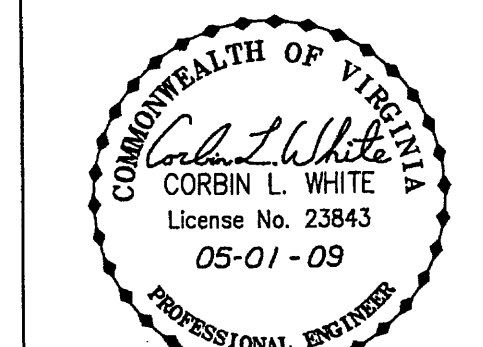


INTERACTIVE DESIGN GROUP  
119 Norfolk Avenue  
Suite 330  
Roanoke, Virginia 24011  
P.540.342.7534 F.540.342.7538

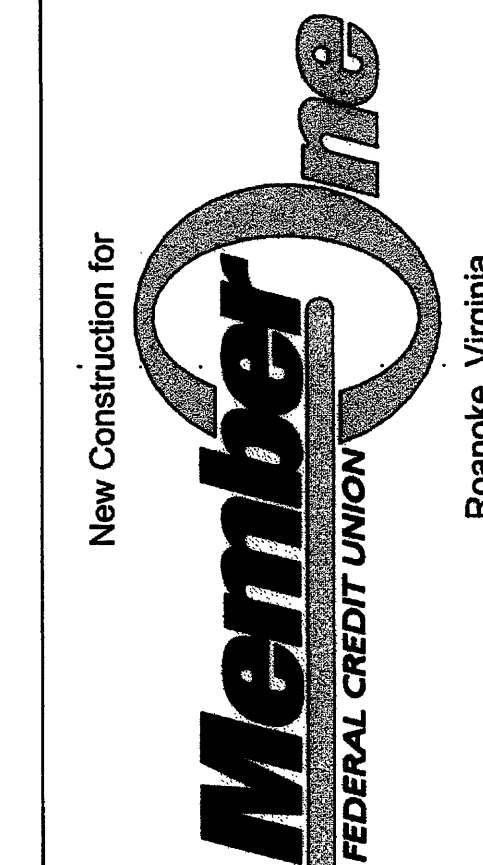


Revisions Date  
For 1st City Review 05/01/09



3313 Plantation Road  
P.O. Box 13127  
Roanoke, Virginia 24012  
P.540.563.0567 F.540.563.0577

GRADING AND STORM DRAINAGE PLAN  
NEW CORPORATE OFFICES  
MEMBER ONE FEDERAL CREDIT UNION  
SITUATE 202 4TH STREET, N.E.  
CITY OF ROANOKE, VIRGINIA



Date APRIL 08, 2009  
Scale AS NOTED

Drawn  
Job 0836  
Sheet

C-05  
5 of 12 Sheets

## STORM DRAIN SCHEDULE

SEE SHEET C-07 FOR NEW STORM DRAIN PROFILES  
ALL STORM DRAINAGE STRUCTURES SHALL BE PRE-CAST CONCRETE. MATERIALS, FABRICATION, AND INSTALLATION SHALL BE IN STRICT CONFORMANCE TO VDOT STANDARDS AND SPECIFICATIONS.  
ALL NEW STORM STRUCTURES 4" INSIDE DIAMETER AND LARGER SHALL RECEIVE VDOT IS-1 INLET SHAPING  
NEW CONCRETE PIPE SHALL BE MINIMUM VDOT CLASS III REINFORCED CONCRETE, UNLESS OTHERWISE SPECIFIED  
ALL STORM DRAIN BEDDING AND INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH VDOT STANDARDS AND SPECIFICATIONS.  
ALL EXTERIOR CLEANOUTS FOR ROOF COLLECTOR SYSTEM SHALL BE CONSTRUCTED WITH TRAFFIC-BEARING FRAMES AND COVERS

