

ADDENDUM 1

ADDITIONS & RENOVATIONS TO GAINSBORO PUBLIC LIBRARY AND JACKSON PARK PUBLIC LIBRARY ROANOKE, VIRGINIA

BID NUMBER 08-09-01

ALL BIDDERS SHALL NOTE THE FOLLOWING CHANGES, MODIFICATIONS OR ADDITIONS TO THE PLANS AND SPECIFICATIONS AND SUBMIT QUOTATIONS IN ACCORDANCE THEREWITH:

- Item 1. PROJECT MANUAL, "Notice of Invitation to Bid" and "Invitation to Bid": The receipt and opening of bids on the above referenced Project has been extended. The date for the receipt of bids is hereby changed from Tuesday, November 27, 2007 to **Thursday, December 6, 2007**. The time and place for the receipt of bids will remain unchanged.
- Item 2. PROJECT MANUAL, Subsurface Investigations: Enclosed with this addendum are copies of the geotechnical investigations performed at each project site by Geotechnics, Inc. Given the findings revealed from the single boring that was drilled as part of its initial investigation at the Gainsboro Branch, the City directed Geotechnics to make two other borings at the site to better clarify the subsurface conditions. The findings and recommendations from that follow-up effort were recorded in Geotechnic's report titled "Supplemental Subsurface Investigation, Proposed Additions, Gainsboro Library," dated November 8, 2007. A copy of Geotechnic's initial report for the Jackson Park facility titled "Subsurface Investigation, Proposed Additions, Jackson Park Library," dated June 22, 2007 is also enclosed.
- Item 3. PROJECT MANUAL, "General Conditions," Clarification of Section 3.2: As stipulated under Section 3.2, "Permits," of the General Conditions, the Contractor **WILL BE RESPONSIBLE** to obtain and to pay for all permits required for either or both projects.
- Item 4. PROJECT MANUAL, "General Conditions," Clarification of Section 5.3: As indicated at the pre-bid conference, the use of one superintendent to oversee the work of both projects is deemed to be acceptable to the City. However, if a Bidder submits a bid for only one of the projects and does not submit a combined bid for both, then each project must have its own superintendent. The City believes that the two projects are of a size where one suitably qualified person can handle the responsibilities of both projects, assuming that both are under the same Contractor. Again, if the City awards a separate Contract for each branch library to two different Contractors, then each Contractor must have a superintendent to supervise the Work of that Project.

(The following items specifically pertain to **VOLUME 1 – GAINSBORO PUBLIC LIBRARY.**)

- Item 5. DRAWINGS, Sheet A7.2 and PROJECT MANUAL, Section 09310, "Ceramic Tile": On Sheet A7.2 of the Drawings, and under Section 09310 ("Ceramic Tile") of the Project Manual, "CT-1" shall be changed from American Tile "Stonepeak Slate," color "Lava," 12"x12" size, to American Tile "Slate Solutions," color "REX 2000," 12"x12" size.
- Item 6. DRAWINGS, Sheet A7.2 and PROJECT MANUAL, Section 09310, "Ceramic Tile": On Sheet A7.2 of the Drawings, and under Section 09310 ("Ceramic Tile") of the Project Manual, "CT-2" shall be changed from American Tile "Stonepeak Slate," color "Multicolor," 12"x12" size, to American Tile "Slate Solutions," color "REX 2001," 12"x12" size.
- Item 7. DRAWINGS, Sheet S1.1: Revise foundation plan per Supplemental Drawing No. 1 titled "Revised Foundation Plan," dated November 13, 2007, attached hereto.
- Item 8. DRAWINGS, Sheet S1.1: On Sheet S1.1, add the following General Note #4:

"When excavating adjacent to existing structure without basement, maintain a minimum 1:1 soil slope from edge of footing to avoid undermining existing footing per Owner's licensed geotechnical engineer's recommendations."
- Item 9. DRAWINGS, Sheet S2.1: Revise Detail "13" Supplemental Drawing No. 2 titled "Revised Detail 13S2.1," dated November 13, 2007, attached hereto.

(The following items specifically pertain to **VOLUME 2 – JACKSON PARK PUBLIC LIBRARY.**)

- Item 10. DRAWINGS, Sheet AD1.1: On Sheet AD1.1 add the following Note "18" to "NOTES THIS SHEET":

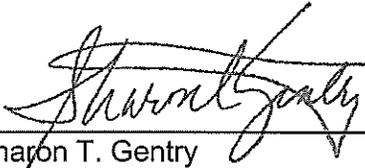
"Remove and temporarily store wall mounted shelving as required to prep and repaint existing CMU wall. The Owner will remove all books, magazines, tapes and all other shelved material. Coordinate this work with the Owner."

This note shall apply to the existing shelving located at the northeast corner, the east wall and the two south walls. This note will also apply to the west wall only if Deduct Alternate JP-1 is accepted.
- Item 11. On Sheet A1.1, add the following to "PLAN NOTES":

"Note 5. After existing wall has been painted, reinstall existing wall mounted shelving. The Owner will be responsible for re-shelving books, magazines, tapes, etc. Coordinate this work with the Owner."

This note shall apply where existing shelving was temporarily removed at the northeast corner, the east wall and the two south walls. This note will also apply to the west wall only if Deduct Alternate JP-1 is accepted.

- Item 12. DRAWINGS, Sheet A7.1 and PROJECT MANUAL, Section 09310, "Ceramic Tile": On Sheet A7.1 of the Drawings, and under Section 09310 ("Ceramic Tile") of the Project Manual, "CT-1" shall be changed from American Tile "Stonepeak Slate," color "Lava," 12"x12" size, to American Tile "Slate Solutions," color "REX 2000," 12"x12" size.
- Item 13. DRAWINGS, Sheet A7.1 and PROJECT MANUAL, Section 09310, "Ceramic Tile": On Sheet A7.1 of the Drawings, and under Section 09310 ("Ceramic Tile") of the Project Manual, "CT-2" shall be changed from American Tile "Stonepeak Slate," color "Multicolor," 12"x12" size, to American Tile "Slate Solutions," color "REX 2001," 12"x12" size.
- Item 14. PROJECT MANUAL, SECTION 16491, "Fuses": There is reason to believe that some sets of the Project Manual may not have contained this section of the specifications. Therefore, a copy of Section 16491 is attached to this addendum for the information and use of all bidders.



