



# DRACUT SENIOR HOUSING FEASIBILITY STUDY



# TABLE OF CONTENTS

Executive Summary	<b>1</b>
Spring Park Study	<b>2</b>
Greenmont Study	<b>3</b>
Geotechnical Report (Professional Service Industries, Inc. (PSI))	<b>4</b>
Hazardous Materials Report - Spring Park (Universal Environmental Consultants, Inc.)	<b>5</b>
Site Assessment - Greenmont (Nitsch Engineering, Inc.)	<b>6</b>
Cost Estimates (Tarbell Construction Management, Inc.)	<b>7</b>

# EXECUTIVE SUMMARY

# **EXECUTIVE SUMMARY**

## **INTRODUCTION**

If you read the newspapers you already know that the cost to rent or purchase housing is becoming increasingly less affordable to millions of persons, especially for those with fixed incomes. Providing apartment units for older adults whose only income is social security and perhaps a small pension is vital. With the “graying of America” the numbers of persons 65 years of age and older is growing dramatically and while many in this “age wave” have the financial resources they need, many do not. For those who have only small pensions, social security and a few assets, one of the few options for a safe, secure life, is senior affordable housing. The Town of Dracut is aware of this trend and much to the credit of this community, administrators, boards and committees; they are committed to servicing their elderly community members.

To that end, the town has secured two sites, specifically to address this need. One at 11 Spring Park Avenue on a .7 acre site that currently houses a vacant, former town hall annex; the other is a 17 acre parcel that is a former farm and wooded site. Both sites were studied to address and meet the program requirements set out by the town’s Housing Authority and its Community Preservation Coalition. The Senior Housing development is to consist of thirteen units, nine one-bedroom and four two-bedroom. The task set before KBA Architects, our consulting engineers, and cost estimators, was to determine which of the two sites would best serve these specific needs for development.

## **EXISTING CONDITIONS**

The Spring Park parcel will require the razing of the existing structure, which can be seen on the “Spring Park Avenue Existing Site” plan. The proposed building is 7,280 square feet per level for a total square footage of 14,600, and has been designed to be a two story structure meeting the unit count requested and additional spaces for office, custodial, and multi-function room for gatherings. Toilet facilities for men and women are also accommodated adjacent to the function space for use by the occupants and guests utilizing the facility. The floor plans, all single level with first floor interiors meeting accessible criteria and proposed elevations for Spring Park, can be seen on the following pages. The site can also accommodate 27 parking stalls, with access from Spring Park on the south and Blanche Street on the north side.

The Greenmont site, based on its size, configuration and wooded campus feel, is proposed to be developed with various building types with combinations of duplex, tri-plex and quads with mixture of one and some two level buildings. All units are single level with all first floor unit interiors being fully accessible, with residential wheelchair lifts to accommodate any second floor level. The total building construction at this location totals 12,500 square feet. In both cases, each site consists of one bedroom units averaging 710 square feet and two bedroom units averaging 800 square feet.

## **ISSUES AND QUESTIONS**

Some of the issues that confront the development and evaluation of any Senior Housing project would require some basic elements for a functional facility that must be considered and should be addressed:

- Are the surrounding land uses compatible, well-maintained, and aesthetically pleasing?
- Are there any negative environmental issues that cannot be corrected?
- Is the proposed project out-of-scale relative to surrounding land uses?
- What does zoning code and comprehensive plan reveal regarding permitted land uses?
- Does the site have the necessary utilities?
- Does the site allow for adequate open space, circulation, and parking?
- Can the site accommodate fire safety equipment, trash removal trucks, etc.?
- Is there adequate road frontage? Does the site allow for ingress/egress, visual separation from surrounding land uses, and space for adequate landscaping and lighting?
- Is the site walkable for residents? Proximity to public transportation, groceries, shopping, banking, places of worship, parks, pharmacies, and medical clinics?

There are other questions and criteria to evaluate, however those noted above have the highest rating for inclusion in any site to be developed for senior housing.

## **SITE DEVELOPMENT POTENTIAL**

### **Spring Park Avenue**

Spring Park site has accommodated the requirement for the thirteen units in an attractive building w/ balconies for all. All utilities required for the erection of this facility are readily available on Spring Park Avenue. It also has the ability to ingress and egress without much difficulty and has good proximity to many of the needs for future occupants.

Due to the small site, Spring Park has little exterior amenity potential. It is situated in an area that is abutted by the rear of a variety store on the east, with its trash receptacles highly visible and no alternative for relocation of these dumpsters. Although we feel it would be an attractive building, its scale is not compatible with the neighborhood that consists of mostly single-family homes. The structure also overwhelms the site and in doing so restricts the number of parking stalls (less guest parking, for example) and open space for site amenities, as well as, difficult maneuvering for fire apparatus and trash removal. Expansion would not be an alternative for this site. The site would also bring its challenges for the construction of the new building with no staging area for the contractor.

## **Greenmont Avenue**

With Greenmont Ave. we have somewhat of a blank slate with which to work. The surrounding area consists of single family homes and is visually separated on this self-contained parcel with access from Bridge St (RT 38) on the east and Greenmont Avenue on the south. Although portions of the site are designated as wetlands, these areas actually become part of the amenities that the parcel can support. Walking trails, skirting and within the wetlands (see attached site rendering) and could also include other amenities such as biking in a very natural setting. Areas of respite along the pathway, a gazebo, possibly a pavilion for outdoor functions and many others site amenities that this site could support for the senior occupants, the disabled, and the townspeople in general. Site amenities such as these are critical for the physical and also mental well-being of our seniors. The site can also support ample parking and expansion capabilities. It is anticipated that this site could support the construction of two additional phases which could bring the total number of units in excess of 46 to 50, if desired. Although this location will require a new road, utility run and confronting of wet lands, all required utilities are available at both Bridge Street and Greenmont Avenue (see site assessment Nitsch Engineering, Inc.). The proposed site layout includes the area for adequate turning radii for fire safety apparatus, trash removal, and snowplowing. Sub-surface investigation revealed conditions that were not adverse to the development of the site for its proposed use. Soil conditions were favorable, water levels were farther below the surface than was anticipated and refusal (rock and boulders) was beyond any depth that would impact negatively on the project (see geotechnical report by PSI).

## **SUMMATION AND RECOMMENDATION**

As noted above, the Spring Park Avenue site brings many issues that are not conducive for the construction of a senior housing development.

- Limited parking
- Limited site amenities
- Poor circulation.
- Abutting land uses, which are properly zoned as Business uses, such as the variety store and auto body shop, but are not compatible and difficult to alleviate architecturally.
- No benefit to the town beyond actual housing units.

The Greenmont Avenue location at first blush may have some concerns by way of protected wetland areas, but in the final analysis, makes for a perfect, tranquil backdrop for senior housing site.

- Wooded campus atmosphere
- Expansion capabilities
- Multiple, natural views
- Potential for nature trails within and out of wetland settings that could include respite areas
- Ample parking
- Expansion capabilities

With any development comes the obvious question relative to what the total project will cost as it relates to what benefits it presents to the community at large. With all these factors taken into consideration, KBA Architects would offer our professional opinion that the development of the property at Greenmont Avenue seems to not only provide the facilities desired at the most economical option, but also provides a site for development that would set up much more favorably for construction. Subsequent phases of development, if these were to occur, could be phased and managed properly to have limited disruption to the existing senior housing units.

Our professional estimating group, Tarbell Construction Management Inc, has identified the costs for both sites and is included, line item by line item.

### **TOTAL CONSTRUCTION COSTS**

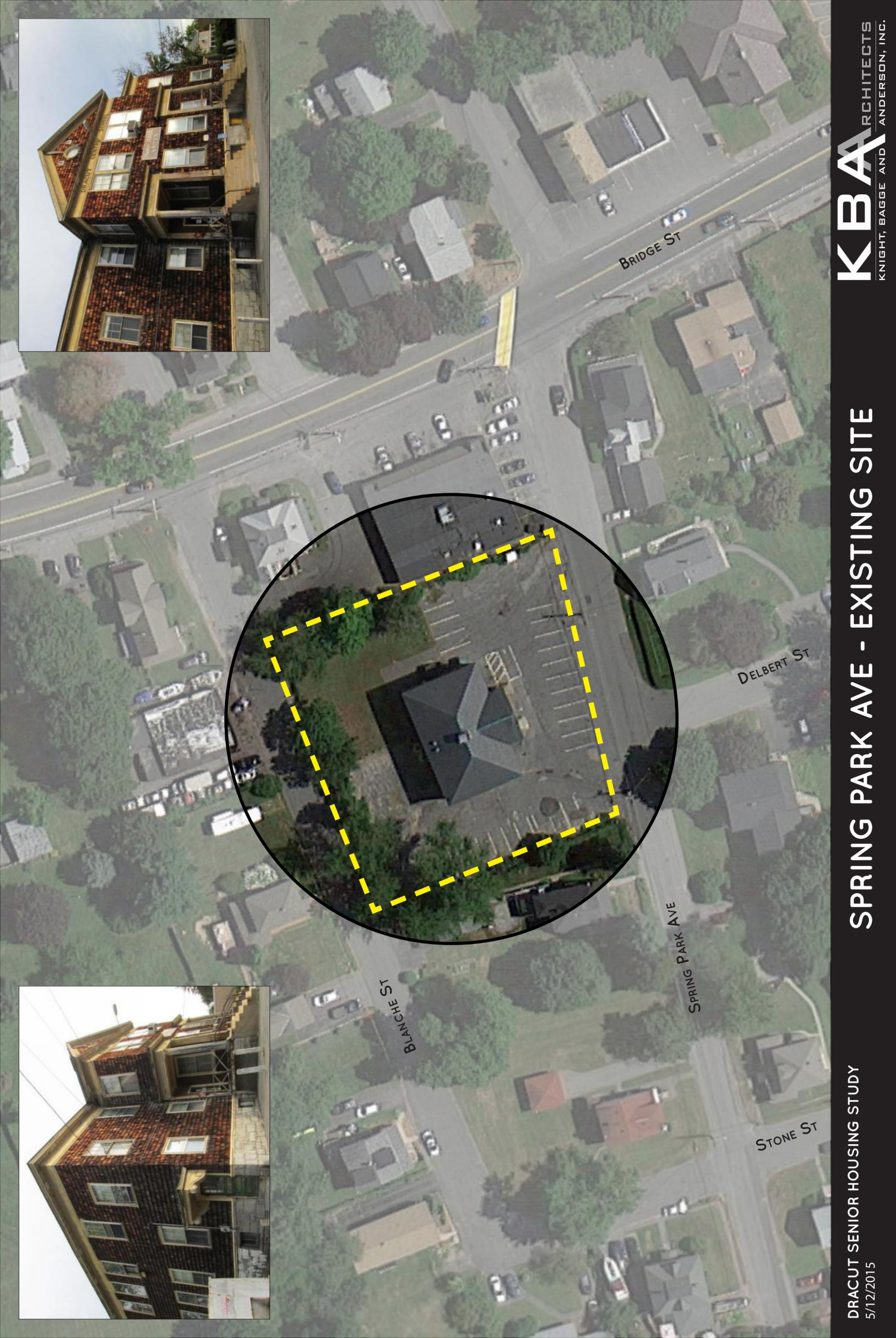
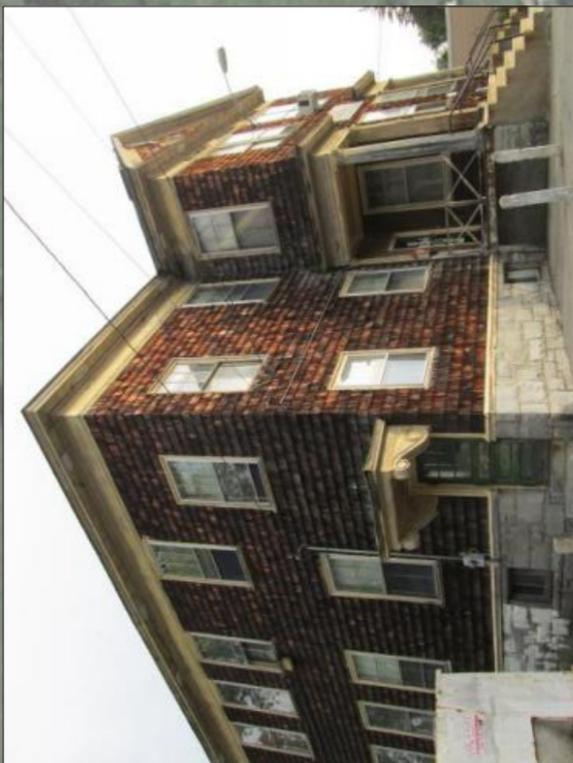
#### **Spring Park Avenue**

Site development, building construction, contingencies, and soft costs (fees, etc.): **\$7,753,426**

#### **Greenmont Avenue**

Site development, building construction, contingencies, and soft costs (fees, etc.): **\$5,944,951**

