

January 6, 2016

W&S Proj. No.: 2150685

William Scoble
Fire Chief
Westwood Fire Department
637 High St
Westwood, MA 02090

RE: Structural Evaluation of Apparatus Slab ***DRAFT***

Dear Chief Scoble,

Per your request, we have performed a structural evaluation of the apparatus bay elevated slab at Westwood Fire Station at 637 High St, Westwood, MA. Spalling concrete on the underside of the elevated slab with exposed reinforcing bars prompted the need for this evaluation. The work is in accordance with our letter proposal dated 10/20/2015 (attached). The elevated reinforced concrete slab supports fire apparatus parking. The fire station is active.



Westwood Fire Department Elevated Apparatus Slab – Deteriorated Concrete

EXISTING CONDITIONS

Nathan Seifert, PE, and Connor Western, EIT, conducted a site visit on November 01, 2015. Existing structural plans for the apparatus bay by Theodore Weaver Associates Inc. dated August 19, 1974 were available for review. The elevated slab is used to support fire apparatus parking and general storage, and is over additional parking space and storage at the lower level. The trucks enter the apparatus bay on the east side of the building from High Street (Rt. 109). There are four bays numbered Bay 1 through Bay 4 north to south. The slab is six to eight inches thick and reinforced in both directions. The elevated slab is supported by 1'-6" square reinforced concrete columns with 5'-6" by 4 inch deep drop panels at the interior and reinforced concrete wall at the perimeter. The typical bay size (i.e. spacing between supports) is 16'-4" by 16'-4".

The weather conditions at the time of the site visit were clear with temperatures in the mid 50's. Structural deterioration observed included the following:

1. Spalled concrete on the underside of the slab east end of Bays 2 and 3. Reinforcing bars were exposed and exhibited moderate corrosion (Refer to Photo 1).
2. Minor cracking on the top and underside of the slab with efflorescence (Refer to Photos 2 and 3).
3. Areas of delamination in multiple locations throughout the slab identified from sounding the concrete (Refer to the JTC report attached).
4. Deterioration and delamination of the epoxy flooring system throughout the top side of the slab.
5. Spalling concrete in the top of the slab where epoxy flooring has deteriorated (Refer to Photos 4 and 5).
6. All four of the main floor drains are either broken or damaged, and are corroded (Refer to Photo 6).
7. Standing water in multiple locations on the top of the slab.

John Turner Consulting (JTC) was on-site to perform concrete sampling and testing, and assist with sounding the concrete. JTC took one core sample for strength testing (per ASTM C42) and seven core samples for chloride ion testing (per ASTM C1152). Chloride ion testing is used to determine the concentration of chloride ions at various depths. Chloride ions contribute to corrosion of reinforcing. Location of the core samples, as well as the results of concrete sounding, are shown in the attached JTC report.

STRUCTURAL ANALYSIS

The existing two-way reinforced elevated slab design was analyzed based on the details on the existing structural drawings. The analysis evaluated the slab for a uniform loading of 250 pounds per square foot (psf), and for vehicle loadings per the information provided by the Westwood Fire Department.

The analysis assumed a typical two-way slab system over interior columns with drop panels. Based on the detailing of the slab to perimeter wall connection, the support condition at the perimeter to the slab is considered “pinned”, that is no transfer of bending moment into the walls. Concrete compressive strength was assumed to be 3,000 psi, and the reinforcing yield stress was assumed to be 60,000 psi. The structure was assumed to be in good condition for the purposes of the analysis.

Analysis found that the as-built slab is overstressed in positive bending (bottom reinforcing) at the perimeter bays (i.e. a 16'-4" strip around the perimeter of the slab). In addition, skip loading and variable loading with moving vehicles result of negative bending (top of slab – top reinforcing). Based on the original detailing, in some direction in some areas, there is no top reinforcing; therefore, negative bending may result if cracking of the concrete at the top of the slab.

CONCLUSIONS AND RECOMMENDATIONS

Concrete spalling and delamination appear to be a direct result of corrosion of the reinforcing. Corrosion of the reinforcing was likely initiated by deterioration of the epoxy flooring and cracking in the concrete slab allowing water to permeate the slab. Soundings found areas of potential delamination, also likely a result of reinforcing corrosion, which may deteriorate into concrete spalls.