Sharon T. Gentry
Manager, Purchasing

11/20/07

Date



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686 Lee Highway South
Roanoke, Virginia 24019

SUPPLEMENTAL SUBSURFACE INVESTIGATION

PROPOSED ADDITION

GAINSBORO LIBRARY

ROANOKE, VIRGINIA

Geotechnics, Inc.

Commission No. 3775G

8 November 2007

SUPPLEMENTAL SUBSURFACE INVESTIGATION

PROPOSED ADDITION

GAINSBORO LIBRARY

ROANOKE, VIRGINIA

General -

One (1) test boring was previously made at the requested location on the 18th of June 2007. Two (2) additional borings (No. 2 and 3) were made on the 7th of November 2007. All test borings were made with a CME-45 trailer-mounted power auger using six (6) inch diameter, hollow-stem, continuous flight augers. Standard Penetration tests were made at five (5) foot intervals or less.

The boring locations were staked in the field by Geotechnics by taping from the existing building. The elevation of the ground surface at the boring locations was interpolated from a topographic survey provided by the City of Roanoke. See the attached site sketch for the approximate test boring locations.

Detailed descriptions of the materials encountered and recorded groundwater measurements are shown on the accompanying logs.

All soil samples from the recent test borings were retained by Geotechnics and may be examined at this office, upon request, for a period of sixty (60) days from the date of this report, by the Owner, his Architect or Engineer, Contractors or other authorized persons.

Location -

The existing Gainsboro Branch Library is located on the northeast corner of the intersection of Gainsboro Road and Patton Avenue in Roanoke, Virginia. A one (1) story addition (roughly 53 feet by 28 feet) will be constructed north of the northeast portion of the existing building. A smaller addition (roughly 22 feet by 19 feet) will be located on the east side of the northeast portion of the existing building.

General Geology -

The site is underlain by the Rome Formation of Cambrian Age. This formation is extremely heterogeneous, consisting of shale, limestone and dolomite. The rocks strike or trend nearly east-west and typically dip very steeply. The shales, which predominate the formation, are vari-colored, including maroon, reddish-brown, gray-green, green, dark gray and tan to yellow.

They are fine-grained, close-jointed and break with a splintery or hackly fracture. The limestones and dolomites are generally thin to medium bedded, highly fractured (usually calcite-healed) and range in color from light gray to dark blue-gray.

In cut areas, the subgrade materials typically consist of alternating beds of harder shale, limestone or dolomite bedrock; highly weathered to decomposed shale; firm residual soil; and some very soft mud seams. The mud seams generally require some undercutting and replacement with controlled fill to provide adequate founding materials beneath the building footings, slabs-on-grade and asphalt pavement.

Soils -

Soils identified in the test borings include topsoil, man-made fill and residuum.

A 0.4 foot to 0.5 foot thickness of topsoil was penetrated at the ground surface in all borings.

Man-made fill was identified beneath the topsoil, and varied in thickness from about 5.8 feet to 6.1 feet. At Boring No. 1, the fill was described as orange-tan sandy silt or reddish-brown clayey sand with varying amounts of rock fragments. At Borings No. 2 and 3, the fill was described as black, brown and gray sandy silt with cinders, slag, brick and rock fragments.

Residuum (soil derived from the in-place weathering or decomposition of bedrock) was identified beneath the man-made

fill in all three (3) borings. The thickness of residuum penetrated varied from about 2.4 feet to 2.8 feet and was described as highly weathered to decomposed tan and gray shale with some orange-tan clay.

At Borings No. 2 and 3, the split-spoon sampler was driven into the ground below auger refusal, and the sampler deflected at both locations. While the borings are believed to have encountered shale bedrock with some clay seams, it could be rock fill material.

Foundation Conditions -

Standard Penetration tests on man-made fill indicate the allowable bearing value varies from about 500 PSF to 3,250 PSF.

The allowable bearing value for weathered shale or dolomite bedrock (below auger refusal) typically varies from 2 TSF to 4 TSF or more, depending upon the degree of weathering.

Laboratory Testing -

One (1) soil sample was previously selected from Boring No. 1 for laboratory soil classification testing. Sample No. 2 from Boring No. 1 had a Liquid Limit (LL) of 29, a Plastic Limit (PL) of 20, and a Plasticity Index (PI) of 9. The sample had 31.0 percent passing a No. 200 sieve and classified as a clayey sand with gravel (SC).

Discussion -

The proposed building area consists of a relatively flat grassed area, with about three (3) feet of relief across the proposed building areas. It is our understanding an existing 24-inch diameter storm drain pipe is located beneath the north addition building area. The pipe invert elevation is about eleven (11) feet below the proposed finished floor level. As a general practice, all storm drain piping should be relocated outside the building perimeter to eliminate or minimize any future problems related to the pipe leakage or maintenance.

All three (3) test borings encountered soft man-made fill and/or fill containing cinders and assorted debris to a depth of about 6.0 to 6.5 feet below the present ground surface. The old man-made fill should be undercut or removed from beneath both building additions, plus at least five (5) feet beyond the outside footing perimeter. The majority of the excavated material will not be suitable for re-use and should be disposed of off-site.

The undercut excavation will create a 'bath tub effect' that will not drain naturally. Provisions should be made to drain the excavation into the existing storm drain system, particularly since the grading work will be performed during the wetter winter months.

The undercut excavation will extend close to the top of the 24-inch storm drain pipe and the Contractor must exercise care to prevent damaging the pipe during the undercut and backfill work.

Where the new footings abut the existing building, the undercut work must be performed in narrow sections perpendicular to the existing building to prevent a loss of support to the existing footings. Where the new footings abut the existing building, the new footings should bear at the same elevation as the existing footings.

The exposed undercut surface should be examined by an engineering geologist or soils engineer. The undercut excavation should be backfilled to subgrade with new controlled fill obtained from an off-site borrow source. The backfill should be placed and compacted as described below.

A sample of the proposed borrow material should be submitted for laboratory soil classification and Standard Proctor testing, prior to approval for use on-site. In general, the material should have a maximum dry density of at least 95 PCF, and a Plasticity Index of 15 or less.

The proposed additions may be founded on shallow continuous wall footings bearing on the new controlled fill. An allowable bearing value not to exceed 2,000 PSF may be utilized for design.