SPRING PARK AVE STUDY



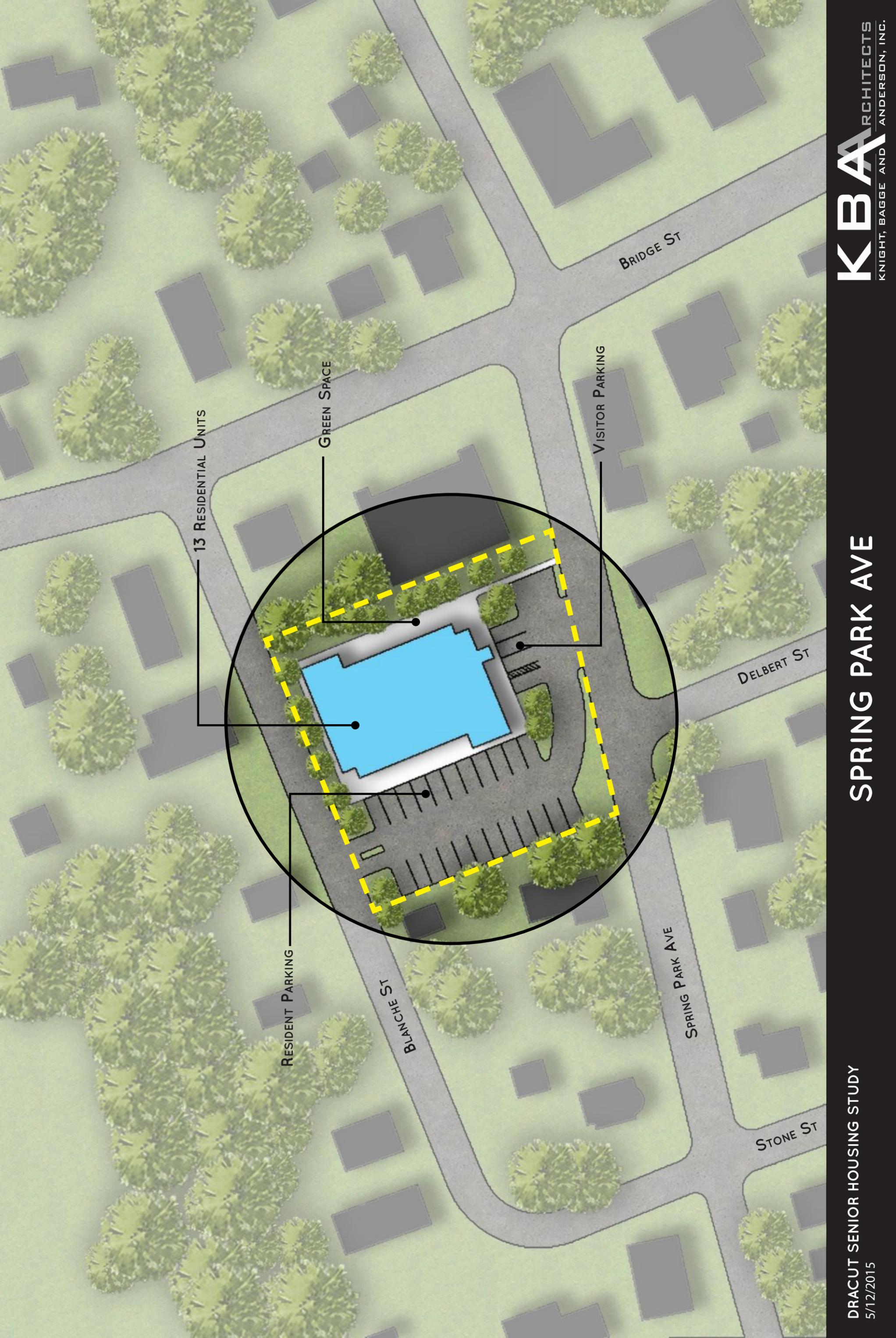
BRIDGE ST

DELBERT ST

SPRING PARK AVE

BLANCHE ST

STONE ST



13 RESIDENTIAL UNITS

GREEN SPACE

VISITOR PARKING

RESIDENT PARKING

BRIDGE ST

DELBERT ST

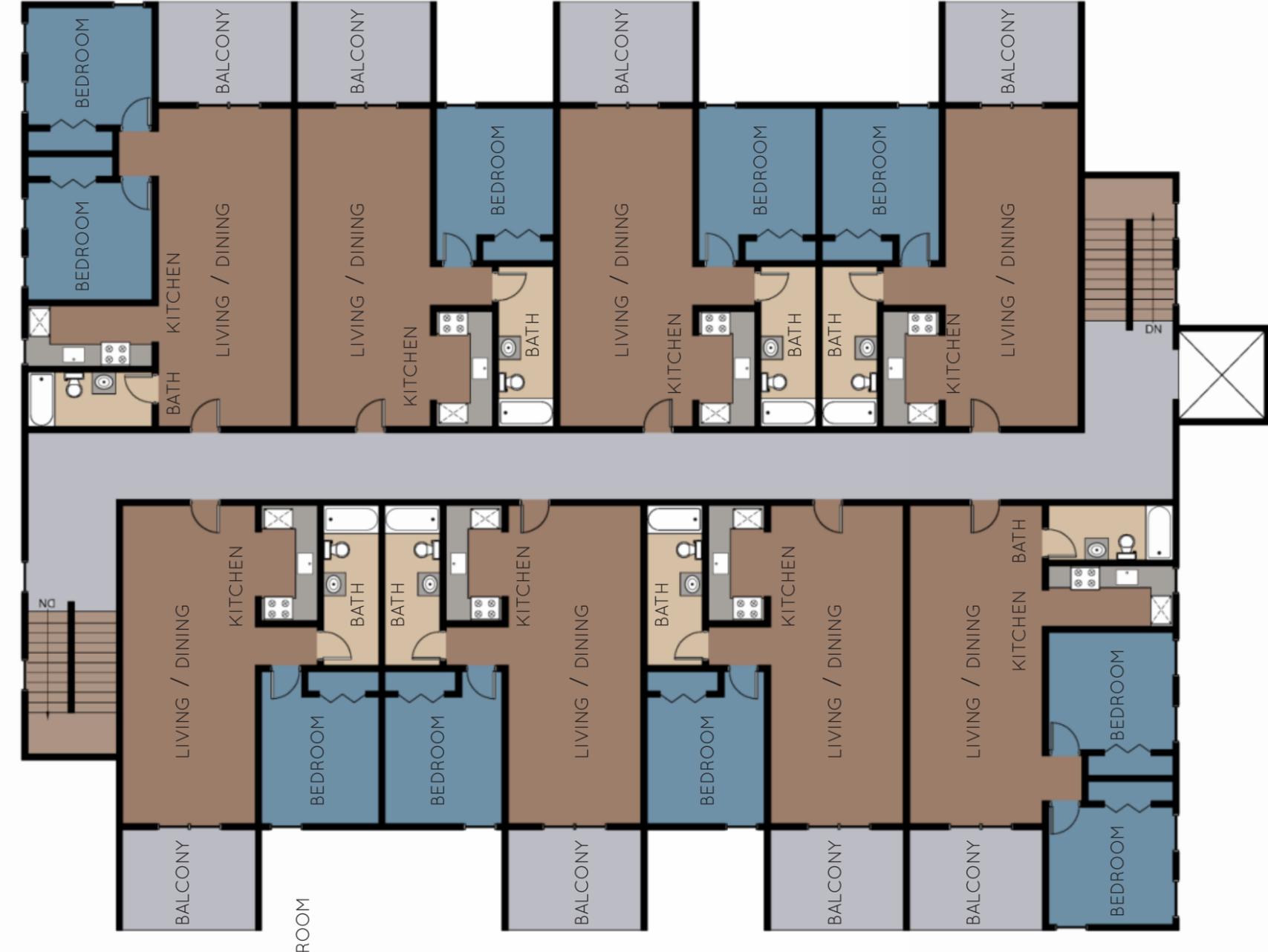
BLANCHE ST

SPRING PARK AVE

STONE ST



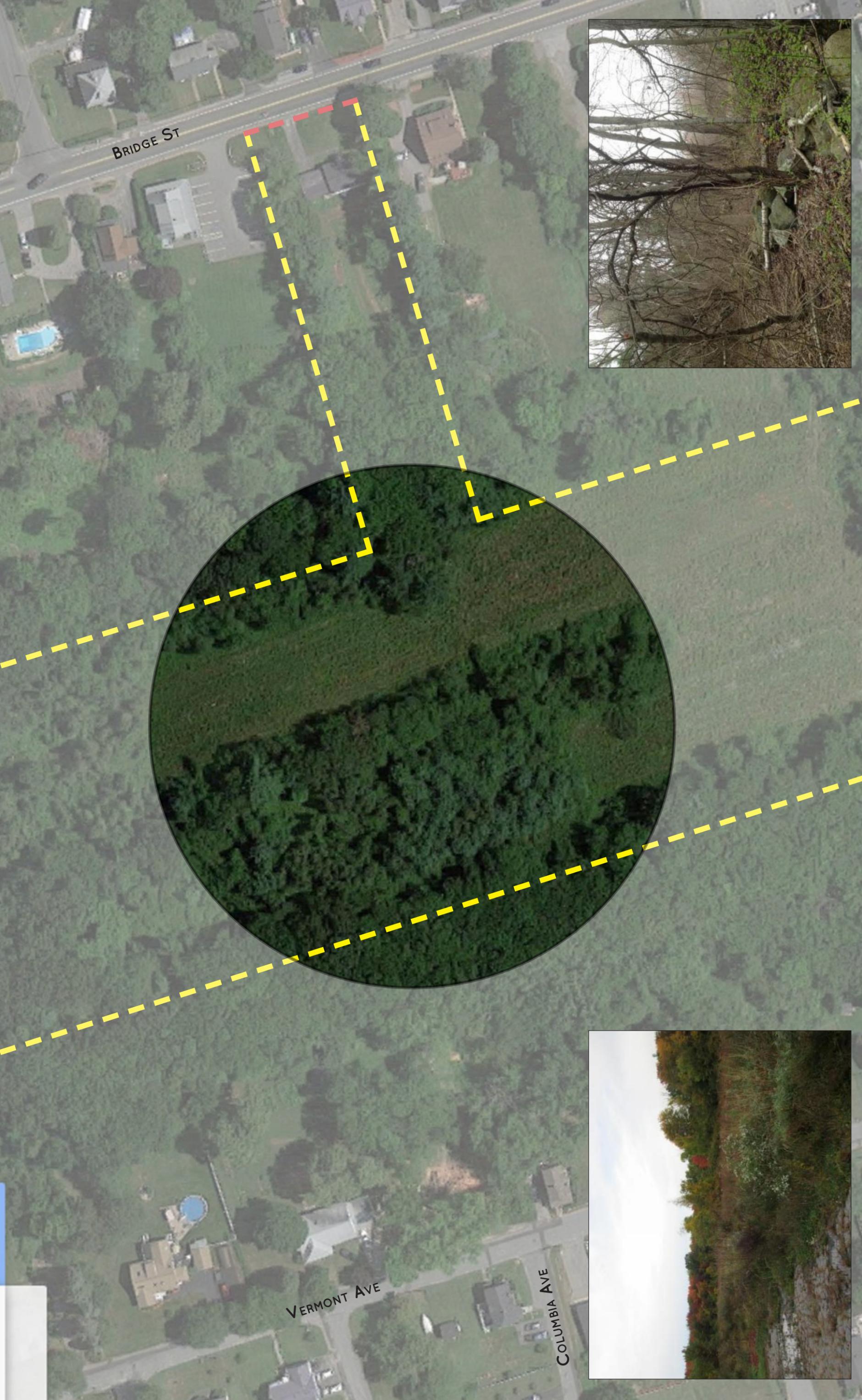
FIRST LEVEL



SECOND LEVEL



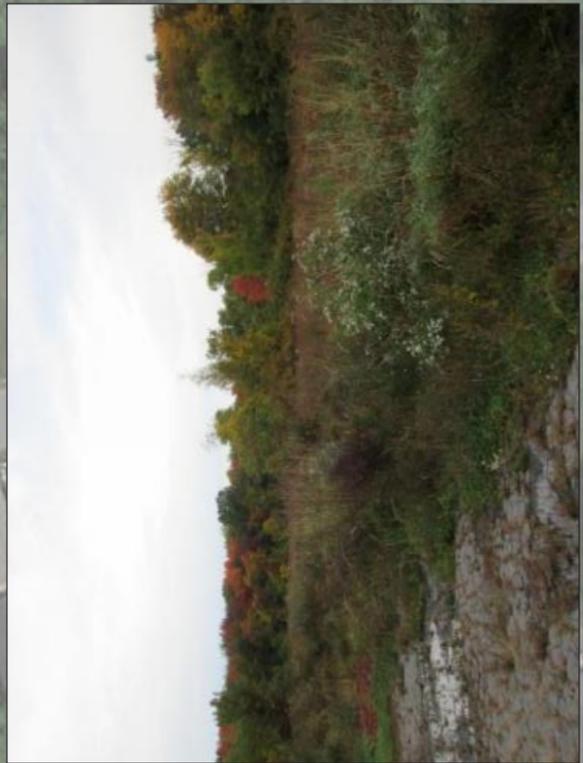
GREENMONT AVE STUDY



BRIDGE ST

VERMONT AVE

COLUMBIA AVE





BRIDGE ST

BRIDGE ST ACCESS

NEW SINGLE UNITS

RESIDENT PARKING

RESIDENT PARKING

NEW QUADS

5-8

1-4

VERMONT AVE

COLUMBIA AVE

VISITOR PARKING

NEW COMMON BUILDING

OFFICE

11

12

13

9

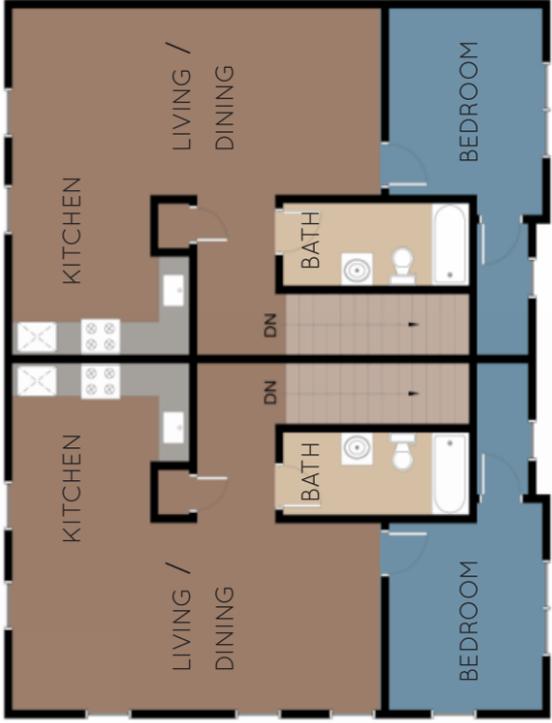
10

FUTURE EXPANSION

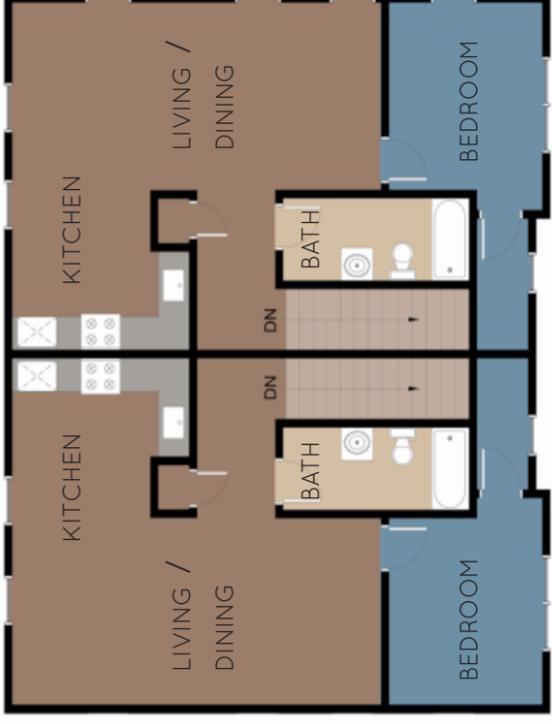
FUTURE EXPANSION



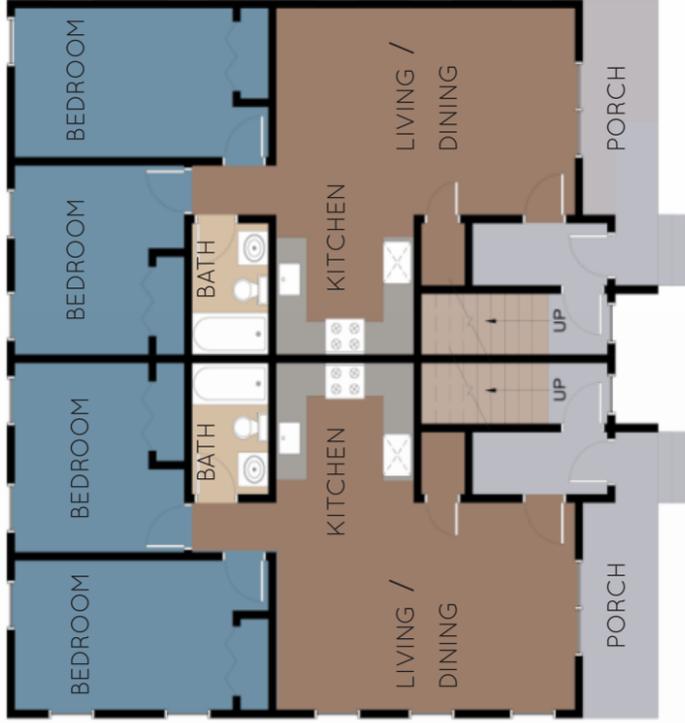
**GREENMONT AVE**



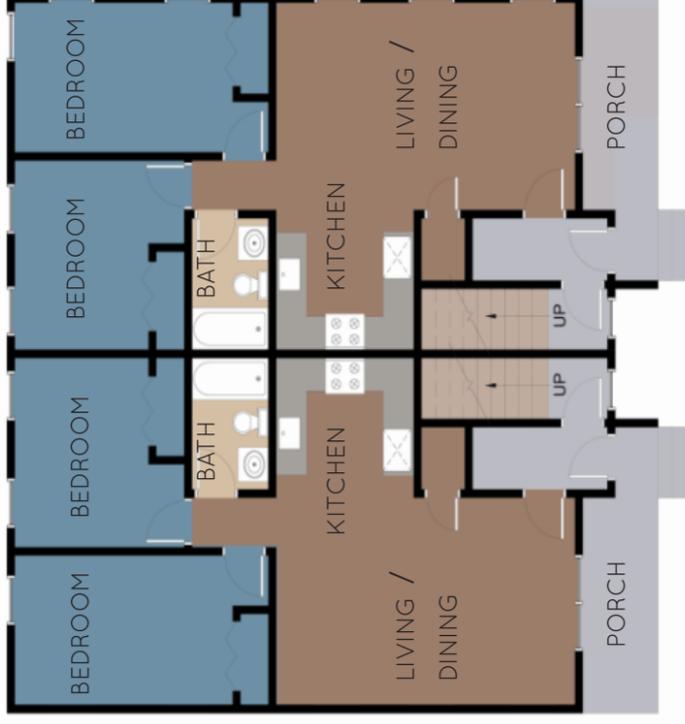
UNITS 1 - 4



UNITS 5 - 8



UNITS 1 - 4



UNITS 5 - 8



4  
GEOTECHNICAL REPORT

May 13, 2015

Mr. Kevin J. Buckley, AIA  
Knight, Bagge & Anderson, Inc.  
Charlestown Navy Yard  
6 Thirteenth Street  
Charlestown, MA 02129  
kbuckley@kbaarchitects.com

Subject: **Preliminary Geotechnical Engineering Report  
Bridge Street Senior Housing  
1530 Bridge Street  
Dracut, Massachusetts 01826  
PSI Project No.: 0446522**

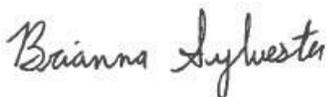
Dear Mr. Buckley:

PSI is pleased to submit this preliminary report presenting the results of the preliminary explorations and findings regarding the proposed Bridge Street Senior Housing located at 1530 Bridge Street in Dracut, Massachusetts. This work was conducted in accordance with PSI's Proposal No. 0446-144337 dated May 4, 2015.

