insulation should be a Type II expanded polystyrene (EPS), or approved equivalent, with a minimum compressive strength (ASTM: D1621) of 20 pounds per square inch (psi), a minimum rated R-value (ASTM: C177, C518) of 4.5R per inch, and a minimum density of 1.80 pounds per cubic foot. The insulation should be at least 4" thick and covered with a minimum 12" thick layer of compacted NFS soil (i.e., between the insulation and the slab). Additionally, insulation should be placed on all vertical faces of the interior and exterior foundation walls of the parking ramp to prevent backfill adfreezing. If you choose this alternative, please contact us so that we may provide additional design and construction recommendations after the foundation plan is available.

If the parking ramp is heated, then the NFS fill and/or insulation would not be required in the upper 4' of the parking ramp subgrade. Likewise, if a flexible pavement (i.e., bituminous pavement) is used on the at-grade level of the parking ramp, it would not be as critical to replace the existing silty and clayey fill soils with NFS fill or insulate the slab because flexible pavements generally experience less distress when the subgrade soils freeze and expand.

Pedestrian Tunnel

The preliminary design of this project includes a pedestrian tunnel connecting the new parking ramp to the new restaurant addition. Construction of the tunnel will require bedrock excavation. Refer to the BUILDING GRADING PROCEDURES section of this report for a discussion of bedrock excavation. We recommend that the tunnel slab be cast on a sand cushion placed over the exposed bedrock. A modulus of subgrade reaction of 220 pci may be used to design the tunnel slab. Refer to the STRUCTURE BACKFILLING section of this report for tunnel backfilling recommendations.

Structure Backfilling

We recommend placing a perimeter drainpipe completely around the outside of the basement walls for the addition and the parking ramp, as well as the pedestrian tunnel. The drainpipe should be surrounded with imported free-draining granular soil having less than 12% passing the

No. 200 sieve, such as Mn/DOT 3149.2B2. Silty or clayey soil must not be used for this backfill. The drainpipe should be connected to one or more sumps in the building so that infiltrating water can be removed. Our recommendations for drainage and backfilling the below grade portion of the building are provided on the attached standard sheet entitled "Basement/Retaining Wall Backfill and Water Control."

Where exterior entry slabs, sidewalks, aprons and patios abut the building and parking ramp, we recommend placing select non-frost susceptible (NFS) granular backfill around the exterior of the addition to reduce the potential for frost heave of the slabs and sidewalks. The NFS fill should be a sand or sand and gravel mix having less than 12% passing the No. 200 sieve and less than 40% passing the No. 40 sieve, such as Mn/DOT 3149.2B2. The fill should be placed in thin lifts and compacted to at least 95% of the maximum Standard Proctor dry density.

Exterior Drainage

The exterior drainage around the building and parking ramp must be carefully planned to prevent water from ponding against the buildings, and infiltrating and saturating the soils under patios, entry slabs, and sidewalks. We recommend a minimum slope of all surfaces abutting the buildings of at least 6" in the first 10' to promote surface water drainage away from the buildings. The roof drainage system should be designed to discharge away from the buildings. We also recommend not designing or building landscaped areas next to the structure where water can pond in decorative rock, while being prevented from flowing away from the building by adjacent sidewalks and/or driveways.

Underground Utility Construction

Installation of the underground utilities will likely require excavation of bedrock. Where bedrock is encountered in the utility trenches, we recommend that the rock be over-excavated a minimum of 6" below invert to allow for placement of granular pipe bedding. The contractor must be careful to avoid overbreak and fracturing of the bedrock below the invert elevation. If overbreak occurs below the pipe, the subgrade may appear stable when bedding is placed, but the bedding

can migrate into the fractures/voids as surface water infiltrates through the trench backfill, causing settlement and misalignment of the pipes, and opening of the pipe joints.

Please refer to the standard data sheets at the end of this report entitled "Standard Recommendations for Utility Trench Backfilling" and "Bedding/Foundation Support of Buried Pipe" for additional recommendations on backfill materials and backfill placement.

