Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **B00168**

Site Name 312 Maple Street Site

Site Address: 312 Maple Street Zip Code: 13760
City/Town: Endicott
County: Broome
Site Acreage: 0.9

Reporting Period: March 23, 2016 to June 23, 2017

	YES	NO
1. Is the information above correct?	☒	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Restricted-Residential, Commercial, and Industrial	☒	☐
7. Are all ICs/ECs in place and functioning as designed?	☒	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

SITE NO. B00168 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
156.12-4-11	Broome County	Ground Water Use Restriction Landuse Restriction Monitoring Plan Site Management Plan O&M Plan IC/EC Plan Soil Management Plan

1. Requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3).
2. Allows the use and development of the controlled property for restricted residential, commercial, and industrial uses as defined by Part 375-1.8(g), although land us is subject to zoning laws.
3. Restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH.
4. Prohibits agriculture or vegetable gardens on the controlled property.
5. Requires compliance with the Department approved Site Management Plan (SMP).

The SMP includes: an Institutional and Engineering Control Plan; a Monitoring Plan; and an Operation and Maintenance Plan.

156.12-4-12	Broome County	Soil Management Plan Ground Water Use Restriction Landuse Restriction Monitoring Plan Site Management Plan O&M Plan IC/EC Plan

1. Requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3).
2. Allows the use and development of the controlled property for restricted residential, commercial, and industrial uses as defined by Part 375-1.8(g), although land us is subject to zoning laws.
3. Restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH.
4. Prohibits agriculture or vegetable gardens on the controlled property.
5. Requires compliance with the Department approved Site Management Plan (SMP).

The SMP includes: an Institutional and Engineering Control Plan; a Monitoring Plan; and an Operation and Maintenance Plan.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
156.12-4-11	Vapor Mitigation

Continued operation and maintenance of the sub-slab depressurization system installed on the site building(s).

156.12-4-12	Vapor Mitigation

Continued operation and maintenance of the sub-slab depressurization system installed on the site building(s).

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

a) the Periodic Review report and all attachments were prepared by Broome County ~~under the direction of~~, and reviewed by, the party making the certification;

b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☒	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

(a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

(c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

(d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

(e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☒	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. B00168

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Frank Evangelisti (print name) at Broome County Goverment, 60 Hawley St, Binghamton NY (print business address),

am certifying as Owner (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Frank E — 10-2-17

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification — Date

IC/EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Douglas Crawford, P.E. (print name) at O'Brien & Gere Engineers, Inc. 333 W. Washington Street, Syracuse, NY (print business address),

am certifying as a Qualified Environmental Professional for the Owner (Owner or Remedial Party)

Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification	Stamp (Required for PE)	Date
Douglas M. Crawford		10/31/17

312 Maple Street
Periodic Review Report – 2017
NYSDEC Site Number: B00168

I. Executive Summary

Broome County entered into a State Assistance Contract (SAC) with the New York State Department of Environmental Conservation (NYSDEC) on June 6, 2005 to investigate and remediate 312 Maple Street in the Village of Endicott, Broome County New York. The property was remediated to restricted residential use.

Upon completion of on-Site and off-Site soil excavation Interim Remedial Measures, Sub-Slab Depressurization (SSD) system installation, and groundwater remedial effort via enhanced anaerobic bioremediation application and groundwater monitoring, five contaminants (i.e., TCE, Cr+6, copper, chromium and thallium) exceeding their respective SCGs remain at select/sporadic locations of the Site resulting in slight impact to soil, groundwater and/or soil vapor at the Site. Based on the minimal remaining contaminants, continued operation of the SSD system, a limited groundwater monitoring and sampling program, and imposition of land use and groundwater use restrictions has been implemented to protect public health and the environment.

Since limited and sporadic locations of contaminated soil, groundwater and soil vapor remains beneath the site after completion of the Remedial Action, Institutional and Engineering Controls are required to protect human health and the environment.

