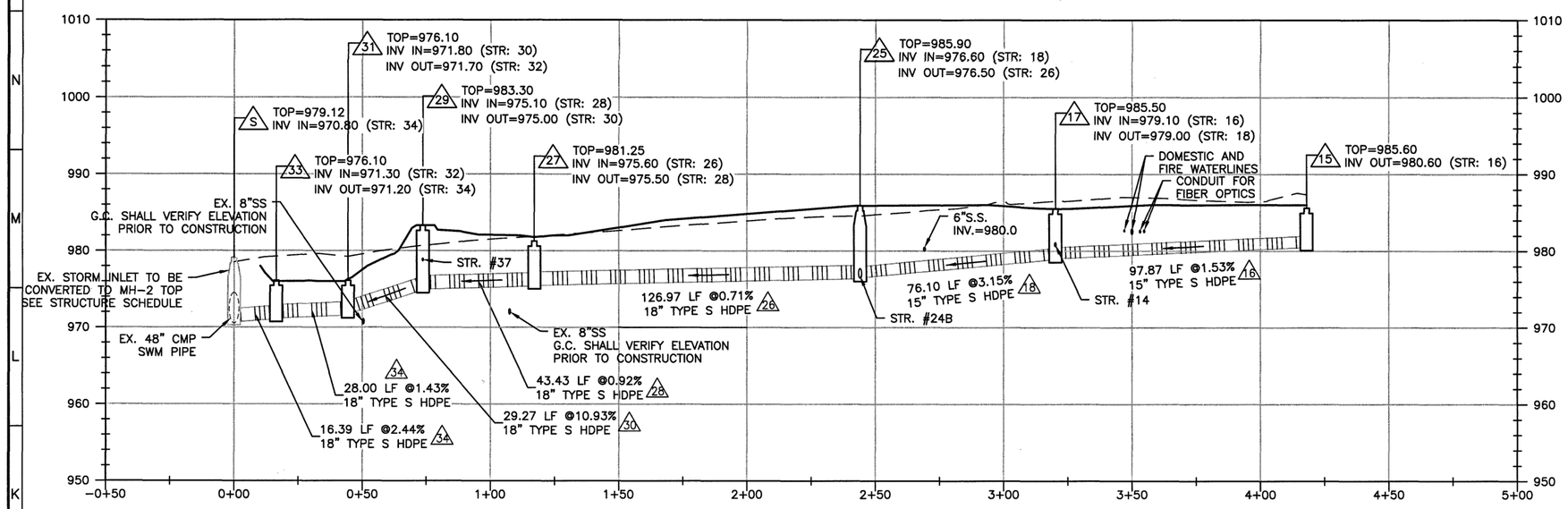
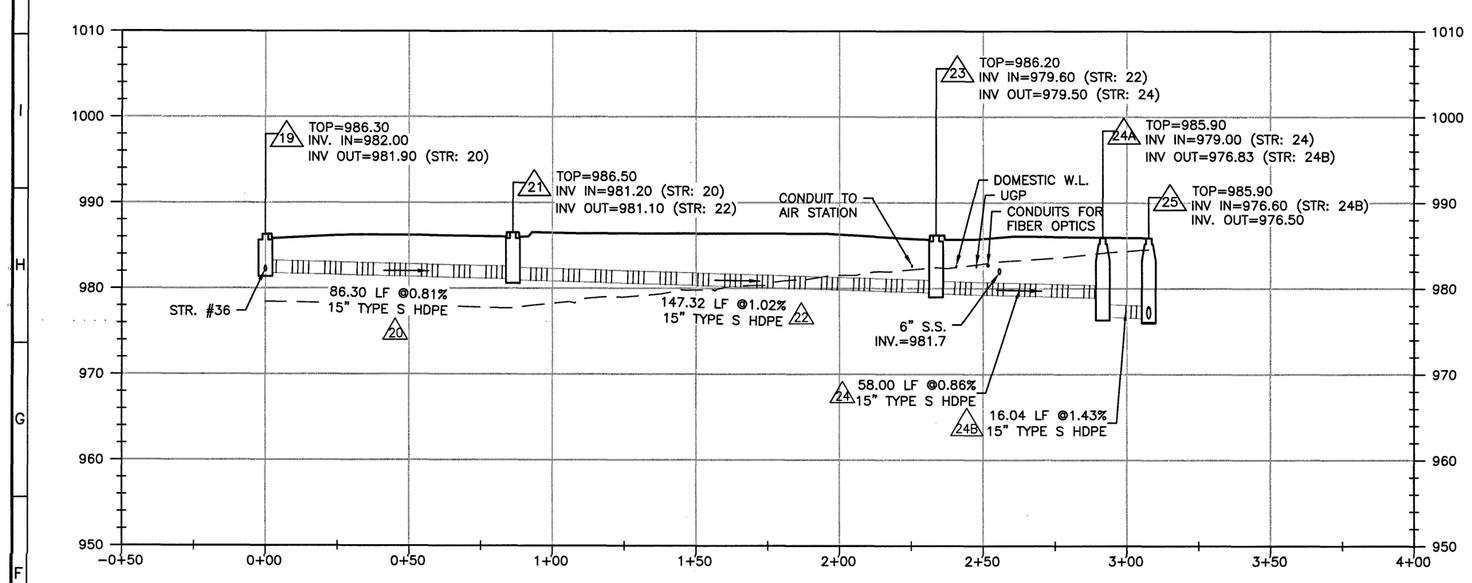