Chloride ion testing showed areas of up to 0.27% concentrations, and show penetrations of chloride to depths of two to three inches. Higher concentration were found at the entry to the apparatus bays, as expected, where the slab would be exposed to water and ice contaminated with deicing salts. Compressive strength

testing found the concrete strength to be 5,080 psi, well above the 3,000 psi specified on the existing structural drawings. Testing results are attached.

Cracks can be a result of a number of factors including inadequate concrete mix, improper curing, thermal constraints, improper design, or overloading. From analysis, there appeared to be areas of overstress under certain loading conditions in the bays exhibiting deterioration. While there may have been initial cracking due to other factors, it appears that vehicle loading contributed to increasing the width and number of cracks.

Per discussion on-site that took place on 12/21/2015, the Westwood Fire Department will implement temporary and permanent repairs as soon as possible, as operations allow. Please consider the following initial repair recommendations to reduce further deterioration in the near term:

1. Install temporary shoring under the two bays where there is spalling concrete and corroded reinforcing.
2. Apply corrosion inhibiting coating, such as Sika Ferrogard 903, to the underside of the elevated slab and to areas of exposed concrete on the top side of the slab.
3. Install gravity fed epoxy crack healer, such as Sikadur 55 SLV, at exposed crack on the top side of the slab.
4. Repair spalled concrete at the underside of the elevated slab and to exposed spalls on the top side of the slab using a polymer modified cement based mortar, such as SikaTop 122 PLUS or SikaTop 123 Plus.
5. Apply temporary epoxy coating to areas of exposed concrete on the top side of the elevated slab.

Please consider the following permanent repair recommendations:

1. Remove existing epoxy flooring.
2. Apply corrosion inhibiting coating, such as Sika Ferrogard 903, to the entire top side of the slab.
3. Install gravity fed epoxy crack healer, such as Sikadur 55 SLV, to the entire top side of the slab.
4. Repair larger cracks using epoxy injection system such as Sikadur 35 Hi-Mod LV.
5. Increase the flexural strength of portions of the elevated slab as required by the structural analysis. Reinforce the slab using carbon fiber reinforced polymer (CFRP) laminate strips, such as Sika CarboDur. Sika CarboDur CFRP strips are two to four inches wide and bonded to the slab using Sikadur 30 epoxy resin.
6. Install a built up epoxy flooring system such as Stonhard Stonclad GS with a Stonhard Stonkote HT4 top coat. Add Stonhard Stonproof RH7 fiber mesh in the base coat for additional reinforcing.

Both per temporary and permanent repairs should be performed under the supervision of a registered design professional. Permanent repairs will require additional analysis and development of details and specification for installing the CFRP reinforcing. Temporary shoring should be installed as soon as practical, and the balance of initial repairs should be implemented within the next three months. Please note that the installation of CFRP reinforcing will likely allow for the removal of the temporary shoring.

After repairs are completed, we recommend implementing regular structural inspections at three year maximum intervals. We would welcome the opportunity to assist you with developing repair and maintenance specifications and details.

If you have any questions on the above, please contact me by phone at 978-977-0110 ext 7402.

Very truly yours,

WESTON & SAMPSON



Richard A. Campbell, PE
Associate



Nathan M. Seifert, PE
Project Manager

CC: Connor Western, EIT

Attachments: Photos, JTC Testing Report

PHOTOS:



Photo 1 – Spalls on the underside of the elevated slab.



Photo 2 – Minor cracking on the top of the elevated slab.



Photo 3 – Minor cracking on the underside of the slab. Yellow chalk denoting hollow area in the slab.



Photo 4 – Large spall where epoxy coating is damaged on the topside of the elevated slab.



Photo 5 – Large spall where epoxy coating is damaged on the topside of the elevated slab.



Photo 6 – Damaged floor drain.