- 100 PROVIDE NEW VDOT STD. DI-3A CURB INLET, L=2.5'  
RIM=946.20  
INV. IN (2)=938.99  
INV. OUT=938.89
- 100A PROVIDE 83" NEW 15" RCP AT 1.81%  
INV. IN=938.89  
INV. OUT=937.38
- 101 PROVIDE NEW VDOT STD. DI-7 GRATE INLET w/ TYPE III GRATE  
TOP=944.50  
INV.=940.90
- 101A PROVIDE 60" NEW 15" RCP AT 3.18%  
INV. IN=940.90  
INV. OUT=938.99
- 102 PROVIDE NEW VDOT STD. DI-3C CURB INLET, L=6'  
RIM=945.00  
INV. IN=938.62  
INV. OUT=938.52
- 102A PROVIDE 63" NEW 15" RCP AT 1.00%  
INV. IN=938.52  
INV. OUT=938.99
- 103 PROVIDE NEW VDOT STD. DI-3C CURB INLET, L=8'  
RIM=945.00  
INV.=940.33
- 103A PROVIDE 71" NEW 15" RCP AT 1.00%  
INV. IN=940.33  
INV. OUT=939.62
- 104 PROVIDE NEW VDOT STD. DI-1 GRATE INLET  
TOP=947.20  
INV.=944.00
- 104A PROVIDE 87" NEW 15" RCP AT 2.76%  
INV. IN=944.00  
INV. OUT=941.60
- 105 PROVIDE NEW VDOT STD. DI-3C CURB INLET, L=6'  
TOP=946.7  
INV.=942.24  
FIELD-VERIFY PRIOR TO FABRICATION
- 106 PROVIDE NEW VDOT STD. DI-3B CURB INLET, L=8'  
RIM=946.35  
INV. IN (104A)=941.60  
INV. IN (ROOF COLL.)=941.60  
INV. OUT=941.50
- 106A PROVIDE 36" NEW 15" RCP AT 0.75%  
INV. IN=941.50  
INV. OUT=941.23
- 107 PROVIDE NEW VDOT STD. STORM MANHOLE  
RIM=948.00  
INV. IN=941.23  
INV. OUT=941.13
- 107A PROVIDE 97" NEW 15" RCP AT 0.75%  
INV. IN=941.13  
INV. OUT=940.40
- 108 PROVIDE NEW VDOT STD. DI-1 GRATE INLET  
TOP=945.50  
INV. IN=940.40  
INV. OUT=933.6  
FIELD-VERIFY PRIOR TO FABRICATION. SEE "EXISTING STORM DRAIN NOTES", THIS SHEET

## EXISTING STORM DRAIN NOTE

AS THE INVERT OF THE EXISTING GRATE INLET LOCATED IN THE SOUTHWESTERN CORNER OF THE SITE IS UNAVAILABLE, THE ENGINEER HAS ASSUMED THAT THERE IS APPROXIMATELY ONE FOOT OF COVER WHERE THE EXISTING 15" RCP CROSSES UNDER THE EXISTING STONE WALL. BASED ON THIS ASSUMPTION, THE ENGINEER HAS COMPUTED AN APPROXIMATE INVERT OF THE EXISTING PIPE AT THE LOCATION OF NEW GRATE INLET 108, AS SHOWN HEREON AND ON THE STORM DRAIN PROFILES. PRIOR TO FABRICATION OF NEW STRUCTURE 108, THE CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATIONS TO DETERMINE THE PIPE INVERT ELEVATION AT NEW INLET 108. IN THE EVENT THE EXISTING PIPE IS FLATTER THAN 1.0%, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. OTHERWISE, THE CONTRACTOR SHALL PROVIDE BASE SECTION AND RISERS AS REQUIRED TO INSTALL NEW INLET 108 AS A DROP STRUCTURE, WITH INVERT IN ELEVATION AS SHOWN.