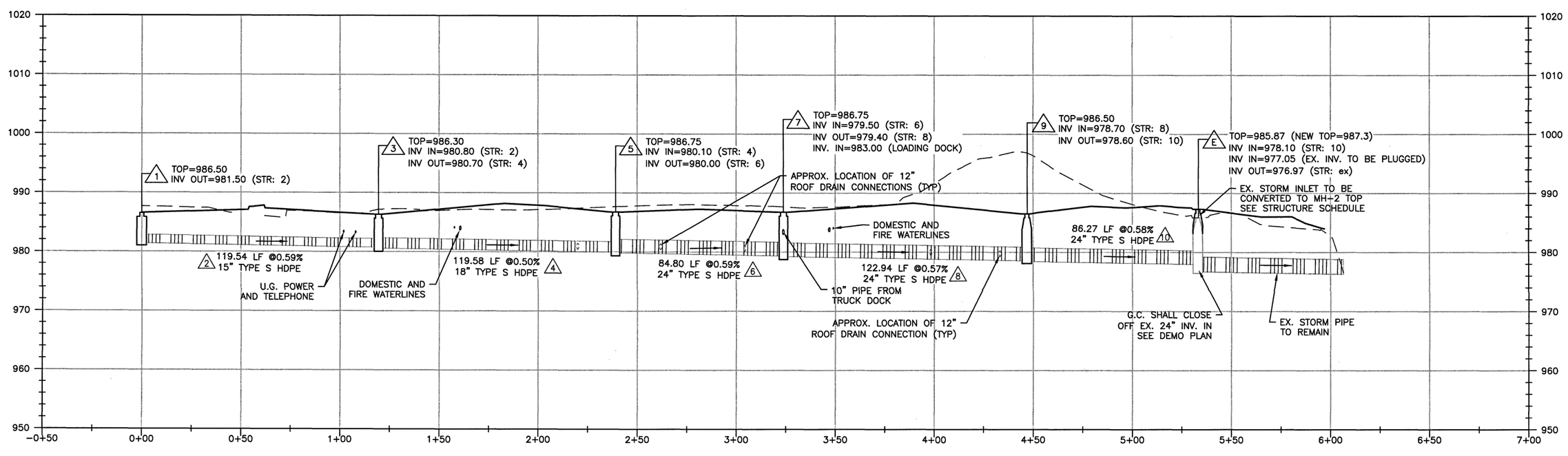
STORM DRAIN 15-EX. 'S' PROFILE



