniques and methods:

1. Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 30 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year. ***SHOWN ON PLANS.***

2. During construction of the project, soil stockpiles and borrow areas shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as borrow areas and soil intentionally transported from the project site ***N/A***

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, is uniform, mature enough to survive and will inhibit erosion. ***SHOWN ON PLANS.***

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. ***SHOWN ON PLANS.***

5. Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation. ***N/A – SILT FENCE ONLY***

6. Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin. ***N/A –NO TRAPS OR BASINS***

   a. The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres.

   b. Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain the structural integrity of the basin during a twenty-five year storm of 24-hour duration Runoff coefficients used in runoff calculations shall correspond to a bare earth condition or those conditions expected to exist while the sediment basin is utilized

7. Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected. ***N/A – NO LARGE CUT OR FILL 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. ***ALL RUNOFF IS PIPED IN EXISTING SYSTEM TO AN EXISTING OUTFALL.***

9. Whenever water seeps from a slope face, adequate drainage or other protection shall be provided. ***IF ENCOUNTERED DURING CONSTRUCTION THEN APPROPRIATE MEASURE SHALL BE PROVIDED.***

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. ***IP SHOWN ON PLANS.***

11. Before newly constructed stormwater conveyance channels or pipes 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. ***IP SHOWN ON PLANS, OUTFALL IS AN EXISTING STORM DRAIN SYSTEM***

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. ***N/A***

13. When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided. ***N/A***

14. All applicable federal, state and local regulations pertaining to working in or crossing live watercourses shall be met. ***N/A***

15. The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed. ***N/A***

16. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria: ***COORDINATE WITH APPROPRIATE UTILITY COMPANIES.***

   a. No more than 500 linear feet of trench may be opened at one time.

   b. Excavated material shall be placed on the uphill side of trenches.

   c. 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.

   d. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.

   e. Re-stabilization shall be accomplished in accordance with these regulations.

   f. Applicable safety regulations shall be complied with.

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. This provision shall apply to individual development lots as well as to larger land-disturbing activities. ***PREVENT DEBRIS FROM ENTERING COLONIAL AVENUE.***

18. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the local program authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation. ***CONCTACT ROANOKE COUNTY PRIOR TO REMOVING MEASURES.***

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 following standards and criteria: ***THIS IS AN EXISTING OFFICE PARK WITH NO SWM FACILITY. THE PLANNED IMPROVEMENTS YIELD ZERO INCREASE IN RUNOFF.***

   a. Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed.

   b. Adequacy of all channels and pipes shall be verified in the following manner:

      (1) The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is one hundred times greater than the contributing drainage area of the project in question; or

      (2) (a) Natural channels shall be analyzed by the use of a two-year storm to verify, that stormwater will not overtop channel banks nor cause erosion of channel bed or banks; and

      (b) All previously constructed man-made channels shall be analyzed by the use of a ten-year storm to verify that stormwater will not overtop its banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and

      (c) Pipes and storm sewer systems shall be analyzed by the use of a ten-year storm to verify that stormwater will be contained within the pipe or system.

   c. If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall:

      (1) Improve the channel to a condition where a ten-year storm will not overtop the banks and a two-year storm will not cause erosion to the channel bed or banks; or

      (2) Improve the pipe or pipe system to a condition where the ten-year storm is contained within the appurtenances; or

      (3) Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the re-development peak runoff rate from a ten-year storm to increase when runoff outfalls into a man-made channel; or

      (4) Provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the plan-approving authority to prevent downstream erosion.

   d. The applicant shall provide evidence of permission to make the improvements.

   e. All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development of the subject project.

   f. If the applicant chooses an option that includes stormwater detention he shall obtain approval from the locality of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.

   g. Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipators shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel.

   h. All on-site channels must be verified to be adequate.

   i. Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility.

   j. In applying these stormwater runoff criteria, individual lots or parcels in a residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations.

   k. All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical and biological integrity of rivers, streams and other waters of the state.

NOTE:

THE LOCATION OF ALL OFF--SITE FILL OR BORROW AREAS ASSOCIATED WITH THE CONSTRUCTION PROJECT WILL BE PROVIDED TO THE ROANOKE COUNTY DEPARTMENT OF COMMUNITY DEVELOPMENT. AN EROSION CONTROL PLAN OR MEASURES MAY BE REQUIRED FOR THIS AREA.

COMMONWEALTH OF VIRGINIA
JACK DURRELL ELLINWOOD
No. 001107
11/07/06
LANDSCAPE ARCHITECT

No.	Revision	By	Appd	Date

Drawn JSH
Designed JDE JSH
Checked JDE
Approved JDE

HOMETOWN BANK PHASE II DETAILS

4227 COLONIAL AVENUE ROANOKE COUNTY, VIRGINIA

SCALE: AS SHOWN
NOVEMBER 7, 2006
PROJECT: 06042
3