


General Electric Company

ADDENDUM TO MAY 2019 CLEANUP PLAN

Former United Nuclear Corporation
Naval Products Facility
New Haven, Connecticut

April 27, 2020



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Figure 1. Soil and Trench Sample Layout

APPENDICES

Appendix A. Revised Figures and Tables from May 2019 Cleanup Plan

Appendix B. Site Background, and Sampling Methodology and Results

ACRONYMS AND ABBREVIATIONS

Arcadis	Arcadis U.S., Inc.
cm ²	centimeters squared
dpm	disintegration per minute
dpm/100 cm ²	disintegrations per minute per 100 square centimeter area
HEU	highly enriched uranium
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
NRC	United States Nuclear Regulatory Commission
RCRA	Resource Conservation and Recovery Act
site	former United Nuclear Corporation Naval Products Facility, located in New Haven, Connecticut
USEPA	United States Environmental Protection Agency

1 INTRODUCTION

On behalf of the General Electric Company, Arcadis U.S., Inc. (Arcadis) has prepared this Addendum to the May 2019 Cleanup Plan (Addendum) for the former United Nuclear Corporation Naval Products Facility, located in New Haven, Connecticut (Site).

The project was initiated in September 2019, and work has progressed in accordance with the May 2019 Cleanup Plan (Cleanup Plan). To date, the above-grade portions of Building 3H and Building 6H; and the at-grade concrete slab, underlying trenches and foundations, and soil associated with Building 3H and a portion of Building 6H immediately adjacent to Building 3H have been transported offsite for disposal at approved disposal facilities.

Based on the analytical results from the previous building characterization activities performed in 2018/2019 and presented in the Cleanup Plan, and recent comprehensive intrusive sampling activities (March/April 2020), the concrete slab in the remaining portion of Building 6H is not impacted by radiological or hazardous constituents and is amenable to off-site disposal as non-hazardous/non-radioactive waste. It is also anticipated that the sub-slab features beneath the remaining slab (i.e., building and equipment foundations and portions of the trench structures), as well as the underlying soil will not be impacted, and that they will also be amenable to disposal as non-hazardous/non-radioactive waste. As discussed in this Addendum, additional characterization of the sub-slab features and underlying soil will be performed once accessible to confirm this assumption and prior to off-site disposal.

The purpose of this Addendum is to include waste material release criteria and additional disposal options for the non-hazardous/non-radioactive waste materials associated with the remaining portions of Building 6H and underlying materials. Appendix A of this Addendum also includes revisions to the figures and tables that were included in the Cleanup Plan; the revisions reflect sample labeling nomenclature.

2 SOLID MATERIALS RELEASE CRITERIA

According to NUREG-1757 “*Consolidated Decommissioning Guidance: Decommissioning Process for Material Licensees*” (NRC,2006) solid materials may be released from licensed operation with the acknowledgement that the material may contain very low levels of radioactivity. Furthermore, Fuel Cycle Policy and Guidance Directive (FC 83-23) “*Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material*” (NRC 1993) establishes surface contamination limits for natural uranium, U-235, U-238 and associated decay products (Table 1).

Table 1. FC 83-23 Acceptable Surface Contamination Levels

Nuclides ^a	Average ^{b, c, f}	Maximum ^{b, d, f}	Removable ^{b, e, f}
Natural uranium, U-235, U-238 and associated decay products	5,000 dpm α /100 cm ²	15,000 dpm α /100 cm ²	1,000 dpm α /100 cm ²

Notes for Table 1 are as follows:

^a where surface contamination by both alpha- and beta-gamma emitting nuclides exists, the limits for alpha- and beta-gamma-emitting nuclides should be applied independently.

^b As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive materials as determined by correcting the counts per minute observed by the detector for background, efficiency, and geometric factors associated with the instrumentation.

^c Measurements of average contaminant should not be averaged over more than 1 square meter. For objects of less surface area, the average should be derived for each such object.

^d The maximum contamination level applies to the area not more than 100 cm².

^e The amount of removable radioactive material per 100 cm² of surface area should be determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and assessing the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removal contamination on objects of less surface area is determined, the pertinent levels should be reduced proportionally, and the entire surface should be wiped.

^f The average and maximum radiation levels associated with surface contamination results from beta-gamma emitters should not exceed 0.2 mrad/hr at 1 cm and 1.0 mrad/hr at 1 cm, respectively, measured through not more than 7 milligrams per square centimeter of total absorber.

For solid materials such as concrete, these materials may be surveyed using a representative sample and gamma spectroscopy methods (NRC,2002). NUREG-1757 (NRC,2006) specifies that materials can be released if no radioactive material is above natural background levels. The background soil concentration for the Site was previously determined and accepted by NRC as 3.43 picocurie per gram (pCi/gram) uranium (AAA/IEM, 2005).

3 WASTE ASSESSMENT AND DISPOSAL OPTIONS

The results of the radiological surveys performed for Building 6H concrete slabs in March/April 2020 meet the release criteria presented in Section 2. In addition, sampling of the concrete for non-radiological parameters determined (as anticipated) that the concrete is not a hazardous waste. As a result, this material is suitable for local off-site disposal at Modern Materials Corporation in Hamden, Connecticut or another Connecticut--based or out-of-state recycling facility permitted to accept this material. Sampling results and protocols (e.g., number of sample locations, sample collection, radiological measurements, and analytical parameters) are presented in Appendix B.

Once the remaining slabs are removed, the sub-slab features (e.g., concrete equipment foundations and trenches) and underlying soil associated with Building 6H will be assessed for the presence of radiological and hazardous constituents using the same sampling approach and methodologies that were applied to the concrete slab in Building 6H (Appendix B). Evaluation of the materials as possible hazardous waste will be through visual inspection and sampling and analytical determination for total PCBs and Toxicity Characteristic Leachate Procedure (TCLP) analyses for VOCs, SVOC, and Inorganics.

Assessment of the sub-slab features will be accomplished through grab and composite sample collection and both radiation and non-radiation laboratory analyses as described below:

- For soil underlying the concrete slabs, composite sample collections within each subarea will follow the grid used for the slab, as presented on Figure 1, except in locations where trench or equipment foundations are encountered during slab removal operations.
- Surface contamination of concrete equipment foundations will be analyzed prior to breaking up the concrete for removal purposes. Fixed and removable alpha surveys will be performed in a systematic grid, depending upon the size of the foundation.

Volumetric concrete sample of foundations will be taken as appropriate. Concrete samples will be collected from equipment foundations and trenches (if they are present), depending on size. Discrete samples will be collected from equipment foundations less than 400 square feet and trenches up to 20 feet long, otherwise a minimum two-point composite concrete samples will be collected.

If the results of the assessment sampling activities meet the waste release criteria discussed in Section 2, these materials can also be disposed of as non-hazardous/non-radioactive waste materials at Modern Materials Corporation or another Connecticut-based or out-of-state recycling facility that can accept this material.

4 REVISED FIGURES AND TABLES FROM MAY 2019 CLEANUP PLAN

In response to a recent on-site audit comments provided by NRC, the figures and tables associated with May 2019 Cleanup Plan submittal have been revised so that all sampling nomenclature is consistent. The revised figures and tables are contained in Appendix A.

5 REFERENCES

AAA/IEM, 2005 Integrated Environmental Management, Inc. Radiological Characterization of the Former UNC Manufacturing Facility, New Haven Connecticut” AAA Environmental, Inc./Integrated Environmental Management, Inc. May 31, 2005.

Arcadis, 2019, Cleanup Plan Former United Nuclear Corporation Naval Products Facility, New Haven, Connecticut

NRC, 1983 FC 83-23, Fuel Cycle Policy and Guidance Directive “Guidelines for Decontamination of Facilities and Equipment Prior Release for Unrestricted Use or Termination of Licenses for Byproduct or source Materials”, April.

NRC,2002, NQR 2002, “Memorandum To: John W. Craig, et. al From: Donald A. Cool Re: Update On Case-Specific Licensing Decisions On Controlled Release Of Concrete from Licensed Facilities”, December.27, 2002

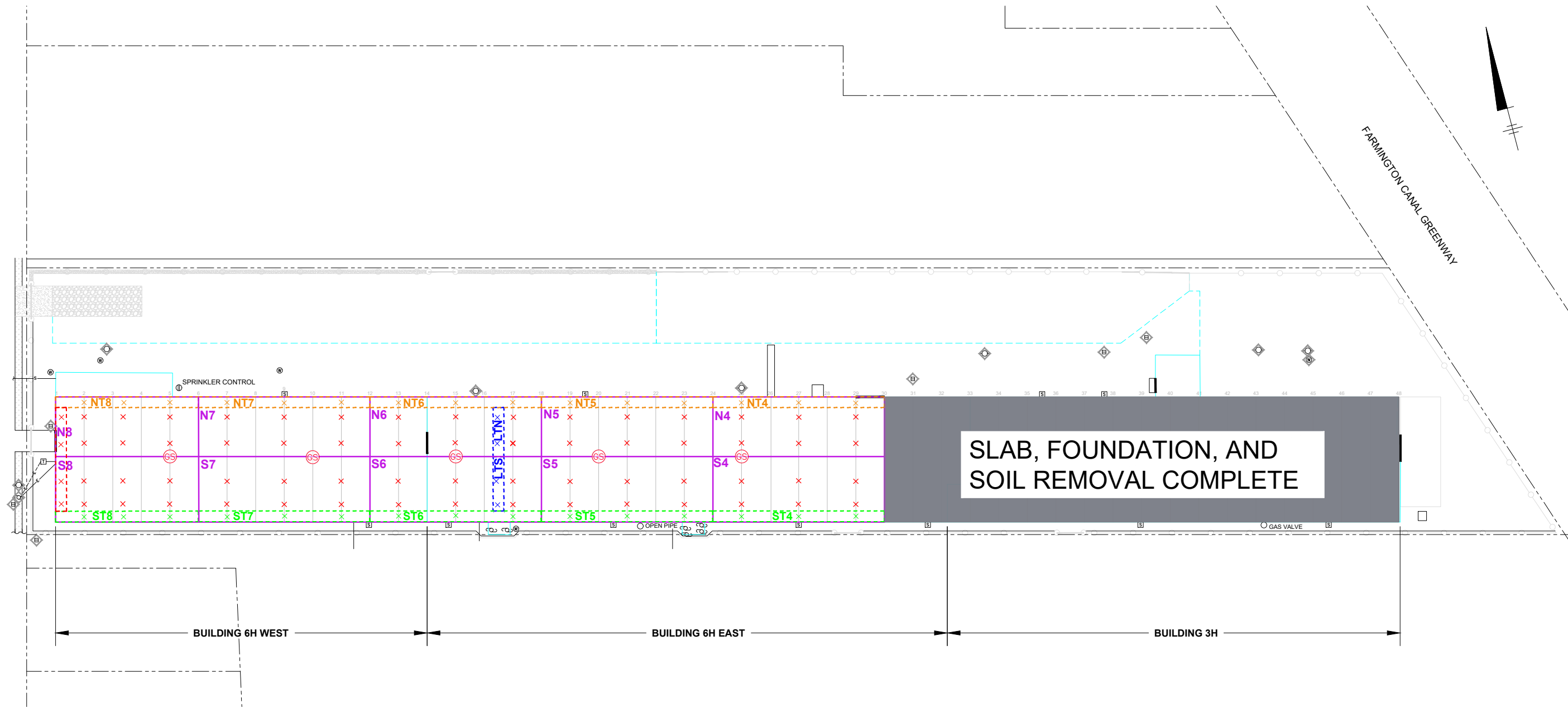
NRC, 2006 NUREG-1757 “Consolidated Decommissioning Guidance-Decommissioning Process for Material Licensees. Vol 1 Revision 2, 2006

FIGURE



SHELTON AVENUE

FARMINGTON CANAL GREENWAY



SLAB, FOUNDATION, AND SOIL REMOVAL COMPLETE

BUILDING 6H WEST

BUILDING 6H EAST

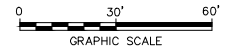
BUILDING 3H

OVERALL PLAN LEGEND

- | | | | |
|-----------|---|--|---|
| N8 | SUBAREA CONCRETE SAMPLE COLLECTION AREA DESIGNATION | | GROUND COVER TRANSITION |
| | NORTH TRENCH SUBAREA | | GATE |
| | SOUTH TRENCH SUBAREA | | GRASS |
| | LATERAL TRENCH SUBAREA | | TRACKING PAD - GRAVEL |
| | WEST TRENCH SUBAREA | | TRACKING PAD - CONCRETE APRON, SIDEWALK |
| | CHAIN LINK FENCE (6 FEET HIGH) | | COMPOSITE CONCRETE/SOIL SAMPLE COLLECTION POINT, RAD AND NON-RAD ANALYSES |
| | PROPERTY BOUNDARY | | GRAB SOIL SAMPLE COLLECTION POINT, RAD AND NON-RAD ANALYSES |
| | CATCH BASIN | | |
| | FIRE HYDRANT | | |
| | UTILITY POLE | | |
| | UNDERGROUND ELECTRIC (APPROXIMATE) | | |
| | OVERHEAD ELECTRIC | | |
| | SEWER | | |
| | WATER VALVE BOX | | |
| | TRANSFORMER (TO BE DRAINED AND REMOVED) | | |
| | SUMP | | |
| | FEATURE TO BE PROTECTED | | |

NOTE:

1. SLAB REMOVED LEAVING UNDERLYING SOIL AND CONCRETE TRENCHES. UNDERLYING CONCRETE EQUIPMENT FOUNDATIONS WILL BE IDENTIFIED ONCE THE SLAB IS REMOVED.



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SOIL AND TRENCH SAMPLE LAYOUT

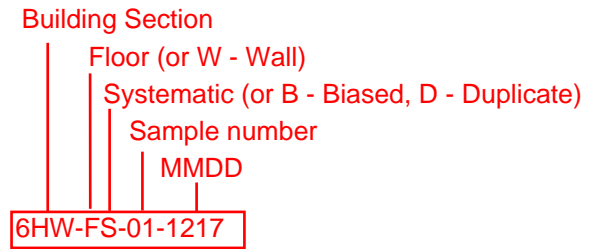
APPENDIX A

Revised Figures and Tables from Cleanup Plan



Building Section: 6HW Sample Locations

Sample Designation



Additional Sample Designations

WALL - wall covering
 CG - Caulking
 R/RW - Built-up Roofing, Wood Roof Decking
 WC - Waste Characterization
 FD - Field Duplicate



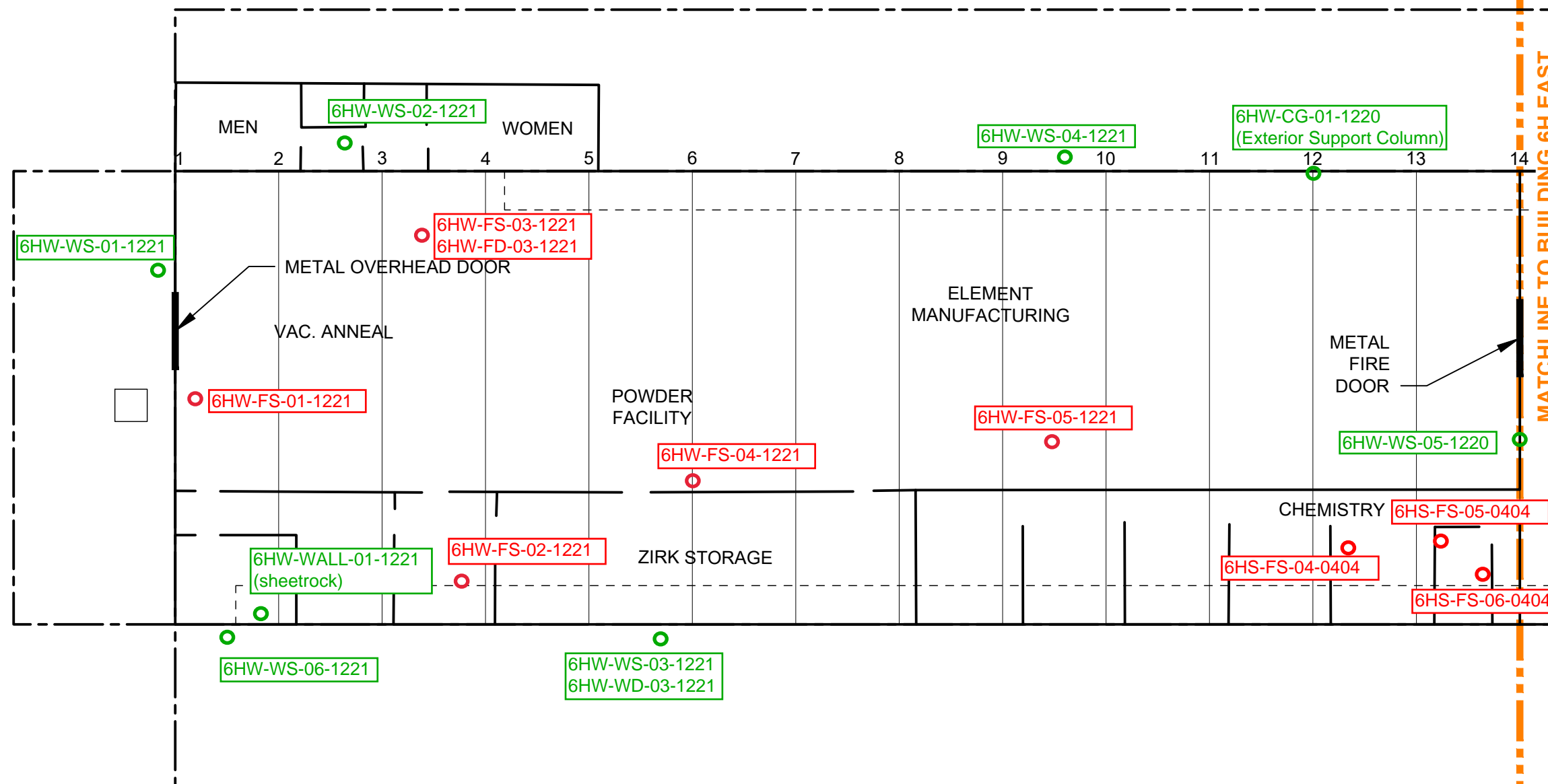
LEGEND

- SYSTEMATIC SAMPLE LOCATION
- BIASED SAMPLE LOCATION
- NON-RADIATION SAMPLE LOCATION

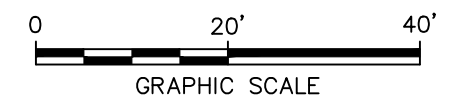
- ▭ WALLS FOLDED OUT
- - - - APPROXIMATE LIMITS OF TRENCH

NOTES:

1. SYSTEMATIC LOCATIONS ARE BASED ON MARSSIM GUIDANCE FOR SAMPLE LOCATIONS (SEE SAMPLING PLAN FOR CALCULATIONS).
2. BIASED LOCATIONS ARE BASED ON THE RESULTS PRESENTED IN "SUPPLEMENTAL RADIOLOGICAL SURVEY REPORT BUILDINGS 3H/6H (FLOOR SURFACES) AND FORMER BUILDING 9H/10H/11H (SUBSURFACE SOILS) CABRERA SERVICES (OCTOBER 2017).
3. DUE TO ACCESS ISSUES, CHARACTERIZATION SAMPLING OF ALL TRENCHES WILL BE CONDUCTED DURING BUILDING REMOVAL ACTIVITIES ONCE THE TRENCH MATERIALS ARE PULLED AND BROUGHT TO THE GROUND LEVEL.



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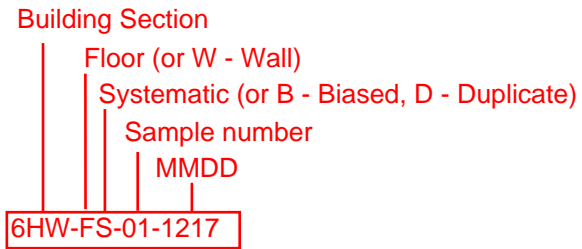


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BUILDING 6H WEST

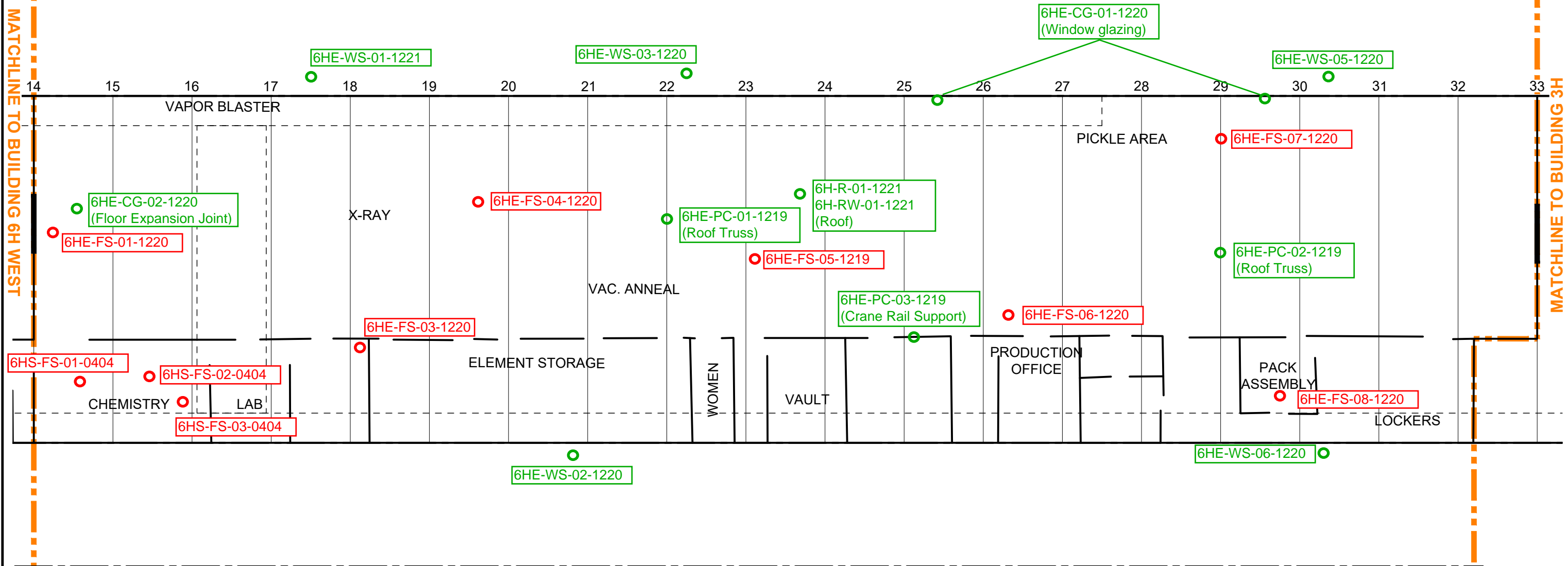
Building Section: 6HE Sample Locations

Sample Designation



Additional Sample Designations

WALL - wall covering
 CG - Caulking
 R/RW - Built-up Roofing, Wood Roof Decking
 WC - Waste Characterization
 FD - Field Duplicate



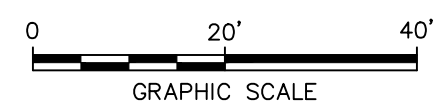
LEGEND

- SYSTEMATIC SAMPLE LOCATION
- BIASED SAMPLE LOCATION
- NON-RADIATION SAMPLE LOCATION
- WALLS FOLDED OUT
- APPROXIMATE LIMITS OF TRENCH