The objective of our services was to undertake a preliminary exploration program at the site and outline our findings as they relate to expected foundations and earthwork. The explorations and this report are not sufficient for final design purposes. During final design, when the building pavement areas have been cited, it will be necessary to undertake supplemental explorations and prepare a detailed geotechnical report with specific recommendations suitable for design.

Should there be any questions regarding this report, please do not hesitate to call our office at (781) 821-2355. PSI would be pleased to continue providing geotechnical services throughout design and construction of the project, and we look forward to working with you and your organization on this and future projects.

Very truly yours,  
**PROFESSIONAL SERVICE INDUSTRIES, INC. (PSI)**



---

Brianna Sylvester  
Project Manager



---

Richard P. Weber, P.E.  
Principal Consultant

**PRELIMINARY GEOTECHNICAL  
ENGINEERING REPORT**

For the proposed

**BRIDGE STREET SENIOR HOUSING  
1530 BRIDGE STREET  
DRACUT, MA 01826**

Prepared for

**Knight, Bagge & Anderson, Inc.  
Charlestown Navy Yard  
6 Thirteenth Street  
Charlestown, MA 02129**

Prepared by

**Professional Service Industries, Inc. (PSI)  
480 Neponset Street, Suite 9C  
Canton, MA 02021  
Telephone: (781) 821-2355  
Fax: (781) 821-6276**

**PSI PROJECT NO. 0446522**

**May 13, 2015**



# TABLE OF CONTENTS

<b>1.0 PROJECT INFORMATION.....</b>	<b>1</b>
1.1 PROJECT AUTHORIZATION.....	1
1.2 PROJECT AND SITE DESCRIPTION.....	1
1.3 SUBSURFACE EXPLORATIONS.....	1
<b>2.0 SITE AND SUBSURFACE CONDITIONS.....</b>	<b>2</b>
2.1 SUBSURFACE CONDITIONS.....	2
2.1.1 <i>Local Geology</i> .....	2
2.1.2 <i>Test Borings</i> .....	2
2.2 GROUNDWATER CONDITIONS .....	3
2.3 SOIL LABORATORY TESTING.....	4
<b>3.0 FINDINGS .....</b>	<b>4</b>
3.1 BUILDING FOUNDATIONS, SLAB, AND BASEMENT .....	4
3.2 SEISMIC CLASSIFICATION .....	5
3.3 PAVEMENTS AND WALKWAYS .....	5
3.4 EARTHWORK .....	5
<b>4.0 GEOTECHNICAL RISK.....</b>	<b>6</b>
<b>5.0 REPORT LIMITATIONS.....</b>	<b>6</b>

## FIGURES

FIGURE 1: USGS SITE LOCATION PLAN

FIGURE 2: BORING LOCATION PLAN

FIGURE 3: SURFICIAL GEOLOGY

## APPENDIX A

BORING LOGS

MATERIAL TEST REPORTS



# 1.0 PROJECT INFORMATION

## 1.1 PROJECT AUTHORIZATION

Authorization to proceed with this project was provided by Mr. Kevin J. Buckley of Knight, Bagge & Anderson, Inc. (KBA) by signing the Acceptance of Proposal contract on May 4, 2015 from PSI's Proposal No. 0446-144337.

## 1.2 PROJECT AND SITE DESCRIPTION

The project information that was provided to PSI includes a Google Map Plan outlining the area to be developed. No other plans or documents were provided.

The referenced site is located at 1530 Bridge Street in Dracut, Massachusetts, as shown in *Figure 1, USGS Site Location Plan*. The proposed site is a wooded area and grassed field, former farmland, with access off of Bridge Street (Route 38) near Fox Avenue. PSI understands that the project consists of building senior housing on the parcel of land with an access road to be developed at 1530 Bridge Street.

Should any of this information be incorrect, PSI should be notified and have the opportunity to reassess conditions and amend the report where necessary.

## 1.3 SUBSURFACE EXPLORATIONS

Mr. Steven Svolis from KBA met with Mr. Richard Bonetti of Soil Exploration Corporation (SEC) of Leominster, Massachusetts at the site on April 29, 2015 to discuss access and boring locations. The exploration locations were marked out by SEC at the approximate locations shown in *Figure 2, Boring Location Plan*. SEC also notified Dig Safe System, Inc. for public utility clearance prior to making the explorations at the site.

SEC, engaged directly by KBA, conducted soil test borings at the site on May 8, 2015 using an ATV drill rig fitted with an automatic hammer and hollow flight augers to advance the boreholes. The objective of the work outlined herein was to provide a preliminary assessment of subsurface conditions and their impact on design and construction of the facility.

The exploration program was conducted in conformance with generally accepted geotechnical engineering practices. The program consisted of drilling 4 borings with depths ranging from 15½ feet below ground surface (bgs) to 22 feet bgs. Auger refusal was encountered at a depth of approximately 15½ feet bgs at Boring B-2. Auger refusal is defined as less than 12 inches of auger penetration for one minute of drilling. During the exploration program, a PSI representative observed the work, retrieved samples for laboratory testing, and prepared the attached soil test boring logs. Standard Penetration Test (SPT) and split spoon samples were retrieved at approximately 5-foot intervals.



Soil samples and SPT N-values were obtained using a split barrel (split spoon) sampler driven with an automatic hammer in general conformance with ASTM standards. The number of hammer blows required to drive the sampler into the soil in 6-inch increments is recorded on the Boring Logs in the Appendix. The sum of the hammer blows for the second and third intervals provides the Standard Penetration Resistance (N) and is a measure of soil strength.

PSI classified the soil strata shown in the Boring Logs based upon its interpretation of the subsurface conditions and the results of laboratory testing described in a subsequent section of this report. The stratifications shown on the Boring Logs represent the conditions only at the actual boring locations and variations might occur and should be expected between boring locations. It is possible that there could be thin layers of material lying between the sampling intervals that are not described on the logs and which might not become known until construction. Likewise, the depth to each soil stratum is considered to be approximate and may be more gradual or different in the field.

The soil samples will be stored in our laboratory for further analysis, if requested, and unless notified otherwise, the samples will be disposed of after 6 months.

## **2.0 SITE AND SUBSURFACE CONDITIONS**

### **2.1 SUBSURFACE CONDITIONS**

#### **2.1.1 LOCAL GEOLOGY**

Based on the “Surficial Geologic Map of the Ashby-Lowell-Sterling-Billerica 11-Quadrangle Area in Northeast-Central Massachusetts” compiled by Byron D. Stone and Janet R. Stone in 2007, the surficial geology of the project site is thin glacial till deposits, which consists of nonsorted, nonstratified matrix of sand, some silt, and little clay containing scattered gravel clasts and few large boulders. This is shown in *Figure 3, Surficial Geology*. The explorations undertaken at the site generally conform to this description.

Based on the “Bedrock Geologic Map of Massachusetts,” compiled by Zen, E-an, Goldsmith, Richard, Ratcliffe, N.M., Robinson, Peter, Stanley, R.S., Hatch, N.L., Shride, A.F., Weed, E.G.A., and Wones, D.R. in 1983, the bedrock geology generally consists of Berwick Formation (Silurian), which is thin to thick-bedded metamorphosed calcareous sandstone, siltstone, and minor muscovite schist. Bedrock, however, was not encountered to the depths explored at this site.

#### **2.1.2 TEST BORINGS**

The soil types encountered at the specific boring locations are presented as individual soil profiles and descriptions on the Boring Logs attached in the Appendix. The stratification presented is based on a visual assessment of the recovered soil samples and the interpretation of field logs by a PSI representative. The logs also show the Standard Penetration Test values (N-values) for the borings. The N-values have been empirically correlated with various soil



properties and are considered to be indicative of the relative density of cohesionless soils and the consistency of cohesive soils. A brief description of the soils encountered at the site is presented in this section of the report and details are shown in the logs.

TOPSOIL – Borings B-1 to B-4 encountered approximately 5 to 12 inches of topsoil beginning at the ground surface. PSI understands that this land had been farmed in the past and, therefore, it is possible that deeper pockets of topsoil exist throughout the site and might not become known until additional explorations are undertaken.

GLACIAL TILL – Overburden soil at the site consists of glacial till as described in the Local Geology section of this report. The material consists of medium dense to very dense fine sand, little to some silt, and varying percentages of gravel. Glacial till was present at all 4 boring locations and extended from below the topsoil layer to the depth where the borings terminate.

BEDROCK – Bedrock was not encountered to the depths explored. Refusal was encountered at Boring B-2 at a depth of approximately 15½ feet bgs. PSI believes that the refusal material might be a boulder rather than bedrock, although the material was not cored to verify the classification.

## **2.2 GROUNDWATER CONDITIONS**

At the time the explorations were made, groundwater was observed at approximate depths ranging from 9 feet bgs at Borings B-1 through B-3 to 15 feet bgs at Boring B-4. Ground surface elevations are not available, therefore, these depths cannot be correlated to elevations. The 15-foot depth at Boring B-4 might be an anomaly since there was no apparent reason for the groundwater level to be lower.

PSI understands that the site had recently been wet and difficult for vehicles to maneuver. The wetness probably relates to the poor draining characteristics of the glacial till along with the fact that a significant amount of snow-melt had occurred. It is likely that the meltwater had migrated through the topsoil and had become temporarily trapped along the glacial till surface until it slowly drained.

These observations represent the groundwater condition at the time of measurement and may not be indicative of other times. The level of groundwater below the ground surface fluctuates based on conditions such as season, temperature, and amount of precipitation that might be different from the time when the observations were made. Therefore, the groundwater levels can be higher or lower during construction and during the life of the structure. This fact must be taken into consideration when preparing foundation design and developing earthwork procedures.



## 2.3 SOIL LABORATORY TESTING

PSI performed moisture content and gradation tests for the samples at Boring B-2 (2 to 4 feet bgs and 5 to 7 feet bgs) and Boring B-4 (5 to 7 feet bgs) to assist in classifying the material and providing engineering properties. The material test reports for the samples are located in the Appendix of this report and summarized in the following tables.

<b>Gradation Test Results – B-2 (2 to 4 feet)</b>	
Moisture Content (%)	10.1
USCS Classification	Silty Sand with Gravel (SM)

<b>Gradation Test Results – B-2 (5 to 7 feet)</b>	
Moisture Content (%)	10.3
USCS Classification	Silty Sand with Gravel (SM)

<b>Gradation Test Results – B-4 (5 to 7 feet)</b>	
Moisture Content (%)	11.3
USCS Classification	Silty Sand with Gravel (SM)

## 3.0 FINDINGS

PSI has reviewed the results of the preliminary exploration program and has developed the following findings. Note that these findings are preliminary and if additional explorations reveal differing conditions, PSI reserves the right to amend these findings.

### 3.1 BUILDING FOUNDATIONS, SLAB, AND BASEMENT

The subsurface conditions encountered at the site consist of topsoil underlain by medium dense to very dense glacial till. Glacial till is a material that will support shallow spread footings and a slab-on-grade after removing the surface topsoil layer. Therefore, the building can be designed using spread footings and slab-on-grade.

The glacial till is a material that, when wet, becomes difficult if not impossible to recompact and becomes difficult to work over. Therefore, all foundations should bear on a 3-inch to 4-inch thick crushed stone working mat.

The glacial till is also a material that promotes capillary rise of the groundwater. Therefore, the subsurface environment below the building footprint can be damp. Consider using a crushed stone base course layer below the slab to break the capillary rise along with a vapor retarder to reduce moisture from entering the building from below the slab.

PSI recommends that plans do not include a basement. However, if a basement level is necessary, foundation perimeter drains and underslab drains will be required. Since the glacial till is a poorly draining material, water from groundwater or surface water migrating



between the basement wall and backfill will collect at the foundation level until it slowly drains away. A gravity drainage system connected to the Town drainage will be necessary.

There is a possibility that the groundwater level will be above the basement floor grade during the year. Therefore, designing a waterproofed basement along with resisting hydrostatic pressures may be required if satisfactory drainage is not possible.

### **3.2 SEISMIC CLASSIFICATION**

Based on the preliminary explorations, a Seismic Site Class D should be assigned to the site. The values of  $S_s$  and  $S_1$  are 0.33 and 0.075 respectively for the Town of Dracut.

### **3.3 PAVEMENTS AND WALKWAYS**

As discussed previously, the site is underlain by poorly draining glacial till. As a result, precipitation will drain slowly and may affect the pavement and/or walkway base course layer if it becomes trapped. Poorly draining or saturated base course material lying directly below the pavement will cause premature pavement deterioration. Base course drainage should be considered so that water from all sources drains away quickly from the base course.

Glacial till can also be frost susceptible and design measures should be considered to reduce the potential for differential frost heaves to occur below pavements and walkways.

### **3.4 EARTHWORK**

Findings with respect to earthwork are outlined below.

1. Glacial till is a material that is difficult to work with, especially during the winter months. Earthwork construction should be planned for the drier months of the year. Earthwork during the winter can lead to delays.
2. When glacial till becomes wet or overly moist, it becomes difficult or impossible to compact.
3. Excavations on-site will result in excess glacial till. The material can be used as common borrow on-site but not as a backfill material in connection with buildings, pavements, and walkways. PSI anticipates that granular borrow material will be required on-site for fill below structures and for grading below pavements and walkways to compensate for the removed topsoil or for grading fills.
4. Bedrock was not encountered within the borings to the depths explored. The refusal encountered in Boring B-2 may be a boulder but if it is bedrock, the grade is low so that construction should not encounter rock excavation.