Pavement Restoration

Based on our understanding of this project, pavement construction will be limited to restoring disturbed areas immediately adjacent to the building. Where the pavement will be restored, it is important that the new pavement section match the pavement section for the adjacent paved areas. If a sand subbase is present beneath the aggregate base course in the existing pavement, the new pavement section should also include a sand subbase of equal thickness so that relatively uniform drainage and frost heave characteristics are achieved. If a sand subbase is not present beneath the existing pavement, a sand subbase should not be placed in the repaired section to reduce the potential for differential frost heave across that segment of pavement. Similarly, the thickness of aggregate base course and bituminous pavement for the restored sections should be similar to the adjacent existing pavement. We recommend that you have an Engineer or Materials Technician on the site to document the existing pavement section during pavement restoration.

CONSTRUCTION CONSIDERATIONS

Potential Difficulties

Runoff Water and Groundwater in Excavations

Based on the conditions found in our borings, it is our opinion that the hydrostatic groundwater table would not be encountered in excavations for foundations or underground utilities for this project. However, it is possible that perched groundwater could be encountered in excavations on this site, including excavations into bedrock. Perched groundwater should not be dismissed as unimportant or inconsequential to the construction process. To allow observation of the

Exhibit D

Opinion of American Engineering Testing, Inc.

[See attached.]

Exhibit E

Geotechnical Report(s)

[See attached.]

AMERICAN ENGINEERING TESTING, INC.

CONSULTANTS
• ENVIRONMENTAL
• GEOTECHNICAL
• MATERIALS
• FORENSICS

April 24, 2007

Cossetta's Restaurant and Market
211 7th Street West
St. Paul, Minnesota 55102

Attn: Mr. Dave Cossetta

Re: Geotechnical Exploration/Review
Proposed Cossetta's Restaurant Addition and Parking Ramp
211 7th Street West/212 Smith Avenue
St. Paul, Minnesota
AET Project No. 05-03034

Dear Mr. Cossetta:

We have completed a subsurface exploration and geotechnical engineering review for the referenced project. This report documents the results of our exploration/review and provides our opinions and recommendations to aid you and your design team in planning and construction of the project. We are submitting three copies of this report to you and two copies to Mr. John Seppanen of ESG Architects; this report is the instrument of services defined in our proposal.

We have enjoyed working with you on this phase of the project. If you have questions regarding this report or if we can be of further assistance, please contact us.

Sincerely,

American Engineering Testing, Inc.

Chad A. Underwood, PE, PG
Senior Geotechnical Engineer
Phone: (651) 789-4653
Fax: (651) 659-1347
cunderwood@amengtest.com

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GEOTECHNICAL EXPLORATION/REVIEW
PROPOSED COSSETTA'S RESTAURANT ADDITION
AND PARKING RAMP
ST. PAUL, MINNESOTA
AET PROJECT NO. 05-03034

SUMMARY

Purpose

Cossetta's is planning an addition to its restaurant at 211 7th Street West, as well as a new parking ramp at 212 Smith Avenue in St. Paul, Minnesota. The purpose of our services on this project is to explore subsurface conditions and provide geotechnical engineering recommendations to assist you and the project team in planning, design, and construction of this addition.

Scope

We drilled eight Standard Penetration test (SPT) borings and diamond cored the bedrock at six locations to explore the subsurface conditions on these sites and prepared this geotechnical engineering report. We also drilled six SPT borings in the area of the proposed restaurant addition in 2006. The boring logs from our 2006 field exploration are attached.

Findings

In each boring, we found a surficial layer of fill or possible fill extending to the top of bedrock, at depths of about 2' to 17' below grade. The fill in each boring overlies bedrock or possible bedrock. The bedrock that we encountered in our borings consisted of limestone of the Platteville Formation overlying shale of the Glenwood Formation and sandstone of the St. Peter Formation. We did not encounter groundwater in any of our borings during or after drilling.