All perimeter footings should bear at least two (2) feet below finished exterior grade for frost protection.

An engineering geologist or soils engineer should examine the materials exposed in the bottom of all footing excavations, prior to pouring concrete, to assure the adequacy of the founding materials.

All fill and backfill placed at the site should be continuously controlled, placed in eight (8) inch horizontal lifts and compacted to at least 95 percent of the maximum dry density as determined by ASTM D-698 (Standard Proctor). The moisture content of the fill material should be adjusted (by aeration and drying, or moistening) to within 3% of the Optimum Moisture content, unless otherwise approved by the Geotechnical Engineer.

The maximum dimension of rock fragments included in the controlled fill should not exceed one-half the lift thickness (or four inches maximum). Care must be exercised to assure that the fill material contains sufficient fines to properly "bind" together.

The subgrade materials supporting the slab-on-grade should be proof-rolled or recompacted after the footings have been poured and immediately prior to placing the crushed stone. The concrete floor slab should then be poured as soon as possible after placement of the crushed stone. In the event that the crushed stone is placed well ahead of the slab pour, a dense graded aggregate (such as VDOT No. 21-A) should be utilized in lieu of an open-graded aggregate (such as VDOT No. 57).

A Subgrade Modulus of 100 PCI may be utilized for designing concrete slabs-on-grade, provided the subgrade materials are properly compacted prior to placing the crushed stone.

The geologic mapping and soil test borings indicate Site Classification C should be utilized for Seismic Design.

The power auger refused at all three (3) boring locations at depths ranging from 7.5 feet to 8.7 feet indicating rock excavation will not be required at the boring locations. The top of bedrock on the Rome formation is often very hummocky or irregular and an occasional ridge or ledge of rock may be encountered at the site.

Although groundwater was not encountered in the test borings, the bottom of the debris fill was wet and some seepage may be encountered in the undercut excavation.

Conclusions and Recommendations -

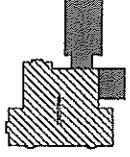
1. All three (3) test borings encountered soft man-made fill and/or fill containing cinders and assorted debris to a depth of about 6.0 to 6.5 feet below the present ground surface. The old man-made fill should be undercut or removed from beneath both building additions, plus at least five (5) feet beyond the footing perimeter. The excavated material should be properly disposed of off-site.

2. The exposed undercut surface should be examined by an engineering geologist or soils engineer. The undercut excavation should be backfilled to subgrade with new controlled fill obtained from an off-site borrow source.
3. A sample of the proposed borrow material should be submitted for laboratory soil classification and Standard Proctor testing, prior to approval for use on-site. In general, the material should have a maximum dry density of at least 95 PCF, and a Plasticity Index of 15 or less.
4. The proposed additions may be founded on shallow continuous wall footings bearing on the new controlled fill. An allowable bearing value not to exceed 2,000 PSF may be utilized for design.
5. An engineering geologist or soils engineer should examine the materials exposed in the bottom of all footing excavations, prior to pouring concrete, to assure the adequacy of the founding materials.
6. All fill and backfill placed at the site should be continuously controlled, placed in eight (8) inch horizontal lifts and compacted to at least 95 percent of Standard Proctor.

7. The geologic mapping and soil test borings indicate Site Classification C should be utilized for Seismic Design.
8. Although groundwater was not encountered in the test borings, the bottom of the debris fill was wet and some seepage may be encountered in the undercut excavation.
9. Upon completion of the Final Plans and Specifications, and prior to commencing construction, a copy should be submitted to Geotechnics for our review and comments.



Geotechnics, Inc
686 Lee Highway South
Roanoke, Virginia



REVISIONS

1. TO ADD BORING LOCATIONS FOR FOUNDATION PLAN

2. TO ADD BORING LOCATIONS FOR FOUNDATION PLAN

3. TO ADD BORING LOCATIONS FOR FOUNDATION PLAN

4. TO ADD BORING LOCATIONS FOR FOUNDATION PLAN

5. TO ADD BORING LOCATIONS FOR FOUNDATION PLAN

NOTES

1. ALL FOUNDATION WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODE (IBC) AND THE INTERNATIONAL FOUNDATION CODE (IFC).

2. ALL FOUNDATION WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODE (IBC) AND THE INTERNATIONAL FOUNDATION CODE (IFC).

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5. ALL FOUNDATION WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODE (IBC) AND THE INTERNATIONAL FOUNDATION CODE (IFC).