5. If the area has been farmed, the surface layer can consist of thicker layers of topsoil and tilled (disturbed) material. Therefore, there may be an excess of unsuitable material to remove from the site.

## **4.0 GEOTECHNICAL RISK**

The concept of risk is an important aspect of the geotechnical assessment. The primary reason for this is that the analytical methods used to develop geotechnical recommendations do not comprise an exact science. Site exploration identifies actual subsurface conditions only at those points where samples are taken.

A geotechnical report is based on conditions that existed at the time of the subsurface exploration. The analytical tools which geotechnical engineers use are generally empirical and must be used in conjunction with engineering judgment and experience. Therefore, the solutions and recommendations presented in the geotechnical report should not be considered risk-free and, more importantly, are not a guarantee that the interaction between the soils and the proposed structure will perform as planned. The engineering findings presented in the preceding sections constitute Professional Service Industries, Inc.'s professional estimate of those measures that are necessary for the proposed project and are preliminary.

## **5.0 REPORT LIMITATIONS**

Professional Service Industries, Inc.'s professional services have been performed and our preliminary findings presented in accordance with generally accepted geotechnical engineering principles and practices. Professional Service Industries, Inc. is not responsible for the conclusions, opinions, or recommendations made by others based on this data. No other warranties are implied or expressed.

The scope of explorations was intended to assess soil conditions within the influence of the proposed foundations and earthwork. If subsoil variations become evident during the course of this project, a re-assessment of the preliminary findings presented in this report will be necessary after we have had an opportunity to observe the characteristics of the conditions encountered. The applicability of this report should also be reviewed in the event significant changes occur in the design, nature, or location of the proposed structure.

The scope of our services does not include any environmental assessment or investigation for the presence or absence of hazardous or toxic materials in the soil, groundwater, or surface water within or beyond the site studied.

Professional Service Industries, Inc. did not provide any service to investigate or detect the presence of moisture, mold or other biological contaminate in or around any structure, or any service that was designed or intended to prevent or lower the risk of the occurrence of the amplification of the same. Mold is ubiquitous to the environment with mold amplification occurring when building materials are impacted by moisture. Site conditions are outside of



PSI's control, and mold amplification will likely occur, or continue to occur, in the presence of moisture. As such, Professional Service Industries, Inc. cannot and shall not be held responsible of the occurrence or recurrence of mold amplification.



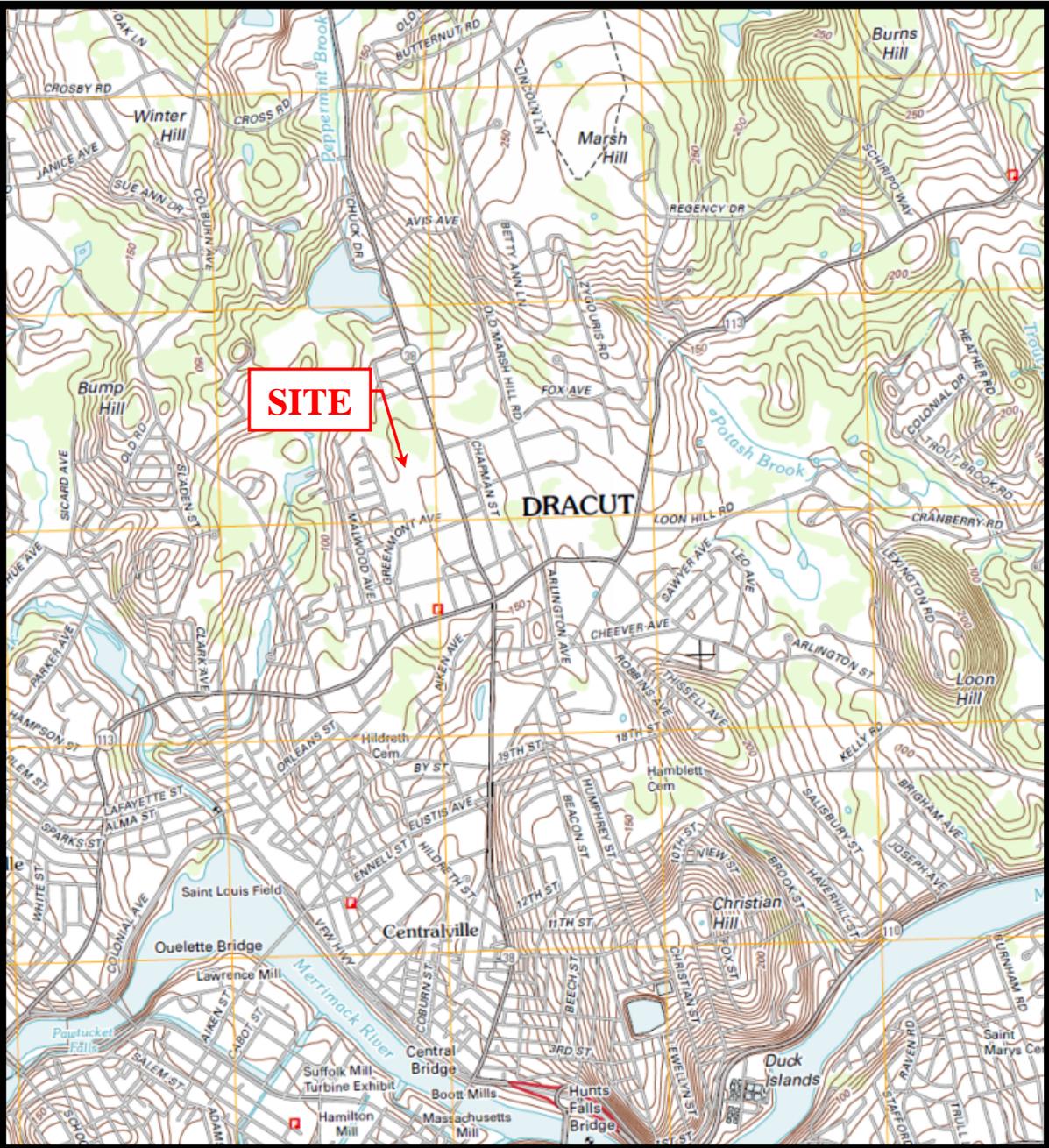
## **FIGURES**

**Figure 1: USGS Site Location Plan**

**Figure 2: Boring Location Plan**

**Figure 3: Surficial Geology**





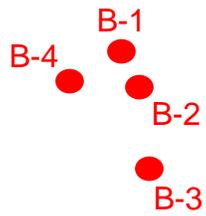
REFERENCE: U.S.G.S. "LOWELL, MA-NH" 7.5' QUADRANGLE MAP  
 ISSUED: 2012  
 REVISED:

**FIGURE 1: USGS SITE LOCATION PLAN**

**PROJECT NAME:**  
 Bridge Street Senior Housing  
 1530 Bridge Street  
 Dracut, MA 01826



PSI Project No.	Date	Scale
0446522	May 2015	N.T.S.



● Boring Location

FIGURE 2: BORING LOCATION PLAN

PSI Project No.

Date

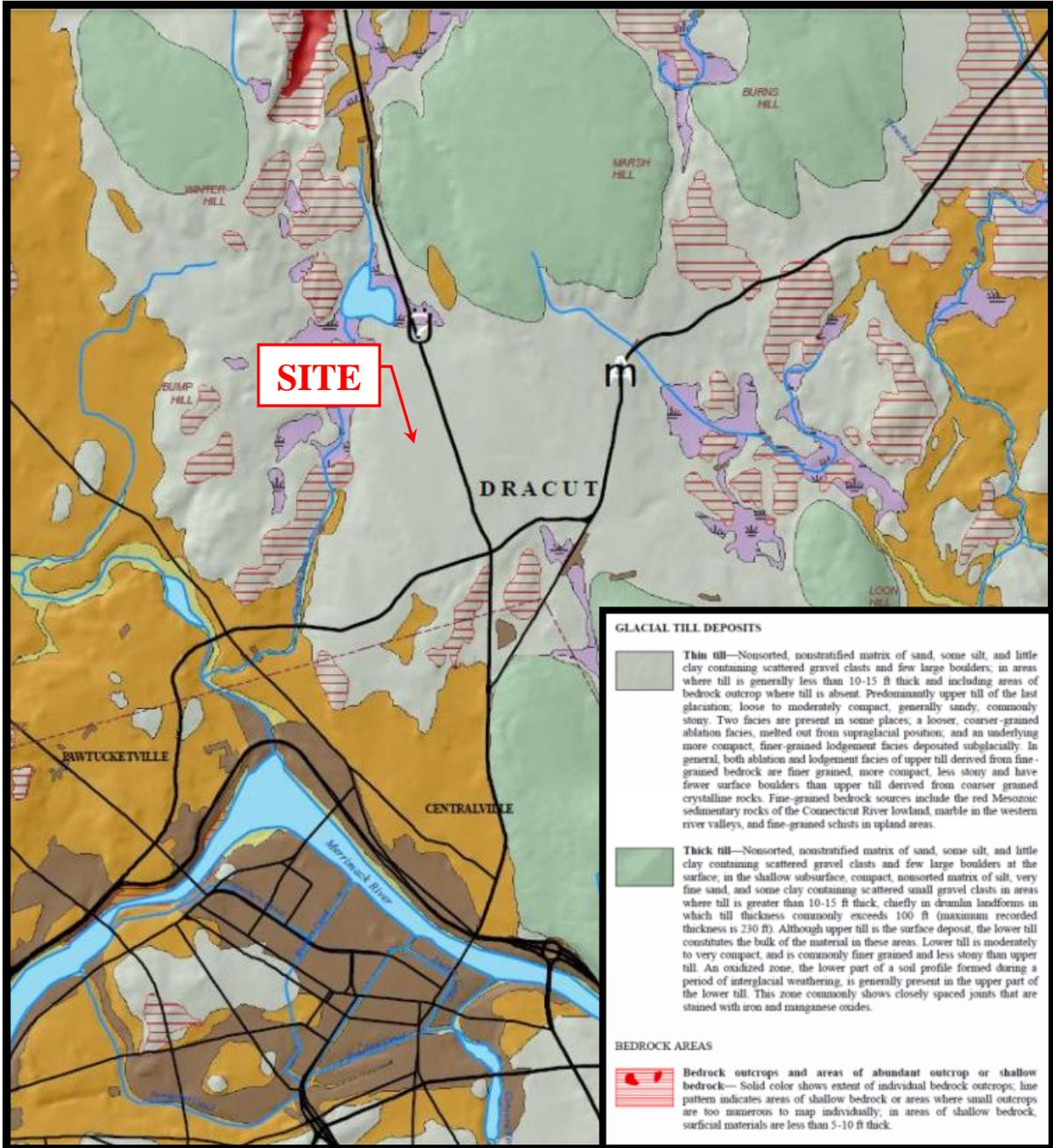
Scale

PROJECT:  
 Bridge Street Senior Housing  
 1530 Bridge Street  
 Dracut, MA 01826

0446522

May 2015

N.T.S.



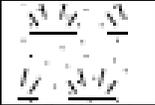
**REFERENCE:** "SURFICIAL GEOLOGIC MAP OF THE ASHBY-LOWELL-STERLING-BILLERICA 11-QUADRANGLE AREA IN NORTHEAST-CENTRAL MASSACHUSETTS"  
Byron D. Stone and Janet R. Stone - 2007

FIGURE 3: SURFICIAL GEOLOGY		PSI Project No.	Date	Scale
<b>PROJECT NAME:</b> Bridge Street Senior Housing 1530 Bridge Street Dracut, MA 01826		0446522	May 2015	N.T.S.

# APPENDIX

## Boring Logs

### Legend for Graphic Log

	Topsoil
	Glacial Till

**DATE STARTED:** 5/8/15  
**DATE COMPLETED:** 5/8/15  
**COMPLETION DEPTH:** 22.0 ft  
**BENCHMARK:** N/A  
**ELEVATION:** N/A  
**LATITUDE:**  
**LONGITUDE:**  
**STATION:** N/A    **OFFSET:** N/A  
**REMARKS:**

**DRILL COMPANY:** Soil Exploration Corp.  
**DRILLER:** Pat Goodale    **LOGGED BY:** PSI, Inc.  
**DRILL RIG:** ATV Drill Rig  
**DRILLING METHOD:** Hollow Stem Auger  
**SAMPLING METHOD:** SS  
**HAMMER TYPE:** Automatic  
**EFFICIENCY:** N/A  
**REVIEWED BY:** Brianna Sylvester

# BORING B-1

**Water**    ▽ While Drilling    9 feet  
 ▼  
 ▼

**BORING LOCATION:**  
 Northeast area of grassed field

Elevation (feet)	Depth (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	STANDARD PENETRATION TEST DATA		Additional Remarks
									N in blows/ft ⊙	Moisture, %	
0						6" of topsoil					
				1	17	Loose, light brown, fine sand, little to some silt, trace cobbles	1-1-1-18 N=2				
				2	14	Medium dense, light brown, fine sand, little silt, some fine gravel	20-14-10-25 N=24				
	5			3	24	Medium dense, light brown, fine sand, little silt, some fine gravel	8-7-9-9 N=16				
						▽					
	10			4	16	Medium dense, light brown, fine sand, little silt, some fine gravel, some gravel	6-10-12-13 N=22				
	15			5	7	Very dense, mostly gravel Bottom 2" - light brown, little silt, some fine gravel	43-59-81-47 N=140				>> ⊙
	20			6	22	Very dense, light brown, fine sand, little silt, some fine gravel	17-33-36-42 N=69				>> ⊙



Professional Service Industries, Inc.  
 480 Neponset Street, Suite 9C  
 Canton, MA 02021  
 Telephone: (781) 821-2355

**PROJECT NO.:** 0446522  
**PROJECT:** Bridge Street Senior Housing  
**LOCATION:** 1530 Bridge Street  
 Dracut, MA

**DATE STARTED:** 5/8/15  
**DATE COMPLETED:** 5/8/15  
**COMPLETION DEPTH:** 15.5 ft  
**BENCHMARK:** N/A  
**ELEVATION:** N/A  
**LATITUDE:**  
**LONGITUDE:**  
**STATION:** N/A    **OFFSET:** N/A  
**REMARKS:**

**DRILL COMPANY:** Soil Exploration Corp.  
**DRILLER:** Pat Goodale    **LOGGED BY:** PSI, Inc.  
**DRILL RIG:** ATV Drill Rig  
**DRILLING METHOD:** Hollow Stem Auger  
**SAMPLING METHOD:** SS  
**HAMMER TYPE:** Automatic  
**EFFICIENCY:** N/A  
**REVIEWED BY:** Brianna Sylvester

## BORING B-2

**Water**   
 1 Hour Delay 9 feet

**BORING LOCATION:**  
 75' south & 8' east of B-1

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	STANDARD PENETRATION TEST DATA N in blows/ft ⊙ Moisture, % Strength, tsf	Additional Remarks
0						8" of topsoil				
				1	12	Loose, light brown, fine sand, little to some silt, some gravel		2-1-4-4 N=5	⊙	
				2	17	Medium dense, light brown, fine sand, little silt, some fine gravel, some gravel		6-11-15-18 N=26	⊙	
	5			3	16	Medium dense, light brown, fine sand, little silt, some fine gravel Bottom inch - gravel		10-5-11-15 N=16	⊙	
	10			4	1	Dense, light brown, fine sand, little silt, some fine gravel, trace cobbles		21-24-22-32 N=46	⊙	
	15			5	1	Very dense, gravel Auger refusal at 15.5'		100/1"	>>⊙	