NOTES:

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BUILDING 6H EAST

ARCADIS Design & Consultancy for natural and built assets

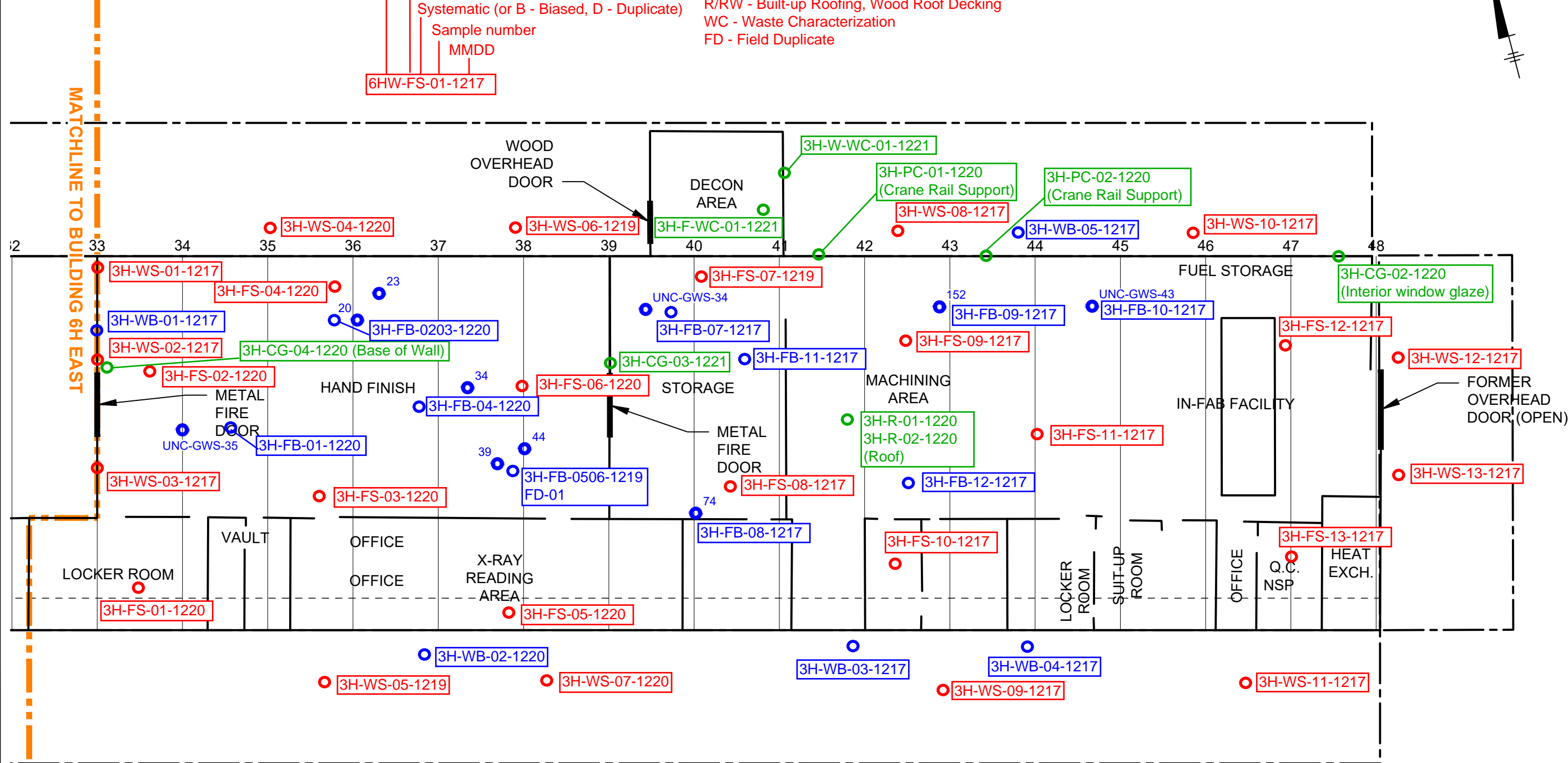
FIGURE **2**

CITY: SYRACUSE, NY DIV/GROUP: EBC-IMDV DB: L. POSENAUER PM/TM: R. GIAMPAOLO LVR/CRIONA-OFF-REF: C:\BIM\04\Drive - ARCADIS\BIM 360 Docs\ANA - GE CORP ENV PROGGE FMR UNC FACILITY NEW HAVEN CT\2019\VAL131360.2000\01-DWG\GE-UNC_FIG 1-2-3_BUILDING SAMPLES.dwg LAYOUT: 2. SAVER: 2/18/2019 4:01 PM ACADVER: 23.05 (LMS TECH) PAGESETUP: C-LB-PDF PLOTSTYLETABLE: PLT\FULL.CTB PLOTTED: 2/18/2019 4:01 PM BY: POSENAUER, LISA

Building Section: 3H Sample Locations

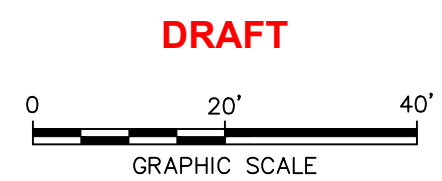
Sample Designation
 Building Section
 Floor (or W - Wall)
 Systematic (or B - Biased, D - Duplicate)
 Sample number
 MMDD

Additional Sample Designations
 WALL - wall covering
 CG - Caulking
 R/RW - Built-up Roofing, Wood Roof Decking
 WC - Waste Characterization
 FD - Field Duplicate



- LEGEND**
- SYSTEMATIC SAMPLE LOCATION
 - BIASED SAMPLE LOCATION
 - NON-RADIATION SAMPLE LOCATION
 - WALLS FOLDED OUT
 - - - - APPROXIMATE LIMITS OF TRENCH

- NOTES:**
1. SYSTEMATIC LOCATIONS ARE BASED ON MARSSIM GUIDANCE FOR SAMPLE LOCATIONS (SEE SAMPLING PLAN FOR CALCULATIONS).
 2. BIASED LOCATIONS ARE BASED ON THE RESULTS PRESENTED IN "SUPPLEMENTAL RADIOLOGICAL SURVEY REPORT BUILDINGS 3H/6H (FLOOR SURFACES) AND FORMER BUILDING 9H/10H/11H (SUBSURFACE SOILS) CABRERA SERVICES (OCTOBER 2017).
 3. DUE TO ACCESS ISSUES, CHARACTERIZATION SAMPLING OF ALL TRENCHES WILL BE CONDUCTED DURING BUILDING REMOVAL ACTIVITIES ONCE THE TRENCH MATERIALS ARE PULLED AND BROUGHT TO THE GROUND LEVEL.



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BUILDING 3H

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FIGURE **3**

CITY: SYRACUSE, NY DIV: GROUP: EBC-IMDV DB: L. POSENAUER PM: TM: R. GIAMPAOLO LVR: (OPTIONAL) OFF: REF: C:\BIM\04\Drawings - ARCADIS\BIM 360 Docs\ANA - GE CORP ENV PROGGE FMR UNC FACILITY NEW HAVEN CT\2019\VAL\31360.2000\01-DWG\GE-UNC_FIG 1-2-3_BUILDING SAMPLES.dwg LAYOUT: 3 SAVED: 2/18/2019 4:01 PM ACADVER: 23.05 (LMS TECH) PAGESETUP: C-LB-PDF PLOTSTYLETABLE: PLT\FULL.CTB PLOTTED: 2/18/2019 4:01 PM BY: POSENAUER, LISA

Table 2-3a
Cleanup Plan
Appendix A - Building Characterization Survey
Radiological Characteristics
General Electric Company - Former UNC Facility
New Haven, Connecticut

Location ID:	3H-CG-02	3H-FB-01	3H-FB-04	3H-FB-07	3H-FB-08	3H-FB-09
Date Collected:	12/20/18	12/20/18	12/20/18	12/19/18	12/19/18	12/17/18
Sample Name:	3H-CG-02-1220	3H-FB-01-1220	3H-FB-04-1220	3H-FB-07-1217	3H-FB-08-1217	3H-FB-09-1217
Radiochem-Alpha Spectrometry						
Uranium-238	0.200 ±0.0863	0.495 ±0.149	0.300 ±0.109	0.249 ±0.0918	0.308 ±0.110	0.393 ±0.121
Uranium-234	0.506 ±0.142	48.7 ±4.33	1.46 ±0.259	1.67 ±0.272	11.7 ±1.18	0.592 ±0.151
Uranium-235	0.00525 U ±0.0223	2.37 ±0.388	0.0195 U ±0.0321	0.0675 ±0.0535	0.491 ±0.154	0.0212 U ±0.0301
Radiochem-Gamma Emitters						
Uranium-238	NA	0.0321 U G ±0.0990	0.467 U ±0.525	0.484 U ±0.432	-1.280 U G ±0.875	-0.24400 U ±0.713
Uranium-235	NA	2.64 ±0.518	0.135 U ±0.269	0.0404 U ±0.139	2.92 ±0.553	0.0580 U ±0.164
Radiochem-Gamma Emitters-TICs						
Actinium-228	NA	0.626 ±0.183	0.288 ±0.145	NA	0.524 ±0.148	0.487 ±0.113
Bismuth-212	NA	NA	NA	NA	NA	NA
Bismuth-214	NA	NA	NA	0.296 ±0.107	0.380 ±0.112	0.283 ±0.101
Lead-210	NA	NA	2.23 ±0.932	NA	NA	NA
Lead-212	NA	0.463 ±0.105	0.399 ±0.0898	NA	0.524 ±0.102	0.387 ±0.0767
Lead-214	NA	0.283 ±0.115	0.244 ±0.0897	NA	0.404 ±0.110	0.275 ±0.0738
Potassium-40	NA	6.45 ±1.36	6.91 ±1.22	6.98 ±1.26	8.20 ±1.35	4.53 ±0.864
Thallium-208	NA	0.169 ±0.0643	0.124 ±0.0459	0.175 ±0.0592	0.235 ±0.0684	0.121 ±0.0362

Location ID:	3H-FB-10	3H-FB-11	3H-FB-12	3H-FB-0203	3H-FB-0506	3H-FS-01
Date Collected:	12/17/18	12/19/18	12/18/18	12/20/18	12/19/18	12/20/18
Sample Name:	3H-FB-10-1217	3H-FB-11-1217	3H-FB-12-1217	3H-FB-0203-1220	3H-FB-0506-1220	3H-FS-01-1220
Radiochem-Alpha Spectrometry						
Uranium-238	0.490 ±0.135	0.266 ±0.109	0.803 ±0.173	0.179 ±0.0883	0.235 ±0.0919	NA
Uranium-234	0.376 ±0.118	6.44 ±0.750	98.5 ±8.46	0.535 ±0.158	0.868 ±0.186	NA
Uranium-235	0.0416 ±0.0418	0.293 ±0.127	4.41 ±0.553	0.0255 U ±0.0361	0.0285 U ±0.0363	NA
Radiochem-Gamma Emitters						
Uranium-238	0.161 U ±0.350	1.74 ±0.648	0.195 U ±0.323	0.223 U ±0.290	-0.0989000 U ±0.122	0.297 U ±0.444
Uranium-235	0.001930000 U ±0.0044	1.57 ±0.338	4.67 ±0.619	-0.12900 U ±0.364	0.167 U ±0.310	0.237 ±0.140
Radiochem-Gamma Emitters-TICs						
Actinium-228	0.453 ±0.143	0.559 ±0.269	0.478 ±0.190	0.531 ±0.139	0.411 ±0.192	0.614 ±0.181
Bismuth-212	NA	NA	NA	NA	NA	NA
Bismuth-214	0.247 ±0.0845	0.345 ±0.139	0.323 ±0.0886	0.292 ±0.0903	0.357 ±0.124	0.257 ±0.112
Lead-210	NA	NA	NA	NA	NA	NA
Lead-212	0.357 ±0.0853	0.414 ±0.101	0.336 ±0.0816	0.365 ±0.0744	0.407 ±0.0949	0.414 ±0.0932
Lead-214	0.338 ±0.0837	NA	0.346 ±0.0808	0.247 ±0.0750	0.393 ±0.125	0.269 ±0.0886
Potassium-40	4.70 ±1.02	6.42 ±1.37	5.54 ±1.05	5.28 ±0.965	5.52 ±1.06	6.54 ±1.36
Thallium-208	0.121 ±0.0450	0.149 ±0.0576	0.157 ±0.0528	0.177 ±0.0507	0.127 ±0.0505	0.222 ±0.0617

Location ID:	3H-FS-02	3H-FS-03	3H-FS-04	3H-FS-05	3H-FS-06	3H-FS-07
Date Collected:	12/20/18	12/20/18	12/20/18	12/20/18	12/20/18	12/19/18
Sample Name:	3H-FS-02-1217	3H-FS-03-1220	3H-FS-04-1220	3H-FS-05-1220	3H-FS-06-1220	3H-FS-07-1219
Radiochem-Alpha Spectrometry						
Uranium-238	NA	NA	NA	NA	NA	NA
Uranium-234	NA	NA	NA	NA	NA	NA
Uranium-235	NA	NA	NA	NA	NA	NA
Radiochem-Gamma Emitters						
Uranium-238	-0.64900 U ±0.857	0.354 U ±0.377	0.473 U ±0.547	-0.17800 U G ±0.727	-1.510 U ±0.599	-0.44600 U ±0.472
Uranium-235	0.303 ±0.194	0.144 U ±0.139	-0.16300 U ±0.531	2.46 ±0.390	0.383 ±0.180	-0.10200 U ±0.225
Radiochem-Gamma Emitters-TICs						
Actinium-228	0.541 ±0.145	0.586 ±0.143	0.493 ±0.158	0.417 ±0.123	0.563 ±0.148	0.499 ±0.108
Bismuth-212	NA	NA	NA	NA	NA	NA
Bismuth-214	0.344 ±0.115	NA	0.473 ±0.131	0.250 ±0.0957	0.289 ±0.0912	0.388 ±0.104
Lead-210	NA	NA	NA	NA	NA	NA
Lead-212	0.462 ±0.0965	0.398 ±0.0914	0.471 ±0.0979	0.416 ±0.0816	0.372 ±0.0865	0.279 ±0.0765
Lead-214	0.329 ±0.101	0.301 ±0.109	0.341 ±0.121	0.348 ±0.0802	0.254 ±0.0861	0.323 ±0.0801
Potassium-40	7.42 ±1.26	6.36 ±1.21	7.49 ±1.28	8.10 ±1.25	5.33 ±1.10	6.64 ±1.20
Thallium-208	0.197 ±0.0608	0.171 ±0.0592	0.198 ±0.0530	0.140 ±0.0455	0.128 ±0.0540	0.140 ±0.0479

Table 2-3a
Cleanup Plan
Appendix A - Building Characterization Survey
Radiological Characteristics
General Electric Company - Former UNC Facility
New Haven, Connecticut

Location ID:	3H-FS-08	3H-FS-09	3H-FS-10	3H-FS-11	3H-FS-12	3H-FS-13
Date Collected:	12/19/18	12/18/18	12/18/18	12/17/18	12/17/18	12/17/18
Sample Name:	3H-FS-08-1217	3H-FS-09-1217	3H-FS-10-1217	3H-FS-11-1217	3H-FS-12-1217	3H-FS-13-1217
Radiochem-Alpha Spectrometry						
Uranium-238	NA	NA	NA	NA	NA	NA
Uranium-234	NA	NA	NA	NA	NA	NA
Uranium-235	NA	NA	NA	NA	NA	NA
Radiochem-Gamma Emitters						
Uranium-238	0.515 U ±0.420	0.102 U ±0.410	0.394 U ±0.510	0.371 U ±0.488	0.137 U ±0.136	0.285 U ±0.379
Uranium-235	0.0390 U ±0.182	0.0840 U ±0.274	0.0823 U ±0.256	0.0824 U ±0.265	0.113 U ±0.0842	0.00533 U ±0.0161
Radiochem-Gamma Emitters-TICs						
Actinium-228	NA	0.653 ±0.150	0.425 ±0.155	0.366 ±0.175	NA	0.491 ±0.143
Bismuth-212	NA	NA	NA	NA	0.665 ±0.327	NA
Bismuth-214	0.299 ±0.127	0.347 ±0.113	0.388 ±0.121	NA	0.306 ±0.102	0.287 ±0.105
Lead-210	NA	NA	NA	NA	NA	NA
Lead-212	0.432 ±0.0967	0.398 ±0.0874	0.437 ±0.0937	0.255 ±0.0827	0.260 ±0.0700	0.443 ±0.0991
Lead-214	NA	0.290 ±0.0928	0.367 ±0.108	0.281 ±0.0883	0.347 ±0.0847	0.374 ±0.0975
Potassium-40	6.49 ±1.36	5.62 ±1.21	5.72 ±1.37	5.84 ±1.33	5.36 ±1.03	7.04 ±1.35
Thallium-208	0.170 ±0.0546	NA	0.221 ±0.0663	0.165 ±0.0507	0.127 ±0.0509	0.170 ±0.0619

Location ID:	3H-PC-01	3H-R-01	3H-R-02	3H-WB-01	3H-WB-02	3H-WB-03
Date Collected:	12/20/18	12/20/18	12/20/18	12/19/18	12/20/18	12/18/18
Sample Name:	3H-PC-01-1220	3H-R-01-1220	3H-R-02-1220	3H-WB-01-1217	3H-WB-02-1220	3H-WB-03-1217
Radiochem-Alpha Spectrometry						
Uranium-238	0.413 ±0.120	0.0391 U ±0.0372	0.0197 U ±0.0280	0.374 ±0.116	0.532 ±0.136	0.751 ±0.174
Uranium-234	49.9 ±4.37	0.0557 U ±0.0478	0.0495 U ±0.0462	3.84 ±0.478	60.0 ±5.21	1.04 ±0.209
Uranium-235	1.83 ±0.300	0.0154 U ±0.0300	0.0197 U ±0.0279	0.171 ±0.0870	2.52 ±0.372	0.00537 U ±0.0228
Radiochem-Gamma Emitters						
Uranium-238	NA	NA	NA	0.404 U ±0.466	1.02 U ±0.681	0.933 U ±0.649
Uranium-235	NA	NA	NA	0.0866 U ±0.206	3.62 ±0.520	-0.37800 U G ±0.445
Radiochem-Gamma Emitters-TICs						
Actinium-228	NA	NA	NA	0.916 ±0.210	1.19 ±0.239	1.69 ±0.390
Bismuth-212	NA	NA	NA	NA	1.46 ±0.695	2.44 ±0.882
Bismuth-214	NA	NA	NA	NA	0.717 ±0.155	1.15 ±0.254
Lead-210	NA	NA	NA	NA	NA	NA
Lead-212	NA	NA	NA	0.658 ±0.129	1.04 ±0.154	1.45 ±0.229
Lead-214	NA	NA	NA	0.504 ±0.121	0.792 ±0.157	1.27 ±0.276
Potassium-40	NA	NA	NA	14.0 ±2.12	16.4 ±2.40	27.2 ±3.90
Thallium-208	NA	NA	NA	0.320 ±0.0802	0.327 ±0.0823	0.556 ±0.127

Location ID:	3H-WB-04	3H-WB-05	3H-WS-01	3H-WS-02	3H-WS-03	3H-WS-04
Date Collected:	12/18/18	12/17/18	12/18/18	12/19/18	12/19/18	12/20/18
Sample Name:	3H-WB-04-1217	3H-WB-05-1217	3H-WS-01-1217	3H-WS-02-1217	3H-WS-03-1217	3H-WS-04-1220
Radiochem-Alpha Spectrometry						
Uranium-238	0.280 ±0.102	0.772 ±0.171	0.387 ±0.122	0.347 ±0.108	0.435 ±0.128	0.530 ±0.137
Uranium-234	0.383 ±0.119	0.661 ±0.156	9.14 ±0.942	13.1 ±1.27	1.67 ±0.279	0.781 ±0.171
Uranium-235	0.002600000 U ±0.005	0.0290 U ±0.0399	0.298 ±0.116	0.416 ±0.130	0.0537 ±0.0482	0.0147 U ±0.0286
Radiochem-Gamma Emitters						
Uranium-238	0.982 U ±0.587	0.655 U ±1.01	NA	NA	NA	NA
Uranium-235	0.158 U ±0.417	-0.10700 U G ±1.31	NA	NA	NA	NA
Radiochem-Gamma Emitters-TICs						
Actinium-228	1.20 ±0.231	1.63 ±0.400	NA	NA	NA	NA
Bismuth-212	NA	NA	NA	NA	NA	NA
Bismuth-214	1.02 ±0.193	1.07 ±0.300	NA	NA	NA	NA
Lead-210	NA	NA	NA	NA	NA	NA
Lead-212	1.24 ±0.202	1.57 ±0.264	NA	NA	NA	NA
Lead-214	1.07 ±0.188	1.19 ±0.298	NA	NA	NA	NA
Potassium-40	21.1 ±2.81	26.3 ±4.08	NA	NA	NA	NA
Thallium-208	0.443 ±0.0988	0.475 ±0.128	NA	NA	NA	NA

Table 2-3a
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New Haven, Connecticut

Location ID:	3H-WS-05	3H-WS-06	3H-WS-07	3H-WS-08	3H-WS-09	3H-WS-10
Date Collected:	12/19/18	12/19/18	12/20/18	12/19/18	12/18/18	12/19/18
Sample Name:	3H-WS-05-1219	3H-WS-06-1219	3H-WS-07-1220	3H-WS-08-1217	3H-WS-09-1217	3H-WS-10-1217
Radiochem-Alpha Spectrometry						
Uranium-238	0.837 ±0.175	0.372 ±0.114	0.385 ±0.113	0.703 ±0.156	0.548 ±0.138	0.640 ±0.153
Uranium-234	0.831 ±0.174	3.34 ±0.433	0.480 ±0.126	0.964 ±0.187	0.931 ±0.187	0.665 ±0.158
Uranium-235	0.0355 U ±0.0383	0.0983 ±0.0645	0 U ±0.00462	0.0455 ±0.0409	0.0550 ±0.0473	0.0350 U ±0.0407
Radiochem-Gamma Emitters						
Uranium-238	NA	NA	NA	NA	NA	NA
Uranium-235	NA	NA	NA	NA	NA	NA
Radiochem-Gamma Emitters-TICs						
Actinium-228	NA	NA	NA	NA	NA	NA
Bismuth-212	NA	NA	NA	NA	NA	NA
Bismuth-214	NA	NA	NA	NA	NA	NA
Lead-210	NA	NA	NA	NA	NA	NA
Lead-212	NA	NA	NA	NA	NA	NA
Lead-214	NA	NA	NA	NA	NA	NA
Potassium-40	NA	NA	NA	NA	NA	NA
Thallium-208	NA	NA	NA	NA	NA	NA