STORM DRAIN 19-25 PROFILE

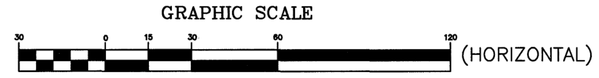


STORM DRAIN 10-EX. 'E' PROFILE



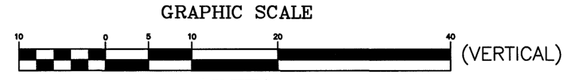
PROFILE SCALES

GRAPHIC SCALE



(IN FEET)
1 inch = 30 ft.

GRAPHIC SCALE



(IN FEET)
1 inch = 10 ft.

Existing Sanitary Sewer Schedule:

(S1) *Ex. s.s. manhole* (T.B.R.)
Top=987.64'
2" PVC Inv. In=985.16'
6" PVC Inv. In=977.88'
Possible Grease Trap

(S2) *Ex. s.s. manhole* (T.B.R.)
Top=987.62'
6" PVC Inv. Out=981.65'
Bottom of Structure=977.77'
Possible Grease Trap

(S3) *Ex. s.s. manhole* (T.B.R.)
Top=987.50'
6" PVC Inv. In=981.05'
8" PVC Inv. Out=980.85'
Shelf=981.63'

(S4) *Ex. s.s. manhole* (T.B.R.)
Top=986.05'
8" PVC Inv. In=978.18'
8" PVC Inv. Out=978.16'
Shelf=978.80'

(S5) *Ex. s.s. manhole*
Top=974.89'
Inverts inaccessible (bolted)
G.C. TO FIELD-VERIFY INVERT PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER

(S6) *Ex. s.s. manhole*
Top=973.98'
Inverts inaccessible (bolted)

(S7) *Ex. s.s. manhole*
Top=973.58'
Inverts inaccessible (bolted)

(S8) *Ex. s.s. manhole*
Top=974.63'
Inverts inaccessible (bolted)

(S9) *Ex. s.s. manhole*
Top=972.25'
Inverts inaccessible (bolted)

(S10) *Ex. s.s. manhole*
Top=973.26'
Inverts inaccessible (bolted)

(S11) *Ex. s.s. manhole*
Top=975.84'
Inverts inaccessible (bolted)

(S12) *Ex. s.s. manhole*
Top=979.53'

Existing Storm Sewer Schedule:

(A) *Ex. curb inlet* (T.B.R.)
Top=986.82'
15" RCP Out=982.06'
Bottom of Structure=981.82'

(B) *Ex. grate inlet* (T.B.R.)
Top=984.51'
15" RCP Inv. In=981.31'
18" RCP Inv. Out=981.06'
Bottom of Structure=980.91'

(C) *Ex. storm manhole* (T.B.R.)
Top=987.84'
18" RCP Inv. In=979.17'
15" PVC Inv. In=984.11'
24" RCP Inv. Out=978.94'

(D) *Ex. storm manhole* (T.B.R.)
Top=987.69'
24" RCP Inv. In=978.14'
24" RCP Inv. Out=978.07'

(E) *Ex. grate inlet* (CONVERT TO MH-2 TOP)
Top=985.87' (NEW TOP=987.3)
24" RCP Inv. In=977.05'
24" RCP Inv. Out=976.97'
NEW INV. IN=978.1
G.C. TO CLOSE OFF EX. 24" RCP INV. IN (SEE DEMO PLAN)

(F) *24" RCP outlet in pond*
Inv.=976.53

(G) *Ex. curb inlet*
Top=978.83' (NEW TOP=979.8)
Inverts not accessible
G.C. TO CLEAN OUT EX. STRUCTURE & PIPE AS NECESSARY, VERIFY EX. SLOPE & CONDITION OF PIPES, AND RE-LAY PIPE AS NECESSARY (0.5% MIN. SLOPE)