Professional Service Industries, Inc.  
 480 Neponset Street, Suite 9C  
 Canton, MA 02021  
 Telephone: (781) 821-2355

**PROJECT NO.:** 0446522  
**PROJECT:** Bridge Street Senior Housing  
**LOCATION:** 1530 Bridge Street  
 Dracut, MA

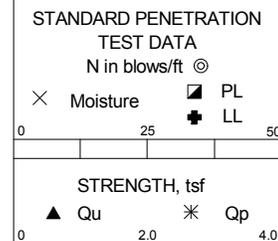
**DATE STARTED:** 5/8/15 **DRILL COMPANY:** Soil Exploration Corp.  
**DATE COMPLETED:** 5/8/15 **DRILLER:** Pat Goodale **LOGGED BY:** PSI, Inc.  
**COMPLETION DEPTH:** 22.0 ft **DRILL RIG:** ATV Drill Rig  
**BENCHMARK:** N/A **DRILLING METHOD:** Hollow Stem Auger  
**ELEVATION:** N/A **SAMPLING METHOD:** SS  
**LATITUDE:** **HAMMER TYPE:** Automatic  
**LONGITUDE:** **EFFICIENCY:** N/A  
**STATION:** N/A **OFFSET:** N/A **REVIEWED BY:** Brianna Sylvester  
**REMARKS:**

# BORING B-3

**Water**  While Drilling 9 feet  
  


**BORING LOCATION:**  
 114' south & 23' west of B-2

Elevation (feet)	Depth (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STRENGTH, tsf	Additional Remarks
0						12" of topsoil					
				1	17	Loose, light brown, fine sand, little silt, some gravel	1-1-2-11 N=3				
				2	19	Medium dense, light brown, fine sand, little silt, some fine gravel, little gravel	10-11-10-17 N=21				
	5			3	23	Medium dense, light brown, fine sand, little silt, some fine gravel, trace gravel	7-8-10-20 N=18				
											
	10			4	23	Dense, light brown, fine sand, little silt, some fine gravel	12-17-22-26 N=39				
	15			5	21	Very dense, light brown, fine sand, little silt, some fine gravel	16-21-30-33 N=51				
	20			6	19	Dense, light brown, fine sand, little silt, some fine gravel	11-17-28-35 N=45				



Professional Service Industries, Inc.  
 480 Neponset Street, Suite 9C  
 Canton, MA 02021  
 Telephone: (781) 821-2355

**PROJECT NO.:** 0446522  
**PROJECT:** Bridge Street Senior Housing  
**LOCATION:** 1530 Bridge Street  
 Dracut, MA

**DATE STARTED:** 5/8/15  
**DATE COMPLETED:** 5/8/15  
**COMPLETION DEPTH:** 22.0 ft  
**BENCHMARK:** N/A  
**ELEVATION:** N/A  
**LATITUDE:**  
**LONGITUDE:**  
**STATION:** N/A    **OFFSET:** N/A  
**REMARKS:**

**DRILL COMPANY:** Soil Exploration Corp.  
**DRILLER:** Pat Goodale    **LOGGED BY:** PSI, Inc.  
**DRILL RIG:** ATV Drill Rig  
**DRILLING METHOD:** Hollow Stem Auger  
**SAMPLING METHOD:** SS  
**HAMMER TYPE:** Automatic  
**EFFICIENCY:** N/A  
**REVIEWED BY:** Brianna Sylvester

# BORING B-4

**Water**    ▽ While Drilling    15 feet  
 ▼  
 ▼

**BORING LOCATION:**  
 45' north & 125' west of B-2  
 In the woods

Elevation (feet)	Depth (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STRENGTH, tsf	Additional Remarks
0				1	19	5" of topsoil Loose, light brown, fine sand, little to some silt, some fine gravel		2-1-2-4 N=3	⊙		
5				2	20	Medium dense, light brown, fine sand, little silt, some fine gravel, trace gravel		11-14-10-13 N=24	⊙		
10				3	21	Dense, light brown, fine sand, little silt, some fine gravel, some gravel		13-15-19-17 N=34	⊙		
15				4	21	Very dense, light brown, fine sand, little silt, some fine gravel, little gravel		13-21-52-32 N=73	>>⊙		
20				5	11	Very dense, light brown, fine sand, little silt, some fine gravel		26-27-25-38 N=52	>>⊙		



Professional Service Industries, Inc.  
 480 Neponset Street, Suite 9C  
 Canton, MA 02021  
 Telephone: (781) 821-2355

**PROJECT NO.:** 0446522  
**PROJECT:** Bridge Street Senior Housing  
**LOCATION:** 1530 Bridge Street  
 Dracut, MA

## Material Test Reports





Professional Service Industries, Inc.  
480 Neponset Street, Suite 9C  
Canton, MA 02021

Phone: (781) 821-2355  
Fax: (781) 821-6276

# Material Test Report

Report No: MAT:0446522-1-S1

Issue No: 1

Client: KBA ARCHITECTS  
CHARLESTONWAY NAVY YARD, 6  
THIRTEENTH ST  
CHARLESTOWN, MA 02129

Project: BRIDGE STREET SENIOR HOUSING  
DRACUT, MA

These test results apply only to the specific locations and materials noted and may not represent any other locations or elevations. This report may not be reproduced, except in full, without written permission by Professional Service Industries, Inc. If a non-compliance appears on this report, to the extent that the reported non-compliance impacts the project, the resolution is outside the PSI scope of engagement.

Approved Signatory: Yannick Lastennet (Department Manager)  
Date of Issue: 5/13/2015

## Sample Details

Sample ID: 0446522-1-S1  
Client Sample ID:  
Date Sampled: 05/08/15  
Sampled By: Brianna Sylvester  
Specification: No spec. seive  
Supplier:  
Source:  
Material:  
Sampling Method:  
General Location: B-2 (2'-4')  
Location:  
Lift:

## Other Test Results

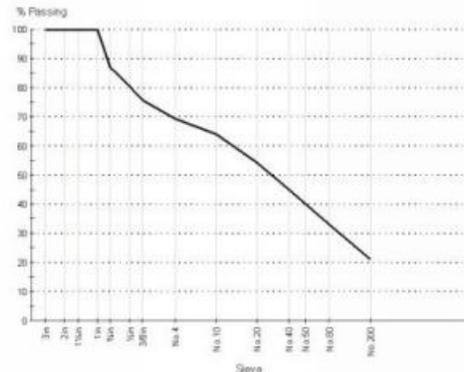
Description	Method	Result	Limits
Moisture content (%)	ASTM D 2216	10.1	
Method		B	
Date Tested		5/12/2015	

## Particle Size Distribution

Method: ASTM C 136, ASTM C 117  
Drying by: Oven  
Date Tested: 5/12/2015

Sieve Size	% Passing	Limits
3in (75.0mm)	100	
2in (50.0mm)	100	
1½in (37.5mm)	100	
1in (25.0mm)	100	
¾in (19.0mm)	87	
½in (12.5mm)	80	
3/8in (9.5mm)	76	
No.4 (4.75mm)	69	
No.10 (2.0mm)	64	
No.20 (850µm)	54	
No.40 (425µm)	45	
No.50 (300µm)	40	
No.80 (180µm)	33	
No.200 (75µm)	21	

## Chart



## Comments

N/A



Professional Service Industries, Inc.  
480 Neponset Street, Suite 9C  
Canton, MA 02021

Phone: (781) 821-2355  
Fax: (781) 821-6276

# Material Test Report

Report No: MAT:0446522-1-S2

Issue No: 1

Client: KBA ARCHITECTS  
CHARLESTONWAY NAVY YARD, 6  
THIRTEENTH ST  
CHARLESTOWN, MA 02129

Project: BRIDGE STREET SENIOR HOUSING  
DRACUT, MA

These test results apply only to the specific locations and materials noted and may not represent any other locations or elevations. This report may not be reproduced, except in full, without written permission by Professional Service Industries, Inc. If a non-compliance appears on this report, to the extent that the reported non-compliance impacts the project, the resolution is outside the PSI scope of engagement.

Approved Signatory: Yannick Lastennet (Department Manager)  
Date of Issue: 5/13/2015

## Sample Details

Sample ID: 0446522-1-S2  
Client Sample ID:  
Date Sampled: 05/08/15  
Sampled By: Michael Viner  
Specification: No spec. seive  
Supplier:  
Source:  
Material:  
Sampling Method:  
General Location: B-2 (5'-7')  
Location:  
Lift:

## Particle Size Distribution

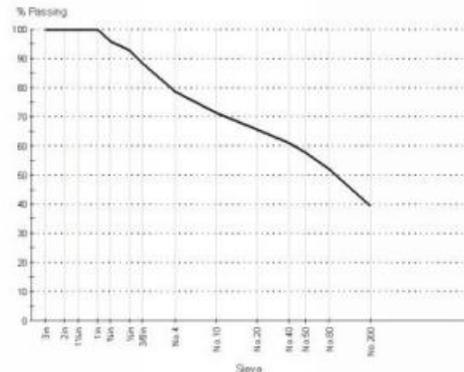
Method: ASTM C 136, ASTM C 117  
Drying by: Oven  
Date Tested: 5/12/2015

Sieve Size	% Passing	Limits
3in (75.0mm)	100	
2in (50.0mm)	100	
1½in (37.5mm)	100	
1in (25.0mm)	100	
¾in (19.0mm)	96	
½in (12.5mm)	93	
3/8in (9.5mm)	88	
No.4 (4.75mm)	79	
No.10 (2.0mm)	71	
No.20 (850µm)	66	
No.40 (425µm)	61	
No.50 (300µm)	58	
No.80 (180µm)	52	
No.200 (75µm)	39	

## Other Test Results

Description	Method	Result	Limits
Moisture content (%)	ASTM D 2216	10.3	
Method		B	
Date Tested		5/12/2015	

## Chart



## Comments

N/A



Professional Service Industries, Inc.  
480 Neponset Street, Suite 9C  
Canton, MA 02021

Phone: (781) 821-2355  
Fax: (781) 821-6276

# Material Test Report

Report No: MAT:0446522-1-S3

Issue No: 1

Client: KBA ARCHITECTS  
CHARLESTONWAY NAVY YARD, 6  
THIRTEENTH ST  
CHARLESTOWN, MA 02129

Project: BRIDGE STREET SENIOR HOUSING  
DRACUT, MA

These test results apply only to the specific locations and materials noted and may not represent any other locations or elevations. This report may not be reproduced, except in full, without written permission by Professional Service Industries, Inc. If a non-compliance appears on this report, to the extent that the reported non-compliance impacts the project, the resolution is outside the PSI scope of engagement.

Approved Signatory: Yannick Lastennet (Department Manager)  
Date of Issue: 5/13/2015

## Sample Details

Sample ID: 0446522-1-S3  
Client Sample ID:  
Date Sampled: 05/08/15  
Sampled By: Michael Viner  
Specification: No spec. seive  
Supplier:  
Source:  
Material:  
Sampling Method:  
General Location: B-4 (5'-7')  
Location:  
Lift:

## Other Test Results

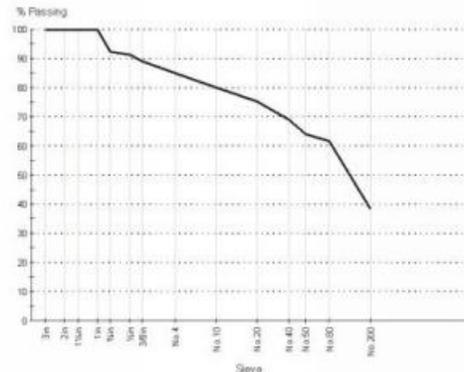
Description	Method	Result	Limits
Moisture content (%)	ASTM D 2216	11.3	
Method		B	
Date Tested		5/12/2015	

## Particle Size Distribution

Method: ASTM C 136, ASTM C 117  
Drying by: Oven  
Date Tested: 5/12/2015

Sieve Size	% Passing	Limits
3in (75.0mm)	100	
2in (50.0mm)	100	
1½in (37.5mm)	100	
1in (25.0mm)	100	
¾in (19.0mm)	92	
½in (12.5mm)	91	
3/8in (9.5mm)	89	
No.4 (4.75mm)	85	
No.10 (2.0mm)	80	
No.20 (850µm)	75	
No.40 (425µm)	69	
No.50 (300µm)	64	
No.80 (180µm)	62	
No.200 (75µm)	38	

## Chart



## Comments

N/A

5

HAZARDOUS MATERIALS REPORT  
SPRING PARK AVE

**FINAL REPORT  
FOR  
HAZARDOUS MATERIALS INSPECTION SERVICES  
STUDY AT  
11 SPRING PARK AVENUE  
DRACUT, MASSACHUSETTS**

PROJECT NO: 215 060.00

Survey Dates:  
February 12, 2015

CONDUCTED BY:

**UNIVERSAL ENVIRONMENTAL CONSULTANTS  
12 Brewster Road  
Framingham, MA 01702**

March 4, 2015

Mr. Kevin Buckley, AIA, President  
Knight, Bagge and Anderson, Inc  
6 Thirteenth Street  
Charlestown Navy Yard  
Charlestown, MA 02129

Reference: Report for Hazardous Materials Inspection Services  
11 Spring Park Avenue, Dracut, MA

Dear Mr. Buckley:

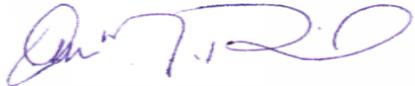
Thank you for the opportunity for Universal Environmental Consultants (UEC) to provide professional services.

Enclosed please find the report for the hazardous materials inspection service at the 11 Spring Park Avenue site, Dracut, MA.

Please do not hesitate to call should you have any questions.

Very truly yours,

Universal Environmental Consultants



---

Ammar M. Dieb  
President

UEC:\215 060\Report.DOC

Enclosure

## 1.0 INTRODUCTION:

Universal Environmental Consultants (UEC) has been providing comprehensive asbestos services since 2001 and has completed projects throughout New England. We have completed projects for a variety of clients including commercial, industrial, municipal, and public and private schools. We maintain appropriate asbestos licenses and staff with a minimum of fifteen years of experience.

UEC was contracted by Knight, Bagge and Anderson, Inc. to conduct the following services at the 11 Spring Park Avenue site, Dracut, MA:

- Asbestos Containing Materials (ACM) inspection and sampling;
- Polychlorinated Biphenyls (PCB's)-Electrical Equipment and Light Fixtures inspection;
- PCB's Caulking sampling;

The scope of work included the inspection of accessible ACM, collection of bulk samples from materials suspected to contain asbestos, determination and quantities of types of ACM found and cost estimates for remediation. A comprehensive survey per the Environmental Protection Agency (EPA) NESHAP regulation would be required prior to any renovation or demolition activities.

Bulk samples analyses for asbestos were performed using the standard Polarized Light Microscopy (PLM) Method in accordance with EPA standard. Bulk samples were collected by a Massachusetts licensed asbestos inspector Mr. Jason Becotte (AI-034963) and analyzed by a Massachusetts licensed laboratory EMSL, Woburn, MA.

PCB's bulk samples were analyzed by an EMSL, Cinnaminson, NJ in accordance with EPA 3540C/8082 method.

Samples results are attached.

## 2.0 FINDINGS:

### **Asbestos Containing Materials (ACM):**

The regulations for asbestos inspection are based on representative sampling. It would be impractical and costly to sample all materials in all areas. Therefore, representative samples of each homogenous area were collected and analyzed or assumed.