Recommendations

These recommendations are in a condensed form for your convenience. It is important that you read our entire report for a more comprehensive explanation of our recommendations.

- Excavations for the basement of the addition, the below grade level for the parking ramp and the connecting pedestrian tunnel, as well as excavations for new underground utilities on these sites will require bedrock excavation.

- We recommend constructing all of the footings for both the restaurant addition and the parking ramp on limestone or sandstone bedrock to reduce the potential for differential settlement between footings bearing on bedrock and footings bearing on soil.

- We recommend that the footings not bear in the Glenwood Shale. We also recommend excavating the Glenwood Shale from under the lower level parking slab.

INTRODUCTION

You have authorized American Engineering Testing, Inc. (AET) to conduct a subsurface exploration and provide geotechnical engineering recommendations for this project by accepting our proposal dated February 9, 2007. This report presents the field information we obtained at the site and our engineering recommendations.

To protect you, AET, and the public, we authorize use of opinions and recommendations in this report only by you and your project team for this specific project. Contact us if other uses are intended. Even though this report is not intended to provide sufficient information to accurately determine quantities and locations of particular materials, we recommend that your potential contractors be advised of the report availability.

Scope of Services

Our scope of services for this project, as outlined in our proposal, was limited to the following elements:

- Drill and sample eight Standard Penetration test (SPT) borings in the proposed parking ramp, each to the depth of auger and/or split-barrel refusal, and then diamond core the bedrock at five of the eight SPT boring locations, each to a termination depth of about 20' below grade. One of the diamond coring locations was omitted due to the presence of overhead electric lines and difficult access conditions at the time of our field exploration.

- Diamond core the Platteville Limestone (and possibly the Glenwood Shale) at three of the SPT boring locations that we previously drilled in the area of the proposed restaurant addition, each to a termination depth of about 15' below grade. We did not diamond core one of the planned locations because we encountered overburden soils that extended below the planned depth of the basement floor elevation.

- Perform visual/manual classification of the soil and rock samples.

- Prepare a written report including the logs of the test borings and our geotechnical recommendations for the building foundations, site grading underground utility construction, and pavement subgrade preparation and design.

The scope of our work is intended for geotechnical purposes only. This scope is not intended to explore for the presence or extent of chemical contamination at the site.

PROJECT INFORMATION

Cossetta's is planning an addition to its restaurant at 211 7th Street West in St. Paul, Minnesota. As part of this project, a new parking ramp will be constructed on a vacant lot north of the restaurant building (at 212 Smith Avenue). This parking ramp will replace the surface parking that currently occupies the area of the proposed addition.

The existing restaurant building is a three-story structure with a basement. The addition will be built off the southwest and northwest sides of the building, covering a footprint of about 11,500 square feet. The addition will extend to the lot lines on the southwest and southeast sides (i.e., zero lot line clearance). You indicated that a building formerly occupied the area of the proposed addition. This building was razed several years ago and there is no documentation of removal of the foundations or underground utilities for the old building.

Based on information provided by ESG Architects, the first floor elevation of the existing building is at elevation 85.58 feet St. Paul City Datum (SPCD), and the finished floor elevation of the basement is at elevation 74.91 feet SPCD. There will be a basement under the addition, with a finished floor elevation at about 73.5 feet SPCD. The addition will have one above grade level, with the first floor matching the elevation of the existing first floor.

The site of the proposed parking ramp is currently vacant; however, a building previously occupied this site. The new ramp will have one level of parking below grade and two above grade levels; the ramp will be unheated. The parking ramp will extend to the lot lines on all four

sides of the lot (i.e., zero lot line clearance). There are existing buildings on the lots adjacent to the proposed parking ramp and these buildings extend to the lot lines.