Location ID:	3H-WS-11	3H-WS-12	3H-WS-13	6HE-FS-01	6HE-FS-02	6HE-FS-03
Date Collected:	12/19/18	12/18/18	12/18/18	12/20/18	12/21/18	12/20/18
Sample Name:	3H-WS-11-1217	3H-WS-12-1217	3H-WS-13-1217	6HE-FS-01-1220	6HE-FS-02-1221	6HE-FS-03-1220
Radiochem-Alpha Spectrometry						
Uranium-238	0.843 ±0.184	0.404 ±0.122	0.208 ±0.0846	NA	NA	NA
Uranium-234	0.703 ±0.170	0.481 ±0.134	0.513 ±0.135	NA	NA	NA
Uranium-235	0.00527 U ±0.0224	0.0287 U ±0.0367	0.0198 U ±0.0280	NA	NA	NA
Radiochem-Gamma Emitters						
Uranium-238	NA	NA	NA	0.529 U ±0.561	0.328 U ±0.366	0.201 U ±0.374
Uranium-235	NA	NA	NA	-0.22800 U ±0.229	0 U ±0.120	0.0457 U ±0.271
Radiochem-Gamma Emitters-TICs						
Actinium-228	NA	NA	NA	0.541 ±0.193	0.617 ±0.149	0.554 ±0.175
Bismuth-212	NA	NA	NA	NA	NA	NA
Bismuth-214	NA	NA	NA	0.389 ±0.143	0.271 ±0.0823	NA
Lead-210	NA	NA	NA	NA	NA	NA
Lead-212	NA	NA	NA	0.516 ±0.113	0.484 ±0.0929	0.398 ±0.0971
Lead-214	NA	NA	NA	0.353 ±0.126	0.240 ±0.0751	0.272 ±0.109
Potassium-40	NA	NA	NA	6.86 ±1.35	8.06 ±1.32	6.01 ±1.25
Thallium-208	NA	NA	NA	0.183 ±0.0616	0.154 ±0.0424	0.175 ±0.0583

Location ID:	6HE-FS-04	6HE-FS-05	6HE-FS-06	6HE-FS-07	6HE-FS-08	6HE-PC-01
Date Collected:	12/20/18	12/19/18	12/20/18	12/20/18	12/20/18	12/19/18
Sample Name:	6HE-FS-04-1220	6HE-FS-05-1219	6HE-FS-06-1220	6HE-FS-07-1220	6HE-FS-08-1220	6HE-PC-01-1219
Radiochem-Alpha Spectrometry						
Uranium-238	NA	NA	NA	NA	NA	0.101 ±0.0582
Uranium-234	NA	NA	NA	NA	NA	1.06 ±0.203
Uranium-235	NA	NA	NA	NA	NA	0.0667 ±0.0508
Radiochem-Gamma Emitters						
Uranium-238	0.432 ±0.243	0.360 U ±0.520	0.227 U ±0.314	0.343 U ±0.374	0.131 U ±0.520	NA
Uranium-235	-0.0314000 U ±0.0616	-0.23500 U ±0.274	0.0139 U ±0.0457	0.0612 U ±0.148	-0.14500 U ±0.463	NA
Radiochem-Gamma Emitters-TICs						
Actinium-228	0.475 ±0.114	0.542 ±0.188	0.490 ±0.153	0.607 ±0.174	0.722 ±0.158	NA
Bismuth-212	NA	NA	NA	NA	NA	NA
Bismuth-214	0.251 ±0.0920	NA	0.287 ±0.0898	0.281 ±0.116	0.490 ±0.129	NA
Lead-210	NA	NA	NA	NA	NA	NA
Lead-212	0.329 ±0.0742	0.515 ±0.107	0.333 ±0.0812	0.442 ±0.101	0.512 ±0.102	NA
Lead-214	0.214 ±0.0710	0.407 ±0.122	0.341 ±0.0956	0.300 ±0.104	0.276 ±0.0867	NA
Potassium-40	5.14 ±0.960	6.87 ±1.34	6.21 ±1.15	5.66 ±1.22	7.29 ±1.25	NA
Thallium-208	0.150 ±0.0359	0.150 ±0.0630	0.183 ±0.0536	0.185 ±0.0628	0.231 ±0.0759	NA

Table 2-3a
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New Haven, Connecticut

Location ID:	6HE-PC-03	6HE-WS-03	6H-R-01	6H-RW-01	6HW-FS-01	6HW-FS-02
Date Collected:	12/19/18	12/20/18	12/21/18	12/21/18	12/21/18	12/21/18
Sample Name:	6HE-PC-03-1219	6HE-WS-03-1220	6H-R-01-1221	6H-RW-01-1221	6HW-FS-01-1221	6HW-FS-02-1221
Radiochem-Alpha Spectrometry						
Uranium-238	0.145 ±0.0678	NA	0.658 ±0.190	0.0654 ±0.0453	NA	NA
Uranium-234	2.58 ±0.350	NA	1.03 ±0.244	0.0412 U ±0.0372	NA	NA
Uranium-235	0.0609 ±0.0483	NA	0.0420 U ±0.0535	-0.004660000 U ±0.00660	NA	NA
Radiochem-Gamma Emitters						
Uranium-238	NA	0.988 U ±0.735	NA	NA	0.275 U ±0.460	0.369 U ±0.401
Uranium-235	NA	-0.0218000 U ±0.0389	NA	NA	0 U ±0.168	0.0522 U ±0.129
Radiochem-Gamma Emitters-TICs						
Actinium-228	NA	1.43 ±0.291	NA	NA	0.421 ±0.125	0.521 ±0.175
Bismuth-212	NA	NA	NA	NA	NA	NA
Bismuth-214	NA	0.816 ±0.223	NA	NA	0.378 ±0.112	0.329 ±0.119
Lead-210	NA	NA	NA	NA	NA	NA
Lead-212	NA	1.32 ±0.225	NA	NA	0.344 ±0.0872	0.354 ±0.0979
Lead-214	NA	0.959 ±0.212	NA	NA	0.333 ±0.101	NA
Potassium-40	NA	21.2 ±3.20	NA	NA	6.22 ±1.14	5.64 ±1.20
Thallium-208	NA	0.470 ±0.126	NA	NA	0.168 ±0.0622	0.143 ±0.0710

Location ID:	6HW-FS-03	6HW-FS-04	6HW-FS-05	6HW-WALL-01
Date Collected:	12/21/18	12/21/18	12/21/18	12/21/18
Sample Name:	6HW-FS-03-1221	6HW-FS-04-1221	6HW-FS-05-1221	6HW-WALL-01-1221
Radiochem-Alpha Spectrometry				
Uranium-238	NA	NA	NA	0.109 ±0.0684
Uranium-234	NA	NA	NA	0.144 ±0.0765
Uranium-235	NA	NA	NA	0.00605 U ±0.0257
Radiochem-Gamma Emitters				
Uranium-238	-0.17500 U ±0.621	0.640 U ±0.586	-0.25400 U ±0.513	NA
Uranium-235	-0.0298000 U ±0.0549	-0.21500 U ±0.292	0.0262 U ±0.144	NA
Radiochem-Gamma Emitters-TICs				
Actinium-228	0.404 ±0.146	0.435 ±0.214	NA	NA
Bismuth-212	0.918 ±0.339	NA	NA	NA
Bismuth-214	0.280 ±0.0911	0.254 ±0.101	0.307 ±0.0970	NA
Lead-210	NA	NA	NA	NA
Lead-212	0.377 ±0.0780	0.426 ±0.0932	0.336 ±0.0796	NA
Lead-214	0.210 ±0.0654	0.422 ±0.105	0.284 ±0.0709	NA
Potassium-40	6.02 ±1.06	5.94 ±1.19	5.25 ±1.03	NA
Thallium-208	0.137 ±0.0471	0.105 ±0.0457	NA	NA

Table 2-3a
 Cleanup Plan
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 Radiological Characteristics
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 New Haven, Connecticut

Notes:

1. All samples were collected by Arcadis on the dates indicated and submitted to Test America Laboratories for analysis.
2. Sample analysis was conducted using the following Methods:
 Isotopic Uranium (Alpha Spectrometry): Method A-01-R
 Cesium-137 & Other Gamma Emitters (GS): Method GA-01-R
3. NA = Constituent was not analyzed.
4. ND = Analyte not detected at a concentration greater than the Practical Quantitation Limit (PQL). PQL denotes lowest reportable analyte conc
5. Units: pCi/g = average picocuries per gram
6. Sample ID Nomenclature: BUILDING - (FLOOR) - MEDIA - NUMBER (##) - DATE (MMYY)
7. Laboratory Qualifiers:

U	Result is less than the sample detection limit.
G	The Sample Method Detectable Concentration is greater than the requested Reporting Limit.
	<u>Building IDs:</u>
	<u>Media IDs (where applicable):</u>
3H:	Building 3H
6H:	Building 6H
6HE:	Building 6H - Eastside
6HW:	Building 6H - Westside
	FB: Floor/Biased
	FS: Floor/Systematic
	F-WC: Floor/Waste Characterization
	WB: Wall/Biased
	WS: Wall/Systematic
	W-WC: Wall/Waste Characterization
	WALL: Wall
	PC: Paint Chip
	CG: Caulk
	R: Roof
	RW: Roof/Wood

Table 2-3b
Cleanup Plan
Appendix A - Building Characterization Survey
Nonradiological Characteristics
General Electric Company - Former UNC Facility
New Haven, Connecticut

Location ID:	3H-CG-02	3H-CG-03	3H-CG-04	3H-FB-07	3H-FB-0506 (FD-01)	3H-FS-02	3H-FS-11	3H-F-WC-01	3H-PC-01
Date Collected:	12/20/18	12/21/18	12/20/18	12/19/18	12/19/2018 (12/21/2018)	12/20/18	12/17/18	12/21/18	12/20/18
Sample Name:	3H-CG-02-1220	3H-CG-03-1221	3H-CG-04-1220	3H-FB-07-1217	3H-FB-0506-1219 (FD-01)	3H-FS-02-1217	3H-FS-11-1217	3H-F-WC-01-1221	3H-PC-01-1220
PCBs									
Aroclor 1016	0.66 U	2.1 U	28 U	0.59 U	0.24 U	1.2 U	0.24 U	0.59 U	3.1 U
Aroclor 1221	0.93 U	2.9 U	40 U	0.84 U	0.34 U	1.7 U	0.34 U	0.84 U	4.4 U
Aroclor 1232	0.66 U	2.1 U	28 U	0.59 U	0.24 U	1.2 U	0.24 U	0.59 U	3.1 U
Aroclor 1242	0.66 U	2.1 U	28 U	0.59 U	0.24 U	1.2 U	0.24 U	0.59 U	3.1 U
Aroclor 1248	0.66 U	2.1 U	28 U	2.4	0.24 U	1.2 U	0.24 U	0.59 U	3.1 U
Aroclor 1254	3.3	5	140	0.59 U	0.24 U	6.9	1.6	3.4	14
Aroclor 1260	0.66 U	2.1 U	28 U	0.59 U	0.24 U	1.2 U	0.24 U	0.59 U	3.1 U
Aroclor 1262	0.66 U	2.1 U	28 U	0.59 U	0.65	1.2 U	0.24 U	0.59 U	3.1 U
Aroclor 1268	0.66 U	2.1 U	28 U	0.59 U	0.24 U	1.2 U	0.24 U	0.59 U	3.1 U
Total PCBs	3.3	5	140	2.4	0.65	6.9	1.6	3.4	14
Volatile Organics									
1,1,1-Trichloroethane	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
1,1,2-trichloro-1,2,2-trifluoroethane	NA	NA	NA	NA	NA	0.02 U	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
1,1-Dichloroethene	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
1,2,3-Trichlorobenzene	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
1,2-Dibromo-3-chloropropane	NA	NA	NA	NA	NA	0.0099 U	NA	NA	NA
1,2-Dibromoethane	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
1,2-Dichloroethane	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
1,4-Dioxane	NA	NA	NA	NA	NA	0.49 U	NA	NA	NA
2-Butanone (MEK)	NA	NA	NA	NA	NA	0.02 U	NA	NA	NA
4-Methyl-2-Pentanone	NA	NA	NA	NA	NA	0.02 U	NA	NA	NA
Acetone	NA	NA	NA	NA	NA	0.03	NA	NA	NA
Bromochloromethane	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
Bromodichloromethane	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
Bromoform	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
Bromomethane	NA	NA	NA	NA	NA	0.0099 U	NA	NA	NA
Carbon Disulfide	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
Carbon Tetrachloride	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
CFC-11	NA	NA	NA	NA	NA	0.0099 U	NA	NA	NA
CFC-12	NA	NA	NA	NA	NA	0.0099 U	NA	NA	NA

Table 2-3b
 Cleanup Plan
 Appendix A - Building Characterization Survey
 Nonradiological Characteristics
 General Electric Company - Former UNC Facility
 New Haven, Connecticut

Location ID:	3H-CG-02	3H-CG-03	3H-CG-04	3H-FB-07	3H-FB-0506 (FD-01)	3H-FS-02	3H-FS-11	3H-F-WC-01	3H-PC-01
Date Collected:	12/20/18	12/21/18	12/20/18	12/19/18	12/19/2018 (12/21/2018)	12/20/18	12/17/18	12/21/18	12/20/18
Sample Name:	3H-CG-02-1220	3H-CG-03-1221	3H-CG-04-1220	3H-FB-07-1217	3H-FB-0506-1219 (FD-01)	3H-FS-02-1217	3H-FS-11-1217	3H-F-WC-01-1221	3H-PC-01-1220
Chlorobenzene	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
Chlorodibromomethane	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
Chloroethane	NA	NA	NA	NA	NA	0.0099 U	NA	NA	NA
Chloroform	NA	NA	NA	NA	NA	0.0099 U	NA	NA	NA
Chloromethane	NA	NA	NA	NA	NA	0.0099 U	NA	NA	NA
cis-1,2-Dichloroethene	NA	NA	NA	NA	NA	0.0025 U	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
Cyclohexane	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
Dichloromethane	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
Isopropylbenzene	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
m,p-Xylene	NA	NA	NA	NA	NA	0.0012 J	NA	NA	NA
Methyl Acetate	NA	NA	NA	NA	NA	0.0099 U	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	NA	NA	NA	NA	NA	0.02 U	NA	NA	NA
Methylcyclohexane	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
o-Xylene	NA	NA	NA	NA	NA	0.00083 J	NA	NA	NA
Styrene (Monomer)	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
trans-1,2-Dichloroethene	NA	NA	NA	NA	NA	0.0025 U	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
Trichloroethene	NA	NA	NA	NA	NA	0.0004 J	NA	NA	NA
Vinyl chloride	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
Benzene	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	0.0049 U	NA	NA	NA
Methyl-tert-butylether	NA	NA	NA	NA	NA	0.02 U	NA	NA	NA
Semivolatle Organics									
1,1-Biphenyl	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
1,2-Diphenylhydrazine	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
1,3-Dinitrobenzene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
1,4-Dioxane	NA	NA	NA	NA	NA	0.61 U	NA	NA	NA
1-Methylnaphthalene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
2,2-Oxybis(1-Chloropropane)	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
2,3,4,6-Tetrachlorophenol	NA	NA	NA	NA	NA	1.5 U	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA

Table 2-3b
 Cleanup Plan
 Appendix A - Building Characterization Survey
 Nonradiological Characteristics
 General Electric Company - Former UNC Facility
 New Haven, Connecticut

Location ID:	3H-CG-02	3H-CG-03	3H-CG-04	3H-FB-07	3H-FB-0506 (FD-01)	3H-FS-02	3H-FS-11	3H-F-WC-01	3H-PC-01
Date Collected:	12/20/18	12/21/18	12/20/18	12/19/18	12/19/2018 (12/21/2018)	12/20/18	12/17/18	12/21/18	12/20/18
Sample Name:	3H-CG-02-1220	3H-CG-03-1221	3H-CG-04-1220	3H-FB-07-1217	3H-FB-0506-1219 (FD-01)	3H-FS-02-1217	3H-FS-11-1217	3H-F-WC-01-1221	3H-PC-01-1220
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	1.5 U	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
2,6-Dichlorophenol	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
2-Methyl-4,6-dinitrophenol	NA	NA	NA	NA	NA	1.5 U	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	1.5 U	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
3,3-Dichlorobenzidine	NA	NA	NA	NA	NA	0.61 U	NA	NA	NA
3-Methylphenol	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	1.5 U	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
4-Chloro-3-Methylphenol	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
4-Methylphenol	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	1.5 U	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	1.5 U	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Aniline	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Azobenzene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Benzaldehyde	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Benzidine	NA	NA	NA	NA	NA	3.1 U	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Benzoic Acid	NA	NA	NA	NA	NA	1.5 U	NA	NA	NA
Benzyl Alcohol	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA

Table 2-3b
 Cleanup Plan
 Appendix A - Building Characterization Survey
 Nonradiological Characteristics
 General Electric Company - Former UNC Facility
 New Haven, Connecticut

Location ID:	3H-CG-02	3H-CG-03	3H-CG-04	3H-FB-07	3H-FB-0506 (FD-01)	3H-FS-02	3H-FS-11	3H-F-WC-01	3H-PC-01
Date Collected:	12/20/18	12/21/18	12/20/18	12/19/18	12/19/2018 (12/21/2018)	12/20/18	12/17/18	12/21/18	12/20/18
Sample Name:	3H-CG-02-1220	3H-CG-03-1221	3H-CG-04-1220	3H-FB-07-1217	3H-FB-0506-1219 (FD-01)	3H-FS-02-1217	3H-FS-11-1217	3H-F-WC-01-1221	3H-PC-01-1220
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	0.15 J	NA	NA	NA
Butyl benzyl phthalate	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Caprolactam	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Dibenzo(a,h)anthracene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	0.61 U	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Di-n-butyl phthalate	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Diphenylamine	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Famphur	NA	NA	NA	NA	NA	0.61 U	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	0.058 J	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Hexachloro-1,3-butadiene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	1.5 U	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
n-Hexadecane	NA	NA	NA	NA	NA	0.048 J	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
N-Nitrosodimethylamine	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
n-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
N-nitrosodiphenylamine	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
p-Chloroaniline	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	1.5 U	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	0.028 J	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	0.31 U	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	0.042 J	NA	NA	NA
Pyridine	NA	NA	NA	NA	NA	0.61 U	NA	NA	NA

Table 2-3b
 Cleanup Plan
 Appendix A - Building Characterization Survey
 Nonradiological Characteristics
 General Electric Company - Former UNC Facility
 New Haven, Connecticut

Location ID:	3H-CG-02	3H-CG-03	3H-CG-04	3H-FB-07	3H-FB-0506 (FD-01)	3H-FS-02	3H-FS-11	3H-F-WC-01	3H-PC-01
Date Collected:	12/20/18	12/21/18	12/20/18	12/19/18	12/19/2018 (12/21/2018)	12/20/18	12/17/18	12/21/18	12/20/18
Sample Name:	3H-CG-02-1220	3H-CG-03-1221	3H-CG-04-1220	3H-FB-07-1217	3H-FB-0506-1219 (FD-01)	3H-FS-02-1217	3H-FS-11-1217	3H-F-WC-01-1221	3H-PC-01-1220
Inorganics									
Arsenic	NA	NA	NA	1.7 J	1.6 J	1.6 J	1.9	3.1	39 J
Barium	NA	NA	NA	40	41	42	54	56	290 J
Cadmium	NA	NA	NA	0.91 U	0.84 U	0.84 U	0.94 U	0.87 J	49 U
Chromium	NA	NA	NA	12	13	21	16	28	1,800
Lead	NA	NA	NA	11	5.0	2.9	2.7	13	57,000
Mercury	NA	NA	NA	0.028 J	0.017 J	0.030 J	0.039 U	0.020 J	18
Selenium	NA	NA	NA	2.7 U	2.5 U	2.5 U	2.8 U	2.7 U	150 U
Silver	NA	NA	NA	1.8 U	1.7 U	1.7 U	1.9 U	1.8 U	97 U
Inorganics-TCLP									
Arsenic	NA	NA	NA	0.50 U	0.50 U [0.50 U]	NA	0.50 U	NA	NA
Barium	NA	NA	NA	0.28 J	0.23 J [0.24 J]	NA	0.41 J	NA	NA
Cadmium	NA	NA	NA	0.10 U	0.10 U [0.0021 J]	NA	0.10 U	NA	NA
Chromium	NA	NA	NA	0.039 J	0.034 J [0.041 J]	NA	0.092 J	NA	NA
Lead	NA	NA	NA	0.50 U	0.50 U [0.50 U]	NA	0.50 U	NA	NA
Mercury	NA	NA	NA	0.0020 U	0.0020 U [0.0020 U]	NA	0.0020 U	NA	NA
Selenium	NA	NA	NA	0.10 U	0.10 U [0.10 U]	NA	0.10 U	NA	NA
Silver	NA	NA	NA	0.50 U	0.50 U [0.50 U]	NA	0.50 U	NA	NA
VOCs-TCLP									
1,1-Dichloroethene	NA	NA	NA	0.010 U	0.010 U	NA	0.010 U	NA	NA
1,2-Dichloroethane	NA	NA	NA	0.010 U	0.010 U	NA	0.010 U	NA	NA
2-Butanone (MEK)	NA	NA	NA	0.10 U	0.10 U	NA	0.10 U	NA	NA
Carbon Tetrachloride	NA	NA	NA	0.010 U	0.010 U	NA	0.010 U	NA	NA
Chlorobenzene	NA	NA	NA	0.010 U	0.010 U	NA	0.010 U	NA	NA
Chloroform	NA	NA	NA	0.010 U	0.010 U	NA	0.010 U	NA	NA
Tetrachloroethene	NA	NA	NA	0.010 U	0.010 U	NA	0.010 U	NA	NA
Trichloroethene	NA	NA	NA	0.010 U	0.010 U	NA	0.010 UF1	NA	NA
Vinyl chloride	NA	NA	NA	0.010 U	0.010 U	NA	0.010 U	NA	NA
Benzene	NA	NA	NA	0.010 U	0.010 U	NA	0.010 U	NA	NA
SVOCs-TCLP									
1,4-Dichlorobenzene	NA	NA	NA	0.020 U	0.020 U	NA	0.020 U	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	0.050 U	0.050 U	NA	0.050 U	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	0.025 U	0.025 U	NA	0.025 U	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	0.050 U	0.050 U	NA	0.050 U	NA	NA
2-Methylphenol	NA	NA	NA	0.050 U	0.050 U	NA	0.050 U	NA	NA
4-Methylphenol	NA	NA	NA	0.0034 J	0.0016 J	NA	0.016 J	NA	NA
Hexachloro-1,3-butadiene	NA	NA	NA	0.050 U	0.050 U	NA	0.050 U	NA	NA
Hexachlorobenzene	NA	NA	NA	0.050 U	0.050 U	NA	0.050 U	NA	NA

Table 2-3b
 Cleanup Plan
 Appendix A - Building Characterization Survey
 Nonradiological Characteristics
 General Electric Company - Former UNC Facility
 New Haven, Connecticut

Location ID:	3H-CG-02	3H-CG-03	3H-CG-04	3H-FB-07	3H-FB-0506 (FD-01)	3H-FS-02	3H-FS-11	3H-F-WC-01	3H-PC-01
Date Collected:	12/20/18	12/21/18	12/20/18	12/19/18	12/19/2018 (12/21/2018)	12/20/18	12/17/18	12/21/18	12/20/18
Sample Name:	3H-CG-02-1220	3H-CG-03-1221	3H-CG-04-1220	3H-FB-07-1217	3H-FB-0506-1219 (FD-01)	3H-FS-02-1217	3H-FS-11-1217	3H-F-WC-01-1221	3H-PC-01-1220
Hexachloroethane	NA	NA	NA	0.050 U	0.050 U	NA	0.050 U	NA	NA
Nitrobenzene	NA	NA	NA	0.050 U	0.050 U	NA	0.050 U	NA	NA
Pentachlorophenol	NA	NA	NA	0.25 U	0.25 U	NA	0.25 U	NA	NA
Pyridine	NA	NA	NA	0.10 U	0.10 U	NA	0.10 U	NA	NA
PCBs-TCLP									
Aroclor 1016	NA	NA	NA	0.01 U	0.01 U [0.01 UF1]	NA	0.01 U	NA	NA
Aroclor 1221	NA	NA	NA	0.01 U	0.01 U [0.01 U]	NA	0.01 U	NA	NA
Aroclor 1232	NA	NA	NA	0.01 U	0.01 U [0.01 U]	NA	0.01 U	NA	NA
Aroclor 1242	NA	NA	NA	0.01 U	0.01 U [0.018]	NA	0.01 U	NA	NA
Aroclor 1248	NA	NA	NA	0.01 U	0.01 U [0.01 U]	NA	0.0069 Jp	NA	NA
Aroclor 1254	NA	NA	NA	0.01 U	0.01 U [0.01 U]	NA	0.01 U	NA	NA
Aroclor 1260	NA	NA	NA	0.01 U	0.01 U [0.01 U]	NA	0.01 U	NA	NA
Aroclor 1262	NA	NA	NA	0.01 U	0.01 U [0.01 U]	NA	0.01 U	NA	NA
Aroclor 1268	NA	NA	NA	0.01 U	0.01 U [0.01 U]	NA	0.01 U	NA	NA
Total PCBs	NA	NA	NA	0.01 U	0.01 U [0.018]	NA	0.0069 Jp	NA	NA