PROJECT TITLE

ROANOKE CITY LIBRARY ADDITIONS & RENOVATIONS

SFCSS

STRUCTURAL FOUNDATION CONSULTANTS & ENGINEERS

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CITY ENGINEER

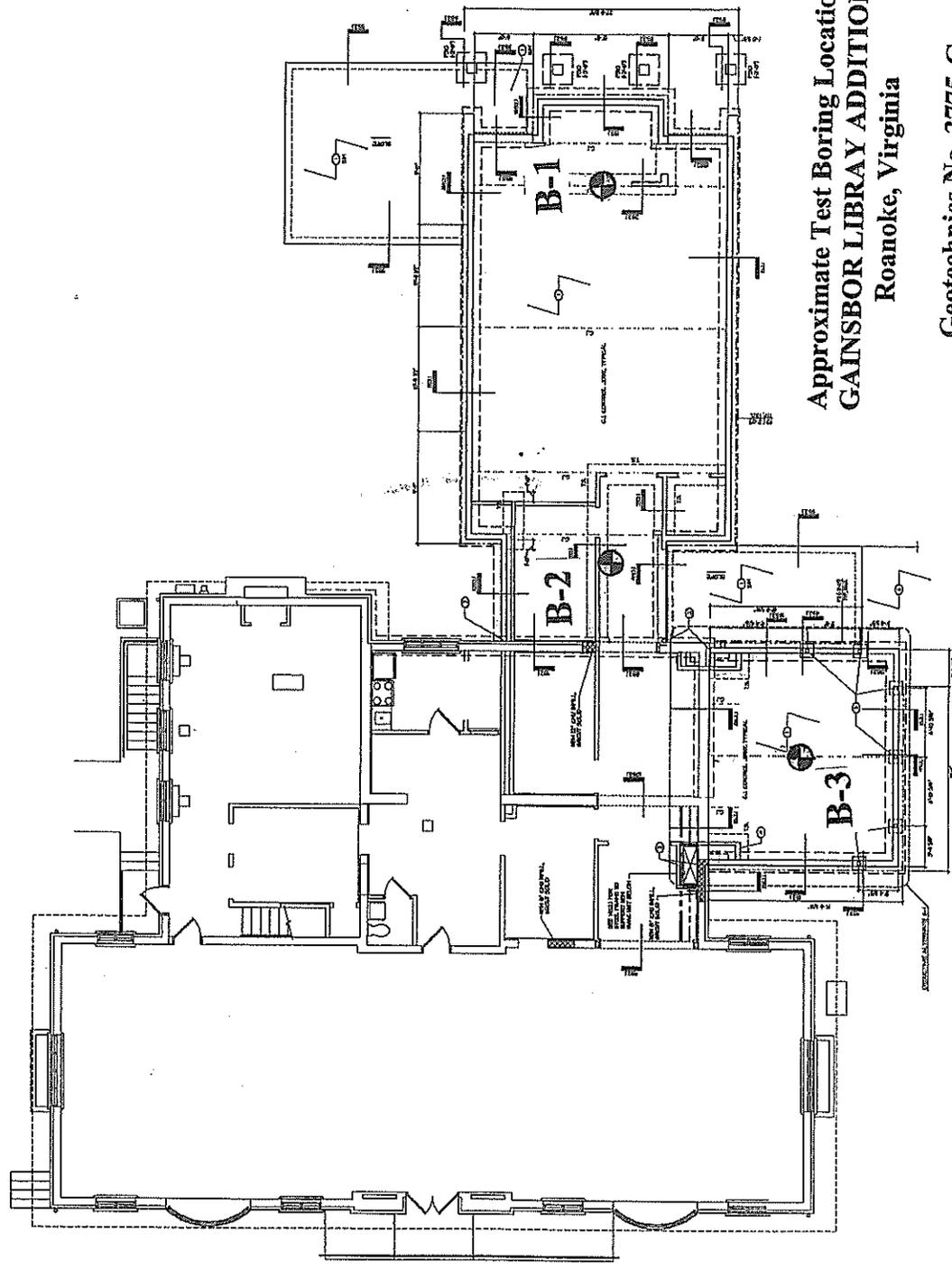
ROANOKE, VIRGINIA

FOUNDATION PLAN

DATE: 10/20/2010

SCALE: 1/8" = 1'-0"

PROJECT NO. 3775-G



Approximate Test Boring Locations
GAINSBOR LIBRARY ADDITIONS
 Roanoke, Virginia
Geotechnics No. 3775-G

NO.	DATE	DESCRIPTION

DATE	10/20/2010
PROJECT NO.	3775-G
PROJECT TITLE	ROANOKE CITY LIBRARY ADDITIONS & RENOVATIONS
CLIENT	ROANOKE CITY
DESIGNED BY	
CHECKED BY	
APPROVED BY	
SCALE	1/8" = 1'-0"

FOUNDATION PLAN

Location Gainsboro Library Addition
Roanoke, Virginia

BORING LOG

Structure _____ Building _____

Comm. No. 3775-G

Sheet 1 of 1

Geologist _____

Boring No. 1

Contractor Geotechnics, Inc.

Engineer _____ JRC _____

Date 18 June 2007

Stratification			Description of Materials (Type, color & Consistency)	Sampler or Spoon		Sample No.	Misc. Data
Elevation	Depth	Legend		Blows	Penetration		Length of hole 8.7'
949.7	0						Rock ----
949.2	0.5		<u>TOPSOIL</u> Gray-Brown Clayey SILT with Organics				Wt. of hammer 140#
946.7	3.0		<u>FILL</u> Orange-Tan Sandy SILT with Few Rock Fragments	2	1'	1	Avg. fall of hammer 30"
			Reddish-Brown Clayey SAND with Rock Fragments				El of ground water ----
943.4	6.3		<u>RESIDUUM</u> Highly Weathered to Decomposed Tan and Gray Shale	7	1'	2	REMARKS
941	8.7		Auger Refusal <u>BOTTOM OF HOLE</u> Completed: 10:45 a.m. 18 June 2007				Auger scraping off & on 0.5'-2.5'
							SAMPLE 2.5'-3.5'
							SAMPLE 5.5'-6.5' PL=29, PL=20, PI=9
							Drilled hard 6.5'-8.7'
							W.L. @ Completion: Dry.

Location Gainsboro Library Addition
Roanoke, Virginia

BORING LOG

Structure _____ Building _____

Geologist _____

Engineer _____ JRC

Comm. No. 3775-G

Sheet 1 of 1

Boring No. 2

Date 7 November 2007

Contractor Geotechnics, Inc.

Stratification			Description of Materials (Type, color & Consistency)	Sampler or Spoon		Sample No.	Misc. Data
Elevation	Depth	Legend		Blows	Penetration		Length of hole 9.0'
948	0						Rock ----
947.6	0.4		TOPSOIL Gray-Brown Clayey SILT with Organics				Wt. of hammer 140#
			FILL Black, Brown and Gray Sandy SILT with Cinders, Slag, Brick and Rock Fragments	13	1'		Avg. fall of hammer 30"
			RESIDUUM Highly Weathered to Decomposed Tan and Gray Shale with Orange-Tan CLAY	9	1'		El of ground water ----
941.5	6.5						REMARKS
939	9.0		BOTTOM OF HOLE Completed: 11:10 a.m. 7 November 2007	10	1'		Auger scraping off & on 0.4'-6.5'
							SAMPLE 2.5'-3.5'
							SAMPLE 5.5'-6.5' Bottom of Cinders Wet. Drilled hard 6.5'-7.5'. Auger Refused at 7.5'
							SAMPLE 8.0'-9.0' Sampler Deflecting
							W.L. @ Completion: Collapsed and Dry @ 5.2'

Location Gainsboro Library Addition
Roanoke, Virginia

Contractor Geotechnics, Inc.