(H) *Ex. curb inlet*
Top=979.03' (NEW TOP=979.6)
15" RCP Inv. In=974.78'
15" RCP Inv. Out=974.48'
G.C. TO CLEAN OUT EX. STRUCTURE & PIPE AS NECESSARY, VERIFY EX. SLOPE & CONDITION OF PIPES, AND RE-LAY PIPE AS NECESSARY (0.5% MIN. SLOPE)

(I) *15" RCP outlet in pond*
Inv.=974.57'
G.C. TO CLEAN OUT EX. STRUCTURE & PIPE AS NECESSARY, VERIFY EX. SLOPE & CONDITION OF PIPES, AND RE-LAY PIPE AS NECESSARY (0.5% MIN. SLOPE)

(J) *Ex. conc. riser with grate top*
Top=978.85'
4" Orifice Inv.=973.80'
15" RCP Inv. Out=972.85'

(K) *Ex. grate inlet*
Top=974.17'
15" RCP Inv. In=971.57'
15" RCP Inv. Out=971.40'

(L) *15" RCP outlet to creek*
Inv.=970.38'

(M) *12" RCP culvert*
Inv. In=971.98'

(N) *12" RCP outlet to creek*
Inv. Out=971.30'

(O) *18" RCP culvert*
Inv. In.=971.42'
G.C. TO REPAIR EROSION OF DITCH

(P) *18" RCP outlet to creek*
Inv. Out=968.24'
G.C. TO REPAIR END OF PIPE AND EROSION AT PIPE OUTFALL

(Q) *15" RCP outlet to creek*
Inv.=969.60'

(R) *Ex. grate inlet* (TO REMAIN)
Top=975.57' (NEW TOP=975.07)
15" RCP Inv. In=972.37'
48" CMP Inv. In=970.10'
15" RCP Inv. Out=970.20'
G.C. TO MAINTAIN EX. GRADE BEHIND INLET TO CREATE 6" BACK-UP BERM

(S) *Ex. curb inlet* (TO BE CONVERTED TO MH-2 TOP)
Top=979.12' (NEW TOP=978.5)
48" CMP Inv. Out=970.65'
NEW INV. IN=970.8 (STR. #34)

(T) *48" CMP Stormwater Management Pipe*

(U) *Ex. curb inlet* (T.B.R.)
Top=979.84'
15" RCP Inv. In=975.77'
15" RCP Inv. Out=975.62'

(V) *Ex. grate inlet* (T.B.R.)
Top=986.17'
15" RCP Inv. Out=980.15'
Bottom of structure=979.85'

(W) *Ex. box culvert*
Top=976.77'
Inv. In=964.94'

STORM STRUCTURE SCHEDULE:

(1) VDOT STD. DI-3C
THROAT=10'
TOP=986.5
INV. OUT=981.5

(2) 119.56 LF 15" TYPE S HDPE PIPE @ 0.58%

(3) VDOT STD. DI-1
TOP=986.3
INV. IN=980.8
INV. OUT=980.7

(4) 119.58 LF 18" TYPE S HDPE PIPE @ 0.50%

(5) VDOT STD. DI-1
TOP=986.75
INV. IN=980.1
INV. OUT=980.0

(6) 84.80 LF 24" TYPE S HDPE PIPE @ 0.59%

(7) VDOT STD DI-1
TOP=986.75
INV. IN=983.0 (10" FROM LOADING DOCK)
INV. IN=979.5
INV. OUT=979.4

(8) 122.94 LF 24" TYPE S HDPE PIPE @ 0.57%

(9) VDOT STD. MH-2
TOP=986.5
INV. IN=978.7
INV. OUT=978.6

(10) 86.27 LF OF 24" TYPE S HDPE PIPE @ 0.58%
INV. OUT=978.1

(11) STORM CLEANOUT (TRAFFIC-BEARING)
TOP=988.17
INV.=984.15

(12) 108 LF OF 6" SDR-35 PIPE @ 1.50%

(13) STORM CLEANOUT (TRAFFIC-BEARING)
TOP=988.05
INV.=982.5

(14) 117 LF OF 6" SDR-35 PIPE @ 1.54%

(15) VDOT STD. DI-3C
THROAT=6'
TOP=985.6
INV. OUT=980.6

(16) 97.87 LF OF 15" TYPE S HDPE PIPE @ 1.53%

(17) VDOT STD. DI-3C
THROAT=10'
TOP=985.5
INV. IN=980.7 (STR. #14)
INV. IN=979.1 (STR. #16)
INV. OUT=979.0

(18) 76.10 LF OF 15" TYPE S HDPE PIPE @ 3.15%

(19) VDOT STD. DI-3C
THROAT=6'
TOP=986.3
INV. IN=982.0
INV. OUT=981.9

(20) 86.30 LF OF 15" TYPE S HDPE PIPE @ 0.81%

(21) VDOT STD. DI-3C
THROAT=6'
TOP=986.5
INV. IN=981.2
INV. OUT=981.1

(22) 147.32 LF OF 15" TYPE S HDPE PIPE @ 1.02%

(23) VDOT STD. DI-3C
THROAT=6'
TOP=986.2
INV. IN=979.6
INV. OUT=979.5

(24) 58.00 LF OF 15" TYPE S HDPE PIPE @ 0.86%

(24A) CONTECH STORMFILTER UNIT (SEE DETAIL)
TOP=985.9
INV. IN=979.0
INV. OUT=976.83

(24B) 16.04 LF OF 15" TYPE S HDPE PIPE @ 1.43%

(25) VDOT STD. MH-2
TOP=985.9
INV. IN=976.6 (STR. #18)
INV. IN=976.6 (STR. #24)
INV. OUT=976.5

(26) 126.96 LF OF 18" TYPE S HDPE PIPE @ 0.71%

(27) VDOT STD. DI-3B
THROAT=8'
TOP=981.25
INV. IN=975.6
INV. OUT=975.5

(28) 43.43 LF OF 18" TYPE S HDPE PIPE @ 0.92%

(29) VDOT STD. DI-3CC
THROAT=8'
TOP=983.3
INV. IN=979.0 (STR. #37)
INV. IN=975.1 (STR. #28)
INV. OUT=975.0

(30) 29.27 LF OF 18" TYPE S HDPE PIPE @ 10.93%

(31) VDOT STD. DI-3B
THROAT=12'
TOP=976.1
INV. IN=971.8
INV. OUT=971.7

(32) 28.00 LF OF 18" TYPE S HDPE PIPE @ 1.43%

(33) VDOT STD. DI-3B
THROAT=8'
TOP=976.1
INV. IN=971.3
INV. OUT=971.2

(34) 16.39 LF OF 18" TYPE S HDPE PIPE @ 2.44%

(35) STORM CLEANOUT (TRAFFIC-BEARING)
TOP=986.75
INV.=982.7

(35A) 21 LF OF 8" TYPE S HDPE PIPE @ 0.95%

(36) 56 LF OF 6" TYPE S HDPE PIPE @ 0.89%

(37) 6' X 8' FILTERRA SWQ INLET
TOP=983.4
INV.=979.9

NOTES:
1. VDOT STD IS-1 INLET SHAPING SHALL BE PROVIDED IN ALL PROPOSED STRUCTURES AND IN ALL EXISTING STRUCTURES IF NOT ALREADY IN PLACE.
2. NON-SHRINK GROUT SHALL BE USED FOR ALL STORM SEWER PIPE CONNECTIONS.
3. G.C. IS RESPONSIBLE FOR CONNECTING TO ALL DOWNSPOUTS PER ARCHITECTURAL PLANS AND ENSURING POSITIVE DRAINAGE.