All suspect materials were grouped into homogenous areas. By definition a homogenous area is one in which the materials are evenly mixed and similar in appearance and texture throughout. A homogeneous area shall be determined to contain asbestos based on findings that the results of at least one sample collected from that area shows that asbestos is present in an amount greater than 1 percent in accordance with EPA regulations. No additional suspect and accessible ACM were found during this survey. However, hidden ACM may be found during the renovation and demolition activities.

### ***Number of Samples Collected:***

Forty-four (44) bulk samples were collected from materials suspected of containing asbestos, including:

### **Type and Location of Suspect Material**

1. Paper under hardwood floor at first floor
2. Paper under hardwood floor at first floor
3. 12" x 12" Vinyl floor tile at first floor front room
4. 12" x 12" Vinyl floor tile at first floor front room
5. Black mastic on 12" x 12" vinyl floor tile at first floor front room

6. Black mastic on 12" x 12" vinyl floor tile at first floor front room
7. Linoleum floor covering at first floor bathroom\
8. Linoleum floor covering at first floor bathroom
9. White sink undercoat at first floor kitchenette
10. Blackboard slate at first floor
11. Blackboard slate at first floor
12. Sheetrock at boiler room ceiling
13. Sheetrock at boiler room ceiling
14. Joint tape at boiler room ceiling
15. Joint tape at boiler room ceiling
16. Blown in insulation at attic
17. Blown in insulation at attic
18. 1' x 1' Suspended acoustical tile at first floor hall
19. 1' x 1' Suspended acoustical tile at first floor hall
20. 2' x 2' Suspended acoustical tile at first floor front room
21. 2' x 2' Suspended acoustical tile at first floor front room
22. 2' x 4' Suspended acoustical tile at first floor
23. 2' x 4' Suspended acoustical tile at first floor
24. White paper insulation at boiler room
25. White paper insulation at boiler room
26. Pipe insulation at boiler room
27. Pipe insulation at boiler room
28. Pipe insulation at boiler room
29. Ceiling plaster at boiler room
30. Ceiling plaster at boiler room
31. Ceiling plaster at boiler room
32. Plaster at first floor
33. Plaster at first floor
34. Plaster at first floor
35. Plaster at first floor
36. Plaster at second floor
37. Plaster at second floor
38. Plaster at second floor
39. Exterior paper at under clapboard siding
40. Exterior paper at under clapboard siding
41. Hard window glazing caulking at wood frame windows
42. Hard window glazing caulking at wood frame windows
43. Hard window glazing caulking at wood frame windows
44. Hard window glazing caulking at wood frame windows

**Sample Results:**

**Type and Location of Suspect Material**

**Sample Result**

1. Paper under hardwood floor at first floor	No Asbestos Detected
2. Paper under hardwood floor at first floor	No Asbestos Detected
3. 12" x 12" Vinyl floor tile at first floor front room	2% Asbestos
4. 12" x 12" Vinyl floor tile at first floor front room	2% Asbestos
5. Black mastic on 12" x 12" vinyl floor tile at first floor front room	10% Asbestos
6. Black mastic on 12" x 12" vinyl floor tile at first floor front room	10% Asbestos
7. Linoleum floor covering at first floor bathrooms	No Asbestos Detected
8. Linoleum floor covering at first floor bathrooms	No Asbestos Detected
9. White sink undercoat at first floor kitchenette	No Asbestos Detected
10. Blackboard slate at first floor	No Asbestos Detected
11. Blackboard slate at first floor	No Asbestos Detected

12. Sheetrock at boiler room ceiling	No Asbestos Detected
13. Sheetrock at boiler room ceiling	No Asbestos Detected
14. Joint tape at boiler room ceiling	No Asbestos Detected
15. Joint tape at boiler room ceiling	No Asbestos Detected
16. Blown in insulation at attic	No Asbestos Detected
17. Blown in insulation at attic	No Asbestos Detected
18. 1' x 1' Suspended acoustical tile at first floor hall	No Asbestos Detected
19. 1' x 1' Suspended acoustical tile at first floor hall	No Asbestos Detected
20. 2' x 2' Suspended acoustical tile at first floor front room	No Asbestos Detected
21. 2' x 2' Suspended acoustical tile at first floor front room	No Asbestos Detected
22. 2' x 4' Suspended acoustical tile at first floor	No Asbestos Detected
23. 2' x 4' Suspended acoustical tile at first floor	No Asbestos Detected
24. White paper insulation at boiler room	70% Asbestos
25. White paper insulation at boiler room	70% Asbestos
26. Pipe insulation at boiler room	50% Asbestos
27. Pipe insulation at boiler room	50% Asbestos
28. Pipe insulation at boiler room	50% Asbestos
29. Ceiling plaster at boiler room	No Asbestos Detected
30. Ceiling plaster at boiler room	No Asbestos Detected
31. Ceiling plaster at boiler room	No Asbestos Detected
32. Plaster at first floor	No Asbestos Detected
33. Plaster at first floor	No Asbestos Detected
34. Plaster at first floor	No Asbestos Detected
35. Plaster at first floor	No Asbestos Detected
36. Plaster at second floor	No Asbestos Detected
37. Plaster at second floor	No Asbestos Detected
38. Plaster at second floor	No Asbestos Detected
39. Exterior paper at under clapboard siding	No Asbestos Detected
40. Exterior paper at under clapboard siding	No Asbestos Detected
41. Hard window glazing caulking at wood frame windows	2% Asbestos
42. Hard window glazing caulking at wood frame windows	2% Asbestos
43. Hard window glazing caulking at wood frame windows	2% Asbestos
44. Hard window glazing caulking at wood frame windows	2% Asbestos

**Observations and Conclusions:**

1. Vinyl floor tile and mastic was found to contain asbestos.
2. White paper insulation was found to contain asbestos.
3. Pipe insulation was found to contain asbestos.
4. Hard window glazing caulking was found to contain asbestos.
5. All other suspect materials were found not to contain asbestos. Hidden ACM might be found during renovation and demolition.
6. Roofing material was assumed to contain asbestos.

**Polychlorinated Biphenyls (PCB's)-Electrical Equipment and Light Fixtures:**

**Observations and Conclusions**

Visual inspection of various equipments such as light fixtures, thermostats, exit signs and switches was performed for the presence of PCB's and mercury. Ballasts in light fixtures were assumed to contain PCB's since there were no labels indicating that "No PCB's" was found. Tubes in light fixtures, thermostats, signs and switches were assumed to contain mercury. It would be very costly to test those equipments and dismantling would be required to access. Therefore, the above mentioned equipments should be disposed in an EPA approved landfill as part of the demolition project.

## PCB's in Caulking:

PCB's are manmade chemicals that were widely produced and distributed across the country from the 1950s to 1977 until the production of PCB's was banned by the US Environmental Protection Agency (EPA) law which became effective in 1978. PCB's are a class of chemicals made up of more than 200 different compounds. PCB's are non-flammable, stable, and good insulators so they were widely used in a variety of products including: electrical transformers and capacitors, cable and wire coverings, sealants and caulking, and household products such as television sets and fluorescent light fixtures. Because of their chemical properties, PCB's are not very soluble in water and they do not break down easily in the environment. PCB's also do not readily evaporate into air but tend to remain as solids or thick liquids. Even though PCB's have not been produced or used in the country for more than 30 years, they are still present in the environment in the air, soil, and water and in our food.

### **Number of Samples Collected**

Four (4) bulk samples were collected from the following.

### **Type and Location of Material**

1. Hard window glazing caulking
2. Hard window glazing caulking
3. Hard window glazing caulking
4. Hard window glazing caulking

### **Sample Results**

#### **Type and Location of Material**

1. Hard window glazing caulking
2. Hard window glazing caulking
3. Hard window glazing caulking
4. Hard window glazing caulking

#### **Sample Result**

No PCB's Detected  
No PCB's Detected  
No PCB's Detected  
No PCB's Detected

### **Observations and Conclusions:**

No PCB's was detected in the samples collected.

## 3.0 COST ESTIMATES:

The cost includes removal and disposal of all accessible ACM, other hazardous material and an allowance for removal of inaccessible or hidden ACM that may be found during renovation or demolition projects.

Location	Material	Approximate Quantity	Cost Estimate (\$)
First Floor Front Room	Vinyl Floor Tile and Mastic	170 SF	5,000.00
Boiler Room	Pipe Insulation	170 LF	3,400.00
	White Paper Insulation around Wood Beam	20 SF	1,000.00
Various Locations	Light Fixtures	65 Total	2,500.00
Estimated costs for Design, Construction Monitoring and Air Sampling Services			5,600.00
<b>TOTAL:</b>			<b>\$ 17,500.00</b>

#### 4.0 DESCRIPTION OF SURVEY METHODS AND LABORATORY ANALYSES:

**Asbestos:**

Asbestos samples were collected using a method that prevents fiber release. Homogeneous sample areas were determined by criteria outlined in EPA document 560/5-85-030a. Bulk material samples were analyzed using PLM and dispersion staining techniques with EPA method 600/M4-82-020.

**Polychlorinated Biphenyls:**

PCB's samples were analyzed in accordance with EPA 3540C/8082 method.

Inspection by:

A handwritten signature in cursive script that reads "Jason Becotte". The signature is written in black ink and is positioned above the printed name and title.

Jason Becotte  
Asbestos Inspector, AI-034963

## **5.0 LIMITATIONS AND CONDITIONS:**

This report has been completed based on visual and physical observations made and information available at the time of the site visits, as well as an interview with the Owner's representatives. This report is intended to be used as a summary of available information on existing conditions with conclusions based on a reasonable and knowledgeable review of evidence found in accordance with normally accepted industry standards, state and federal protocols, and within the scope and budget established by the client. Any additional data obtained by further review must be reviewed by UEC and the conclusions presented herein may be modified accordingly.

This report and attachments, prepared for the exclusive use of Owner for use in an environmental evaluation of the subject site, are an integral part of the inspections and opinions should not be formulated without reading the report in its entirety. No part of this report may be altered, used, copied or relied upon without prior written permission from UEC, except that this report may be conveyed in its entirety to parties associated with Owner for this subject study.

# CHAIN OF CUSTODY

<b>Universal Environmental Consultants</b>
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

PLM @ 2/13/15  
24-hour TAT

Town/City: Dracut, MA Building Name 11 Spring Park Ave

Sample	Result	Description of Material	Sample Location
1		Paper under hardwood	first floor
2			
3		12x12 VCT	First floor front room
4			
5		Black mastic	on sample #3
6			on sample #4
7		Linoleum	first floor bathrooms
8			
9		white sink undercoat	First Floor Kitchenette
10		Black board slate	first floor
11			
12		sheetrock	Boiler room ceiling
13			
14		Joint tape	
15			
16		Blown in insulation	Attic
17			
18		1x1 SAT	First Floor hall
19			
20		2x2 SAT	First Floor front room

Reported By: Jason Berotte Date: 2-12-15 Due Date: \_\_\_\_\_

Received By: \_\_\_\_\_ Date: \_\_\_\_\_

**RECEIVED**  
FEB 13 2015  
By su 09:25

walkin

# CHAIN OF CUSTODY

<b>Universal Environmental Consultants</b>
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

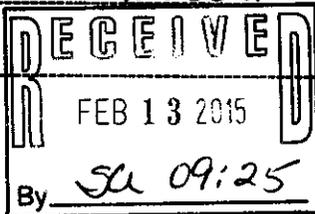
PLM  
24-hour TAT

Town/City: Dracut, MA Building Name 11 Spring Park Ave

Sample	Result	Description of Material	Sample Location
21		2x2 SAT	First floor front room
22		2x4 SAT	First Floor
23			
24		White Paper Insulation	Boiler room
25			
26		Pipe Insulation	
27			
28			
29		ceiling Plaster	
30			
31			
32		Plaster	First Floor
33			
34			
35			
36			Second Floor
37			
38			
39		exterior Paper	under clapboard siding
40			

Reported By: Jason Becotte Date: 2-12-15 Due Date: \_\_\_\_\_

Received By: \_\_\_\_\_ Date: \_\_\_\_\_







# EMSL Analytical, Inc.

7 Constitution Way, Suite 107, Woburn, MA 01801

Phone/Fax: (781) 933-8411 / (781) 933-8412

<http://www.EMSL.com>

[bostonlab@emsl.com](mailto:bostonlab@emsl.com)

EMSL Order:	131500538
CustomerID:	UEC63
CustomerPO:	
ProjectID:	

Attn: <b>Jason Becotte</b> <b>Universal Environmental Consultants</b> <b>12 Brewster Road</b> <b>Framingham, MA 01702</b>	Phone: (508) 628-5486 Fax: (508) 628-5488 Received: 02/13/15 9:25 AM Analysis Date: 2/13/2015 Collected: 2/12/2015
Project: 11 Spring Park Ave. Dracut, MA	

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
1 131500538-0001	First Floor - Paper under Hardwood	Tan Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (other)	None Detected
2 131500538-0002	First Floor - Paper under Hardwood	Tan Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (other)	None Detected
3 131500538-0003	First Floor Front Room - 12x12 VCT	Tan Non-Fibrous Homogeneous		98% Non-fibrous (other)	2% Chrysotile
4 131500538-0004	First Floor Front Room - 12x12 VCT	Tan Non-Fibrous Homogeneous		98% Non-fibrous (other)	2% Chrysotile
5 131500538-0005	First Floor Front Room - Black Mastic on Sample 3	Black Non-Fibrous Homogeneous		90% Non-fibrous (other)	10% Chrysotile
6 131500538-0006	First Floor Front Room - Black Mastic on Sample 4	Black Non-Fibrous Homogeneous		90% Non-fibrous (other)	10% Chrysotile
7 131500538-0007	First Floor Bathrooms - Linoleum	Gray Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (other)	None Detected
8 131500538-0008	First Floor Bathrooms - Linoleum	Gray Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (other)	None Detected

Analyst(s)  
Kevin Pine (44)



Steve Grise, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%  
Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-107T3 and VT AL357102

Initial report from 02/13/2015 18:59:45



# EMSL Analytical, Inc.

7 Constitution Way, Suite 107, Woburn, MA 01801

Phone/Fax: (781) 933-8411 / (781) 933-8412

<http://www.EMSL.com>

[bostonlab@emsl.com](mailto:bostonlab@emsl.com)

EMSL Order:	131500538
CustomerID:	UEC63
CustomerPO:	
ProjectID:	

Attn: <b>Jason Becotte</b> <b>Universal Environmental Consultants</b> <b>12 Brewster Road</b> <b>Framingham, MA 01702</b>	Phone: (508) 628-5486 Fax: (508) 628-5488 Received: 02/13/15 9:25 AM Analysis Date: 2/13/2015 Collected: 2/12/2015
Project: 11 Spring Park Ave. Dracut, MA	

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
9 131500538-0009	First Floor Kitchenette - White Sink Undercoat	White Non-Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (other)	None Detected
10 131500538-0010	First Floor - Blackboard Slate	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
11 131500538-0011	First Floor - Blackboard Slate	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
12 131500538-0012	Boiler Room Ceiling - Sheetrock	Tan/Black Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (other)	None Detected
13 131500538-0013	Boiler Room Ceiling - Sheetrock	Tan/White Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (other)	None Detected
14 131500538-0014	Boiler Room Ceiling - Joint Tape	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
15 131500538-0015	Boiler Room Ceiling - Joint Tape	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
16 131500538-0016	Attic - Blown In Insulation	Gray Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (other)	None Detected

Analyst(s)  
Kevin Pine (44)



Steve Grise, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%  
Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-10773 and VT AL357102