BORING LOG

Structure Building

Geologist ---

Engineer JRC

Comm. No. 3775-G

Sheet 1 of 1

Boring No. 3

Date 7 November 2007

Stratification			Description of Materials (Type, color & Consistency)	Sampler or Spoon		Sample No.	Misc. Data
Elevation	Depth	Legend		Blows	Penetration		Length of hole 9.2'
948	0						Rock ----
947.6	0.4		<u>TOPSOIL</u> Gray-Brown Clayey SILT with Organics				Wt. of hammer 140#
			<u>FILL</u> Black, Brown and Gray Sandy SILT with Cinders, Slag, Brick and Rock Fragments	10	1'		Avg. fall of hammer 30"
941.8	6.2		<u>RESIDUUM</u> Highly Weathered to Decomposed Tan and Gray Shale with Orange-Tan CLAY	7	1'		El of ground water ----
939	9.0		<u>BOTTOM OF HOLE</u> Completed: 11:40 a.m. 7 November 2007	10	0.5"		REMARKS
							Auger scraping off & on 0.4'-6.2'
							SAMPLE 2.5'-3.5'
							SAMPLE 5.5'-6.5'
							Drilled hard 6.2'-8.7'. Auger Refused at 8.7'
							SAMPLE 8.7'-9.2' Sampler Deflecting No Recovery
							W.L. @ Completion: Collapsed and Dry @ 6.0'



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686 Lee Highway South
Roanoke, Virginia 24019

SUBSURFACE INVESTIGATION

PROPOSED ADDITIONS

JACKSON PARK LIBRARY

ROANOKE, VIRGINIA

Geotechnics, Inc.

Commission No. 3775J

22 June 2007

SUBSURFACE INVESTIGATION

PROPOSED ADDITIONS

JACKSON PARK LIBRARY

ROANOKE, VIRGINIA

General -

Two (2) test borings were made at the requested locations on the 18th of June 2007. The test borings were made with a CME-45 trailer-mounted power auger using six (6) inch diameter, hollow-stem, continuous flight augers. Standard Penetration tests were made at five (5) foot intervals or less.

The boring locations were staked in the field by Geotechnics by taping from the existing building. The site is essentially flat and the present ground surface at both boring locations was assumed Elevation 100. See the attached site sketch for the approximate test boring locations.

Detailed descriptions of the materials encountered and recorded groundwater measurements are shown on the accompanying logs.

All soil samples from the test borings were retained by Geotechnics and may be examined at this office, upon request, for a period of sixty (60) days from the date of this report, by the Owner, his Architect or Engineer, Contractors or other authorized persons.

Location -

The existing Jackson Park Branch Library is located on the southwest corner of the intersection of Montrose Avenue and Morningside Street in Roanoke, Virginia. A one (1) story addition (roughly 34 feet by 20 feet) is proposed at the northwest end of the existing building (vicinity Boring No. 1). A one (1) story addition (roughly 40 feet by 36 feet) is proposed at the northeast end of the existing building.

The proposed building areas consist of relatively flat grassed areas, and minimal site grading work will be required to bring the building areas to subgrade.

General Geology -

The site is underlain by the Rome Formation of Cambrian Age. This formation is extremely heterogeneous, consisting of shale, limestone and dolomite. The rocks strike or trend nearly east-west and typically dip moderately to the north. The shales, which predominate the formation, are vari-colored, including maroon, reddish-brown, gray-green, green, dark gray and tan to

yellow. They are fine-grained, close-jointed and break with a splintery or hackly fracture. The limestones and dolomites are generally thin to medium bedded, highly fractured (usually calcite-healed) and range in color from light gray to dark blue-gray.

In cut areas, the subgrade materials typically consist of alternating beds of harder shale, limestone or dolomite bedrock; highly weathered to decomposed shale; firm residual soil; and some very soft mud seams. The mud seams generally require some undercutting and replacement with controlled fill to provide adequate founding materials beneath the building footings, slabs-on-grade and asphalt pavement.

Soils -

Soils identified in the test borings include topsoil, colluvium and residuum.

A 0.5 foot thickness of topsoil was penetrated at the ground surface in both borings.

Colluvium (soil transported and deposited by gravity) was identified beneath the topsoil in both borings. Colluvium was described as orange-tan, tan and/or reddish-tan silty clay with sandstone fragments. The colluvium varied in thickness from 3.5 feet at Boring No. 2 to 3.8 feet at Boring No. 1.

Residuum (soil derived from the in-place weathering or decomposition of bedrock) was identified beneath the colluvium in

Boring No. 2. The 12.0 feet of residuum penetrated was described as yellow-tan and orange-tan silty clay to clayey silt, or tan and gray clayey silt.

Foundation Conditions -

Standard Penetration tests on colluvium indicate the allowable bearing value varies from about 3,250 PSF to more than 8,000 PSF. However, the higher values are believed to be erroneously high due to rock fragments in the materials sampled.

The allowable bearing value for residuum, as indicated by Standard Penetration Tests, varies from about 1,250 PSF to 2,750 PSF.

Laboratory Testing -

One (1) soil sample was selected from the test boring for subsequent laboratory soil classification testing. Sample No. 1 from Boring No. 2 had a Liquid Limit (LL) of 53, a Plastic Limit (PL) of 30, and a Plasticity Index (PI) was 23. The sample had 55.4 percent passing a No. 200 sieve and classified as a sandy elastic silt with gravel (MH).

Discussion -

The proposed building areas consist of relatively flat grassed areas and minimal site grading work will be required to bring the proposed building area to subgrade.

The test borings indicate the proposed additions may be founded on shallow continuous wall footings bearing on colluvium or residuum at minimal depth. An allowable bearing value not to exceed 2,000 PSF may be utilized for design.

All perimeter footings should bear at least two (2) feet below finished exterior grade for frost protection.

An engineering geologist or soils engineer should examine the materials exposed in the bottom of all footing excavations, prior to pouring concrete, to assure the adequacy of the founding materials.

All topsoil and organics should be stripped or removed from the proposed building area. The exposed surface should then be examined by an engineering geologist or soils engineer, and proof-rolled to check for soft spots or other deficiencies.

All fill and backfill placed at the site should be continuously controlled, placed in eight (8) inch horizontal lifts and compacted to at least 95 percent of the maximum dry density as determined by ASTM D-698 (Standard Proctor). The moisture content of the fill material should be adjusted (by aeration and drying, or moistening) to within 3% of the Optimum

Moisture content, unless otherwise approved by the Geotechnical Engineer.

The maximum dimension of rock fragments included in the controlled fill should not exceed one-half the lift thickness (or four inches maximum). Care must be exercised to assure that the fill material contains sufficient fines to properly "bind" together.