GEOTECHNICAL ▼ ENVIRONMENTAL ▼ RESIDENT ENGINEERING ▼ TESTING

CLIENT: Weston & Sampson, Inc.
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035

PROJECT: Westwood Fire Station
637 High Street
Westwood, MA

DATE: October 29, 2015

REPORT #: 15-20-0000036

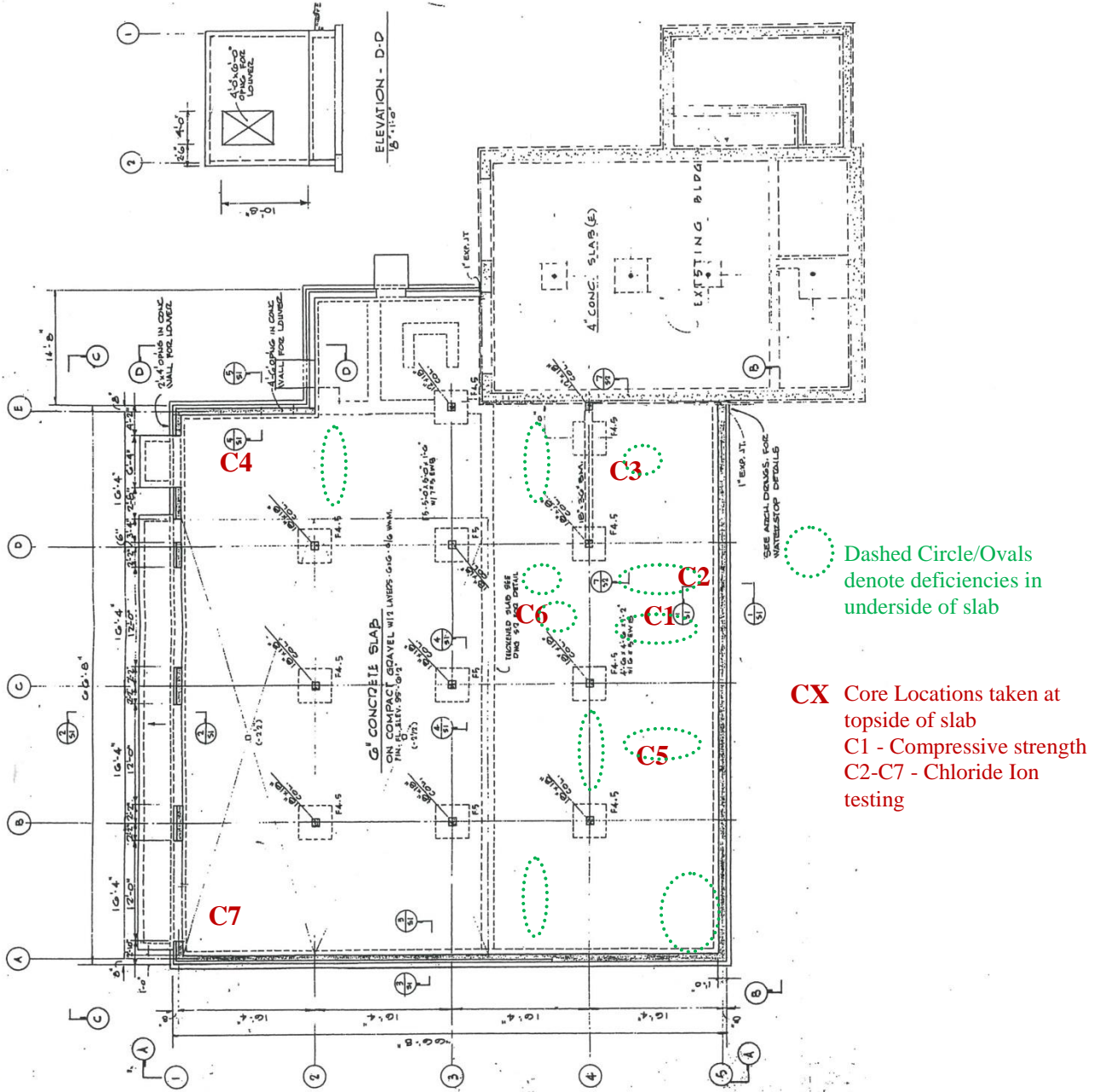
At the request of Weston & Sampson, JTC performed an evaluation of the existing structural slab at the Westwood Fire Station in Westwood, MA. Multiple areas of spalling, cracking and delamination of the concrete surfaces were evident, both at the top and the underside of the slab. Hammer soundings and a chain-drag were used to determine the soundness of the structural slab. Although the epoxy-coating of the topside impeded the chain-drag efforts, the hammer soundings at the underside revealed a number of areas of concern. These are denoted in the attached Field Sketch of Investigation Area.