Location ID:	3H-PC-02	3H-R-01	3H-R-02	3H-WS-03	3H-WS-04	3H-WS-07	3H-WS-10	3H-W-WC-01	6HE-CG-01
Date Collected:	12/19/18	12/20/18	12/20/18	12/19/18	12/20/18	12/20/18	12/19/18	12/21/18	12/20/18
Sample Name:	3H-PC-02-1220	3H-R-01-1220	3H-R-02-1220	3H-WS-03-1217	3H-WS-04-1220	3H-WS-07-1220	3H-WS-10-1217	3H-W-WC-01-1221	6HE-CG-01-1220
PCBs									
Aroclor 1016	NA	0.16 U	0.061 U	0.65 U	0.06 U	0.06 UF2	0.065 UF1	0.24 U	1.3 U
Aroclor 1221	NA	0.22 U	0.087 U	0.93 U	0.085 U	0.086 U	0.092 U	0.35 U	1.8 U
Aroclor 1232	NA	0.16 U	0.061 U	0.65 U	0.06 U	0.06 U	0.065 U	0.24 U	1.3 U
Aroclor 1242	NA	0.16 U	0.061 U	0.65 U	0.06 U	0.06 U	0.065 U	0.24 U	1.3 U
Aroclor 1248	NA	0.29	0.061 U	0.65 U	0.06 U	0.06 U	0.065 U	0.24 U	1.3 U
Aroclor 1254	NA	0.16 U	0.061 U	0.86	0.092	0.068	0.21	1.5	5
Aroclor 1260	NA	0.16 U	0.061 U	0.65 U	0.06 U	0.06 UF2	0.065 UF1	0.24 U	1.3 U
Aroclor 1262	NA	0.16 U	0.061 U	0.65 U	0.06 U	0.06 U	0.065 U	0.24 U	1.3 U
Aroclor 1268	NA	0.16 U	0.061 U	0.65 U	0.06 U	0.06 U	0.065 U	0.24 U	1.3 U
Total PCBs	NA	0.29	0.061 U	0.86	0.092	0.068	0.21	1.5	5
Inorganics									
Arsenic	NA	NA	460	0.87 J	2.1	22	2.2	NA	NA
Barium	NA	NA	6.0 J	120	46	7,300	54	NA	NA
Cadmium	NA	NA	2.3 U	0.48 U	0.14 J	3.0 J	0.23 J	NA	NA
Chromium	NA	NA	1,400	19	6.9	31	6.8	NA	NA
Lead	NA	NA	5.8	16	11	780	10	NA	NA
Mercury	NA	NA	0.074	0.15	0.069	0.28	0.023 J	NA	NA
Selenium	NA	NA	1.2 J	1.5 U	1.3 U	26 U	1.3 U	NA	NA
Silver	NA	NA	1.9 U	0.97 U	0.90 U	18 U	0.86 U	NA	NA

Table 2-3b
 Cleanup Plan
 Appendix A - Building Characterization Survey
 Nonradiological Characteristics
 General Electric Company - Former UNC Facility
 New Haven, Connecticut

Location ID:	3H-PC-02	3H-R-01	3H-R-02	3H-WS-03	3H-WS-04	3H-WS-07	3H-WS-10	3H-W-WC-01	6HE-CG-01
Date Collected:	12/19/18	12/20/18	12/20/18	12/19/18	12/20/18	12/20/18	12/19/18	12/21/18	12/20/18
Sample Name:	3H-PC-02-1220	3H-R-01-1220	3H-R-02-1220	3H-WS-03-1217	3H-WS-04-1220	3H-WS-07-1220	3H-WS-10-1217	3H-W-WC-01-1221	6HE-CG-01-1220
Inorganics-TCLP									
Arsenic	0.50 U	NA	0.46 J	NA	NA	0.50 U	0.50 U	NA	NA
Barium	0.026 JB	NA	0.092 JB	NA	NA	0.38 JB	0.22 JB	NA	NA
Cadmium	0.22	NA	0.10 U	NA	NA	0.0020 J	0.10 U	NA	NA
Chromium	0.022 J	NA	0.87	NA	NA	0.013 J	0.0046 J	NA	NA
Lead	220	NA	0.50 U	NA	NA	0.014 J	0.50 U	NA	NA
Mercury	0.0017 J	NA	0.0020 U	NA	NA	0.0020 U	0.0020 U	NA	NA
Selenium	0.10 U	NA	0.10 U	NA	NA	0.10 U	0.10 U	NA	NA
Silver	0.50 U	NA	0.50 U	NA	NA	0.50 U	0.50 U	NA	NA
VOCs-TCLP									
1,1-Dichloroethene	0.010 U	NA	0.010 U	NA	NA	0.010 U	0.010 U	NA	NA
1,2-Dichloroethane	0.010 U	NA	0.010 U	NA	NA	0.010 U	0.010 U	NA	NA
2-Butanone (MEK)	0.10 U	NA	0.10 U	NA	NA	0.10 U	0.10 U	NA	NA
Carbon Tetrachloride	0.010 U	NA	0.010 U	NA	NA	0.010 U	0.010 U	NA	NA
Chlorobenzene	0.010 U	NA	0.010 U	NA	NA	0.010 U	0.010 U	NA	NA
Chloroform	0.010 U	NA	0.010 U	NA	NA	0.010 U	0.010 U	NA	NA
Tetrachloroethene	0.010 U	NA	0.010 U	NA	NA	0.010 U	0.010 U	NA	NA
Trichloroethene	0.010 U	NA	0.010 U	NA	NA	0.010 U	0.010 U	NA	NA
Vinyl chloride	0.010 U	NA	0.010 U	NA	NA	0.010 U	0.010 U	NA	NA
Benzene	0.010 U	NA	0.010 U	NA	NA	0.010 U	0.010 U	NA	NA
SVOCs-TCLP									
1,4-Dichlorobenzene	0.020 U	NA	0.020 U	NA	NA	0.020 U	0.020 U	NA	NA
2,4,5-Trichlorophenol	0.050 U	NA	0.050 U	NA	NA	0.050 UF1	0.050 U	NA	NA
2,4,6-Trichlorophenol	0.025 U	NA	0.025 U	NA	NA	0.025 UF1	0.025 U	NA	NA
2,4-Dinitrotoluene	0.050 U	NA	0.050 U	NA	NA	0.050 U	0.050 U	NA	NA
2-Methylphenol	0.050 U	NA	0.050 U	NA	NA	0.050 UF1F2	0.050 U	NA	NA
4-Methylphenol	0.050 U	NA	0.0060 J	NA	NA	0.050 UF1F2	0.050 U	NA	NA
Hexachloro-1,3-butadiene	0.050 U	NA	0.050 U	NA	NA	0.050 U	0.050 U	NA	NA
Hexachlorobenzene	0.050 U	NA	0.050 U	NA	NA	0.050 U	0.050 U	NA	NA
Hexachloroethane	0.050 U	NA	0.050 U	NA	NA	0.050 U	0.050 U	NA	NA
Nitrobenzene	0.050 U	NA	0.050 U	NA	NA	0.050 U	0.050 U	NA	NA
Pentachlorophenol	0.25 U	NA	0.25 U	NA	NA	0.25 UF1	0.25 U	NA	NA
Pyridine	0.10 U	NA	0.10 U	NA	NA	0.10 U	0.10 U	NA	NA

Table 2-3b
 Cleanup Plan
 Appendix A - Building Characterization Survey
 Nonradiological Characteristics
 General Electric Company - Former UNC Facility
 New Haven, Connecticut

Location ID:	3H-PC-02	3H-R-01	3H-R-02	3H-WS-03	3H-WS-04	3H-WS-07	3H-WS-10	3H-W-WC-01	6HE-CG-01
Date Collected:	12/19/18	12/20/18	12/20/18	12/19/18	12/20/18	12/20/18	12/19/18	12/21/18	12/20/18
Sample Name:	3H-PC-02-1220	3H-R-01-1220	3H-R-02-1220	3H-WS-03-1217	3H-WS-04-1220	3H-WS-07-1220	3H-WS-10-1217	3H-W-WC-01-1221	6HE-CG-01-1220
PCBs-TCLP									
Aroclor 1016	0.01 U	NA	0.01 U	NA	NA	0.01 U	0.01 U	NA	NA
Aroclor 1221	0.01 U	NA	0.01 U	NA	NA	0.01 U	0.01 U	NA	NA
Aroclor 1232	0.01 U	NA	0.01 U	NA	NA	0.01 U	0.01 U	NA	NA
Aroclor 1242	0.01 U	NA	0.01 U	NA	NA	0.01 U	0.01 U	NA	NA
Aroclor 1248	0.01 U	NA	0.01 U	NA	NA	0.01 U	0.01 U	NA	NA
Aroclor 1254	0.01 U	NA	0.01 U	NA	NA	0.01 U	0.01 U	NA	NA
Aroclor 1260	0.01 U	NA	0.01 U	NA	NA	0.01 U	0.01 U	NA	NA
Aroclor 1262	0.01 U	NA	0.01 U	NA	NA	0.01 U	0.01 U	NA	NA
Aroclor 1268	0.01 U	NA	0.01 U	NA	NA	0.01 U	0.01 U	NA	NA
Total PCBs	0.01 U	NA	0.01 U	NA	NA	0.01 U	0.01 U	NA	NA

Location ID:	6HE-CG-02	6HE-FS-05	6HE-FS-07	6HE-PC-01	6HE-PC-02	6HE-PC-03	6HE-WS-01	6HE-WS-02	6HE-WS-05
Date Collected:	12/20/18	12/19/18	12/20/18	12/19/18	12/19/18	12/19/18	12/21/18	12/20/18	12/20/18
Sample Name:	6HE-CG-02-1220	6HE-FS-05-1219	6HE-FS-07-1220	6HE-PC-01-1219	6HE-PC-02-1219	6HE-PC-03-1219	6HE-WS-01-1221	6HE-WS-02-1220	6HE-WS-05-1220
PCBs									
Aroclor 1016	0.15 U	0.25 U	0.059 U	3.1 U	3.3 U	1.6 U	0.059 U	0.06 U	0.23 U
Aroclor 1221	0.22 U	0.35 U	0.084 U	4.4 U	4.7 U	2.3 U	0.084 U	0.085 U	0.33 U
Aroclor 1232	0.15 U	0.25 U	0.059 U	3.1 U	3.3 U	1.6 U	0.059 U	0.06 U	0.23 U
Aroclor 1242	0.15 U	0.25 U	0.059 U	3.1 U	3.3 U	1.6 U	0.059 U	0.06 U	0.23 U
Aroclor 1248	0.26	0.25 U	0.059 U	3.1 U	3.3 U	1.6 U	0.059 U	0.06 U	0.23 U
Aroclor 1254	0.15 U	1.1	0.26	16	17	6.4	0.16	0.011 Jp	0.81
Aroclor 1260	0.15 U	0.25 U	0.059 U	3.1 U	3.3 U	1.6 U	0.059 U	0.06 U	0.23 U
Aroclor 1262	0.15 U	0.25 U	0.059 U	3.1 U	3.3 U	1.6 U	0.059 U	0.06 U	0.23 U
Aroclor 1268	0.15 U	0.25 U	0.059 U	3.1 U	3.3 U	1.6 U	0.059 U	0.06 U	0.23 U
Total PCBs	0.26	1.1	0.26	16	17	6.4	0.16	0.011 Jp	0.81

Inorganics									
Arsenic	NA	1.6 J	1.6 J	98 U	NA	NA	NA	NA	NA
Barium	NA	44	46	490 U	NA	NA	NA	NA	NA
Cadmium	NA	0.91 U	0.94 U	49	NA	NA	NA	NA	NA
Chromium	NA	16	15	470	NA	NA	NA	NA	NA
Lead	NA	2.3	17	68,000	NA	NA	NA	NA	NA
Mercury	NA	0.019 J	0.024 J	12	NA	NA	NA	NA	NA
Selenium	NA	2.7 U	2.8 U	150 U	NA	NA	NA	NA	NA
Silver	NA	1.8 U	1.9 U	98 U	NA	NA	NA	NA	NA

Table 2-3b
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Location ID:	6HE-CG-02	6HE-FS-05	6HE-FS-07	6HE-PC-01	6HE-PC-02	6HE-PC-03	6HE-WS-01	6HE-WS-02	6HE-WS-05
Date Collected:	12/20/18	12/19/18	12/20/18	12/19/18	12/19/18	12/19/18	12/21/18	12/20/18	12/20/18
Sample Name:	6HE-CG-02-1220	6HE-FS-05-1219	6HE-FS-07-1220	6HE-PC-01-1219	6HE-PC-02-1219	6HE-PC-03-1219	6HE-WS-01-1221	6HE-WS-02-1220	6HE-WS-05-1220
Inorganics-TCLP									
Arsenic	NA	0.50 U	0.50 U	NA	NA	NA	NA	NA	NA
Barium	NA	0.30 J	0.23 J	NA	NA	NA	NA	NA	NA
Cadmium	NA	0.10 U	0.10 U	NA	NA	NA	NA	NA	NA
Chromium	NA	0.0081 J	0.064 J	NA	NA	NA	NA	NA	NA
Lead	NA	0.50 U	0.50 U	NA	NA	NA	NA	NA	NA
Mercury	NA	0.0020 U	0.0020 U	NA	NA	NA	NA	NA	NA
Selenium	NA	0.10 U	0.10 U	NA	NA	NA	NA	NA	NA
Silver	NA	0.50 U	0.50 U	NA	NA	NA	NA	NA	NA
VOCs-TCLP									
1,1-Dichloroethene	NA	0.010 U	0.010 U	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	NA	0.010 U	0.010 U	NA	NA	NA	NA	NA	NA
2-Butanone (MEK)	NA	0.10 U	0.10 U	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	NA	0.010 U	0.010 U	NA	NA	NA	NA	NA	NA
Chlorobenzene	NA	0.010 U	0.010 U	NA	NA	NA	NA	NA	NA
Chloroform	NA	0.010 U	0.010 U	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	0.010 U	0.010 U	NA	NA	NA	NA	NA	NA
Trichloroethene	NA	0.010 U	0.010 U	NA	NA	NA	NA	NA	NA
Vinyl chloride	NA	0.010 U	0.010 U	NA	NA	NA	NA	NA	NA
Benzene	NA	0.010 U	0.010 U	NA	NA	NA	NA	NA	NA
SVOCs-TCLP									
1,4-Dichlorobenzene	NA	0.020 U	0.020 U	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	0.050 U	0.050 U	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	0.025 U	0.025 U	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	0.050 U	0.050 U	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	0.050 U	0.050 U	NA	NA	NA	NA	NA	NA
4-Methylphenol	NA	0.050 U	0.050 U	NA	NA	NA	NA	NA	NA
Hexachloro-1,3-butadiene	NA	0.050 U	0.050 U	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	0.050 U	0.050 U	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	0.050 U	0.050 U	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	0.050 U	0.050 U	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	0.25 U	0.25 U	NA	NA	NA	NA	NA	NA
Pyridine	NA	0.10 U	0.10 U	NA	NA	NA	NA	NA	NA

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 General Electric Company - Former UNC Facility
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Location ID:	6HE-CG-02	6HE-FS-05	6HE-FS-07	6HE-PC-01	6HE-PC-02	6HE-PC-03	6HE-WS-01	6HE-WS-02	6HE-WS-05
Date Collected:	12/20/18	12/19/18	12/20/18	12/19/18	12/19/18	12/19/18	12/21/18	12/20/18	12/20/18
Sample Name:	6HE-CG-02-1220	6HE-FS-05-1219	6HE-FS-07-1220	6HE-PC-01-1219	6HE-PC-02-1219	6HE-PC-03-1219	6HE-WS-01-1221	6HE-WS-02-1220	6HE-WS-05-1220
PCBs-TCLP									
Aroclor 1016	NA	0.01 U	0.01 U	NA	NA	NA	NA	NA	NA
Aroclor 1221	NA	0.01 U	0.01 U	NA	NA	NA	NA	NA	NA
Aroclor 1232	NA	0.01 U	0.01 U	NA	NA	NA	NA	NA	NA
Aroclor 1242	NA	0.01 U	0.01 U	NA	NA	NA	NA	NA	NA
Aroclor 1248	NA	0.01 U	0.01 U	NA	NA	NA	NA	NA	NA
Aroclor 1254	NA	0.01 U	0.01 U	NA	NA	NA	NA	NA	NA
Aroclor 1260	NA	0.01 U	0.01 U	NA	NA	NA	NA	NA	NA
Aroclor 1262	NA	0.01 U	0.01 U	NA	NA	NA	NA	NA	NA
Aroclor 1268	NA	0.01 U	0.01 U	NA	NA	NA	NA	NA	NA
Total PCBs	NA	0.01 U	0.01 U	NA	NA	NA	NA	NA	NA

Location ID:	6HE-WS-06	6H-R-01	6H-RW-01	6HW-CG-01	6HW-FS-03 (6HW-FD-03)	6HW-FS-05	6HW-WALL-01	6HW-WS-01	6HW-WS-02
Date Collected:	12/20/18	12/21/18	12/21/18	12/20/18	12/21/2018 (12/21/2018)	12/21/18	12/21/18	12/21/18	12/21/18
Sample Name:	6HE-WS-06-1220	6H-R-01-1221	6H-RW-01-1221	6HW-CG-01-1220	6HW-FS-03-1221 (6HW-FD-03-1221)	6HW-FS-05-1221	6HW-WALL-01-1221	6HW-WS-01-1221	6HW-WS-02-1221
PCBs									
Aroclor 1016	0.059 U	1.6 U	0.26 U	0.3 U	0.24 U [1.3 U]	0.06 U	0.13 U	0.065 U	0.085 U
Aroclor 1221	0.084 U	2.2 U	0.37 U	0.43 U	0.34 U [1.8 U]	0.085 U	0.19 U	0.092 U	0.12 U
Aroclor 1232	0.059 U	1.6 U	0.26 U	0.3 U	0.24 U [1.3 U]	0.06 U	0.13 U	0.065 U	0.085 U
Aroclor 1242	0.059 U	1.6 U	0.26 U	0.3 U	0.24 U [1.3 U]	0.06 U	0.13 U	0.065 U	0.085 U
Aroclor 1248	0.059 U	1.4 J	0.26 U	0.89	0.24 U [1.3 U]	0.06 U	0.13 U	0.065 U	0.085 U
Aroclor 1254	0.05 J	1.6 U	0.88	0.3 U	1.5 [7.7]	0.43	0.21	0.098 p	0.53
Aroclor 1260	0.059 U	1.6 U	0.26 U	0.3 U	0.24 U [1.3 U]	0.06 U	0.13 U	0.065 U	0.085 U
Aroclor 1262	0.059 U	1.6 U	0.26 U	0.3 U	0.24 U [1.3 U]	0.06 U	0.13 U	0.065 U	0.085 U
Aroclor 1268	0.059 U	1.6 U	0.26 U	0.3 U	0.24 U [1.3 U]	0.06 U	0.13 U	0.065 U	0.085 U
Total PCBs	0.05 J	1.4 J	0.88	0.89	1.5 [7.7]	0.43	0.21	0.098 p	0.53
Inorganics									
Arsenic	3.9	0.96 U	340	NA	2.5 J [2.1]	1.7	4.5 U	2.8	3.9
Barium	1,200	13	24 U	NA	41 [24]	19	11 J	280	940
Cadmium	0.90 U	0.48 U	2.4 U	NA	0.94 U [0.48 U]	0.42 U	2.2 U	0.32 J	0.27 J
Chromium	16	7.9	1,700	NA	18 [8.8]	6.8	1.4 J	13	29
Lead	62	75	21	NA	1.2 J [0.27 J]	0.41 J	1.7 J	73	270
Mercury	0.14	0.039 U	0.24	NA	0.064 [0.048]	0.057	0.23	0.14	0.22
Selenium	2.7 U	1.4 U	7.3 U	NA	2.8 U [1.4 U]	1.3 U	6.7 U	2.8 U	1.4 U
Silver	1.8 U	0.96 U	4.9 U	NA	1.9 U [0.96 U]	0.84 U	4.5 U	1.9 U	0.95 U

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 Nonradiological Characteristics
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Location ID:	6HE-WS-06	6H-R-01	6H-RW-01	6HW-CG-01	6HW-FS-03 (6HW-FD-03)	6HW-FS-05	6HW-WALL-01	6HW-WS-01	6HW-WS-02
Date Collected:	12/20/18	12/21/18	12/21/18	12/20/18	12/21/2018 (12/21//2018)	12/21/18	12/21/18	12/21/18	12/21/18
Sample Name:	6HE-WS-06-1220	6H-R-01-1221	6H-RW-01-1221	6HW-CG-01-1220	6HW-FS-03-1221 (6HW-FD-03-1221)	6HW-FS-05-1221	6HW-WALL-01-1221	6HW-WS-01-1221	6HW-WS-02-1221
Inorganics-TCLP									
Arsenic	0.50 U	NA	NA	NA	NA	0.50 U	NA	NA	NA
Barium	0.48 JB	NA	NA	NA	NA	0.29 J	NA	NA	NA
Cadmium	0.10 U	NA	NA	NA	NA	0.10 U	NA	NA	NA
Chromium	0.0080 J	NA	NA	NA	NA	0.020 J	NA	NA	NA
Lead	0.014 J	NA	NA	NA	NA	0.50 U	NA	NA	NA
Mercury	0.0020 U	NA	NA	NA	NA	0.0020 U	NA	NA	NA
Selenium	0.10 U	NA	NA	NA	NA	0.10 U	NA	NA	NA
Silver	0.50 U	NA	NA	NA	NA	0.50 U	NA	NA	NA
VOCs-TCLP									
1,1-Dichloroethene	0.010 U	NA	NA	NA	NA	0.010 U	NA	NA	NA
1,2-Dichloroethane	0.010 U	NA	NA	NA	NA	0.010 U	NA	NA	NA
2-Butanone (MEK)	0.10 U	NA	NA	NA	NA	0.10 U	NA	NA	NA
Carbon Tetrachloride	0.010 U	NA	NA	NA	NA	0.010 U	NA	NA	NA
Chlorobenzene	0.010 U	NA	NA	NA	NA	0.010 U	NA	NA	NA
Chloroform	0.010 U	NA	NA	NA	NA	0.010 U	NA	NA	NA
Tetrachloroethene	0.010 U	NA	NA	NA	NA	0.010 U	NA	NA	NA
Trichloroethene	0.010 U	NA	NA	NA	NA	0.010 U	NA	NA	NA
Vinyl chloride	0.010 U	NA	NA	NA	NA	0.010 U	NA	NA	NA
Benzene	0.010 U	NA	NA	NA	NA	0.010 U	NA	NA	NA
SVOCs-TCLP									
1,4-Dichlorobenzene	0.020 U	NA	NA	NA	NA	0.020 U	NA	NA	NA
2,4,5-Trichlorophenol	0.050 U	NA	NA	NA	NA	0.050 U	NA	NA	NA
2,4,6-Trichlorophenol	0.025 U	NA	NA	NA	NA	0.025 U	NA	NA	NA
2,4-Dinitrotoluene	0.050 U	NA	NA	NA	NA	0.050 U	NA	NA	NA
2-Methylphenol	0.050 U	NA	NA	NA	NA	0.050 U	NA	NA	NA
4-Methylphenol	0.050 U	NA	NA	NA	NA	0.050 U	NA	NA	NA
Hexachloro-1,3-butadiene	0.050 U	NA	NA	NA	NA	0.050 U	NA	NA	NA
Hexachlorobenzene	0.050 U	NA	NA	NA	NA	0.050 U	NA	NA	NA
Hexachloroethane	0.050 U	NA	NA	NA	NA	0.050 U	NA	NA	NA
Nitrobenzene	0.050 U	NA	NA	NA	NA	0.050 U	NA	NA	NA
Pentachlorophenol	0.25 U	NA	NA	NA	NA	0.25 U	NA	NA	NA
Pyridine	0.10 U	NA	NA	NA	NA	0.10 U	NA	NA	NA