## ROOF DRAIN NOTES

SEE PLUMBING SHEETS FOR LOCATION(S) OF NEW ROOF DRAINS FROM BUILDING.  
CONTRACTOR SHALL PROVIDE ALL ADAPTERS AND COUPLINGS REQUIRED TO TRANSITION FROM BUILDING ROOF DRAINS TO SITE COLLECTOR. SITE COLLECTOR SHALL BE MINIMUM 6" SDR-35 PVC PIPE AT 2.0% MINIMUM SLOPE, AND SHALL BE INSTALLED WITH A MINIMUM 30" OF COVER.

CLEANOUT ASSEMBLIES SHALL BE SDR-35, AND SHALL BE PROVIDED AND INSTALLED AT MAXIMUM 100' INTERVALS, AND AT HORIZONTAL BENDS AND CHANGES IN GRADE.

PROVIDE TRAFFIC-BEARING FRAMES AND COVERS AT ALL EXTERIOR CLEANOUTS.

SEE STORM DRAIN SCHEDULE, THIS SHEET FOR ELEVATION OF ROOF DRAIN CONNECTION TO NEW STORM INLET 106.

## COMPACTION NOTES

EXCEPT AS SPECIFIED BELOW, ALL NEW FILL MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR (ASTM D698).

AREAS OF CUT SHALL BE PROOF-ROLLED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. AREAS EXHIBITING PUMPING OR RUTTING SHALL BE COMPACTED IN ACCORDANCE WITH THE ABOVE SPECIFICATIONS.

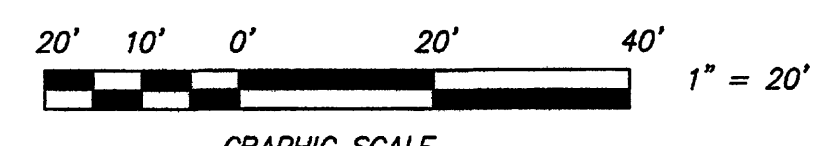
SUBGRADE UNDER NON-STRUCTURAL AREAS SHALL BE COMPACTED TO A MINIMUM OF 85% OF STANDARD PROCTOR (ASTM D698).

## GRASS SWALE NOTES

AS SHOWN HEREON, TWO NEW GRASS-LINED SWALES SHALL BE INSTALLED BETWEEN THE NEW CURB CUTS AND THE NEW STORM INLETS AT THE WESTERN LIMITS OF THE SITE.