The parking ramp design is still preliminary, and you are considering two options for the below grade parking level. One option would include a below grade level under the entire ramp footprint; the second option includes a below grade level only under the east approximately one-third of the ramp footprint. Based on preliminary design information provided by ESG Architects, the lower level of parking will be at about elevation 78.8 feet SPCD. The existing grades on the parking ramp site range from about 90 to 94 feet SPCD. Future plans also include construction of up to two levels of commercial space above the upper parking deck.

There is an alley that separates the parking ramp lot from the existing restaurant building. A tunnel will be constructed to provide access from the lower level of the new parking ramp to the lower level of the west side of the new restaurant addition. The lower level finished floor elevation of the addition is planned at about 73.5 feet SPCD. Therefore, the tunnel floor will slope down from the parking ramp to the restaurant addition.

Project Assumptions

Our foundation design assumptions include a minimum safety factor of 3 with respect to the ultimate rock bearing capacity. We assume that the structures will be able to tolerate up to 1" of total settlement and up to ½" of differential settlement over a horizontal distance of 30'. We assume that the connection between the addition and the existing building will be designed to accommodate up to 1" of differential movement.

The presented project information represents our understanding of the proposed construction. This information is an integral part of our engineering review. It is important that you contact us if there are changes from that described so that we can evaluate whether modifications to our recommendations are appropriate.

SITE CONDITIONS

Surface Observations

At the time of our field exploration, the site of the proposed parking ramp was a vacant gravel-surfaced lot. The topography was relatively flat to gently sloping; we found about 4' of elevation difference among our eight borings on the parking ramp site. The site of the proposed addition was a relatively flat bituminous paved parking lot adjacent to the existing restaurant building.

At the time of our 2006 field exploration for the proposed restaurant addition, we observed an open hole in the bituminous parking lot about 20' southwest of the main entrance to the building. The hole was about 6" in diameter. We lowered a tape measure down the open hole and measured a depth of about 17' below grade. We returned to the site the following day and lowered a video camera down the hole. Based on the images that we observed from the video camera, the hole in the bituminous appeared to have developed over an old manhole that was open at the top. To temporarily cover the old manhole, a metal plate was placed over the top of the manhole and a bituminous patch was placed at the surface.

Geology

Based on a surficial geology map published by the Minnesota Geological Survey, the naturally-occurring surficial soils in the area of this site consist of sand and gravel of the Langdon Terrace of the West Campus Formation.

Based on the bedrock map published by the Minnesota Geological Survey, the upper bedrock in the area of the site is the Upper Ordovician Platteville and Glenwood Formations, consisting of limestone and shale. The bedrock surface is shown at approximately elevation 750 feet National Geodetic Vertical Datum (NGVD) in the area of this site, which corresponds to a depth of less than 10' to about 30' below the ground surface.

The Platteville Formation consists of five members: the Carimona, the Magnolia, the Hidden Falls, the Mifflin, and the Pecatonica. The Carimona, Magnolia, and Hidden Falls members are

often eroded in this area of St. Paul, leaving only the Mifflin and Pecatonica members. When it is present, the entire thickness of the Mifflin member is typically around 12' to 13' thick, and the Pecatonica member is usually about 1' to 2' thick in this area of St. Paul. In this area, the Glenwood Shale is typically about 3' to 4' thick, and the St. Peter Sandstone is on the order of about 150' thick.

Tunnels are known to exist in the St. Peter Sandstone in portions of downtown St. Paul. The main tunnels are generally located in the street rights-of-way. However, drifts were excavated into the building sites to allow the utilities to be hooked up to buildings. Although tunnel invert elevations vary, the majority of the tunnels are located within the upper 25' to 30' of the sandstone sequence. We strongly recommend that a detailed historical search of old underground utilities, sewers and tunnels, and mapping of old underground utilities and tunnels be completed in the area of the new parking ramp and restaurant addition prior to construction.

Soils

The logs of the test borings are included in the Appendix. The logs contain information concerning soil/bedrock layering, soil/bedrock classification, geologic description and moisture; the relative density or consistency of the soils are also noted, based on the Standard Penetration resistance (N-value, "blows per foot").