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 Appendix A - Building Characterization Survey
 Nonradiological Characteristics
 General Electric Company - Former UNC Facility
 New Haven, Connecticut

Location ID:	6HE-WS-06	6H-R-01	6H-RW-01	6HW-CG-01	6HW-FS-03 (6HW-FD-03)	6HW-FS-05	6HW-WALL-01	6HW-WS-01	6HW-WS-02
Date Collected:	12/20/18	12/21/18	12/21/18	12/20/18	12/21/2018 (12/21//2018)	12/21/18	12/21/18	12/21/18	12/21/18
Sample Name:	6HE-WS-06-1220	6H-R-01-1221	6H-RW-01-1221	6HW-CG-01-1220	6HW-FS-03-1221 (6HW-FD-03-1221)	6HW-FS-05-1221	6HW-WALL-01-1221	6HW-WS-01-1221	6HW-WS-02-1221

PCBs-TCLP									
Aroclor 1016	0.01 U	NA	NA	NA	NA	0.01 U	NA	NA	NA
Aroclor 1221	0.01 U	NA	NA	NA	NA	0.01 U	NA	NA	NA
Aroclor 1232	0.01 U	NA	NA	NA	NA	0.01 U	NA	NA	NA
Aroclor 1242	0.01 U	NA	NA	NA	NA	0.01 U	NA	NA	NA
Aroclor 1248	0.01 U	NA	NA	NA	NA	0.01 U	NA	NA	NA
Aroclor 1254	0.01 U	NA	NA	NA	NA	0.01 U	NA	NA	NA
Aroclor 1260	0.01 U	NA	NA	NA	NA	0.01 U	NA	NA	NA
Aroclor 1262	0.01 U	NA	NA	NA	NA	0.01 U	NA	NA	NA
Aroclor 1268	0.01 U	NA	NA	NA	NA	0.01 U	NA	NA	NA
Total PCBs	0.01 U	NA	NA	NA	NA	0.01 U	NA	NA	NA

Location ID:	6HW-WS-03 (6HW-WD-03)	6HW-WS-04	6HW-WS-05	6HW-WS-06
Date Collected:	12/21/2018 (12/21/2018)	12/21/18	12/20/18	12/21/18
Sample Name:	6HW-WS-03-1221 (6HW-WD-03-1221)	6HW-WS-04-1221	6HW-WS-05-1220	6HW-WS-06-1221

PCBs				
Aroclor 1016	6 U [5.9 U]	0.063 U	0.066 U	0.062 U
Aroclor 1221	8.6 U [8.4 U]	0.09 U	0.094 U	0.089 U
Aroclor 1232	6 U [5.9 U]	0.063 U	0.066 U	0.062 U
Aroclor 1242	6 U [5.9 U]	0.063 U	0.066 U	0.062 U
Aroclor 1248	6 U [5.9 U]	0.063 U	0.066 U	0.062 U
Aroclor 1254	25 [21]	0.099 p	0.52	0.03 Jp
Aroclor 1260	6 U [5.9 U]	0.063 U	0.066 U	0.062 U
Aroclor 1262	6 U [5.9 U]	0.063 U	0.066 U	0.062 U
Aroclor 1268	6 U [5.9 U]	0.063 U	0.066 U	0.062 U
Total PCBs	25 [21]	0.099 p	0.52	0.03 Jp

Inorganics				
Arsenic	2.8 [2.8]	2.8	3.7	1.6
Barium	1,000 [320]	820	72	290
Cadmium	0.98 U [0.91 U]	0.31 J	0.97 U	0.50 U
Chromium	11 [8.7]	14	19	5.2
Lead	64 [14]	59	71	150
Mercury	0.18 [0.095]	0.10	0.14	0.024 J
Selenium	2.9 U [2.7 U]	1.5 U	2.9 U	1.5 U
Silver	2.0 U [1.8 U]	0.98 U	1.9 U	1.0 U

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Location ID:	6HW-WS-03 (6HW-WD-03)	6HW-WS-04	6HW-WS-05	6HW-WS-06
Date Collected:	12/21/2018 (12/21/2018)	12/21/18	12/20/18	12/21/18
Sample Name:	6HW-WS-03-1221 (6HW-WD-03-1221)	6HW-WS-04-1221	6HW-WS-05-1220	6HW-WS-06-1221
Inorganics-TCLP				
Arsenic	0.50 U [0.50 U]	0.50 U	NA	0.50 U
Barium	0.43 JB [0.43 JB]	0.22 JB	NA	0.59 JB
Cadmium	0.10 U [0.10 U]	0.10 U	NA	0.10 U
Chromium	0.017 J [0.027 J]	0.0076 J	NA	0.015 J
Lead	0.017 J [0.022 J]	0.50 U	NA	3.1
Mercury	0.0020 U [0.0020 U]	0.0020 U	NA	0.0020 U
Selenium	0.10 U [0.10 U]	0.10 U	NA	0.10 U
Silver	0.50 U [0.50 U]	0.50 U	NA	0.50 U
VOCs-TCLP				
1,1-Dichloroethene	0.010 U [0.010 U]	0.010 U	NA	0.010 U
1,2-Dichloroethane	0.010 U [0.010 U]	0.010 U	NA	0.010 U
2-Butanone (MEK)	0.10 U [0.10 U]	0.10 U	NA	0.10 U
Carbon Tetrachloride	0.010 U [0.010 U]	0.010 U	NA	0.010 U
Chlorobenzene	0.010 U [0.010 U]	0.010 U	NA	0.010 U
Chloroform	0.010 U [0.010 U]	0.010 U	NA	0.010 U
Tetrachloroethene	0.010 U [0.010 U]	0.010 U	NA	0.010 U
Trichloroethene	0.010 U [0.010 U]	0.010 U	NA	0.010 U
Vinyl chloride	0.010 U [0.010 U]	0.010 U	NA	0.010 U
Benzene	0.010 U [0.010 U]	0.010 U	NA	0.010 U
SVOCs-TCLP				
1,4-Dichlorobenzene	0.020 U [0.020 U]	0.020 U	NA	0.020 U
2,4,5-Trichlorophenol	0.050 U [0.050 U]	0.050 U	NA	0.050 U
2,4,6-Trichlorophenol	0.025 U [0.025 U]	0.025 U	NA	0.025 U
2,4-Dinitrotoluene	0.050 U [0.050 U]	0.050 U	NA	0.050 U
2-Methylphenol	0.050 U [0.050 U]	0.050 U	NA	0.050 U
4-Methylphenol	0.050 U [0.050 U]	0.050 U	NA	0.050 U
Hexachloro-1,3-butadiene	0.050 U [0.050 U]	0.050 U	NA	0.050 U
Hexachlorobenzene	0.050 U [0.050 U]	0.050 U	NA	0.050 U
Hexachloroethane	0.050 U [0.050 U]	0.050 U	NA	0.050 U
Nitrobenzene	0.050 U [0.050 U]	0.050 U	NA	0.050 U
Pentachlorophenol	0.25 U [0.25 U]	0.25 U	NA	0.25 U
Pyridine	0.10 U [0.10 U]	0.10 U	NA	0.10 U

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Location ID:	6HW-WS-03 (6HW-WD-03)	6HW-WS-04	6HW-WS-05	6HW-WS-06
Date Collected:	12/21/2018 (12/21/2018)	12/21/18	12/20/18	12/21/18
Sample Name:	6HW-WS-03-1221 (6HW-WD-03-1221)	6HW-WS-04-1221	6HW-WS-05-1220	6HW-WS-06-1221
PCBs-TCLP				
Aroclor 1016	0.01 U [0.01 U]	0.01 U	NA	0.01 U
Aroclor 1221	0.01 U [0.01 U]	0.01 U	NA	0.01 U
Aroclor 1232	0.01 U [0.01 U]	0.01 U	NA	0.01 U
Aroclor 1242	0.01 U [0.01 U]	0.01 U	NA	0.01 U
Aroclor 1248	0.01 U [0.01 U]	0.01 U	NA	0.01 U
Aroclor 1254	0.01 U [0.01 U]	0.01 U	NA	0.01 U
Aroclor 1260	0.01 U [0.01 U]	0.01 U	NA	0.01 U
Aroclor 1262	0.01 U [0.01 U]	0.01 U	NA	0.01 U
Aroclor 1268	0.01 U [0.01 U]	0.01 U	NA	0.01 U
Total PCBs	0.01 U [0.01 U]	0.01 U	NA	0.01 U

**Table 2-3b
 Cleanup Plan
 Appendix A - Building Characterization Survey
 Nonradiological Characteristics
 General Electric Company - Former UNC Facility
 New Haven, Connecticut**

Notes:

1. All samples were collected by Arcadis on the dates indicated and submitted to Test America Laboratories for analysis.
2. Sample analysis was conducted using the following Methods:
 - Total VOCs: United States Environmental Protection Agency (USEPA) SW-846 Method 8260
 - Total SVOCs: USEPA SW-846 Method 8270
 - Total Inorganics: USEPA SW-846 Method 6010
 - PCBs: USEPA SW-846 Method 8082
 - Total Mercury: USEPA SW-846 Method 7470
 - TCLP VOCs: USEPA SW-846 Method 1311: Toxicity Characteristic Leaching Procedure and Method 8260
 - TCLP SVOCs: USEPA SW-846 Method 1311 and Method 8270
 - TCLP Inorganics: USEPA SW-846 Method 1311 and Method 6010
 - TCLP PCBs: USEPA SW-846 Method 1311 and Method 8082
3. NA = Constituent was not analyzed.
4. ND = Analyte not detected at a concentration greater than the Practical Quantitation Limit (PQL). PQL denotes lowest reportable analyte concentration.
5. Units: mg/kg = milligram per kilogram
6. [] = Duplicate sample results.
7. Laboratory Qualifiers:
 - B Denotes analyte observed in associated method blank. Analyte concentration should be considered as estimated.
 - F1 MS and/or MSD Recovery is outside acceptance limits.
 - F2 MS/MSD RPD exceeds control limits.
 - J Denotes an estimated concentration. The concentration result is greater than or equal to the Method Detection Limit (MDL) but less than the Practical Quantitation Limit (PQL).
 - p The Relative Percent Difference (%RPD) between the primary and confirmation column/detector is >40%. The lower value has been reported.
 - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
8. Sample ID Nomenclature: BUILDING - (FLOOR) - MEDIA - NUMBER (##) - DATE (MMYY)

<u>Building IDs:</u>	<u>Media IDs (where applicable):</u>
3H: Building 3H	FB: Floor/Biased
6H: Building 6H	FS: Floor/Systematic
6HE: Building 6H - Eastside	F-WC: Floor/Waste Characterization
6HW: Building 6H - Westside	WB: Wall/Biased
	WS: Wall/Systematic
	W-WC: Wall/Waste Characterization
	WALL: Wall
	PC: Paint Chip
	CG: Caulk
	R: Roof
	RW: Roof/Wood

APPENDIX B

Site Background and Sampling Methodology and Results



APPENDIX B – SITE BACKGROUND AND SAMPLING METHODOLOGY AND RESULTS



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Table B3. Fixed and Removal Contamination Swipe Sample: Radiological Characteristics

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FIGURES

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Figure B2. Cabrera Figure 8-1 Gamma Walkover Survey Scan Areas

Figure B3. Cabrera Figure 8-2 Gamma Walkover Survey Scan Areas

Figure B4. Location of Slab Surface Contamination Measurements/Smears

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Figure B6. Cabrera Figure 8-6 Alpha-Beta Floor Scan Survey Results

Figure B7. Slab Sample Layout

1 SAMPLING METHODOLOGY

Appendix B presents the methodology used to conform to the Nuclear Regulatory Commission's (NRC's) approach for release of solid materials. This includes radiological survey methodology, instrumentation used to conduct the current surveys, and minimum detectible concentrations of the instrumentation for the contaminants of concern. The basis for the number of samples sent for analysis for radiological and hazardous waste constituents is also presented.

The results of the current radiological and hazardous waste surveys and sample results are presented along with a discussion of the results of prior gamma walkover survey and alpha surface survey performed by Cabrera reported in their Supplemental Radiological Survey Report, March 2018 (Cabrera, 2018).

1.1 Survey Methods

In December 2002, a memorandum was issued by NRC headquarters licensing divisions presenting the approach that should be used regarding controlled release of concrete from licensed facilities (NRC, 2002). This memo was reaffirmed in the NRC's "*Consolidated Decommissioning Guidance -Decommissioning Process for Material Licensees. Vol 1 Revision 2*, (NRC, 2006). The memorandum noted release of solid materials on a case-by-case basis using existing guidance with the following criteria:

- A) Sites should assess surficial contamination of concrete based on process knowledge and verified by appropriate core samples to confirm that the concrete does not contain contamination beyond a depth that can be measured by the instrumentation used for the survey.
- B) Survey instruments should be used that are appropriate for evaluating the radioactive contamination of interest and all accessible surfaces should be evaluated. The number of core samples and the method for determining the depth at which a survey instrument can measure below the surface of the concrete should be determined on a case-specific basis.
- C) Disposition of concrete with surficial contamination should be evaluated using "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material," dated April 1993, which is based on Fuel Cycle Policy and Guidance Directive 83-23. There is no upper limit on the amount of concrete with surficial contamination that can be released from a materials site if it meets criteria contained in the April 1993 guidance document.
- D) Surveys for the clearance of concrete with surficial contamination should be conducted before the concrete floor or wall is broken up. If the concrete wall or floor has been broken up, then it is considered a volumetric source of contamination.

These methods will be used to evaluate the remaining portion of the Building 6H concrete slab, foundations, and underlying soils and other miscellaneous concrete materials.

1.2 Minimum Detectible Concentration

All radiological measuring instruments (probes and ratemeter/scalers) were selected based upon detection sensitivity to provide technically defensible results to meet the objectives of the survey. The minimum detectable concentration (MDC) is an a priori statement of instrument's sensitivity and depends upon the background counting rate, detector efficiency, and counting time.

Gamma scanning surveys were performed using a Ludlum 44-10, 2-inch by 2-inch sodium iodide (NaI) detector coupled with a Ludlum 2221 ratemeter/scaler. Per Table 6.7 of MARSSIM (NRC, 2000), the scan MDC for a 2-inch by 2-inch sodium iodide detector ranges from 96 to 132 pCi/g for enriched uranium (depending on the percent enrichment).

Alpha/Beta scanning surveys were performed using a Ludlum 43-89 alpha/beta detector which has a 126 cm² active window. Per Table 6.4 of MARSSIM (NRC,2000), the scan MDC for U-238 using an alpha scintillation detector with 50 cm² is 90 dpm/100 cm². The Ludlum 43-89 probe with 126 cm² will have a lower MDC.

For volumetric samples the lower limit of detection was consistent with the detection level needed to evaluate environmental samples. Sample will be analyzed by a vendor laboratory for U-238, U-235 and U-234 by alpha spectroscopy method DOE A-01-R and U-235 and U-238 (thorium-234) by gamma spectroscopy method DOE GA-01-R (EML300).

1.3 Number of Sample Locations

The number of sample locations was based upon the relative shift between the concentration and the standard deviation of the measurement, and the errors associated with the measurements as presented in NUREG-1575, Multi-Agency Radiation Survey and Site Investigation Manual (NRC, 2000). MARSSIM equation 5-2 approximates the number of data points (N) for a survey unit.

$$N = \frac{(Z_{1-\alpha} + Z_{1-\beta})^2}{4(\text{Sign } P - 0.5)^2} \quad \text{Equation 1}$$

The value of the relative shift (Δ/σ) is typically selected as a value between 1 and 3. A relative shift of 2.0 was selected; giving rise to a MARSSIM Table 5.4 Sign P of 0.977. A Type I error is sometimes called a “false positive.” The probability of a Type I error is usually denoted by α . A Type II error is sometimes called a “false negative.” The probability of a Type II error is usually denoted by β . Consequences of Type I error is releasing of material with radioactivity higher than the release criterial. Consequence of Type II errors include unnecessary remediation expense and project delays. The error rate for α (Type I error) and β (Type II error) were selected as 0.05 and 0.05, which results in a $Z_{1-\alpha}$ and $Z_{1-\beta}$ of 1.645 and 1.645, respectively.

Using Equation 1, this results in a minimum number of 11.9 sample points required to evaluate the slab and underlying soils. To account for unusable measurements, the number of sample point is increased by 20%. Thus, a minimum of 15 systematic samples will be performed on a grid. The actual number of sample points may be increased to account for geometric differences and interferences. A systematic rectangular sampling grid will be aligned with the existing building column lines which are spaced 16 feet apart.

2 SUMMARY OF RADIATION ANALYTICAL RESULTS

Characterizations and waste profile analysis were performed upon the remaining concrete slab surfaces of Building 6H to meet the guidance of NUREG-1757 and FC 83-23. These characterizations and waste profile analyses include:

1. Gamma walkover survey performed by Cabrera of the floor area (Supplemental Radiological Survey Report, March 2018-Cabrera, 2018).
2. A alpha / beta one-minute integrated measurements on 74% of the accessible area in 6H/3H performed by Cabrera (Cabrera, 2018).
3. Arcadis concrete core samples (December 2018 and April 2019).
4. Arcadis concrete core samples (March 2020).
5. Arcadis concrete surface contamination (smear) and alpha/beta survey (April 2020).
6. Arcadis gamma scan of floor area sample locations (April 2020).

In summary, the data collected to date indicates that the remaining Building 6H concrete slab meets all relevant release criteria and contains no radiological component. Collectively, these results indicate that the foundation material has no radiological component other than NORM.

2.1 Gamma Scan Results

Cabrera conducted a gamma walkover survey of accessible areas of the overall Building 6H footprint. The figures discussed below are reproduced in Appendix A. For Column Line 1 to Column Line 14 the accessible area was between 75 and 100 percent. For Column Line 14 to Column Line 26 the accessible area was between 25 and 50 percent as shown in Figure B1 (Figure 1-2, Cabrera 2018). The gamma scan was continuous with readings automatically logged. Figures B2 (Figure 8-1, Cabrera 2018) and B3 (Figure 8-2, Cabrera 2018) present the results. As shown on the figures, the area between Column line 1 and Column Line 26 was divided into 30 smaller areas, for example the rooms along the south wall, or the area between two column lines. The number of measurements, maximum, minimum, mean and standard deviation was reported for each area. The background gamma count was approximately 6,100 counts per minute (cpm). As reported on the figures, none of the areas had a mean count rate greater than 1.5 times background with the range of mean counts per minute between 6,094 cpm and 9,661 cpm. Only four area had mean count rates above 9,000 cpm. Bias volumetric concrete core samples were performed in those areas and did not indicate elevated activities (See Section 2.3). The slightly elevated the result may be from the proximate wall, or "shine" (Note - The raw data for these measurements is presented in Appendix I of the Cabrera 2018 report).

In addition, in April 2020, Arcadis performed gamma surveys of areas associated with the twenty-nine surface contamination samples (Figure B4). The counts were logged from a Ludlum 44-10 sodium iodine probe with a 2221 rate meter placed adjacent to the surface contamination locations. The areal results ranged from 4,814 to 6,958 counts per minute (cpm) with a mean of 5,854 cpm. None of the areas had a count rate greater than 1.5 times background.

In summary, the gamma scan indicated no elevated areas for the scanned areas with the majority of the scanned areas at background levels.

2.2 Alpha Scan Results

Concurrent with the gamma surveys, Cabrera also conducted alpha/beta measurements on the Building 6H floor surfaces as part of their overall supplemental radiological survey (Cabrera, 2018). The figures

discussed below are reproduced in Appendix A. One-minute integrated alpha/beta scan measurements were performed on floor surfaces in Building 6H, Figures B5 (Figure 8-5, Cabrera 2018) and B6 (Figure 8-6, Cabrera 2018) of the report show the extensive coverage in the area between Column Lines 1 and 26. As indicated by the color-coded circles on the figures, each representing an alpha/beta measurement, hundreds of measurements were taken. The color-coded results of the measurements indicated no measurement exceeded the surface contamination of less than 5,000 disintegrations per minute (dpm)/100 cm² total alpha above background (NRC, 2006). Given the number of measurements and extensive coverage of the area, concrete waste from the Building 6H sub-surface foundation is not expected exceed the surface DCGLw. (Note - details of the survey are presented in Section 6.1 of the Cabrera 2018 report).

2.3 Concrete Core samples

Tables B1 and B2 present the results of the radiological analyses of concrete core samples. The location of the samples is presented in Figure B7. Sample analysis was by alpha spectroscopy, gamma spectroscopy or both. The alpha spectroscopy samples were one-gram aliquots from the 300 to 500-gram samples required for gamma spectroscopy.

Table B1 presents the results of the December 2018 (nineteen samples) and the April 2019 (six samples) concrete core samples. The locations for the December 2018 sampling campaign were determined using MARRSIM guidance as discussed in the Cleanup Plan (Arcadis 2019). The April biased sampling locations focused on the southern area between Column Lines 12 and 16 in the areas that indicated elevated gamma activity in the 2018 Cabrera survey (See Section 2.1). A review of the data shows the following:

1. No sample had an isotopic concentration greater than 0.5 pCi/g of U-238 or U-234. This would indicate these are measurements of background uranium concentrations in the concrete or de-minimis concentrations of HEU.
2. The activity concentration results (pCi/g) from alpha spectroscopy samples for U-238 and U-234 are approximately equal indicating natural uranium rather than HEU.
3. Gamma spectroscopy results indicate Bi-214 and Pb-214 concentrations (pCi/g) approximately the same as the U-238 concentration indicating secular equilibrium in the U-238 chain reflecting natural uranium. U-238 / U-234 in HEU would not have these daughters in secular equilibrium.
4. U-235 results are "U" qualified or below detection limits for all alpha spectroscopy analyses, much below Highly Enriched Uranium (HEU) expectations.
5. The six bias samples only indicated natural uranium with the U-235 and U-238 concentration all less than 0.5 pCi/g.