After locating the slab reinforcing bar, cores were cut from selected areas. Seven cores were taken in all, with one for compressive strength testing (C1) and the remainder for Chloride Ion testing (C2-C7). The results of these tests may be found in the attached table. Core locations are also listed in Field Sketch of Investigation Area.

Signed: _____

John Turner Consulting, Inc.
Telephone Number: 603-475-5376
Michael Vantran ICC Certification # 5048103-48, # 5048103-49, # 5048103-92, & #5048103-86
Senior Special Inspector ACI Field Testing Technician Grade 1 # 038356

FIELD SKETCH of INVESTIGATION AREA



Dashed Circle/Ovals denote deficiencies in underside of slab

CX Core Locations taken at topside of slab
 C1 - Compressive strength
 C2-C7 - Chloride Ion testing

*Locations are approximate

**COMPRESSION TEST RESULTS
ASTM C42**

CORE LOCATION	COMPRESSIVE STRENGTH (psi)	CONDITION OF CORE
C-1	5080	GOOD

**CHLORIDE ION CONTENT TEST RESULTS
ASTM C1152**

CORE LOCATION	CHLORIDES 1" (%)	CHLORIDES 2" (%)	CHLORIDES 3" (%)	CHLORIDES 4" (%)
C-2	0.071	0.019	0.000	0.000
C-3	0.116	0.048	0.000	0.000
C-4	0.012	0.000	0.000	0.000
C-5	0.267	0.174	0.054	0.059
C-6	0.067	0.013	0.012	0.003
C-7	0.019	0.003	0.001	0.000

Fire Station Apparatus Bay on High Street
Westwood, MA

Weston and Sampson
100 Foxborough Boulevard, Suite 250
Foxborough, MA 02035



TABULATION OF RESULTS
JTC Project #: 15-20-036

Town of Westwood

Sent via email: bscoble@town.westwood.ma.us

October 20, 2015

Chief William Scoble
Westwood Fire Department
637 High Street
Westwood, MA 02090

Re: Fire Station Headquarters
Concrete Slab Evaluation

Dear Chief Scoble:

Pursuant to your request, Weston & Sampson is pleased to present the following proposal to provide consulting structural engineering for the investigation and reporting of the condition of concrete apparatus floor at the Fire Headquarters at 637 High Street. On site the day of our visit, we were accompanied by Deputy Chief Mike Reardon who gave a tour of the facility and to answered questions about the apparatus bay floor. This proposal presents a scope of work based upon our discussions held at the site on January 4, 2013, and recent phone discussion regarding spalled concrete.

PROJECT UNDERSTANDING



The original Fire Headquarters was expanded with the construction of (4) new apparatus bays in 1975+/- . The brick masonry addition has a lower level basement area that is accessible from the rear of the building. The apparatus floor is an 6-inch to 8-inch thick flat reinforced concrete slab that is supported by interior concrete columns and concrete foundation walls. According to the Deputy Chief, there are existing plans of the building, which will be available for review. In order to perform a structural analysis of the floor, the Record Drawings would be necessary to establish the original design intent and loading conditions as well as to confirm the concrete thickness and size and spacing steel reinforcement.



It is reported that no repairs have been done previously to the concrete floor and that the coating system is approximately 15 years old.

During the site visit, it could be seen in several locations that the concrete is experiencing various types of issues that include, cracks, spalls, rusting rebar and cement disintegration.

Weston & Sampson will use drawings provided by the town to analyze the capacity of the concrete floor slab. The Fire Department will provide actual weights of vehicles that will be housed at the station.

SCOPE OF SERVICES

Task 1 – Inspection and Concrete Assessment

A team of two structural engineers will visit fire headquarters and identify areas of concrete deterioration by observation to estimate approximate areas that require concrete repairs. A series of digital photographs will be taken to adequately document existing conditions. Hand sketches showing the spalled areas and concrete cracks will be mapped for general discussion purposes. We have assumed that one day of field inspections will be required to identify problem concrete areas. The site visit will be coordinated with the timing of the concrete test program described in Task 2 below.

Task 2 – Temporary Shoring Recommendations and Details

Weston & Sampson will review submittals and provide recommendations for temporary shoring as required under the first floor slab. We have assumed the Town of Westwood or their representative will engage a shoring contractor. Weston & Sampson will visit the site to review shoring installation.