Initial report from 02/13/2015 18:59:45



# EMSL Analytical, Inc.

7 Constitution Way, Suite 107, Woburn, MA 01801

Phone/Fax: (781) 933-8411 / (781) 933-8412

<http://www.EMSL.com>

[bostonlab@emsl.com](mailto:bostonlab@emsl.com)

EMSL Order:	131500538
CustomerID:	UEC63
CustomerPO:	
ProjectID:	

Attn: <b>Jason Becotte</b> <b>Universal Environmental Consultants</b> <b>12 Brewster Road</b> <b>Framingham, MA 01702</b>	Phone: (508) 628-5486 Fax: (508) 628-5488 Received: 02/13/15 9:25 AM Analysis Date: 2/13/2015 Collected: 2/12/2015
Project: 11 Spring Park Ave. Dracut, MA	

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
17 131500538-0017	Attic - Blown In Insulation	Gray Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (other)	None Detected
18 131500538-0018	First Floor Hall - 1x1 SAT	Tan Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (other)	None Detected
19 131500538-0019	First Floor Hall - 1x1 SAT	Tan Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (other)	None Detected
20 131500538-0020	First Floor Front Room - 2x2 SAT	Gray/White Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Non-fibrous (other)	None Detected
21 131500538-0021	First Floor Front Room - 2x2 SAT	Gray/White Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Non-fibrous (other)	None Detected
22 131500538-0022	First Floor - 2x4 SAT	Gray/White Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Non-fibrous (other)	None Detected
23 131500538-0023	First Floor - 2x4 SAT	Gray/White Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Non-fibrous (other)	None Detected
24 131500538-0024	Boiler Room - White Paper Insulation	Gray Fibrous Homogeneous		30% Non-fibrous (other)	70% Chrysotile

Analyst(s)  
Kevin Pine (44)

Steve Grise, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%  
Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-107T3 and VT AL357102

Initial report from 02/13/2015 18:59:45



# EMSL Analytical, Inc.

7 Constitution Way, Suite 107, Woburn, MA 01801

Phone/Fax: (781) 933-8411 / (781) 933-8412

<http://www.EMSL.com>

[bostonlab@emsl.com](mailto:bostonlab@emsl.com)

EMSL Order:	131500538
CustomerID:	UEC63
CustomerPO:	
ProjectID:	

Attn: <b>Jason Becotte</b> <b>Universal Environmental Consultants</b> <b>12 Brewster Road</b> <b>Framingham, MA 01702</b>	Phone: (508) 628-5486 Fax: (508) 628-5488 Received: 02/13/15 9:25 AM Analysis Date: 2/13/2015 Collected: 2/12/2015
Project: 11 Spring Park Ave. Dracut, MA	

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
25 131500538-0025	Boiler Room - White Paper Insulation	Gray Fibrous Homogeneous		30% Non-fibrous (other)	70% Chrysotile
26 131500538-0026	Boiler Room - Pipe Insulation	Gray Fibrous Homogeneous	20% Cellulose	30% Non-fibrous (other)	50% Chrysotile
27 131500538-0027	Boiler Room - Pipe Insulation	Gray Fibrous Homogeneous	20% Cellulose	30% Non-fibrous (other)	50% Chrysotile
28 131500538-0028	Boiler Room - Pipe Insulation	Gray Fibrous Homogeneous	20% Cellulose	30% Non-fibrous (other)	50% Chrysotile
29 131500538-0029	Boiler Room - Ceiling Plaster	Gray Fibrous Homogeneous	2% Cellulose 2% Hair	96% Non-fibrous (other)	None Detected
30 131500538-0030	Boiler Room - Ceiling Plaster	Gray Fibrous Homogeneous	2% Cellulose 2% Hair	96% Non-fibrous (other)	None Detected
31 131500538-0031	Boiler Room - Ceiling Plaster	Gray Fibrous Homogeneous	2% Cellulose 2% Hair	96% Non-fibrous (other)	None Detected
32 131500538-0032	First Floor - Plaster	White Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Analyst(s)  
Kevin Pine (44)



Steve Grise, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%  
Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-107T3 and VT AL357102

Initial report from 02/13/2015 18:59:45



# EMSL Analytical, Inc.

7 Constitution Way, Suite 107, Woburn, MA 01801

Phone/Fax: (781) 933-8411 / (781) 933-8412

<http://www.EMSL.com>

[bostonlab@emsl.com](mailto:bostonlab@emsl.com)

EMSL Order:	131500538
CustomerID:	UEC63
CustomerPO:	
ProjectID:	

Attn: <b>Jason Becotte</b> <b>Universal Environmental Consultants</b> <b>12 Brewster Road</b> <b>Framingham, MA 01702</b>	Phone: (508) 628-5486 Fax: (508) 628-5488 Received: 02/13/15 9:25 AM Analysis Date: 2/13/2015 Collected: 2/12/2015
Project: 11 Spring Park Ave. Dracut, MA	

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
33 131500538-0033	First Floor - Plaster	Gray Fibrous Homogeneous	5% Hair	95% Non-fibrous (other)	None Detected
34 131500538-0034	First Floor - Plaster	White Fibrous Homogeneous	5% Hair	95% Non-fibrous (other)	None Detected
35 131500538-0035	First Floor - Plaster	Gray Fibrous Homogeneous	5% Hair	95% Non-fibrous (other)	None Detected
36 131500538-0036	Second Floor - Plaster	Gray Fibrous Homogeneous	5% Hair	95% Non-fibrous (other)	None Detected
37 131500538-0037	Second Floor - Plaster	Gray Fibrous Homogeneous	5% Hair	95% Non-fibrous (other)	None Detected
38 131500538-0038	Second Floor - Plaster	Gray Fibrous Homogeneous	5% Hair	95% Non-fibrous (other)	None Detected
39 131500538-0039	Under Clapboard Siding - Exterior Paper	Tan Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (other)	None Detected
40 131500538-0040	Under Clapboard Siding - Exterior Paper	Tan Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (other)	None Detected

Analyst(s)  
Kevin Pine (44)



Steve Grise, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%  
Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-10773 and VT AL357102

Initial report from 02/13/2015 18:59:45



# EMSL Analytical, Inc.

7 Constitution Way, Suite 107, Woburn, MA 01801

Phone/Fax: (781) 933-8411 / (781) 933-8412

<http://www.EMSL.com>

[bostonlab@emsl.com](mailto:bostonlab@emsl.com)

EMSL Order:	131500538
CustomerID:	UEC63
CustomerPO:	
ProjectID:	

Attn: <b>Jason Becotte</b> <b>Universal Environmental Consultants</b> <b>12 Brewster Road</b> <b>Framingham, MA 01702</b>	Phone: (508) 628-5486 Fax: (508) 628-5488 Received: 02/13/15 9:25 AM Analysis Date: 2/13/2015 Collected: 2/12/2015
Project: 11 Spring Park Ave. Dracut, MA	

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
41 131500538-0041	Wood Frame Windows - Hard Window Glaze	Gray Non-Fibrous Homogeneous		98% Non-fibrous (other)	2% Chrysotile
42 131500538-0042	Wood Frame Windows - Hard Window Glaze	White Non-Fibrous Homogeneous		98% Non-fibrous (other)	2% Chrysotile
43 131500538-0043	Wood Frame Windows - Hard Window Glaze	White Non-Fibrous Homogeneous		98% Non-fibrous (other)	2% Chrysotile
44 131500538-0044	Wood Frame Windows - Hard Window Glaze	White Non-Fibrous Homogeneous		98% Non-fibrous (other)	2% Chrysotile

Analyst(s)  

---

Kevin Pine (44)

---

Steve Grise, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%  
Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-107T3 and VT AL357102

Initial report from 02/13/2015 18:59:45





**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

Phone: (856) 303-2500 Fax: (856) 858-4571 Email: EnvChemistry2@emsl.com

---

Attn:

**Ammar Dieb**  
**Universal Environmental Consultants**  
**12 Brewster Road**  
**Framingham, MA 01702**

3/3/2015

Phone: (508) 628-5486  
Fax: (508) 628-5488

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 2/18/2015. The results are tabulated on the attached data pages for the following client designated project:

**Dracut, MA 11 Spring Park Ave**

The reference number for these samples is EMSL Order #011500730. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Reviewed and Approved By:

---

Julie Smith - Laboratory Director



The test results contained within this report meet the requirements of NELAP and/or the specific certification program that is applicable, unless otherwise noted.  
NELAP Certifications: NJ 03036, NY 10872, PA 68-00367

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the NELAP, unless specifically indicated. All results for soil samples are reported on a dry weight basis, unless otherwise noted. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (856) 303-2500 / (856) 858-4571

<http://www.EMSL.com>[EnvChemistry2@emsl.com](mailto:EnvChemistry2@emsl.com)

EMSL Order: 011500730

CustomerID: UEC63

CustomerPO:

ProjectID:

Attn: **Ammar Dieb**  
**Universal Environmental Consultants**  
**12 Brewster Road**  
**Framingham, MA 01702**

Phone: (508) 628-5486  
 Fax: (508) 628-5488  
 Received: 02/18/15 10:30 AM

Project: **Dracut, MA 11 Spring Park Ave****Analytical Results**

**Client Sample Description** 1 **Collected:** 2/12/2015 **Lab ID:** 0001  
 Wood Frame windows

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3540C/8082A	Aroclor-1016	ND	0.62	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1221	ND	0.62	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1232	ND	0.62	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1242	ND	0.62	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1248	ND	0.62	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1254	ND	0.62	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1260	ND	0.62	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1262	ND	0.62	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1268	ND	0.62	mg/Kg	2/26/2015	AB	2/27/2015	EH

**Client Sample Description** 2 **Collected:** 2/12/2015 **Lab ID:** 0002  
 Wood Frame windows

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3540C/8082A	Aroclor-1016	ND	0.67	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1221	ND	0.67	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1232	ND	0.67	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1242	ND	0.67	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1248	ND	0.67	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1254	ND	0.67	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1260	ND	0.67	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1262	ND	0.67	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1268	ND	0.67	mg/Kg	2/26/2015	AB	2/27/2015	EH

**Client Sample Description** 3 **Collected:** 2/12/2015 **Lab ID:** 0003  
 Wood Frame windows

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3540C/8082A	Aroclor-1016	ND	0.52	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1221	ND	0.52	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1232	ND	0.52	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1242	ND	0.52	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1248	ND	0.52	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1254	ND	0.52	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1260	ND	0.52	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1262	ND	0.52	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1268	ND	0.52	mg/Kg	2/26/2015	AB	2/27/2015	EH

**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (856) 303-2500 / (856) 858-4571

<http://www.EMSL.com>[EnvChemistry2@emsl.com](mailto:EnvChemistry2@emsl.com)

EMSL Order: 011500730

CustomerID: UEC63

CustomerPO:

ProjectID:

Attn: **Ammar Dieb**  
**Universal Environmental Consultants**  
**12 Brewster Road**  
**Framingham, MA 01702**

Phone: (508) 628-5486  
 Fax: (508) 628-5488  
 Received: 02/18/15 10:30 AM

Project: **Dracut, MA 11 Spring Park Ave****Analytical Results**

**Client Sample Description** 4 **Collected:** 2/12/2015 **Lab ID:** 0004  
 Wood Frame windows

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3540C/8082A	Aroclor-1016	ND	0.50	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1221	ND	0.50	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1232	ND	0.50	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1242	ND	0.50	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1248	ND	0.50	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1254	ND	0.50	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1260	ND	0.50	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1262	ND	0.50	mg/Kg	2/26/2015	AB	2/27/2015	EH
3540C/8082A	Aroclor-1268	ND	0.50	mg/Kg	2/26/2015	AB	2/27/2015	EH

**Definitions:**

ND - indicates that the analyte was not detected at the reporting limit

RL - Reporting Limit

6  
SITE ASSESSMENT  
GREENMONT AVE

# Dracut Senior Housing

Limits of survey 3/3/15

## OVERALL SITE NOTE:

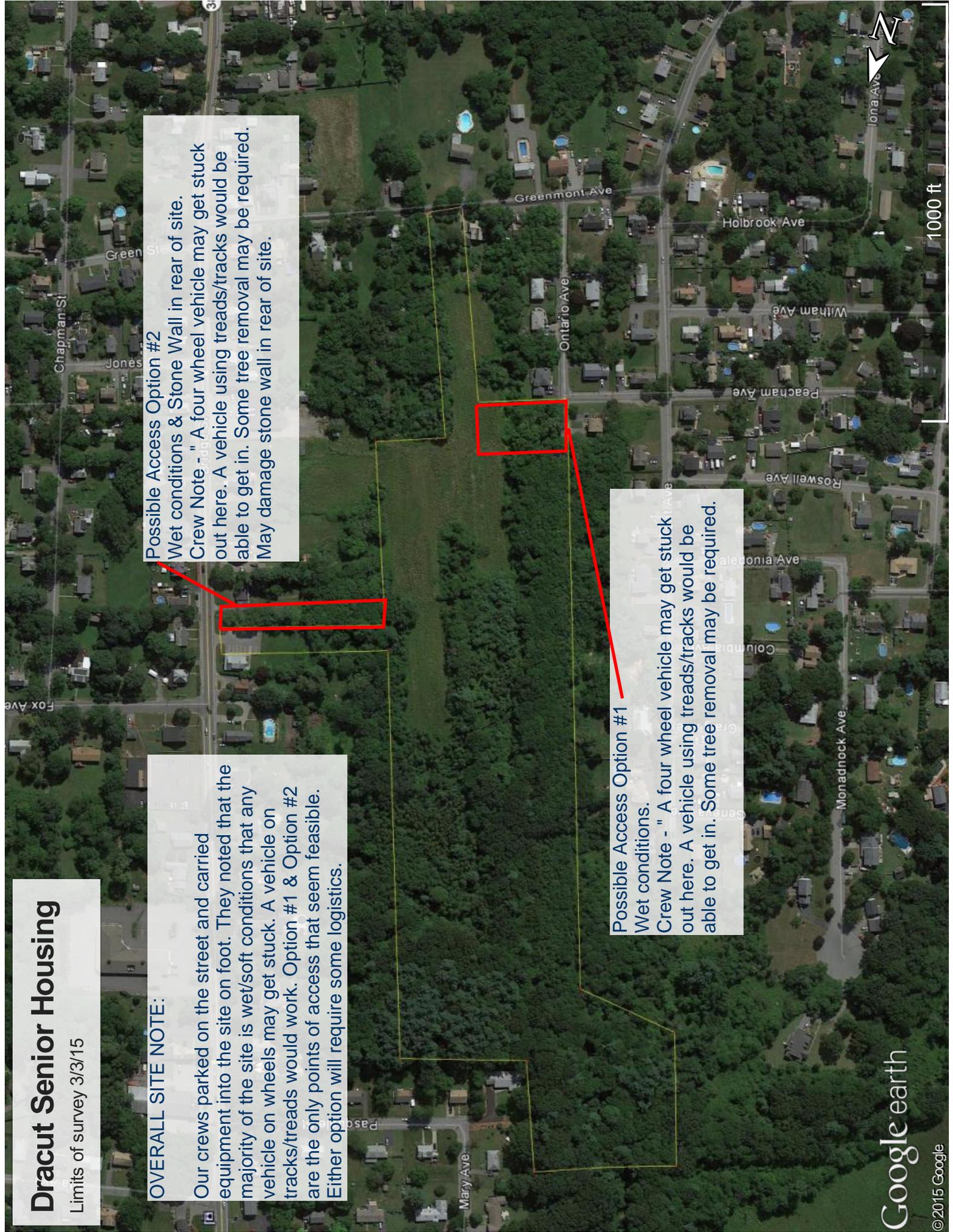
Our crews parked on the street and carried equipment into the site on foot. They noted that the majority of the site is wet/soft conditions that any vehicle on wheels may get stuck. A vehicle on tracks/treads would work. Option #1 & Option #2 are the only points of access that seem feasible. Either option will require some logistics.