> The boring logs only indicate the subsurface conditions at the sampled locations. Variations often occur between and beyond the borings.

In each boring, we found a surficial layer of fill or possible fill consisting of a mixture of brown, dark brown, gray and black sand, silt, and clay extending to depths of about 2' to 17' below grade. The fill generally overlies bedrock or possible bedrock.

Bedrock

Below the fill in each boring, we encountered possible bedrock at depths of about 2' to 17' below grade, corresponding to elevations ranging from 66.7 to 89.9 feet SPCD. The following table

presents the estimated bedrock surface elevations, either weathered or sound rock. Please note that the bedrock surface elevation varies significantly across the site and may be deeper or shallower between borings than found at the borings. Further, there may be crevasses or ridges in the bedrock surface that are not evident at the ground surface.

TABLE A – ESTIMATED BEDROCK ELEVATIONS

Boring Number	Surface Elevation, feet SPCD	Total Depth Drilled, feet	Estimated Top of Bedrock, feet (Elevation, feet SPCD)
2006 Borings			
1	86.3	3.0	2.0 (84.3)
2	86.3	7.6	7.0 (79.3)
3	85.2	1.5	1.5 (83.7)
4	83.7	7.6	7.0 (76.7)
5	*(boring not drilled due to underground utility conflicts)*		
6	84.4	11.1	11.1 (73.3) (1)
7	83.6	1.5	1.0 (82.6)
2007 Borings			
1A	86.3	15.2	2.0 (84.3)
3A	85.2	15.2	1.5 (83.7)
4A	83.7	17.5	17.0 (66.7) (1)
8	93.8	20.3	5.5 (88.3)
9	95.0	8.5	8.5 (86.5)
10	94.0	20.8	5.0 (89.0)
11	93.1	20.4	6.0 (87.1)
12	91.4	4.0	2.0 (89.4)
13	92.9	5.8	4.0 (88.9)
14	94.3	6.4	5.0 (89.3)
15	92.4	20.2	2.5 (89.9)

Notes:
(1) = Boring could be in area of a former building on this site hat had a basement level and was later filled in.

In the borings that we did not diamond core, it is possible that some of the auger refusal that we encountered could have occurred on debris in the fill or on old foundations or slabs that were left in place from past structures. In the borings where we encountered auger refusal at depths less than about 3', we offset and re-drilled the borehole several times to assess the cause of auger refusal. In these borings, the deepest penetration depth is noted on the logs.

In order to verify bedrock and its condition, we diamond cored the bedrock at six locations. The upper bedrock that we encountered in our borings consisted of light gray to gray limestone of the Platteville Formation. On this site, only the Mifflin and Pecatonica members of the Platteville Formation were present in our borings. The bottom of the Platteville Limestone ranged from about 7' to 17' below grade, corresponding to elevations ranging from about 77 to 78 feet SPCD. Underlying the Platteville Limestone, we found gray shale of the Glenwood Formation extending to depths of about 11' to 20.5' below grade, corresponding to elevations ranging from about 73 to 74 feet SPCD. Underlying the shale in each of the borings that we diamond cored, we encountered light gray and light brown sandstone of the St. Peter Formation.

Core recoveries varied from 22% to 100%, with lower recoveries in the upper, more highly fractured Platteville Formation and in the underlying St. Peter Sandstone where sandstone can be eroded and washed out by the action of drilling water. The Rock Quality Designation (RQD) in the limestone ranged from 26% to 70%.

Based on the conditions that we found in our borings, we anticipate that bedrock would be encountered in excavations for foundations and underground utilities for this project. We cannot assess from our borings whether the bedrock can be excavated by ripping with bulldozers or by using a large backhoe with ripping teeth. In order to define the excavatability/rippability of this rock, we strongly recommend a supplementary exploration by means of test pits, using a large backhoe. We strongly recommend that this test pit exploration be carried out with mandatory attendance by all excavators who will bid the project.