Broome County contracted with O'Brien and Gere (OBG) Engineers to perform an inspection of the SSD system on July 5, 2017. During the inspection, the SSD system fan in Building 1 (office area) was found to be inoperable. OBG returned on July 13, 2017 to replace the fan and complete the SSD system inspection. See inspection letter dated July 17, 2017. The SSD system is now in compliance.

No changes to the DEC-approved Site Management Plan (SMP) dated January 2016 or frequency of submittal of PRR's are recommended at this time.

II. Site Overview

The site is an approximately 0.93-acre property located in the Village of Endicott, Broome County New York. The site is identified as tax map ID Numbers 156.12-4-11 and 156.12-4-12 on the Village of Endicott Tax Map. The site is bounded by Maple Street to the north, railroad tracks belonging to Norfolk Southern Railroad (NSR) to the south, North Duane Avenue to the east, and Evans Mechanical Inc. to the west. The boundaries of the site are fully described in the SMP.

Based on the results of the Remedial Investigation, the following Remedial Action

Objectives (RAOs) were identified for this site.

- Prevent people from drinking groundwater with contaminate levels exceeding drinking water standards.
- Prevent contact with contaminated groundwater.
- Prevent inhalation of contaminates from groundwater.
- Restore the groundwater aquifer to meet ambient groundwater quality criteria, to the extent feasible.
- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of contaminants volatilizing from the soil.
- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Mitigate impacts to public health resulting from existing from exposure, or the potential for, soil vapor intrusion into the indoor air of buildings at or near the Site.

The site was remediated in accordance with the remedy selected by the NYSDEC in the ROD dated January 21, 2011. The following are the components of the selected remedy:

1. Completion of in-situ groundwater remediation using enhanced anaerobic bioremediation application via injection points at select locations of the Site.
2. Execution and recording of an Environmental Easement to restrict land use and prevent future exposure to any contamination remaining at the site in 2015.
3. Development and implementation of a Site Management Plan for long term management of remaining contamination as required by the Environmental Easement, which includes plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance and (4) reporting in 2015;
4. Periodic certification of the institutional and engineering controls listed above.

On-Site and off-Site IRM activities were competed at the Site on May 2006 and October 2011, respectively, on-Site and off-Site SSD systems were installed in March 2009. Groundwater remedial activities (via in-situ chemical injections) were completed at the site in May 2012 with subsequent annual groundwater monitoring and sampling completed in April 2013 through April 2015

The property was remediated to restricted residential use.

III. Evaluate Remedy Performance, Effectiveness and Protectiveness

The chosen remedial option defined in the ROD included enhanced anaerobic bioremediation applications to remediate groundwater impacted with VOCs (specifically TCE and hexavalent chromium (Cr+6)). As part of the remedial remedy, nine (9) groundwater monitoring wells were sampled and analyzed for VOCs and Cr+6 to assess the effectiveness of the bioremediation efforts on the Site groundwater. The assessment included a pre-remedial round of sampling done in 2012 for baseline conditions and annual sampling afterwards for a period of three years; 2013, 2014 and 2015. The enhanced anaerobic bioremediation application remediation work was completed in May 2012. This work included injections of the enhanced anaerobic

bioremediation applications along the western property boundary and within the central portion of the Site. This remedial option was chosen to enhance the anaerobic breakdown of the "parent" chlorinated compounds present (specifically TCE) via reductive dehalogenation into the "daughter" breakdown products (cis-1,2-DCE) and vinyl chloride (VC), which further degrades under aerobic conditions. Additionally, this application was also designed to assist in the remediation of Cr+6 into the less hazardous chromium (trivalent chromium) analyte.