## Possible Access Option #2

Wet conditions & Stone Wall in rear of site.  
Crew Note - " A four wheel vehicle may get stuck out here. A vehicle using treads/tracks would be able to get in. Some tree removal may be required.  
May damage stone wall in rear of site.

## Possible Access Option #1

Wet conditions.  
Crew Note - " A four wheel vehicle may get stuck out here. A vehicle using treads/tracks would be able to get in. Some tree removal may be required.





**UTILITY INFORMATION STATEMENT**

1. THE SUB-SURFACE UTILITY INFORMATION SHOWN HEREIN IS COMPILED BASED ON FIELD SURVEY INFORMATION. SURVEY INFORMATION IS OBTAINED BY THE SURVEYOR USING GROUND PENETRATING RADAR (GPR) AND PLANS INFORMATION SUPPLIED BY THE CLIENT. IF ANY INTERFERING OR UNKNOWN UTILITIES ARE ENCOUNTERED, THE SURVEYOR SHALL BE RESPONSIBLE FOR NOTIFYING THE CLIENT. ANY FEATURES THAT DO NOT FALL WITHIN NORMAL STANDARDS OF CARE ACCURACY.

2. THE LOCATION OF UNDERGROUND UTILITY MANHOLES AND STRUCTURES HAVE BEEN DETERMINED FROM GROUND PENETRATING RADAR (GPR) SURVEYS. THE LOCATION OF NEW UTILITY LOCATIONS, AND UTILITY MANHOLES, SHALL BE DETERMINED BY THE CLIENT.

3. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED.

4. THE STATUS OF UTILITIES, WHETHER ACTIVE, ABANDONED, OR REMOVED, IS AN UNKNOWN CONDITION AS FAR AS OUR CONSTRUCTION OF THIS INFORMATION.

5. IT IS RECOMMENDED THAT CLIENTS OBTAIN ADDITIONAL INFORMATION TO UNDERSTAND THEIR OWNERSHIP OF UTILITIES AND TO DETERMINE THE STATUS OF UTILITIES. CHANGE STATUS WITH WRITTEN PLAN INFORMATION PROVIDED AND ACTUAL LOCATIONS.

6. THE ACCURACY OF SHOWN UTILITY MANHOLES AND STRUCTURES IS SUBJECT TO FIELD CONDITIONS. IT IS NECESSARY TO HAVE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS UTILITIES, AND OTHER METHODS.

7. THE PROPOSED UTILITY CONSTRUCTION COMPANY SHOULD BE CONSULTED AND THE ACTUAL LOCATION OF UNDERGROUND UTILITIES SHOULD BE VERIFIED IN THE FIELD (FIELD SURVEY) PRIOR TO CONSTRUCTION. CONSULT WITH THE CLIENT REGARDING ANY NECESSARY PERMITS, SEVENTY-TWO HOURS PRIOR TO EXCAVATION, BLASTING, GRADING, AND/OR PILING.

**NOTES**

1. THIS PLAN IS A COMPILED PLAN OF PROPERTY, UTILITY AND GS INFORMATION.

2. THE WETLAND LINES WERE LOCATED ON THE GROUND BY CONVENTIONAL SURVEY METHODS.

3. HORIZONTAL CURVES OF ROADS.

**LEGEND**

	CATCH BASIN
	DRAIN MANHOLE
	SEWER MANHOLE
	GAS GATE
	WATER GATE
	GATE VALVE; UNIDENTIFIED
	FIRE HYDRANT
	UTILITY POLE
	WETLAND FLAG
	UNDERGROUND DRAIN LINE
	UNDERGROUND GAS LINE
	UNDERGROUND SEWER LINE
	UNDERGROUND WATER LINE
	OVERHEAD WIRES

# WETLAND & UTILITY DEMARCATION

# COST ESTIMATES

**Dracut Senior Housing Project**

**Cost Estimate**

Option #2 - Spring Park Ave

**Hard Costs:**

A. Substructure	\$	291,299.00
B. Shell	\$	1,655,680.00
C. Interiors	\$	723,569.00
D. Services	\$	1,430,750.00
E. Equipment & Furnishing	\$	137,300.00
F. Special Construction	\$	207,036.00
G. Building Sitework	\$	650,000.00

**SUBTOTAL: \$ 5,095,634.00**

Design Contingency	10.0%	\$	509,563
Escalation - 1 year	3.0%	\$	168,156
Construction Contingency	0.0%	\$	-
GC Overhead & Profit	7.0%	\$	404,135
General Conditions	7.0%	\$	432,424
Bonds & Insurance	2.0%	\$	132,198
Permits	0.0%	\$	-

**SUBTOTAL: \$ 6,742,110**

**Soft Costs:**

Designer Fee	12.0%	\$	809,053
OPM Fee	3.0%	\$	202,263

**GRAND TOTAL: \$ 7,753,426**



Budget Analysis (Study)

<b>Estimate Name:</b>	Dracut Senior Housing
<b>Location:</b>	Option #2 Spring Park Ave – Dracut, MA
<b>Contract Number:</b>	
<b>Story Count:</b>	2
<b>Story Height (L.F.):</b>	11
<b>Floor Area (S.F.):</b>	14600
<b>Labor Type:</b>	Prevailing Rate
<b>Basement Included:</b>	No
<b>Data Release:</b>	Year 2015
<b>Cost Per Square Foot:</b>	\$461.79
<b>Project Total:</b>	\$6,742,111



5/11/2015

						% of Total	Cost Per S.F.	Cost
<b>A Substructure</b>	<b>Item Description</b>	<b>Quantity</b>	<b>UoM</b>	<b>Rate</b>	<b>Sum</b>	\$0	\$19.95	\$291,299
A-10 FOUNDATIONS	SOG and foundations	7300	SF	\$24.90	\$181,799			
A-20 BASEMENT CONSTRUCTION	Basement Foundation - 1/2 Area	3650	SF	\$30.00	\$109,500			
<b>B Shell</b>	<b>Item Description</b>	<b>Quantity</b>	<b>UoM</b>	<b>Rate</b>	<b>Sum</b>	\$0	\$113.40	\$1,655,680
B-10 SUPERSTRUCTURE	2nd Fl.-Steel Joist, Deck & Conc.	7300	SF	\$46.77	\$341,391			
	Roof Trusses, Steel, Deck & Ins.	13650	SF	\$24.81	\$338,655			
B-20 EXTERIOR CLOSURE	Exterior wall system	13500	SF	\$51.41	\$694,083			
	Windows & doors	61	EA	\$2,362.30	\$144,100			
B-30 ROOFING	Roofing and Flashing	9000	SF	\$15.27	\$137,452			
<b>C Interiors</b>	<b>Item Description</b>	<b>Quantity</b>	<b>UoM</b>	<b>Rate</b>	<b>Sum</b>	\$0	\$49.56	\$723,569
C-10 INTERIOR CONSTRUCTION	Partitions, doors, fittings	18250	SF	\$19.85	\$362,268			
C-20 STAIRS	Steel pan Stairs w/Concrete	2	Sets	\$50,000.00	\$100,000			
C-30 INTERIOR FINISHES	Floors, walls, & Ceilings	18250	SF	\$14.32	\$261,301			
<b>D Services</b>	<b>Item Description</b>	<b>Quantity</b>	<b>UoM</b>	<b>Rate</b>	<b>Sum</b>	\$0	\$98.00	\$1,430,750
D-10 CONVEYING SYSTEMS	One 3 stop elevator	1	EA	\$95,000.00	\$95,000			
D-20 PLUMBING SYSTEMS		14600	SF	\$13.36	\$195,125			
D-30 HEATING, VENTILATION, AND AIR CONDITIONING (HVAC)		18250	SF	\$30.00	\$547,500			
D-40 FIRE PROTECTION SYSTEMS		18250	SF	\$5.50	\$100,375			
D-50 ELECTRICAL SYSTEMS		18250	SF	\$27.00	\$492,750			
<b>E Equipment &amp; Furnishings</b>	<b>Item Description</b>	<b>Quantity</b>	<b>UoM</b>	<b>Rate</b>	<b>Sum</b>	\$0	\$9.40	\$137,300
E-10 EQUIPMENT		14600	SF	\$3.98	\$58,100			
E-20 FURNISHINGS		14600	SF	\$5.42	\$79,200			
<b>F Special Construction</b>	<b>Item Description</b>	<b>Quantity</b>	<b>UoM</b>	<b>Rate</b>	<b>Sum</b>	\$0	\$14.18	\$207,036
F-10 SPECIAL CONSTRUCTION	N/A				\$0			
F-20 SELECTIVE DEMOLITION	Abate & Demolish Building	10800	SF	\$19.17	\$207,036			
<b>G Building Sitework</b>	<b>Item Description</b>	<b>Quantity</b>	<b>UoM</b>	<b>Rate</b>	<b>Sum</b>	\$0	\$44.52	\$650,000
G-10 SITE PREPARATION	Site Package-Complete	1	Acres	\$650,000	\$0			
G-20 SITE IMPROVEMENTS					\$0			
G-30 SITE MECHANICAL UTILITIES					\$650,000	\$650,000		
G-40 SITE ELECTRICAL UTILITIES					\$0			
G-90 OTHER SITE CONSTRUCTION					\$0			
<b>Subtotal</b>								<b>\$5,095,635</b>
	Design Contingency	10.0%						\$509,563
	Escalation- 1 year	3.0%						\$168,156
	Construction Contingen Not Applicable	0.0%						\$0
	GC Overhead & Profit	7.0%						\$404,135
	General Conditions	7.0%						\$432,424
	Bonds and Insurance	2.0%						\$132,198
	Permits	Not Applicable	0.0%					\$0
<b>Project Total-Spring Park Ave.</b>								<b>\$461.79</b>
								<b>\$6,742,111</b>

*"Solutions Built on Experience, Trust and Teamwork"*

**Dracut Senior Housing Project**

**Cost Estimate**

Option #1 - Greenmont Ave

**Hard Costs:**

A. Substructure		\$	239,078
B. Shell		\$	1,205,831
C. Interiors		\$	564,725
D. Services		\$	839,250
E. Equipment & Furnishing		\$	158,200
F. Special Construction		\$	-
G. Building Sitework		\$	900,000

**SUBTOTAL: \$ 3,907,084**

Design Contingency	10.0%	\$	390,708
Escalation - 1 year	3.0%	\$	128,934
Construction Contingency	0.0%	\$	-
GC Overhead & Profit	7.0%	\$	309,871
General Conditions	7.0%	\$	331,562
Bonds & Insurance	2.0%	\$	101,363
Permits	0.0%	\$	-

**SUBTOTAL: \$ 5,169,522**

**Soft Costs:**

Designer Fee	12.0%	\$	620,343
OPM Fee	3.0%	\$	155,086

**GRAND TOTAL: \$ 5,944,951**



Budget Analysis (Study)

<b>Estimate Name:</b>	Dracut Senior Housing
<b>Location:</b>	Option #1 Greenmont Ave – Dracut, MA
<b>Contract Number:</b>	
<b>Story Count:</b>	1 to 2 (Varies)
<b>Story Height (L.F.):</b>	9
<b>Floor Area (S.F.):</b>	12500
<b>Labor Type:</b>	Prevailing Rate
<b>Basement Included:</b>	No
<b>Data Release:</b>	Year 2015
<b>Cost Per Square Foot:</b>	\$413.56
<b>Project Total:</b>	\$5,169,521



5/11/2015

						% of Total	Cost Per S.F.	Cost
<b>A Substructure</b>	<b>Item Description</b>	<b>Quantity</b>	<b>UoM</b>	<b>Rate</b>	<b>Sum</b>	\$0	\$19.13	\$239,078
A-10 FOUNDATIONS	SOG and foundations	9600	SF	\$24.90	\$239,078			
A-20 BASEMENT CONSTRUCTION	N/A				\$0			
<b>B Shell</b>	<b>Item Description</b>	<b>Quantity</b>	<b>UoM</b>	<b>Rate</b>	<b>Sum</b>	\$0	\$96.47	\$1,205,831
B-10 SUPERSTRUCTURE	2nd Floor-Wood Joist & Plywood	2904	SF	\$17.88	\$51,909			
B-20 EXTERIOR CLOSURE	Exterior wall system	13500	SF	\$43.80	\$591,345			
	Windows & doors	199	EA	\$607.54	\$120,900			
B-30 ROOFING	Roofing and Flashing	13650	SF	\$13.91	\$189,889			
<b>C Interiors</b>	<b>Item Description</b>	<b>Quantity</b>	<b>UoM</b>	<b>Rate</b>	<b>Sum</b>	\$0	\$45.18	\$564,725
C-10 INTERIOR CONSTRUCTION	Partitions, doors, fittings	12500	SF	\$23.01	\$287,663			
C-20 STAIRS	Interior Stair at 2 Story Buildings	4	Sets	\$15,000.00	\$60,000			
C-30 INTERIOR FINISHES	Floors, walls, & Ceilings	12500	SF	\$17.36	\$217,062			
<b>D Services</b>	<b>Item Description</b>	<b>Quantity</b>	<b>UoM</b>	<b>Rate</b>	<b>Sum</b>	\$0	\$67.14	\$839,250
D-10 CONVEYING SYSTEMS	N/A				\$0			
D-20 PLUMBING SYSTEMS		12500	SF	\$15.64	\$195,500			
D-30 HEATING & VENTILATION (No AC)		12500	SF	\$25.00	\$312,500			
D-40 FIRE PROTECTION SYSTEMS	N/A	12500	SF	\$0.00	\$0			
D-50 ELECTRICAL SYSTEMS		12500	SF	\$26.50	\$331,250			
<b>E Equipment &amp; Furnishings</b>	<b>Item Description</b>	<b>Quantity</b>	<b>UoM</b>	<b>Rate</b>	<b>Sum</b>	\$0	\$12.66	\$158,200
E-10 EQUIPMENT		12500	SF	\$4.56	\$57,000			
E-20 FURNISHINGS		12500	SF	\$8.10	\$101,200			
<b>F Special Construction</b>	<b>Item Description</b>	<b>Quantity</b>	<b>UoM</b>	<b>Rate</b>	<b>Sum</b>	\$0	\$0.00	\$0
F-10 SPECIAL CONSTRUCTION	N/A				\$0			
F-20 SELECTIVE DEMOLITION	N/A				\$0			
<b>G Building Sitework</b>	<b>Item Description</b>	<b>Quantity</b>	<b>UoM</b>	<b>Rate</b>	<b>Sum</b>	\$0	\$72.00	\$900,000
G-10 SITE PREPARATION	Site Package-Complete	4	Acres	\$225,000	\$0			
G-20 SITE IMPROVEMENTS					\$0			
G-30 SITE MECHANICAL UTILITIES					\$900,000			
G-40 SITE ELECTRICAL UTILITIES					\$0			
G-90 OTHER SITE CONSTRUCTION					\$0			
<b>Subtotal</b>								\$3,907,084
	Design Contingency	10.0%						\$390,708
	Escalation-1 year	3.0%						\$128,934
	Construction Contingen Not Applicable	0.0%						\$0
	GC Overhead & Profit	7.0%						\$309,871
	General Conditions	7.0%						\$331,562
	Bonds and Insurance	2.0%						\$101,363
	Permits	Not Applicable	0.0%					\$0
<b>Project Total-Greenmont Ave.</b>							\$413.56	\$5,169,521

*“Solutions Built on Experience, Trust and Teamwork”*