Table B2 presents the results of the March 2020 sampling campaign which were available. Ten composite samples and 5 discrete samples have been analyzed. As indicated in Figure B7, the area between Column Lines 1 and 30 were divided in to 4 sections. Each section was divided into a north and south subarea. In each subarea (N4, N5, N6, N7, N8, S4, S5, S6, S7, and S8) six cores were collected and composited in one sample. In addition, discrete volumetric samples were collected along the center line of the building at columns 5, 10, 15, 20, and 25 (C5, C10, C15, C20, C25). A total of fifteen (15) concrete core samples were analyzed for radiological components using alpha and gamma spectroscopy. A review of the data to date indicates:

1. No sample had an isotopic concentration greater than 0.7 pCi/g of U-238 or U-234. This would indicate these are measurements of background uranium concentrations in the concrete or de-minimis concentrations of HEU.
2. The activity concentration results (pCi/g) from alpha spectroscopy samples for U-238 and U-234 are approximately equal indicating natural uranium rather than HEU.
3. The ratio of the activity concentration results (pCi/g) from alpha spectroscopy samples for U-238 and U-235 reflect a natural uranium ratio rather than HEU even with the large standard deviations.

The forty (40) samples of the concrete foundation in Building 6H indicates the concrete does not contain contamination greater than natural uranium beyond a depth that can be measured by the instrumentation used for the survey.

2.4 Concrete Surface Contamination

The levels of fixed and removable surface contamination were analyzed for twenty-nine (29) locations on the Building 6H foundation. The locations surveyed were adjacent to the locations of the March 2020 concrete core samples. The location of the samples is presented in Figure B1.

Prior to sampling the surface was brushed to remove any loose debris and dirt from the surface of the concrete. The face of a Ludlum 43-89 alpha/beta detector with a Ludlum 2360 ratemeter was placed over the sample point and the alpha + beta counts recorded for 1 minute. The 2360 ratemeter also presents alpha and beta counts separately. Each observed alpha and beta count was adjusted to account for the 126 cm² area, background, concrete self-absorption and detector's efficiency. The alpha and beta concrete self-absorption factors were 0.25 and 0.2968, respectively (MARLAP 2004). Since the face of the detector was 126 cm², the adjusted counts were normalized to 100 cm² by dividing each one minute count by 126. After the probe was removed swipe samples, using dry, glass fiber filters (47 mm Whatman filters), were taken over the designated surface area. The filters per placed into protective envelopes and sent to vendor laboratory for alpha and beta analysis using a gas proportional counter.

Table B3 present the results of the radiological analyses of concrete smear samples. A review of the data indicates:

1. None of the counts exceeded the regulatory limit of 5,000 dpm alpha/100 cm².
2. The total alpha contamination results ranged from 0 to 74 dpm alpha /100 cm² with an average of 16 dpm alpha/100 cm². These are essentially background total count rates.
3. The maximum alpha count rate was 74 dpm alpha/100 cm² at location N4-SM-C25. Which is less than the maximum surface contamination is 15,000 dpm/100 cm² alpha.
4. The remaining 28 fixed alpha sample count rates were all less than 2% of the limit (range 0 to 59 dpm/100 cm²).
5. None of the filter swipes exceeded the regulatory limit of 1000 dpm alpha/100 cm² for removable contaminations. The removable alpha results ranged from 0 to 4 dpm alpha/100 cm² with an average of 1 dpm alpha/100 cm².

There results indicate the materials radioactivity is below release limits.

3 SUMMARY OF NON-RADIATION ANALYTICAL RESULTS

As part of the December 2018 building characterization investigation, four concrete floor slab samples were collected within Building 6H and submitted to and analyzed by Eurofins Test America Laboratory for Total PCBs by EPA Method 8082 and Total Inorganics by EPA Method 6010. Three of the four were also analyzed for Toxicity Characteristic Leachate Procedure (TCLP) for Volatile Organic Compounds (VOCs) by EPA Method 8260, Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270, and Inorganics by EPA Method 6010, and Mercury by EPA Method 7470.

During the month of March 2020, Arcadis collected a total of ten additional concrete floor slab samples over the Building 6H footprint. Sample locations are identified on Figure 1 and include subareas N4 through N8 and S4 through S8. Subareas N4 to N7 and S4 to S7 are approximately 3,500 square feet (sf), and Areas N8 and S8 are approximately 2,900 sf. Arcadis collected a six-point composite sample from each subarea that was submitted to and analyzed by Pace National Laboratory for Total PCBs and Inorganics and TCLP VOCs, SVOCs, and Inorganics.

The analytical results from the December 2018 and March 2020 sampling events are collectively presented in Table B4. All results were either non-detect or well below regulatory levels.

4 REFERENCES

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TABLES



Table B1
Concrete Core Samples: Radiological Characteristics
Addendum to May 2019 Cleanup Plan
General Electric Company - Former UNC Facility
New Haven, Connecticut

Location ID:	6HE-FS-01	6HE-FS-02	6HE-FS-03	6HE-FS-04	6HE-FS-05	6HE-FS-06
Date Collected:	12/20/18	12/21/18	12/20/18	12/20/18	12/19/18	12/20/18
Sample Name:	6HE-FS-01-1220	6HE-FS-02-1221	6HE-FS-03-1220	6HE-FS-04-1220	6HE-FS-05-1219	6HE-FS-06-1220
Radiochem-Alpha Spectrometry						
Uranium-238	NA	NA	NA	NA	NA	NA
Uranium-234	NA	NA	NA	NA	NA	NA
Uranium-235	NA	NA	NA	NA	NA	NA
Radiochem-Gamma Emitters						
Uranium-238	0.529 U ±0.561	0.328 U ±0.366	0.201 U ±0.374	0.432 ±0.243	0.360 U ±0.520	0.227 U ±0.314
Uranium-235	-0.22800 U ±0.229	0 U ±0.120	0.0457 U ±0.271	-0.0314000 U ±0.0616	-0.23500 U ±0.274	0.0139 U ±0.0457
Radiochem-Gamma Emitters-TICs						
Actinium-228	0.541 ±0.193	0.617 ±0.149	0.554 ±0.175	0.475 ±0.114	0.542 ±0.188	0.490 ±0.153
Bismuth-212	NA	NA	NA	NA	NA	NA
Bismuth-214	0.389 ±0.143	0.271 ±0.0823	NA	0.251 ±0.0920	NA	0.287 ±0.0898
Lead-210	NA	NA	NA	NA	NA	NA
Lead-212	0.516 ±0.113	0.484 ±0.0929	0.398 ±0.0971	0.329 ±0.0742	0.515 ±0.107	0.333 ±0.0812
Lead-214	0.353 ±0.126	0.240 ±0.0751	0.272 ±0.109	0.214 ±0.0710	0.407 ±0.122	0.341 ±0.0956
Potassium-40	6.86 ±1.35	8.06 ±1.32	6.01 ±1.25	5.14 ±0.960	6.87 ±1.34	6.21 ±1.15
Thallium-208	0.183 ±0.0616	0.154 ±0.0424	0.175 ±0.0583	0.150 ±0.0359	0.150 ±0.0630	0.183 ±0.0536

Location ID:	6HE-FS-07	6HE-FS-08	6HW-FS-01	6HW-FS-02	6HW-FS-03	6HW-FS-04
Date Collected:	12/20/18	12/20/18	12/21/18	12/21/18	12/21/18	12/21/18
Sample Name:	6HE-FS-07-1220	6HE-FS-08-1220	6HW-FS-01-1221	6HW-FS-02-1221	6HW-FS-03-1221	6HW-FS-04-1221
Radiochem-Alpha Spectrometry						
Uranium-238	NA	NA	NA	NA	NA	NA
Uranium-234	NA	NA	NA	NA	NA	NA
Uranium-235	NA	NA	NA	NA	NA	NA
Radiochem-Gamma Emitters						
Uranium-238	0.343 U ±0.374	0.131 U ±0.520	0.275 U ±0.460	0.369 U ±0.401	-0.17500 U ±0.621	0.640 U ±0.586
Uranium-235	0.0612 U ±0.148	-0.14500 U ±0.463	0 U ±0.168	0.0522 U ±0.129	-0.0298000 U ±0.0549	-0.21500 U ±0.292
Radiochem-Gamma Emitters-TICs						
Actinium-228	0.607 ±0.174	0.722 ±0.158	0.421 ±0.125	0.521 ±0.175	0.404 ±0.146	0.435 ±0.214
Bismuth-212	NA	NA	NA	NA	0.918 ±0.339	NA
Bismuth-214	0.281 ±0.116	0.490 ±0.129	0.378 ±0.112	0.329 ±0.119	0.280 ±0.0911	0.254 ±0.101
Lead-210	NA	NA	NA	NA	NA	NA
Lead-212	0.442 ±0.101	0.512 ±0.102	0.344 ±0.0872	0.354 ±0.0979	0.377 ±0.0780	0.426 ±0.0932
Lead-214	0.300 ±0.104	0.276 ±0.0867	0.333 ±0.101	NA	0.210 ±0.0654	0.422 ±0.105
Potassium-40	5.66 ±1.22	7.29 ±1.25	6.22 ±1.14	5.64 ±1.20	6.02 ±1.06	5.94 ±1.19
Thallium-208	0.185 ±0.0628	0.231 ±0.0759	0.168 ±0.0622	0.143 ±0.0710	0.137 ±0.0471	0.105 ±0.0457

Location ID:	6HW-FS-05	6HS-FS-01	6HS-FS-02	6HS-FS-03	6HS-FS-04	6HS-FS-05
Date Collected:	12/21/18	04/04/19	04/04/19	04/04/19	04/04/19	04/04/19
Sample Name:	6HW-FS-05-1221	6HS-FS-01-0404	6HS-FS-02-0404	6HS-FS-03-0404	6HS-FS-04-0404	6HS-FS-05-0404
Radiochem-Alpha Spectrometry						
Uranium-238	NA	0.486 ±0.138	0.437 ±0.130	0.307 ±0.113	0.329 ±0.121	0.331 ±0.111
Uranium-234	NA	1.00 U ±0.0319	1.00 U ±0.0326	1.00 U ±0.0325	1.00 U ±0.0540	1.00 U ±0.0370
Uranium-235	NA	0.292 ±0.106	0.303 ±0.106	0.220 ±0.0930	0.307 ±0.114	0.329 ±0.110
Radiochem-Gamma Emitters						
Uranium-238	-0.25400 U ±0.513	1.00 U ±0.580	1.00 U ±0.303	1.00 U ±0.415	1.00 U ±0.437	1.00 U ±0.0281
Uranium-235	0.0262 U ±0.144	2.50 U ±0.519	2.50 U ±0.568	2.50 U ±0.493	2.50 U ±0.244	2.50 U ±0.548
Radiochem-Gamma Emitters-TICs						
Actinium-228	NA	0.716 ±0.203	0.769 ±0.171	0.783 ±0.253	0.803 ±0.162	NA
Bismuth-212	NA	NA	0.942 ±0.411	NA	NA	NA
Bismuth-214	0.307 ±0.0970	NA	0.283 ±0.103	0.337 ±0.133	0.379 ±0.133	NA
Lead-210	NA	NA	3.97 ±1.69	NA	NA	NA
Lead-212	0.336 ±0.0796	0.617 ±0.127	0.609 ±0.117	0.514 ±0.115	0.534 ±0.119	0.509 ±0.107
Lead-214	0.284 ±0.0709	0.348 ±0.120	0.427 ±0.109	0.378 ±0.124	0.476 ±0.137	0.317 ±0.106
Potassium-40	5.25 ±1.03	8.49 ±1.64	10.4 ±1.62	7.93 ±1.66	7.95 ±1.56	7.61 ±1.30
Thallium-208	NA	0.213 ±0.0654	0.209 ±0.0555	0.233 ±0.0798	0.203 ±0.0763	0.168 ±0.0624

Table B1
Concrete Core Samples: Radiological Characteristics
Addendum to May 2019 Cleanup Plan
General Electric Company - Former UNC Facility
New Haven, Connecticut

Location ID:	6HS-FS-06
Date Collected:	04/04/19
Sample Name:	6HS-FS-06-0404
Radiochem-Alpha Spectrometry	
Uranium-238	0.308 ±0.106
Uranium-234	1.00 U ±0.0214
Uranium-235	0.284 ±0.101
Radiochem-Gamma Emitters	
Uranium-238	1.00 U ±0.282
Uranium-235	2.50 U ±0.553
Radiochem-Gamma Emitters-TICs	
Actinium-228	0.463 ±0.141
Bismuth-212	NA
Bismuth-214	0.301 ±0.110
Lead-210	NA
Lead-212	0.331 ±0.0884
Lead-214	0.259 ±0.0997
Potassium-40	6.90 ±1.21
Thallium-208	0.186 ±0.0596

Notes:

- All samples were collected by Arcadis on the dates indicated and submitted to Test America Laboratories for analysis.
- Sample analysis was conducted using the following Methods:
Isotopic Uranium (Alpha Spectrometry): Method A-01-R
Cesium-137 & Other Gamma Emitters (GS): Method GA-01-R
- NA = Constituent was not analyzed.
- ND = Analyte not detected at a concentration greater than the Practical Quantitation Limit (PQL).
PQL denotes lowest reportable analyte concentration.
- Units: pCi/g = average picocuries per gram
- Sample ID Nomenclature: BUILDING - (FLOOR) - MEDIA - NUMBER (##) - DATE (MMYY)

Building IDs:

6H: Building 6H
6HE: Building 6H - Eastside
6HW: Building 6H - Westside

Media IDs (where applicable):

FS: Floor/Systematic

7. Laboratory Qualifiers:

U Result is less than the sample detection limit.
G The Sample Method Detectable Concentration is greater than the requested Reporting Limit.

Table B2
Systematic Concrete Core Samples: Radiological Characteristics
Addendum to May 2019 Cleanup Plan
General Electric Company - Former UNC Facility
New Haven, Connecticut

Location ID:	N4-CC-01	N5-CC-01	N7-CC-01	N8-CC-01	S4-CC-01	S5-CC-01	S6-CC-01
Date Collected:	03/06/20	03/06/20	03/06/20	03/06/20	03/06/20	03/06/20	03/06/20
Sample Name:	N4-CC-01-030620	N5-CC-01-030620	N7-CC-01-030620	N8-CC-01-030620	S4-CC-01-030620	S5-CC-01-030620	S6-CC-01-030620
Radiochem-Alpha Spectrometry							
Uranium-234	0.397 ±0.129	0.259 ±0.135	0.231 ±0.136	0.477 ±0.242	0.285 ±0.114	0.210 ±0.118	0.311 ±0.124
Uranium-235	0.0195 ±0.0353	0.0361 ±0.0489	0.0138 ±0.0363	0.0608 ±0.0956	0.0101 ±0.0408	0.0320 ±0.0520	0.0121 ±0.0396
Uranium-238	0.298 ±0.101	0.245 ±0.113	0.269 ±0.108	0.415 ±0.222	0.338 ±0.110	0.405 ±0.111	0.330 ±0.107
Radiochem-Gamma Emitters							
Thorium-234	0.130 ±0.744	0.0895 ±0.718	-0.0857000 ±0.609	0.583 ±0.521	-0.17200 ±0.537	0.343 ±0.673	0.763 ±0.644
Uranium-235	0.0736 ±0.0859	0.146 ±0.0863	0.121 ±0.0847	0.0359 ±0.0558	0.110 ±0.0658	0.0751 ±0.0645	0.0649 ±0.0632

Location ID:	S7-CC-01	S8-CC-01	N6-CC-01	6H-CG-C5	6H-CG-C10	6H-CG-C15	6H-CG-C20
Date Collected:	03/06/20	03/06/20	03/26/20	03/26/20	03/26/20	03/26/20	03/26/20
Sample Name:	S7-CC-01-030620	S8-CC-01-030620	N6-CC-01-032620	6H-CG-C5-032620	6H-CG-C10-032620	6H-CG-C15-032620	6H-CG-C20-032620
Radiochem-Alpha Spectrometry							
Uranium-234	0.366 ±0.293	0.621 ±0.175	0.719 ±0.205	0.361 ±0.133	0.669 ±0.186	0.558 ±0.177	0.930 ±0.218
Uranium-235	0.0170 ±0.0740	0.0165 ±0.0509	0.0352 ±0.0584	0.00464 ±0.0307	0.0561 ±0.0631	0.0181 ±0.0446	0.0566 ±0.0566
Uranium-238	0.327 ±0.196	0.562 ±0.154	0.786 ±0.214	0.488 ±0.137	0.657 ±0.185	0.592 ±0.173	1.13 ±0.220
Radiochem-Gamma Emitters							
Thorium-234	0.471 ±0.624	0.0895 ±0.580	0.785 ±0.727	NA	NA	NA	NA
Uranium-235	0.0289 ±0.0570	0.151 ±0.0773	0.0848 ±0.0819	NA	NA	NA	NA

Location ID:	6H-CG-C25
Date Collected:	03/26/20
Sample Name:	6H-CG-C25-032620
Radiochem-Alpha Spectrometry	
Uranium-234	0.340 ±0.140
Uranium-235	0.0539 ±0.0608
Uranium-238	0.328 ±0.126
Radiochem-Gamma Emitters	
Thorium-234	NA
Uranium-235	NA

Notes:

- All samples were collected by Arcadis on the dates indicated and submitted to Test America Laboratories for analysis.
- Sample analysis was conducted using the following Methods:
 Isotopic Uranium (Alpha Spectrometry): Method A-01-R
 Cesium-137 & Other Gamma Emitters (GS): Method GA-01-R
- NA = Constituent was not analyzed.
- ND = Analyte not detected at a concentration greater than the Practical Quantitation Limit (PQL).
 PQL denotes lowest reportable analyte concentration.
- Units: pCi/g = average picocuries per gram
- Sample ID Nomenclature: BUILDING - (FLOOR) - MEDIA - NUMBER (##) - DATE (MMYY)

Sample Area IDs:

N: Northern portion of Building 6H
 S: Southern portion Building 6H

Media IDs (where applicable):

CC: Concrete Composite
 CG: Concrete Grab

Table B3
Fixed and Removal Contamination Swipe Sample: Radiological Characteristics
Addendum to May 2019 Cleanup Plan
General Electric Company - Former UNC Facility
New Haven, Connecticut

Location ID:	Date Collected:	Raw Alpha + Beta (cpm/126 cm ²)	Raw Alpha (cpm/126 cm ²)	Total Fixed Alpha (dpm α/100 cm ²)	Total Removable Alpha (dpm α/100 cm ²)	Gamma (cpm)
6H-SM-C5	04/15/20	261	1	15	0 ± 1.7	5140
6H-SM-C10	04/15/20	235	2	29	0 ± 1.7	5058
6H-SM-C15	04/15/20	272	0	0	-1.2 ± 1.2	6530
6H-SM-C20	04/15/20	295	2	29	3.7 ± 2.7	5606
6H-SM-C25	04/15/20	238	3	44	2.5 ± 2.4	5892
N8-SM-C2	04/15/20	479	2	29	0 ± 1.7	6688
N8-SM-C3-4	04/15/20	251	0	0	-1.2 ± 1.2	5742
N8-SM-C5	04/15/20	225	0	0	2.5 ± 2.4	5262
S8-SM-C2	04/15/20	244	0	0	0 ± 1.7	6234
S8-SM-C3-4	04/15/20	312	0	0	2.5 ± 2.4	6958
S8-SM-C5	04/15/20	260	0	0	1.2 ± 2.1	5684
N7-SM-C7	04/15/20	215	0	0	-1.2 ± 1.2	5540
N7-SM-C9	04/15/20	213	0	0	0 ± 1.7	4814
N7-SM-C11	04/15/20	250	1	15	0 ± 1.7	5744
S7-SM-C7	04/15/20	226	1	15	-1.2 ± 1.2	5606
S7-SM-C9	04/15/20	228	4	59	3.7 ± 2.7	5830
S7-SM-C11	04/15/20	278	0	0	1.2 ± 2.1	5778
N6-SM-C13	04/15/20	241	1	15	2.5 ± 2.4	5662
N6-SM-C15	04/15/20	225	1	15	3.7 ± 2.7	6296
S6-SM-C13	04/15/20	219	1	15	0 ± 1.7	5680
S6-SM-C15	04/15/20	225	0	0	2.5 ± 2.4	6226
N5-SM-C19	04/15/20	236	0	0	3.7 ± 2.7	5862
N5-SM-C21	04/15/20	239	2	29	1.2 ± 2.1	5482
N5-SM-C23	04/15/20	272	0	0	-1.2 ± 1.2	6136
S5-SM-C19	04/15/20	241	2	29	-1.2 ± 1.2	5902
S5-SM-C21	04/15/20	226	0	0	0 ± 1.7	5888
S5-SM-C23	04/15/20	281	3	44	0 ± 1.7	6454
N4-SM-C25	04/15/20	239	5	74	-1.2 ± 1.2	6078
S4-SM-C25	04/15/20	266	0	0	1.2 ± 2.1	5992
Minimum				0	0	4814
Maximum				74	4	6958
Average				16	1	5854
Limit				5000	1000	

Probe	Serial Number	Ratemeter /Scaler	Serial Number	alpha background	0
Ludlum 43-93	PR 388185	Ludlum 2360	141322	beta background	169
Ludlum 44-10	168571	Ludlum 2221	322674	Gamma background	6100

Table B4
Concrete Core Samples: Non-Radiological Characteristics
Addendum to May 2019 Cleanup Plan
General Electric Company - Former UNC Facility
New Haven, Connecticut