Task 3 – Concrete Testing Program

We have contacted a concrete testing sub-consulting firm, JTC, who will provide the following scope of work for the Concrete Coring and Testing Program. The coring locations will be shown on a floor plan and coordinated with the fire department to minimize disruptions to the daily operations. There will be a need to move equipment and vehicles in both the upper and lower levels to access the entire slab to conduct a Hammer Test. Prior to coring, a rebar locator will be used in an attempt not to damage existing steel reinforcement.

A total of seven (7) concrete core samples will be collected to varying depths during the coring program. All of the cores will be patched with a high strength concrete patch material..

- Core C1 - One 4-inch diameter core by 8-inches deep for the compressive strength test will be immediately brought back to the lab and cut to a length and prepared for the compression test procedure.
- Cores C2-C7 – A 1-inch diameter by 6-inch long core bit will be used to retrieve the chloride ion samples. Preparation will require that each core be marked in 1 in. intervals (6 intervals per core, totaling thirty-six (36) chloride ion tests) such that the cores can be ground and sufficient material per

interval can be packaged and sent for Chloride Ion Content Testing.

JTC will prepare a Final Report to summarize their findings, which will be submitted to Weston & Sampson. The results will be incorporated in our letter report to the town.

Task 4 – Structural Analysis and Letter Report

Weston & Sampson will prepare a letter report that will discuss the means and methods used in the investigation using representative photos and sketches to illustrate the existing conditions. We will provide an opinion of the cause(s) of the concrete cracking and spalling and make recommendations on the preferred repair alternatives and the feasibility of implementing the repairs. Using the information provided in the Record Drawings, a structural analysis of the concrete floor will be performed, using actual weights of the firefighting vehicles that will be provided by the fire department. For budgeting purposes, an estimate of probable cost will be provided to execute the recommended solutions.

Qualifications

The work defined above will be limited to identifying concrete related issues of the apparatus floor and will not include an overall assessment of the facility as it pertains to the building code.

TERMS AND CONDITIONS

Weston & Sampson proposes to perform the Tasks 1, 2 & 3 listed in the above Scope of Services on an hourly basis for a not-to-exceed amount of \$19,700.00, which includes the cost for the services of JTC, and in accordance with the enclosed General Terms and Conditions. Mileage will be reimbursed at \$0.565 per mile.

Any on-call services requested beyond the hours listed in the Scope of Services above will be negotiated separately with Town of Westwood using the following hourly rates.

HOURLY RATES	
Description	Hours
<i>Team Leader</i>	<i>\$185</i>
<i>Project Manager</i>	<i>\$160</i>
<i>Project Engineer</i>	<i>\$125</i>
<i>Engineer</i>	<i>\$105</i>
<i>Mileage</i>	<i>\$0.565/mile</i>

Task	Description	Not-to-Exceed Fee
1	Inspection & Concrete Assessment	\$2,900
2	Temporary Shoring Review	\$900
3	Concrete Test Program*	\$8,300
4	Structural Analysis & Report	\$7,500
	Mileage Expenses (3) trips (\$0.565/mi)	\$100
	TOTAL	\$19,700

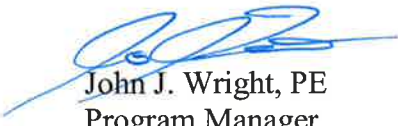
* includes 10% mark-up

We are available to begin work on this project upon your direction, and we look forward to working with Town of Westwood on this project. The field work will be completed within 30 business days after receipt of a written notice-to-proceed with the report preparation to follow. Please call at your convenience should you wish to discuss and review our proposal.


If you are in agreement with this scope of services, please sign this letter and return one copy to our office.