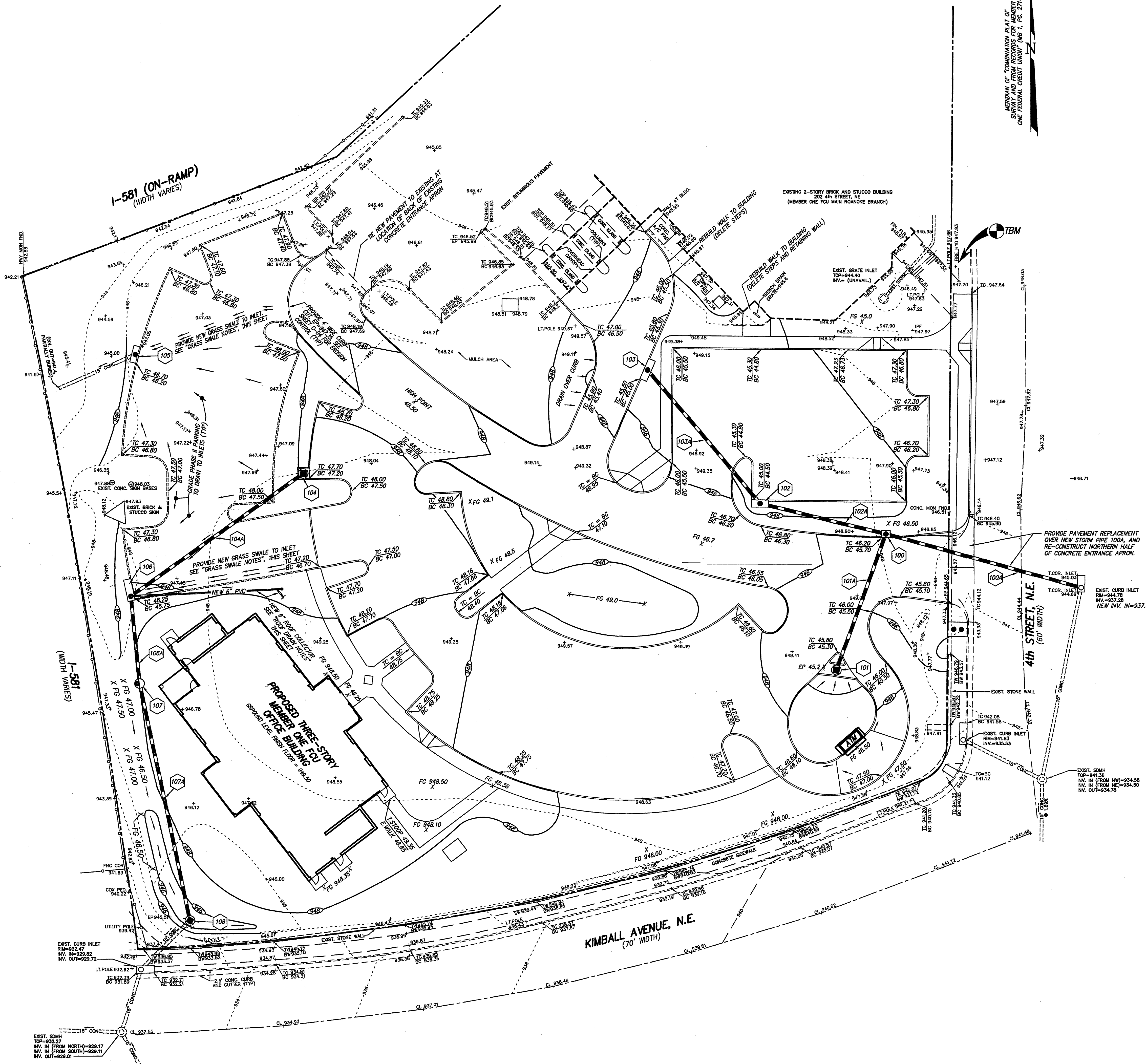
THESE SWALES SHALL BE CONSTRUCTED WITH TRAPEZOIDAL CROSS-SECTIONS, BOTTOM WIDTH=12" MIN., SIDE SLOPES=3H:1V MAX., AND MINIMUM DEPTH = 6".

THE NORTHERN SWALE SHALL BE CONSTRUCTED WITH A LONGITUDINAL SLOPE=1.70%  
THE SOUTHERN SWALE SHALL BE CONSTRUCTED WITH A LONGITUDINAL SLOPE=1.25%



Designed: C.L. White  
Drawn: C.L. White  
Checked:  
Tax Parcel: 3015008  
Field Book: MCS-59  
W.O. No.: 08-0104

CWA  
CALDWELL WHITE ASSOCIATES  
ENGINEERS / SURVEYORS / PLANNERS  
4203 MELROSE AVENUE  
P.O. BOX 6990  
ROANOKE, VIRGINIA 24017-0260  
(840) 988-9400  
FAX: (840) 988-8708



TEMPORARY BENCHMARK:  
ARROWHEAD ON TOP OF FIRE HYDRANT  
LOCATED ON THE WESTERN SIDE OF 4TH  
STREET, NEAR THE MAIN ENTRANCE TO  
"MEMBER ONE BRANCH BANK"  
ELEVATION = 950.35 (DATUM OF NAD 88)

BENCHMARK:  
ARROWHEAD ON TOP OF FIRE HYDRANT  
LOCATED AT THE NORTHWESTERN CORNER  
OF THE INTERSECTION OF 4TH STREET  
AND SHEVANDOH AVENUE.  
ELEVATION = 939.72 (DATUM OF NAD 88)