Location ID:	6HE-FS-05	6HE-FS-07	6HW-FS-03	6HW-FS-05
Date Collected:	12/19/18	12/20/18	12/21/18	12/21/18
Sample Name:	6HE-FS-05-1219	6HE-FS-07-1220	6HW-FS-03-1221	6HW-FS-05-1221
PCBs				
Aroclor 1016	0.25 U	0.059 U	0.24 U [1.3 U]	0.06 U
Aroclor 1221	0.35 U	0.084 U	0.34 U [1.8 U]	0.085 U
Aroclor 1232	0.25 U	0.059 U	0.24 U [1.3 U]	0.06 U
Aroclor 1242	0.25 U	0.059 U	0.24 U [1.3 U]	0.06 U
Aroclor 1248	0.25 U	0.059 U	0.24 U [1.3 U]	0.06 U
Aroclor 1254	1.1	0.26	1.5 [7.7]	0.43
Aroclor 1260	0.25 U	0.059 U	0.24 U [1.3 U]	0.06 U
Aroclor 1262	0.25 U	0.059 U	0.24 U [1.3 U]	0.06 U
Aroclor 1268	0.25 U	0.059 U	0.24 U [1.3 U]	0.06 U
Total PCBs	1.1	0.26	1.5 [7.7]	0.43
Inorganics				
Arsenic	1.6 J	1.6 J	2.5 J [2.1]	1.7
Barium	44	46	41 [24]	19
Cadmium	0.91 U	0.94 U	0.94 U [0.48 U]	0.42 U
Chromium	16	15	18 [8.8]	6.8
Lead	2.3	17	1.2 J [0.27 J]	0.41 J
Mercury	0.019 J	0.024 J	0.064 [0.048]	0.057
Selenium	2.7 U	2.8 U	2.8 U [1.4 U]	1.3 U
Silver	1.8 U	1.9 U	1.9 U [0.96 U]	0.84 U
Inorganics-TCLP				
Arsenic	0.50 U	0.50 U	NA	0.50 U
Barium	0.30 J	0.23 J	NA	0.29 J
Cadmium	0.10 U	0.10 U	NA	0.10 U
Chromium	0.0081 J	0.064 J	NA	0.020 J
Lead	0.50 U	0.50 U	NA	0.50 U
Mercury	0.0020 U	0.0020 U	NA	0.0020 U
Selenium	0.10 U	0.10 U	NA	0.10 U
Silver	0.50 U	0.50 U	NA	0.50 U
VOCs-TCLP				
1,1-Dichloroethene	0.010 U	0.010 U	NA	0.010 U
1,2-Dichloroethane	0.010 U	0.010 U	NA	0.010 U
2-Butanone (MEK)	0.10 U	0.10 U	NA	0.10 U
Carbon Tetrachloride	0.010 U	0.010 U	NA	0.010 U
Chlorobenzene	0.010 U	0.010 U	NA	0.010 U
Chloroform	0.010 U	0.010 U	NA	0.010 U
Tetrachloroethene	0.010 U	0.010 U	NA	0.010 U
Trichloroethene	0.010 U	0.010 U	NA	0.010 U
Vinyl chloride	0.010 U	0.010 U	NA	0.010 U
Benzene	0.010 U	0.010 U	NA	0.010 U
SVOCs-TCLP				
1,4-Dichlorobenzene	0.020 U	0.020 U	NA	0.020 U
2,4,5-Trichlorophenol	0.050 U	0.050 U	NA	0.050 U
2,4,6-Trichlorophenol	0.025 U	0.025 U	NA	0.025 U
2,4-Dinitrotoluene	0.050 U	0.050 U	NA	0.050 U
2-Methylphenol	0.050 U	0.050 U	NA	0.050 U
4-Methylphenol	0.050 U	0.050 U	NA	0.050 U
Hexachloro-1,3-butadiene	0.050 U	0.050 U	NA	0.050 U
Hexachlorobenzene	0.050 U	0.050 U	NA	0.050 U
Hexachloroethane	0.050 U	0.050 U	NA	0.050 U
Nitrobenzene	0.050 U	0.050 U	NA	0.050 U
Pentachlorophenol	0.25 U	0.25 U	NA	0.25 U
Pyridine	0.10 U	0.10 U	NA	0.10 U

Table B4
Concrete Core Samples: Non-Radiological Characteristics
Addendum to May 2019 Cleanup Plan
General Electric Company - Former UNC Facility
New Haven, Connecticut

Location ID:	6HE-FS-05	6HE-FS-07	6HW-FS-03	6HW-FS-05
Date Collected:	12/19/18	12/20/18	12/21/18	12/21/18
Sample Name:	6HE-FS-05-1219	6HE-FS-07-1220	6HW-FS-03-1221	6HW-FS-05-1221
PCBs-TCLP				
Aroclor 1016	0.01 U	0.01 U	NA	0.01 U
Aroclor 1221	0.01 U	0.01 U	NA	0.01 U
Aroclor 1232	0.01 U	0.01 U	NA	0.01 U
Aroclor 1242	0.01 U	0.01 U	NA	0.01 U
Aroclor 1248	0.01 U	0.01 U	NA	0.01 U
Aroclor 1254	0.01 U	0.01 U	NA	0.01 U
Aroclor 1260	0.01 U	0.01 U	NA	0.01 U
Aroclor 1262	0.01 U	0.01 U	NA	0.01 U
Aroclor 1268	0.01 U	0.01 U	NA	0.01 U
Total PCBs	0.01 U	0.01 U	NA	0.01 U

Location ID:	N4-CC-01	N5-CC-01	N7-CC-01	N8-CC-01	S4-CC-01	S5-CC-01
Date Collected:	03/06/20	03/06/20	03/06/20	03/06/20	03/06/20	03/06/20
Sample Name:	N4-CC-01-030620	N5-CC-01-030620	N7-CC-01-030620	N8-CC-01-030620	S4-CC-01-030620	S5-CC-01-030620
PCBs						
Aroclor 1016	0.0183 U	0.0182 U	0.0177 U	0.0179 U	0.0182 U	0.0182 U
Aroclor 1221	0.0183 U	0.0182 U	0.0177 U	0.0179 U	0.0182 U	0.0182 U
Aroclor 1232	0.0183 U	0.0182 U	0.0177 U	0.0179 U	0.0182 U	0.0182 U
Aroclor 1242	0.0183 U	0.0182 U	0.0177 U	0.0179 U	0.0182 U	0.0182 U
Aroclor 1248	0.0183 U	0.0182 U	0.0177 U	0.0179 U	0.0182 U	0.0182 U
Aroclor 1254	0.642	0.149	0.861	1.57	0.148	0.0659
Aroclor 1260	0.0183 U	0.0182 U	0.0177 U	0.0179 U	0.0182 U	0.0182 U
Total PCBs	0.642	0.149	0.861	1.57	0.148	0.0659
Inorganics						
Arsenic	2.16 U	2.14 U	3.09	1.38 J	0.507 J	2.14 U
Barium	34.8	42.6 O1	60.6	49.7	49.6	46.4
Cadmium	0.168 J	0.189 J	0.155 J	0.164 J	0.218 J	0.123 J
Chromium	10.9	14.6 O1	39.0	17.2	12.8	14.2
Lead	4.71	9.10	8.73	3.26	53.6	4.28
Mercury	0.0316 J	0.0176 J	0.0314	0.0226 J	0.0468	0.0214 J
Selenium	1.45 J	1.33 J	1.20 J	1.66 J	1.30 J	1.55 J
Silver	1.08 U	1.07 U	1.04 U	1.06 U	1.07 U	1.07 U
Inorganics-TCLP						
Arsenic	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Barium	0.422	0.394	0.449	0.431	0.265	0.281
Cadmium	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Chromium	0.100 U	0.100 U	0.117	0.100 U	0.100 U	0.100 U
Lead	0.100 U	0.137	0.100 U	0.100 U	0.100 U	0.100 U
Mercury	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U
Selenium	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Silver	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
VOCs-TCLP						
1,1-Dichloroethene	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
1,2-Dichloroethane	0.0500 U J4	0.0500 U J4	0.0500 U J4	0.0500 U J4	0.0500 U J4	0.0500 U J4
2-Butanone (MEK)	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Carbon Tetrachloride	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
Chlorobenzene	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
Chloroform	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U
Tetrachloroethene	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
Trichloroethene	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
Vinyl chloride	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
Benzene	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U

Table B4
Concrete Core Samples: Non-Radiological Characteristics
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 General Electric Company - Former UNC Facility
 New Haven, Connecticut

Location ID:	N4-CC-01	N5-CC-01	N7-CC-01	N8-CC-01	S4-CC-01	S5-CC-01
Date Collected:	03/06/20	03/06/20	03/06/20	03/06/20	03/06/20	03/06/20
Sample Name:	N4-CC-01-030620	N5-CC-01-030620	N7-CC-01-030620	N8-CC-01-030620	S4-CC-01-030620	S5-CC-01-030620
SVOC-TCLP						
1,4-Dichlorobenzene	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
2,4,5-Trichlorophenol	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
2,4,6-Trichlorophenol	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
2,4-Dinitrotoluene	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
2-Methylphenol	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
3-Methylphenol, 4-Methylphenol	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Hexachloro-1,3-butadiene	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Hexachlorobenzene	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Hexachloroethane	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Nitrobenzene	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Pentachlorophenol	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Pyridine	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U

Location ID:	S6-CC-01	S7-CC-01	S8-CC-01	N6-CC-01
Date Collected:	03/06/20	03/06/20	03/06/20	03/26/20
Sample Name:	S6-CC-01-030620	S7-CC-01-030620	S8-CC-01-030620	N6-CC-01-032620
PCBs				
Aroclor 1016	0.0183 U	0.0179 U	0.0180 U	0.0192 U
Aroclor 1221	0.0183 U	0.0179 U	0.0180 U	0.0192 U
Aroclor 1232	0.0183 U	0.0179 U	0.0180 U	0.0192 U
Aroclor 1242	1.54	0.0179 U	0.0180 U	0.0192 U
Aroclor 1248	0.0183 U	0.0179 U	0.0180 U	0.0192 U
Aroclor 1254	0.940	1.38	0.0180 U	0.879
Aroclor 1260	0.0183 U	0.0179 U	0.0180 U	0.0192 U
Total PCBs	2.48	1.38	0.0180 U	0.879
Inorganics				
Arsenic	2.16 U	0.752 J	1.13 J	NA
Barium	46.9	49.2	47.8	NA
Cadmium	0.143 J	0.208 J	0.162 J	NA
Chromium	16.2	16.5	17.3	NA
Lead	4.31	7.13	4.35	NA
Mercury	0.425	0.124	0.0153 J	NA
Selenium	1.42 J	1.45 J	1.35 J	NA
Silver	1.08 U	1.06 U	1.06 U	NA
Inorganics-TCLP				
Arsenic	0.100 U	0.100 U	0.100 U	0.100 U
Barium	0.396	0.303	0.326	0.413
Cadmium	0.100 U	0.100 U	0.100 U	0.100 U
Chromium	0.100 U	0.100 U	0.100 U	0.100 U
Lead	0.100 U	0.100 U	0.100 U	0.100 U
Mercury	0.0100 U	0.0100 U	0.0100 U	0.0100 U
Selenium	0.100 U	0.100 U	0.100 U	0.100 U
Silver	0.100 U	0.100 U	0.100 U	0.100 U
VOCs-TCLP				
1,1-Dichloroethene	0.0500 U	0.0500 U	0.0500 U	0.0500 U
1,2-Dichloroethane	0.0500 U J4	0.0500 U J4	0.0500 U J4	0.0500 U
2-Butanone (MEK)	0.500 U	0.500 U	0.500 U	0.500 U
Carbon Tetrachloride	0.0500 U	0.0500 U	0.0500 U	0.0500 U
Chlorobenzene	0.0500 U	0.0500 U	0.0500 U	0.0500 U
Chloroform	0.250 U	0.250 U	0.250 U	0.250 U
Tetrachloroethene	0.0500 U	0.0500 U	0.0500 U	0.0500 U
Trichloroethene	0.0500 U	0.0500 U	0.0500 U	0.0500 U
Vinyl chloride	0.0500 U	0.0500 U	0.0500 U	0.0500 U
Benzene	0.0500 U	0.0500 U	0.0500 U	0.0500 U

Table B4
Concrete Core Samples: Non-Radiological Characteristics
Addendum to May 2019 Cleanup Plan
General Electric Company - Former UNC Facility
New Haven, Connecticut

Location ID:	S6-CC-01	S7-CC-01	S8-CC-01	N6-CC-01
Date Collected:	03/06/20	03/06/20	03/06/20	03/26/20
Sample Name:	S6-CC-01-030620	S7-CC-01-030620	S8-CC-01-030620	N6-CC-01-032620
SVOC-TCLP				
1,4-Dichlorobenzene	0.100 U	0.100 U	0.100 U	0.100 U
2,4,5-Trichlorophenol	0.100 U	0.100 U	0.100 U	0.100 U
2,4,6-Trichlorophenol	0.100 U	0.100 U	0.100 U	0.100 U
2,4-Dinitrotoluene	0.100 U	0.100 U	0.100 U	0.100 U
2-Methylphenol	0.100 U	0.100 U	0.100 U	0.100 U
3-Methylphenol, 4-Methylpheno	0.100 U	0.100 U	0.100 U	0.100 U
Hexachloro-1,3-butadiene	0.100 U	0.100 U	0.100 U	0.100 U
Hexachlorobenzene	0.100 U	0.100 U	0.100 U	0.100 U
Hexachloroethane	0.100 U	0.100 U	0.100 U	0.100 U
Nitrobenzene	0.100 U	0.100 U	0.100 U	0.100 U
Pentachlorophenol	0.100 U	0.100 U	0.100 U	0.100 U
Pyridine	0.100 U	0.100 U	0.100 U	0.100 U

Notes:

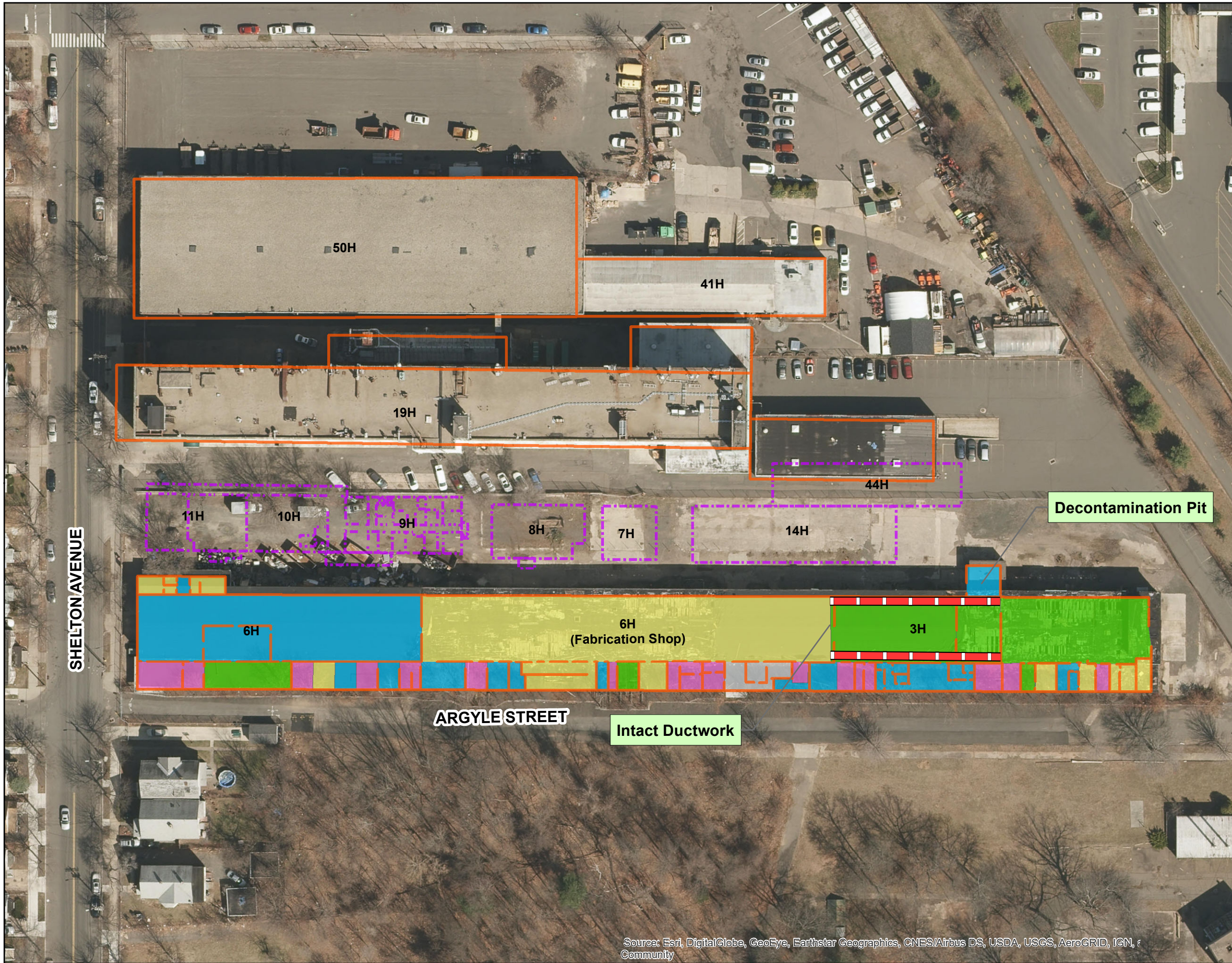
- All samples were collected by Arcadis on the dates indicated and submitted to Test America Laboratories for analysis.
- Sample analysis was conducted using the following Methods:
 - Total VOCs: United States Environmental Protection Agency (USEPA) SW-846 Method 8260
 - Total SVOCs: USEPA SW-846 Method 8270
 - Total Inorganics: USEPA SW-846 Method 6010
 - PCBs: USEPA SW-846 Method 8082
 - Total Mercury: USEPA SW-846 Method 7470
 - TCLP VOCs: USEPA SW-846 Method 1311: Toxicity Characteristic Leaching Procedure and Method 8260
 - TCLP SVOCs: USEPA SW-846 Method 1311 and Method 8270
 - TCLP Inorganics: USEPA SW-846 Method 1311 and Method 6010
 - TCLP PCBs: USEPA SW-846 Method 1311 and Method 8082
- NA = Constituent was not analyzed.
- Units: mg/kg = milligram per kilogram
- [] = Duplicate sample results.
- Laboratory Qualifiers:

P	The Relative Percent Difference (%RPD) between the primary and confirmation column/detector is >40%. The lower value has been reported.
U	The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J4	The associated batch QC was outside the established quality control range for accuracy.
J	The identification of the analyte is acceptable; the reported value is an estimate.
- Sample ID Nomenclature: BUILDING - (FLOOR) - MEDIA - NUMBER (##) - DATE (MMYY)

<u>Building/Sample IDs:</u>	<u>Media IDs (where applicable):</u>
6H: Building 6H	FS: Floor/Systematic
6HE: Building 6H - Eastside	CC: Composite Concrete
6HW: Building 6H - Westside	
N: Northern portion of Building 6H	
S: Southern portion Building 6H	

FIGURES






Legend

 Intact Ductwork

Buildings


 Existing Building

 Demolished Building

Accessible Area

Percent

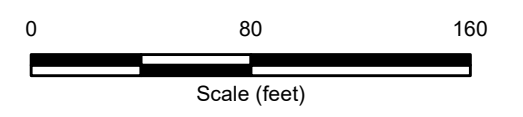
 0 to 25%

 >25 to 50%

 >50 to 75%

 >75 to 100%

 Unknown



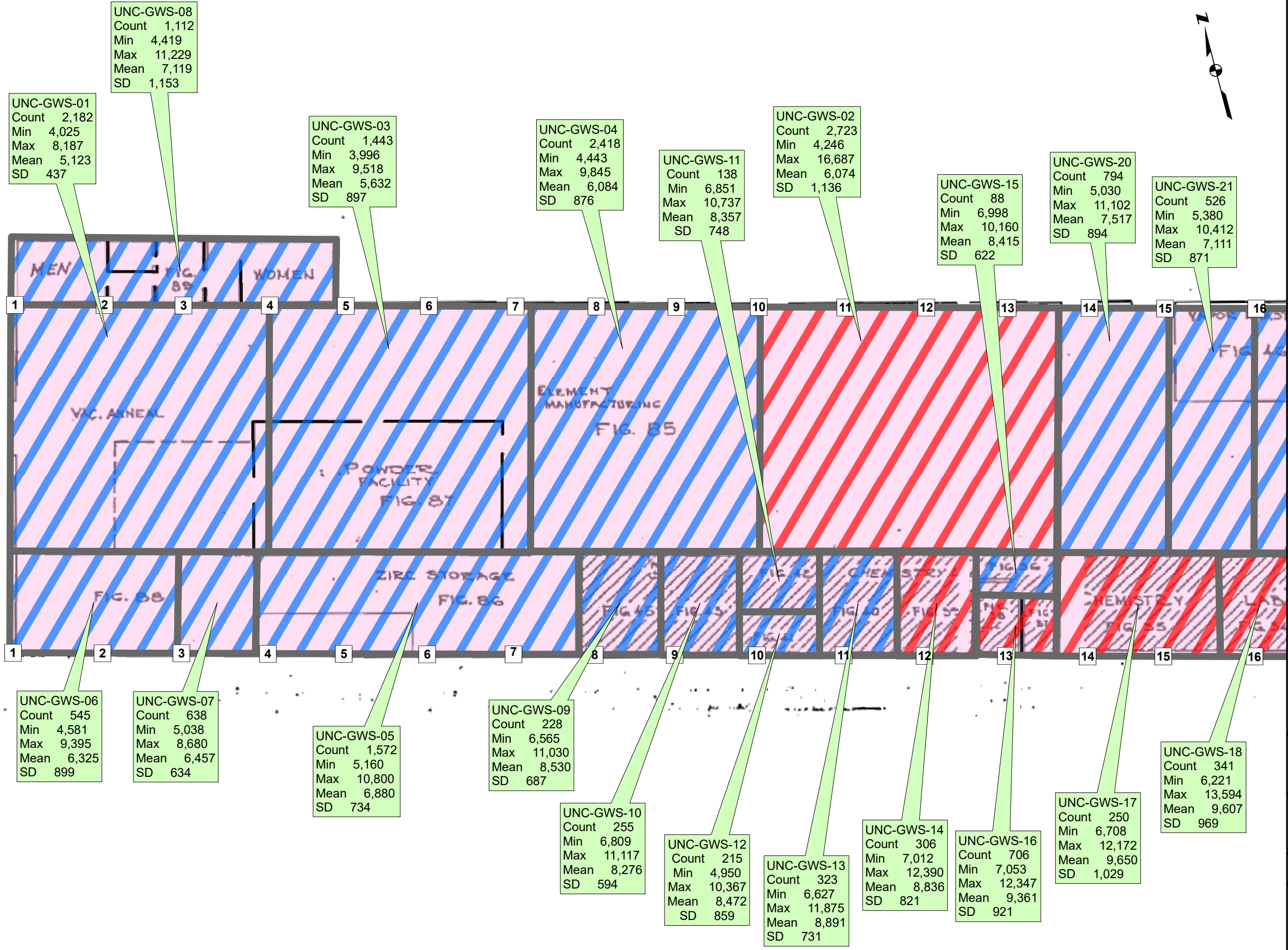
BUILDING 3H/ 6H ACCESSIBLE AREA

FORMER UNC FACILITY NEW HAVEN, CONNECTICUT

10/2017 PROJECT No. 10-1007.00 FIGURE 1-2



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, & Community



UNC-GWS-01
Count 2,182
Min 4,025
Max 8,187
Mean 5,123
SD 437

UNC-GWS-08
Count 1,112
Min 4,419
Max 11,229
Mean 7,119
SD 1,153

UNC-GWS-03
Count 1,443
Min 3,996
Max 9,518
Mean 5,632
SD 897

UNC-GWS-04
Count 2,418
Min 4,443
Max 9,845
Mean 6,084
SD 876

UNC-GWS-11
Count 138
Min 6,851
Max 10,737
Mean 8,357
SD 748

UNC-GWS-02
Count 2,723
Min 4,246
Max 16,687
Mean 6,074
SD 1,136

UNC-GWS-15
Count 88
Min 6,998
Max 10,160
Mean 8,415
SD 622

UNC-GWS-20
Count 794
Min 5,030
Max 11,102
Mean 7,517
SD 894

UNC-GWS-21
Count 526
Min 5,380
Max 10,412
Mean 7,111
SD 871

UNC-GWS-06
Count 545
Min 4,581
Max 9,395
Mean 6,325
SD 899

UNC-GWS-07
Count 638
Min 5,038
Max 8,680
Mean 6,457
SD 634

UNC-GWS-05
Count 1,572
Min 5,160
Max 10,800
Mean 6,880
SD 734

UNC-GWS-09
Count 228
Min 6,565
Max 11,030
Mean 8,530
SD 687

UNC-GWS-10
Count 255
Min 6,809
Max 11,117
Mean 8,276
SD 594

UNC-GWS-12
Count 215
Min 4,950
Max 10,367
Mean 8,472
SD 859

UNC-GWS-13
Count 323
Min 6,627
Max 11,875
Mean 8,891
SD 731

UNC-GWS-14
Count 306
Min 7,012
Max 12,390
Mean 8,836
SD 821

UNC-GWS-16
Count 706
Min 7,053
Max 12,347
Mean 9,361
SD 921

UNC-GWS-17
Count 250
Min 6,708
Max 12,172
Mean 9,650
SD 1,029

UNC-GWS-18
Count 341
Min 6,221
Max 13,594
Mean 9,607
SD 969

Legend

▲ Area of Elevated Gamma Activity

GWS Scan Area Results

(Max cpm)

< 11,999.9

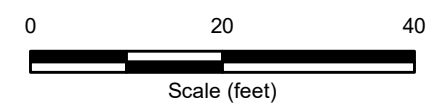
> 12,000 (IL)

Building 3H

Building 6H

Building Columns

Note: Survey performed with Ludlum 2360/ FIDLER. Survey results are in counts per minute (cpm).