Very truly yours,

WESTON & SAMPSON



John J. Wright, PE
Program Manager



Richard A. Campbell, PE
Team Leader

AGREED TO BY:

TOWN OF WESTWOOD
AUTHORIZED REPRESENTATIVE

Date

Name/Title

Signature

Encl. Weston & Sampson General Terms and Conditions

2015-10-19 Letter Proposal Westwood

WESTON & SAMPSON GENERAL TERMS AND CONDITIONS

1. It is understood that the Proposal attached hereto and dated September 16, 2014, is valid for a period of ninety (90) days. Upon the expiration of that period of time or the delay or suspension of the services, WESTON & SAMPSON reserves the right to review the proposed basis of payment and fees, to allow for changing costs as well as to adjust the period of performance to conform to work loads. References herein to WESTON & SAMPSON are understood to refer to WESTON & SAMPSON ENGINEERS, INC.
2. Invoices will be submitted periodically (customarily on a monthly basis), and terms are net cash, due and payable upon receipt of invoice. If the OWNER fails to make any payment due to WESTON & SAMPSON for services and expenses within thirty (30) days after receipt of WESTON & SAMPSON'S statement therefor, WESTON & SAMPSON may, after giving seven (7) days' written notice to the OWNER, suspend services under this Agreement. Unless payment is received by WESTON & SAMPSON within seven (7) days of the date of the notice, the suspension shall take effect without further notice. In the event of a suspension of services, WESTON & SAMPSON shall have no responsibility to the OWNER for delay or damage caused the OWNER because of such suspension of services.
3. WESTON & SAMPSON will serve as the professional representative of the OWNER as defined by the Proposal or under any Agreement and will provide advice, consultation and services to the OWNER in accordance with generally accepted professional practice consistent with that degree of skill and care ordinarily exercised by practicing design professionals performing similar services in the same locality, at the same site and under the same or similar circumstances and conditions. Therefore, estimates of cost, approvals, recommendations, opinions, and decisions by WESTON & SAMPSON are made on the basis of WESTON & SAMPSON'S experience, qualifications and professional judgement. Accordingly, WESTON & SAMPSON does not warrant or represent that bids or negotiated prices will not vary from the OWNER'S budget for the project, or from any estimate of the Cost of the Work evaluation prepared or agreed to by WESTON & SAMPSON. WESTON & SAMPSON makes no warranty or guarantee, express or implied, regarding the services or work to be provided under this Proposal or any related Agreement. Notwithstanding any other provision of these General Terms and Conditions, unless otherwise subject to a greater limitation, and to the fullest extent permitted by law, the total liability in the aggregate, of WESTON & SAMPSON and their officers, directors, employees, agents, and independent professional associates, and any of them, to OWNER and any one claiming by, through or under OWNER, for any and all injuries, claims, losses, expenses, or damages whatsoever arising out of in any way related to WESTON & SAMPSON'S services, the project, or this Agreement, from any cause or causes whatsoever, including but not limited to, the negligence, errors, omissions, strict liability, breach of contract, misrepresentation, or breach of warranty of WESTON & SAMPSON or WESTON & SAMPSON'S officers, directors, employees, agents or independent professional associates, or any of them, shall not exceed the greater of \$50,000 or the total compensation received by WESTON & SAMPSON hereunder and OWNER hereby releases WESTON & SAMPSON from any liability above such amount. WESTON & SAMPSON shall have no upfront duty to defend the OWNER but shall reimburse defense costs of the OWNER to the same extent of its indemnity obligation herein.
4. Where the Services include subsurface exploration, the OWNER acknowledges that the use of exploration equipment may alter or damage the terrain, vegetation, structures, improvements, or the other property at the Site and accepts the risk. Provided WESTON & SAMPSON uses reasonable care, WESTON & SAMPSON shall not be liable for such alteration or damage or for damage to or interference with any subterranean structure, pipe, tank, cable, or other element or condition whose nature and location are not called to WESTON & SAMPSON'S attention in writing before exploration begins.
5. WESTON & SAMPSON and its consultants shall have no responsibility for the discovery, presence, handling, removal or disposal of, or exposure of persons to, hazardous waste in any form at the project site. Accordingly, the OWNER agrees to assert no claims against WESTON & SAMPSON, its principals, agents, employees and consultants, if such claim is based, in whole or in part, upon the negligence, breach of contract, breach of warranty, indemnity or other alleged obligation of WESTON & SAMPSON or its consultants, and arises out of or in connection with the detection, assessment, abatement, identification or remediation of hazardous materials, pollutants or asbestos at, in, under or in the vicinity of the project site identified in the Proposal. OWNER shall defend, indemnify and hold harmless WESTON & SAMPSON, its principals, agents, employees, and consultants and each of them, harmless from and against any and all costs, liability, claims, demands, damages or expenses, including reasonable

attorneys' fees, with respect to any such claim or claims described in the preceding sentence, whether asserted by OWNER or any other person or entity. WESTON & SAMPSON shall not be liable for any damages or injuries of any nature whatsoever, due to any delay or suspension in the performance of its services caused by or arising out of the discovery of hazardous substances or pollutants at the project site.