The subgrade materials supporting the slab-on-grade should be proof-rolled or recompacted after the footings have been poured and immediately prior to placing the crushed stone. The concrete floor slab should then be poured as soon as possible after placement of the crushed stone. In the event that the crushed stone is placed well ahead of the slab pour, a dense graded aggregate (such as VDOT No. 21-A) should be utilized in lieu of an open-graded aggregate (such as VDOT No. 57).

A Subgrade Modulus of 125 PCI may be utilized for designing concrete slabs-on-grade, provided the subgrade materials are properly compacted prior to placing the crushed stone.

The geologic mapping and soil test borings indicate Site Classification C should be utilized for Seismic Design.

Soils are frequently classified as having low, moderate or high shrink-swell potential based on a correlation with the Plasticity Index (PI). Soils with a PI between 0 and 15 are considered to have a low shrink-swell potential. Soils with a PI between 15 and 30 are considered to have a moderate shrink-swell

potential. Soils with a PI of 30 or more are considered to have a high shrink-swell potential.

Sample No. 1 from Boring No. 2 had a Plasticity Index of 23. Based on the Plasticity Index, the near surface on-site soils have a moderate shrink-swell potential. Consequently, the proposed structure may be founded on a conventional foundation with no special provisions for shrink-swell soils.

Boring No. 1 was terminated at auger refusal at a depth of 4.3 feet indicating rock excavation will not be required at the boring location. The top of bedrock on the Rome formation is often very hummocky or irregular and an occasional ridge or ledge of rock may be encountered at the site.

Groundwater was not encountered in the test boring. Groundwater is not anticipated to be a problem during site grading, provided the work is not performed during or immediately after a prolonged wet period.

Conclusions and Recommendations -

1. The proposed site proper consists of relatively flat grassed areas and minimal site grading work will be required to bring the proposed building area to subgrade.
2. The test borings indicate the proposed additions may be founded on shallow continuous wall footings bearing on colluvium or residuum at minimal depth. An allowable

bearing value not to exceed 2,000 PSF may be utilized for design. An engineering geologist or soils engineer should examine the materials exposed in the bottom of all footing excavations, prior to pouring concrete, to assure the adequacy of the founding materials.

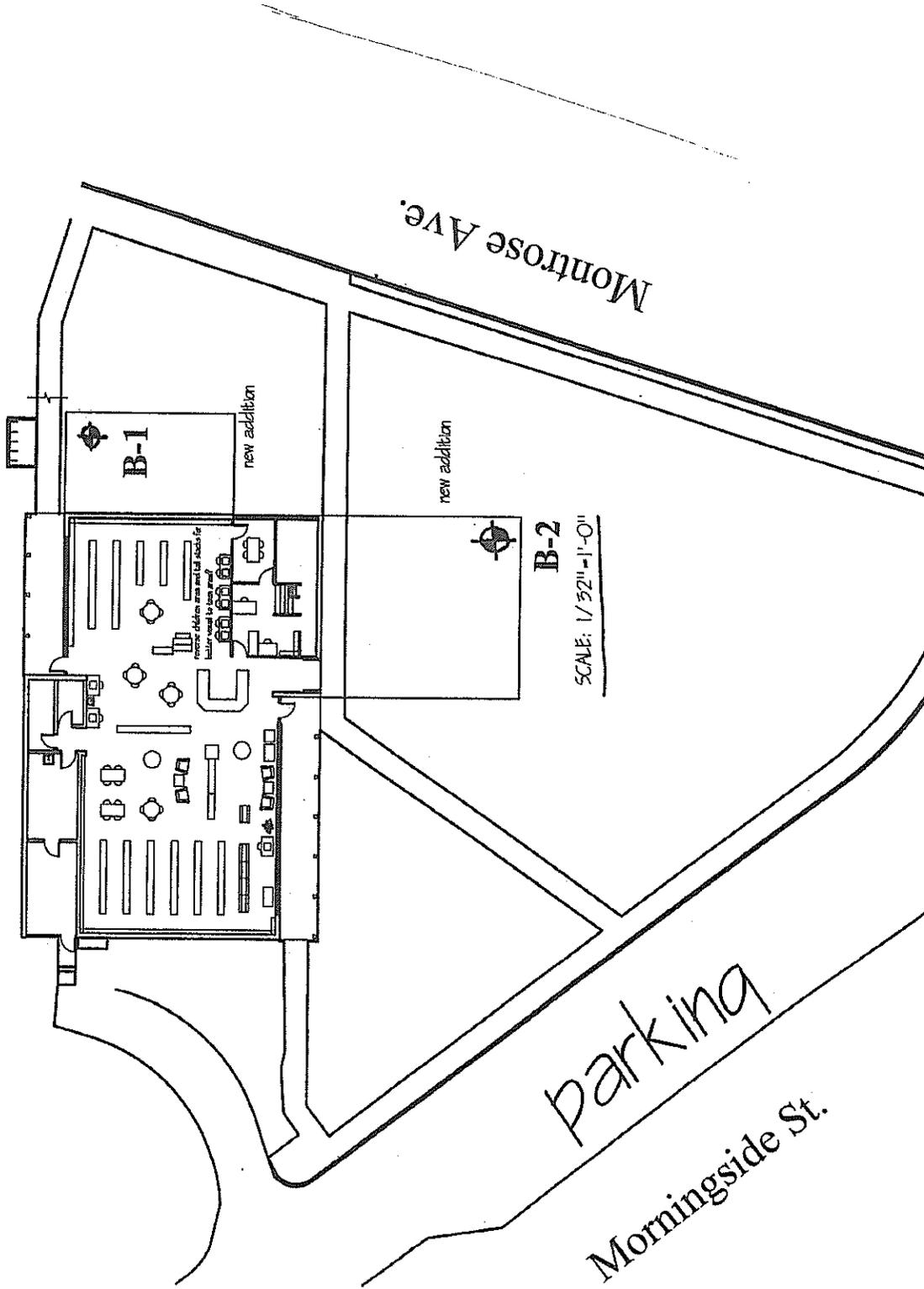
3. All topsoil and organics should be stripped or removed from the proposed building area. The exposed surface should then be examined by an engineering geologist or soils engineer, and proof-rolled to check for soft spots or other deficiencies.
4. All fill and backfill placed at the site should be continuously controlled, placed in eight (8) inch horizontal lifts and compacted to at least 95 percent of Standard Proctor.
5. The geologic mapping and soil test borings indicate Site Classification C should be utilized for Seismic Design.
6. Based on the Plasticity Index, the near surface on-site soils have a moderate shrink-swell potential. Consequently, the proposed structure may be founded on a conventional foundation with no special provisions for shrink-swell soils.
7. Groundwater was not encountered in the test borings and is not anticipated to be a problem during site grading,

provided the work is not performed during or immediately after a prolonged wet period.