SANITARY SEWER STRUCTURE SCHEDULE:

(A) S.S. CLEANOUT (TRAFFIC-BEARING)
TOP=988.4
INV.=982.0

(A)-(B) 73LF OF 6" SDR-35 PVC AT 6.00%

(B) S.S. CLEANOUT (TRAFFIC-BEARING)
TOP=986.7
INV.=981.0

(B)-(C) 87LF OF 6" SDR-35 PVC AT 1.37%

(C) S.S. MANHOLE
TOP=986.2
INV.=979.9 (APPROX.)
(G.C. TO VERIFY EX. INVERT)

(D) S.S. CLEANOUT (TRAFFIC-BEARING)
TOP=987.1
INV.=983.0

(D)-(E) 47LF OF 6" SDR-35 PVC AT 5.96%

(E) S.S. CLEANOUT (TRAFFIC-BEARING)
TOP=987.0
INV.=982.8

(E)-(F) 73LF OF 6" SDR-35 PVC AT 8.77%

(F) S.S. CLEANOUT (TRAFFIC-BEARING)
TOP=986.5
INV.=981.1

(G) S.S. CLEANOUT
TOP=988.0
INV.=SEE MEP/STRUC. PLANS

(H) GREASE INTERCEPTOR (SEE NOTES 4 & 5 BELOW)
(SEE MEP PLANS FOR DETAILS)
TOP=988.1
INV.=SEE MEP/STRUC. PLANS

(I) S.S. CLEANOUT
TOP=988.2
INV.=SEE MEP/STRUC. PLANS

NOTES:
1. ALL SANITARY SEWER PIPE SHALL BE SDR-35 PVC PIPE UNLESS OTHERWISE SPECIFIED.
2. 6" S.S. LATERALS SHALL BE CONSTRUCTED AT MINIMUM 1.04% SLOPE PER THE BUILDING CODE.
3. G.C. SHALL VERIFY THE INVERT OF THE EXISTING SANITARY SEWER LINE PRIOR TO CONSTRUCTION.
4. G.C. SHALL SUBMIT SHOP DRAWINGS FOR THE PROPOSED GREASE INTERCEPTOR TO CASSIE ALTICE AT THE WVWA AT 601 SOUTH JEFFERSON STREET, SUITE 300, ROANOKE, VA 24011 PRIOR TO ORDERING.
5. G.C. SHALL CALL THE WVWA AT (540) 537-3460 TO SCHEDULE GREASE INTERCEPTOR INSPECTION. THE INSPECTION SHALL OCCUR PRIOR TO THE CONTRACTOR COVERING THE GREASE INTERCEPTOR.

APPROVED

BALZER AND ASSOCIATES INC
REFLECTING TOMORROW
www.balzer.cc
Roanoke
New River Valley
Richmond
Shenandoah Valley
RESIDENTIAL LAND DEVELOPMENT ENGINEERING
SITE DEVELOPMENT ENGINEERING
LAND USE PLANNING & ZONING
LANDSCAPE ARCHITECTURE
LAND SURVEYING
ARCHITECTURE
STRUCTURAL ENGINEERING
TRANSPORTATION ENGINEERING
ENVIRONMENTAL & SOIL SCIENCE
WETLAND DELINEATIONS & STREAM EVALUATIONS
Balzer and Associates, Inc.
1208 Corporate Circle
Roanoke, VA 24018
540-772-9580
FAX 540-772-8050

COMMONWEALTH OF VIRGINIA
CHRISTOPHER P. BURNS
Lic. No.047338
6/9/14
PROFESSIONAL ENGINEER

GROCERY TENANT
STORE #3622
PROFILES
ROANOKE COUNTY, VIRGINIA

DRAWN BY	CPB
DESIGNED BY	CPB
CHECKED BY	BTC
DATE	4/11/2014
SCALE	AS SHOWN

REVISIONS:
5/12/2014
5/23/2014
6/9/2014

SHEET NO.
C7

JOB NO. R1400022.00