6. WESTON & SAMPSON agrees to purchase at its own expense, Worker's Compensation insurance, Comprehensive General Liability insurance, and Engineer's Professional Liability insurance and will, upon request, furnish insurance certificates to OWNER reflecting WESTON & SAMPSON's standard coverage. WESTON & SAMPSON agrees to purchase whatever additional insurance is requested by OWNER (presuming such insurance is available, from carriers acceptable to WESTON & SAMPSON) provided OWNER reimburses the premiums for additional insurance.
7. As a part of this Agreement, OWNER without cost to WESTON & SAMPSON agrees to do the following in a timely manner so as not to delay the services of WESTON & SAMPSON:
 - a. Designate in writing a person to act as OWNER'S representative with respect to work to be performed under this Agreement, such person to have complete authority to transmit instructions, receive information, interpret and define OWNER'S policies and decisions with respect to materials, equipment elements and systems pertinent to the work covered by the Agreement.
 - b. Through its officials and other employees who have knowledge of pertinent conditions, confer with WESTON & SAMPSON regarding both general and special considerations relating to the Project.
 - c. Assist WESTON & SAMPSON by placing at the disposal of WESTON & SAMPSON, all available information pertinent to the Project including previous reports and other data relative to design or construction of Project.
 - d. Furnish or cause to be furnished to WESTON & SAMPSON all documents and information known to OWNER that relate to the identity, location, quantity, nature or characteristics of any hazardous waste at, on or under the site. In addition, OWNER will furnish or cause to be furnished such other reports, data, studies, plans, specifications, documents and other information on surface and

subsurface site conditions required by WESTON & SAMPSON for proper performance of its services.

- e. WESTON & SAMPSON shall be entitled to rely, without liability, on the accuracy and completeness of information and documents provided by the OWNER, OWNER'S CONSULTANTS and CONTRACTORS and information from public records, without the need for independent verification.
 - f. Pay for all application and permit fees associated with approvals and permits for all governmental authorities having jurisdiction over the Project and such approvals and consents from others as may be necessary for completion of the Project.
 - g. Arrange for and make all provisions for WESTON & SAMPSON and its agents to enter upon public and private lands as required for WESTON & SAMPSON to perform its work under this Agreement.
 - h. Furnish WESTON & SAMPSON with all necessary topographic, property, boundary and right-of-way maps.
 - i. Cooperate with and assist WESTON & SAMPSON in all additional work that is mutually agreed upon.
 - j. Pay WESTON & SAMPSON for work performed in accordance with terms specified herein.
8. The obligation to provide further services under this Agreement may be terminated by either party upon thirty days' written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party. If the Project is suspended or abandoned in whole or in part for more than three (3) months, WESTON & SAMPSON shall be compensated for all services performed prior to receipt of written notice from OWNER of such suspension or abandonment, together with the other direct costs then due. If the Project is resumed after being suspended for more than three (3) months, WESTON & SAMPSON'S compensation shall be equitably adjusted. In the event of termination by either party, WESTON & SAMPSON shall be compensated for all services performed prior to receipt of written termination, together with other direct costs then due, including WESTON & SAMPSON's independent consultants, and for the services necessary to affect termination.
 9. The OWNER and WESTON & SAMPSON waive all rights against each other and against the contractors,

consultants, agents and employees of the other for damages, but only to the extent covered by any property or other insurance in effect whether during or after the project. The OWNER and WESTON & SAMPSON shall each require similar waivers from their contractors, consultants and agents.