8. Upon completion of the Final Plans and Specifications, and prior to commencing construction, a copy should be submitted to Geotechnics for our review and comments.



Geotechnics, Inc
686 Lee Highway South
Roanoke, Virginia



Approximate Test Boring Locations
JACKSON PARK LIBRARY ADDITION
 Roanoke, Virginia

Geotechnics No. 3775-G

Location Jackson Park Library Addition
Roanoke, Virginia

BORING LOG

Structure Building

Geologist ---

Engineer JRC

Comm. No. 3775-J

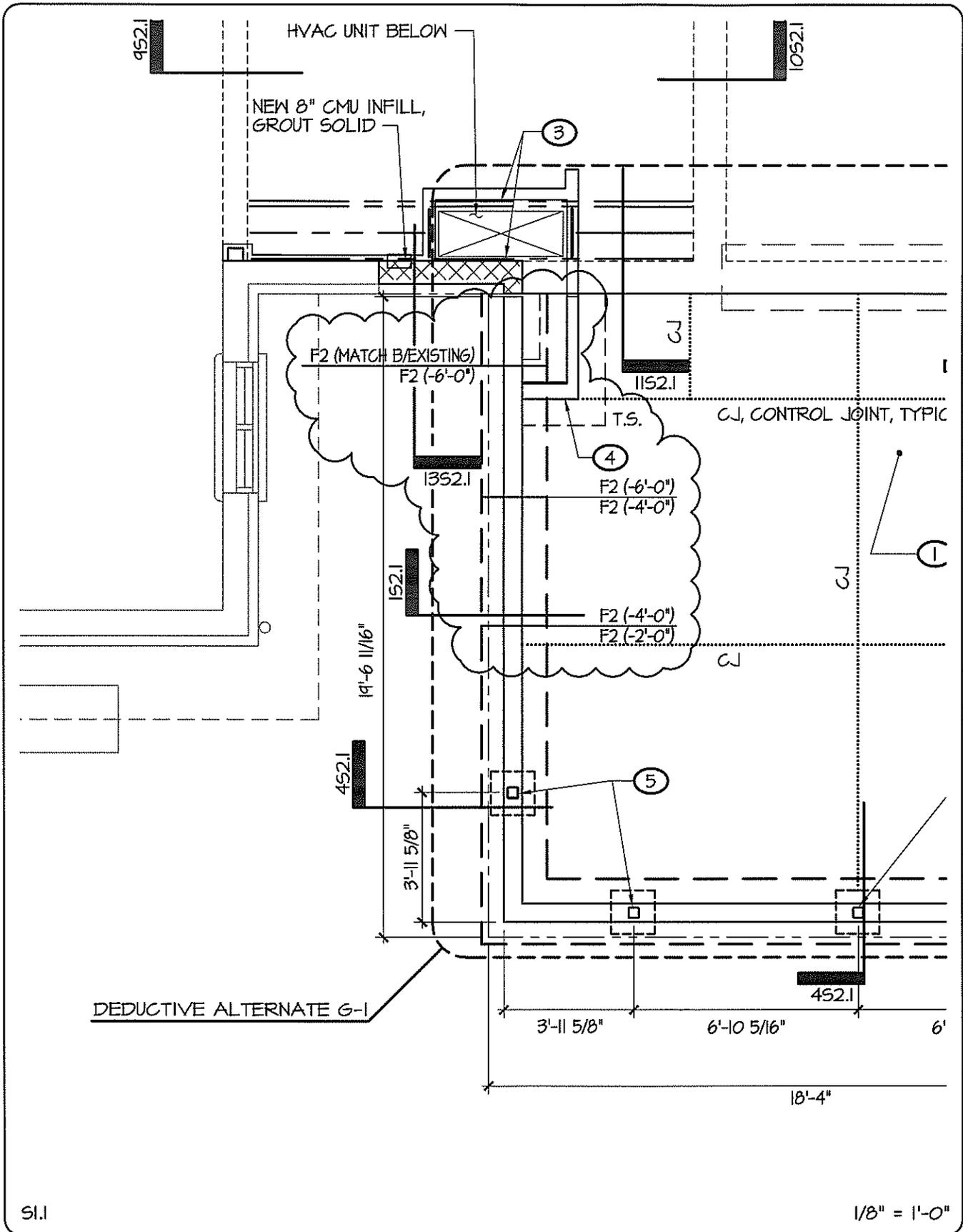
Sheet 1 of 1

Boring No. 2

Date 18 June 2007

Contractor Geotechnics, Inc.

Stratification			Description of Materials (Type, color & Consistency)	Sampler or Spoon		Sample No.	Misc. Data
Elevation	Depth	Legend		Blows	Penetration		Length of hole 16.5'
100	0						Rock ----
							Wt. of hammer 140#
							Avg. fall of hammer 30"
							El of ground water ----
							REMARKS
99.5	0.5		<u>TOPSOIL</u> Gray-Brown Clayey SILT with Organics				Auger scraping @ 2.0'. SAMPLE 2.5'-3.5' LL=53, PL=30, PI=23 (MH) Relict structure.
			<u>COLLUVIUM</u> Orange-Tan Clayey SILT with Sandstone Fragments	13	1'		
96	4.0		<u>RESIDUUM</u> Yellow-Tan and Orange-Tan Silty CLAY to Clayey SILT	6	1'		
				5	1'		SAMPLE 10.5'-11.5' Manganese staining.
85	15.0		Tan and Gray Clayey SILT	11	1'		SAMPLE 15.5'-16.5'
83.5	16.5			<u>BOTTOM OF HOLE</u> Completed: 11:45 a.m. 18 June 2007			