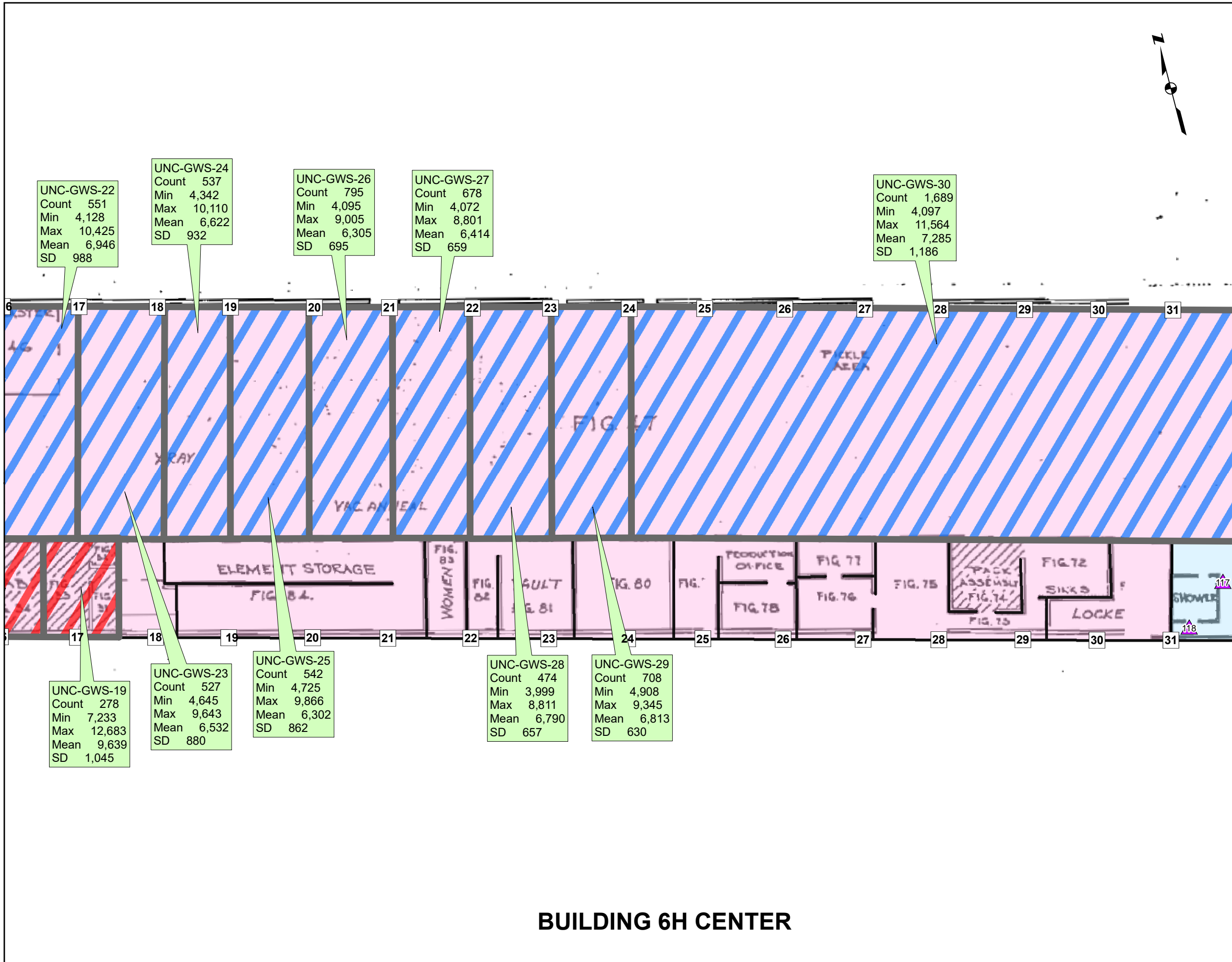
GAMMA WALKOVER SURVEY SCAN AREA RESULTS

FORMER UNC FACILITY NEW HAVEN, CONNECTICUT

10/2017 PROJECT No. 10-1007.00 FIGURE 8-1



BUILDING 6H WEST



Legend

▲ Area of Elevated Gamma Activity

GWS Scan Area Results

(Max cpm)

< 11,999.9

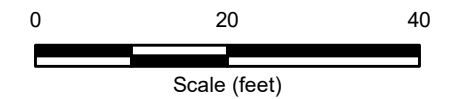
> 12,000 (IL)

Building 3H

Building 6H

Building Columns

Note: Survey performed with Ludlum 2360/ FIDLER. Survey results are in counts per minute (cpm).



GAMMA WALKOVER SURVEY SCAN AREA RESULTS

FORMER UNC FACILITY NEW HAVEN, CONNECTICUT

10/2017 PROJECT No. 10-1007.00 FIGURE 8-2



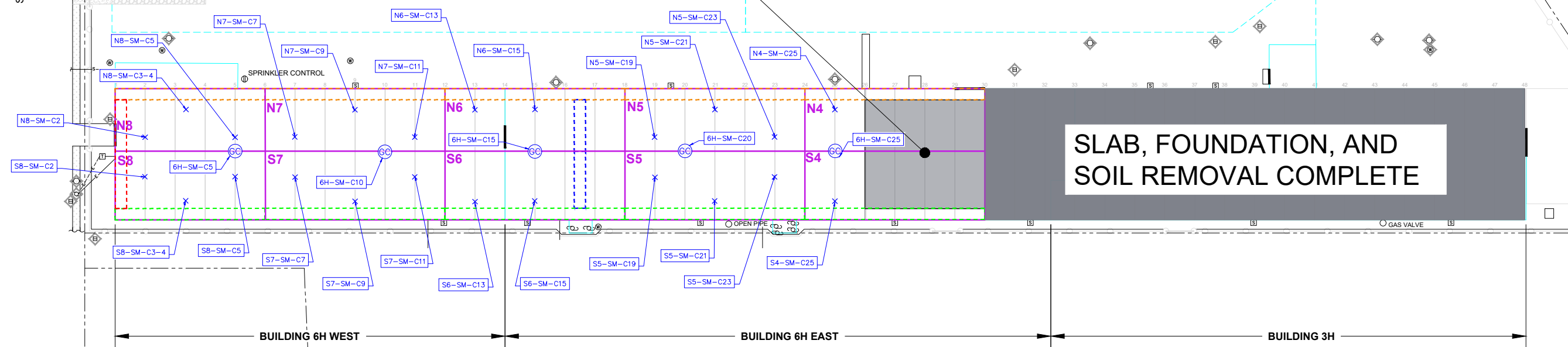
BUILDING 6H CENTER

SHELTON AVENUE

FARMINGTON CANAL GREENWAY

SLAB REMOVAL COMPLETE
COLUMN LINES 26 - 30
DISPOSED AT CLIVE FACILITY

SLAB, FOUNDATION, AND
SOIL REMOVAL COMPLETE

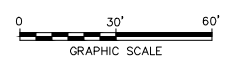


OVERALL PLAN LEGEND

- N8** SUBAREA CONCRETE SAMPLE COLLECTION AREA DESIGNATION
- NORTH TRENCH SUBAREA** (dashed orange line)
- SOUTH TRENCH SUBAREA** (dashed green line)
- LATERAL TRENCH SUBAREA** (dashed blue line)
- WEST TRENCH SUBAREA** (dashed red line)
- CHAIN LINK FENCE (6 FEET HIGH)
- PROPERTY BOUNDARY
- CATCH BASIN
- FIRE HYDRANT
- UTILITY POLE
- UNDERGROUND ELECTRIC (APPROXIMATE)
- OVERHEAD ELECTRIC
- SEWER
- WATER VALVE BOX
- TRANSFORMER (TO BE DRAINED AND REMOVED)
- SUMP
- FEATURE TO BE PROTECTED
- GROUND COVER TRANSITION
- GATE
- GRASS
- TRACKING PAD - GRAVEL
- TRACKING PAD - CONCRETE APRON, SIDEWALK
- SMEAR SAMPLE COLLECTION POINT ADJACENT TO COMPOSITE CONCRETE SAMPLE LOCATION, RAD ANALYSIS, APRIL 2020
- SMEAR SAMPLE COLLECTION POINT ADJACENT TO GRAB CONCRETE SAMPLE LOCATION, RAD ANALYSIS, APRIL 2020

SAMPLE DESIGNATION LEGEND

- S8-SM-C2** CONCRETE SMEAR SAMPLE: S8-SM-C2
S8: SUBAREA 8 SOUTH
SM: SMEAR SAMPLE
C2: COLUMN NUMBER
- 6H-SM-C15** GRAB SAMPLE: 6H-SM-C15
6H: BUILDING 6 SOUTH
SM: SMEAR SAMPLE
C15: COLUMN NUMBER

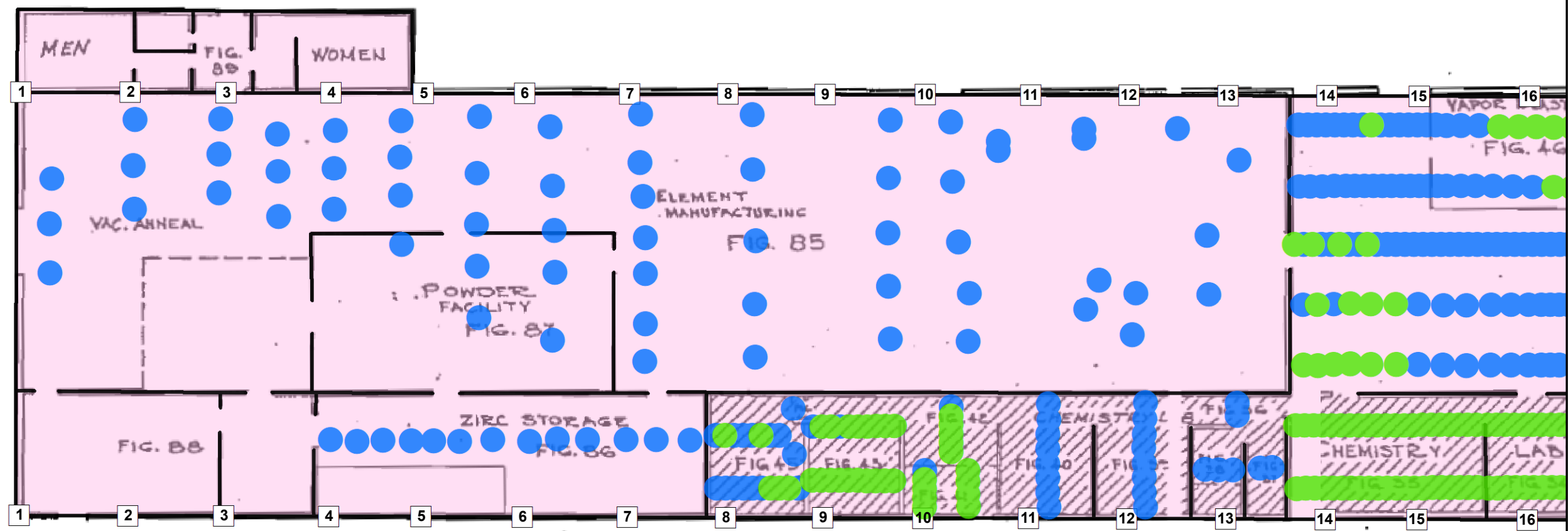


FORMER UNITED NUCLEAR CORPORATION FACILITY
71 SHELTON AVENUE
NEW HAVEN, CONNECTICUT

**LOCATION OF SLAB SURFACE
CONTAMINATION
MEASUREMENTS/SMEARS**

FIGURE
B4

ARCADIS Design & Consultancy
for natural and
built assets



Legend

▲ Area of Elevated Gamma Activity

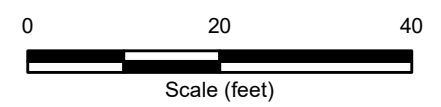
Floor Scan Results

(Alpha + Beta dpm/100 cm²)

- < 99.9
- 100 - 2,499.9
- 2,500 - 4,999.9
- > 5,000

- Building 3H
- Building 6H
- Building Columns

Note: Survey performed with Ludlum 2360/ 43-37. All measurements are 1-min integrated scans. Survey results represent the centroid of the area scanned during the 1-min interval.



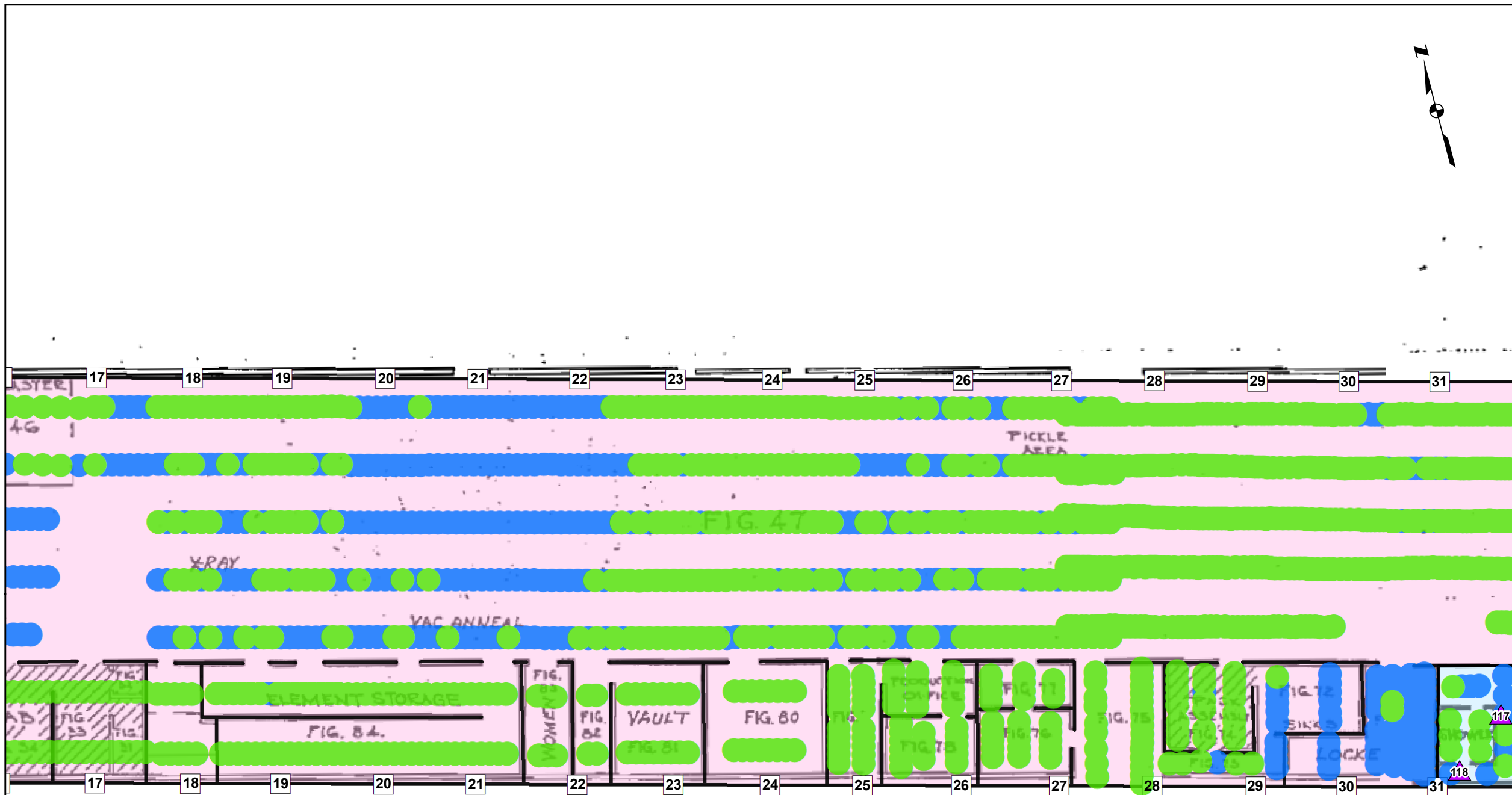
BUILDING 6H WEST

ALPHA-BETA FLOOR SCAN SURVEY RESULTS

FORMER UNC FACILITY
NEW HAVEN, CONNECTICUT

10/2017 PROJECT No. 10-1007.00 FIGURE 8-5





BUILDING 6H CENTER

Legend

▲ Area of Elevated Gamma Activity

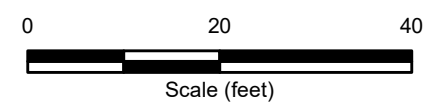
Floor Scan Results

(Alpha + Beta dpm/100 cm²)

- < 99.9
- 100 - 2,499.9
- 2,500 - 4,999.9
- > 5,000

- Building 3H
- Building 6H
- Building Columns

Note: Survey performed with Ludlum 2360/ 43-37. All measurements are 1-min integrated scans. Survey results represent the centroid of the area scanned during the 1-min interval.



ALPHA-BETA FLOOR SCAN SURVEY RESULTS

**FORMER UNC FACILITY
NEW HAVEN, CONNECTICUT**

10/2017 PROJECT No. 10-1007.00 FIGURE 8-6



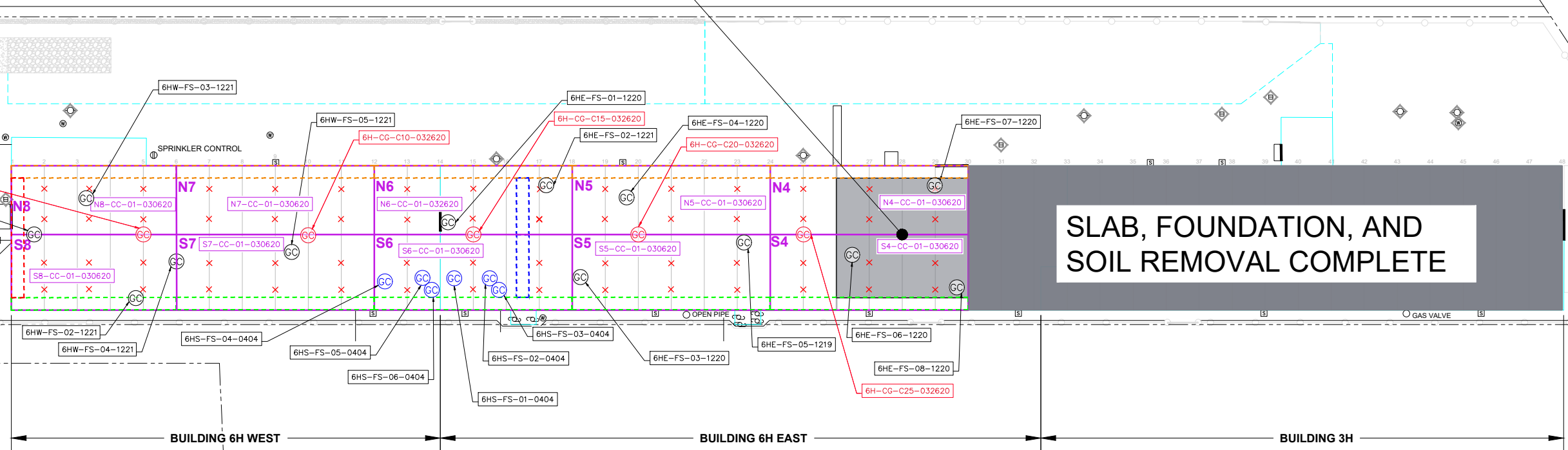
CITY: SYRACUSE, NY DIV: GROUP: EBC: INDV: DB: L: POSENAUER, PM: TM: R: GIAMPAOLO, LYR: (CONTRACT: OFE: REF: C:\Users\slb101\OneDrive\Documents\60142\60142.dwg) DATE: 4/23/2020 3:40 PM BY: STEELE, SAM ACAD: DTB PLOTTED: 4/23/2020 3:40 PM LAYOUT: B7 SAVED: 4/23/2020 12:52 PM ACADVER: 23.05 (LMS TECH) PAGESETUP: --- PLOTSTYLE: TABLE:

SHELTON AVENUE

FARMINGTON CANAL GREENWAY

SLAB REMOVAL COMPLETE
COLUMN LINES 26 - 30
DISPOSED AT CLIVE FACILITY

SLAB, FOUNDATION, AND
SOIL REMOVAL COMPLETE



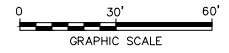
OVERALL PLAN LEGEND

- N8 SUBAREA CONCRETE SAMPLE COLLECTION AREA DESIGNATION
- NORTH TRENCH SUBAREA
- SOUTH TRENCH SUBAREA
- LATERAL TRENCH SUBAREA
- WEST TRENCH SUBAREA
- CHAIN LINK FENCE (6 FEET HIGH)
- PROPERTY BOUNDARY
- CATCH BASIN
- FIRE HYDRANT
- UTILITY POLE
- UNDERGROUND ELECTRIC (APPROXIMATE)
- OVERHEAD ELECTRIC
- SEWER
- WATER VALVE BOX
- TRANSFORMER (TO BE DRAINED AND REMOVED)
- SUMP
- FEATURE TO BE PROTECTED

- GROUND COVER TRANSITION
- GATE
- GRASS
- TRACKING PAD - GRAVEL
- TRACKING PAD - CONCRETE APRON, SIDEWALK
- X COMPOSITE CONCRETE SAMPLE COLLECTION POINT, RAD AND NON-RAD ANALYSES, MARCH 2020
- GRAB CONCRETE SAMPLE COLLECTION POINT, RAD ANALYSES, MARCH 2020
- GRAB CONCRETE SAMPLE COLLECTION POINT, RAD AND NON-RAD ANALYSES, DECEMBER 2018
- GRAB CONCRETE SAMPLE COLLECTION POINT, RAD ANALYSES, APRIL 2019

SAMPLE DESIGNATION LEGEND

- 6H-CG-C10-032620 GRAB SAMPLE: 6H-CG-C10-032620
6H: BUILDING
CG: CONCRETE GRAB SAMPLE
C10: COLUMN NUMBER
032620: MMDDYY
- 6HS-FS-04-0404 GRAB SAMPLE: 6HS-FS-04-0404
6HS: BUILDING 6H SOUTH
FS: FLOOR SLAB
04: SAMPLE NUMBER
0404: MMDD
- S6-CC-01-030620 COMPOSITE SAMPLE: S6-CC-01-030620
S6: SUBAREA 6 SOUTH
CC: CONCRETE COMPOSITE SAMPLE
01: SAMPLE NUMBER
030620: MMDDYY



FORMER UNITED NUCLEAR CORPORATION FACILITY
71 SHELTON AVENUE
NEW HAVEN, CONNECTICUT

SLAB SAMPLE LAYOUT

FIGURE
B7

Arcadis U.S., Inc.

One Lincoln Center

110 West Fayette Street

Suite 300

Syracuse, New York 13202

Tel 315 446 9120

Fax 315 449 0017

www.arcadis.com