10. All Drawings, diagrams, plans, specifications, calculations, reports, processes, computer processes and software, operational and design data, and all other documents and information produced in connection with the project as instruments of service, regardless of form, shall be confidential and the property of WESTON & SAMPSON, and shall remain the sole and exclusive property of WESTON & SAMPSON whether the project for which they are made is executed or not. The OWNER shall not have or acquire any title to or ownership rights in any of the documents or information prepared by WESTON & SAMPSON. OWNER may make and retain copies for information and reference in connection with the use and occupancy of the Project by the OWNER and others; however, such documents are not intended or represented to be suitable for reuse by OWNER or others on extensions of the Project or on any other Projects. Any reuse without written verification or adaptation by WESTON & SAMPSON for the specific purpose intended will be at OWNER'S sole risk and without liability or legal exposure to WESTON & SAMPSON or to WESTON & SAMPSON'S independent consultants, and OWNER shall indemnify and hold harmless WESTON & SAMPSON and WESTON & SAMPSON'S independent consultants from all claims, damages, losses, and expenses, including attorneys' fees arising out of or resulting therefrom. Any such verification or adaptation will entitle WESTON & SAMPSON to further compensation at rates to be agreed upon by OWNER and WESTON & SAMPSON.
11. The substantive laws of the Commonwealth of Massachusetts shall govern any disputes between WESTON & SAMPSON and the OWNER arising out of the interpretation and performance of this Agreement.
12. WESTON & SAMPSON and the OWNER agree that any disputes arising under this Agreement and the performance thereof shall be subject to nonbinding mediation as a prerequisite to further legal proceedings.
13. WESTON & SAMPSON shall not be required to sign any documents, no matter by who requested, that would result in WESTON & SAMPSON having to certify, guaranty, or warrant the existence of conditions that would require knowledge, services or responsibilities beyond the scope of this Agreement.
14. Nothing contained in this Agreement shall create a contractual relationship with, or a cause of action in favor of, a third party against either the OWNER or WESTON & SAMPSON. WESTON & SAMPSON'S services hereunder are being performed solely for the benefit of the OWNER, and no other entity shall have any claim against WESTON & SAMPSON because of this Agreement or WESTON & SAMPSON'S performance of services hereunder.
15. Notwithstanding anything to the contrary contained herein, OWNER and ENGINEER agree that their sole and exclusive claim, demand, suit, judgment or remedy against each other shall be asserted against each other's corporate entity and not against each other's shareholders, A/E's, directors, officers or employees.
16. To the extent they are inconsistent or contradictory, express terms of this Proposal take precedence over these General Terms and Condition. It is understood and agreed that the services or work performed under this Proposal or any Agreement are not subject to any provision of any Uniform Commercial Code. Any terms and conditions set forth in OWNER'S purchase order, requisition, or other notice or authorization to proceed are inapplicable to the services under this Proposal or any related Agreement, except when specifically provided for in full on the face of such purchase order, requisition, or notice or authorization and specifically accepted in writing by WESTON & SAMPSON. WESTON & SAMPSON'S acknowledgement of receipt of any purchase order, requisition, notice or authorization, or WESTON & SAMPSON'S performance of work subsequent to receipt thereof, does not constitute acceptance of any terms or conditions other than those set forth herein.
17. If any provision of this Agreement shall be finally determined to be invalid or unenforceable in whole or in part, the remaining provisions hereof shall remain in full force and effect, and be binding upon the parties hereto. The parties agree to reform this Agreement to replace any such invalid or unenforceable provision with a valid and enforceable provision that comes as close as possible to the intention of the stricken provision.
18. The parties to this contract recognize their obligations under the Massachusetts Data Security Law and Regulations, G. L. c. 93H and 93I and 201 CMR 17.00, to safeguard "personal information" as defined below. Both parties hereby represent that they have adopted the required Written Information Security Program, have taken the other steps required to safeguard personal information and are in full compliance with the law. The parties agree that in furtherance of their legal

obligations, they will not transmit, communicate or otherwise provide to each other any personal information, unless it is necessary to comply with their obligations under this Agreement. The parties also agree that when it is not necessary for them to transmit, communicate or otherwise provide to each other any personal information as part of their obligations hereunder, they will take active steps to prevent such transmission, communication, or transfer. For purposes of this Agreement, "personal information" means a Massachusetts residents first name and last name or first initial and last name in combination with any one or more of the following data elements that relate to such resident: (a) Social Security number; (b) driver's license number or state-issued identification card number; or (c) financial account number, or credit or debit card number, with or without any required security code, access code, personal identification number or password, that would permit access to a resident's financial account.

Approved by:

OWNER Name

Signature Date

Printed Name and Title

Document2