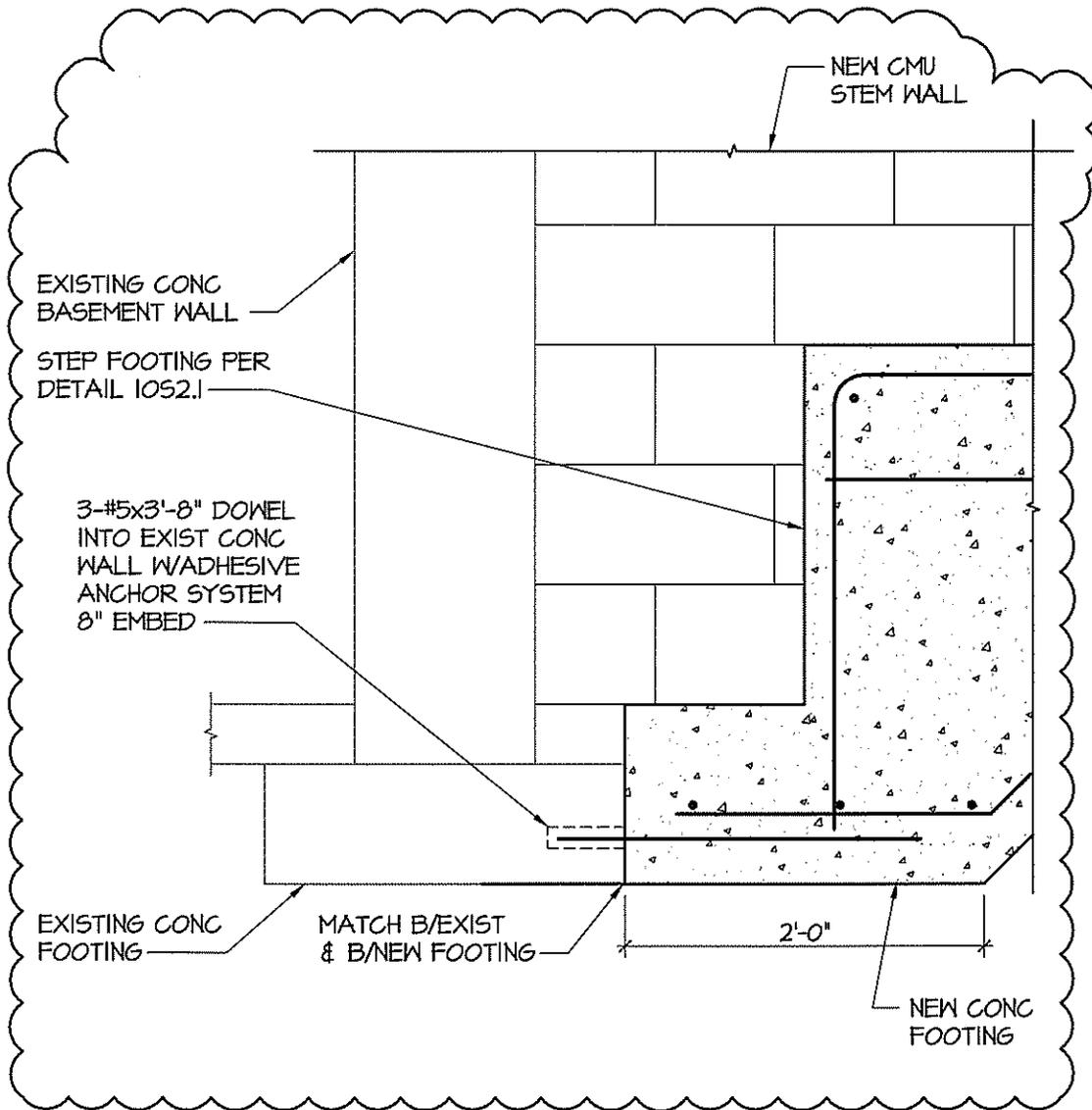
SI.1

1/8" = 1'-0"

SFC
 Architecture
 Engineering
 Planning
 Interiors
 SFC Inc. • 305 South Jefferson Street • Roanoke, Virginia 24011.2003
 540.344.6664 • Fax 540.343.6925 • www.sfcs.com

TITLE REVISED FOUNDATION PLAN			
DRAWN BY CMF	CHECKED BY CMF	DATE 11/13/07	COMM. NO. 6501.03

SUPP. DWG. NO.
1



52.1

1" = 1'-0"

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TITLE REVISED DETAIL 1352.1

DRAWN BY CMF	CHECKED BY CMF	DATE 11/13/07	COMM. NO. 6501.03
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SUPP. DWG. NO.

2

SECTION 16491 - FUSES

1. PART 1 - GENERAL

1.1. SUBMITTALS:

- A. Product Data: Submit manufacturer's technical product data on fuses used on this project, including specifications and electrical characteristics. In addition, include voltages and current ratings, interrupting ratings, current limitation ratings, and time-current trip characteristics curves.

2. PART 2 - PRODUCTS

- 2.1. MANUFACTURERS: Provide fuses by Cooper Bussmann, Inc.; Ferraz Shawmut, Inc. or Tracor, Inc.; Littlefuse, Inc. Subsidiary. Obtain all fuses use on the project from a single manufacturer.

2.2. FUSES:

- A. General: Except as otherwise indicated, provide NEMA FU 1, nonrenewable cartridge fuses of types, sizes, ratings, and average time-current and peak let-through current characteristics indicated or required to suit the equipment served, which comply with manufacturer's standard design, materials, and constructed in accordance with published product information, and with industry standards and configurations.
- B. Extra Materials: For all types and ratings required, furnish additional fuses, amounting to one unit for every 10 installed units, but not less than one set of 3 of each size and type. Provide a metal cabinet with lockable door to house all extra fuses plus 25% spare capability and fuse pullers for each size of fuse.
- C. Class RK5 Time-Delay Fuses: Provide UL Class RK5 time-delay fuses rated 250 or 600 volts, 60 Hz, with 200,000 RMS symmetrical interrupting current rating, Bussmann "Fusetron", FRN/FRS, or equal.

3. PART 3 - EXECUTION

- 3.1. INSTALLATION OF FUSES: Install fuses in all fusible devices. Size of fuses shall be as noted or in accordance with fuse manufacturer's tables for back-up motor running protection. Install fuses so rating information is readable without removing fuses. Install labels indicating fuse replacement information on inside door of each fused switch.

END OF SECTION 16471