As part of the enhanced anerobic bioremediation application, groundwater samples from the nine monitoring wells were to be collected and tested for VOCs and Cr+6 annually for three years after injection work was completed. At completion of the third and final annual groundwater sampling event, TCE concentrations were identified with reducing concentrations during the three year post sampling period to values below its Class GA guidance value at 7 of the 9 well locations. The two wells with TCE concentrations remaining above the Class GA criteria (i.e., 5 ppb) after the third year of post injection sampling includes MW-5 (at 29 ppb) and MW-2 (at 52 ppb).

MW-2 was also identified with an estimated concentration of cis-1,2DCE (TCE daughter compound) below its 5 ppb Class GA Groundwater Criteria implying the groundwater from this well had some exposure to the enhanced anaerobic bioremediation application. Additionally, cis-1,2 DCE concentration was identified at 15 ppb from MW-5 and 8.8 ppb from MW-1, both of which at lesser concentrations identified during previous 2014 sampling (although exceeding its 5 ppb Class GA groundwater criteria) suggesting that the concentration reduction for the TCE daughter compound is on-going. Completion of the remedial injections at the Site is anticipated to result in a decreased TCE and Cr+6 impact to Site groundwater which is verified by the general trends observed in a majority of the on-Site wells.

The increase in cis-1,2-DCE concentrations between 2012 and 2013 followed by a general decrease in 2014 and 2015 in select well locations are indicative of the enhanced anaerobic bioremediation chemical injections breaking down the TCE into its respective daughter compound. It should be noted that vinyl chloride was only detected once during the post injection sampling program (from MW-1 during 2013). That single detection was below its respective Class GA criteria and all remaining sample locations were non-detect for vinyl chloride. Additionally, several other VOCs were occasionally detected within the groundwater sampling although typically at concentrations below their respective Class GA criteria (with the exception of toluene identified at 8.9 ppb in 2013). Cr+6 has also been observed with concentrations reducing to non-detect over the 3 years of post-injection sampling in all but two of the wells sampled. Wells MW-5 (1,500 ppb in 2015) and MW-8 (60 ppb in 2015) were the only detections remaining as exceeding its Class GA Criteria of 50 ppb. Although there appears to be a rebounding within these two wells over the three year post injection period, the concentrations are below previously identified concentrations for the respective wells which may suggest that remediation for this analyte is on-going.

Upon completion of the on-Site and off-Site soil excavation IRMs, SSD system installation, and the groundwater remedial effort via enhanced anaerobic bioremediation application and

groundwater monitoring, five contaminants (i.e., TCE, Cr+6, copper, chromium and thallium) exceeding their respective SCGs are anticipated to remain at select/sporadic locations of the Site resulting in slight impact to soil, groundwater and/or soil vapor at the Site. Additional details regarding the results and remaining contamination are included in the Final Engineering Report dated January 2016.

Since limited and sporadic locations of contaminated soil, groundwater and soil vapor remains beneath the site after completion of the Remedial Action, Institutional and Engineering Controls are required to protect human health and the environment. Long-term management of these EC/ICs and residual contamination will be performed under the SMP date January 2016 approved by the NYSDEC.

IV. IC/EC Plan Compliance Report

A series of Institutional Controls are required by the ROD to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the site to restricted residential uses (land use subject to local zoning laws). Adherence to these Institutional Controls on the site is required by the Environmental Easement and implemented under the SMP. These Institutional Controls are:

- Compliance with the Environmental Easement and the SMP by the Grantor and the Grantor's successors and assigns;
- All Engineering Controls must be operated and maintained as specified in the SMP;
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP.
- Groundwater monitoring must be performed as defined in the SMP;
- Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

Institutional Controls identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The site has a series of Institutional Controls in the form of site restrictions. Adherence to these Institutional Controls is required by the Environmental Easement. Site restrictions that apply to the Controlled Property are:

- Imposition of an institutional control in the form of an environmental easement for the controlled property that:
  - Requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
  - Allows the use and development of the controlled property for restricted residential use (land use is subject to local zoning laws);

- Restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the Department, NYSDOH or County DOH;
- Prohibits agriculture or vegetable gardens in the controlled property;
- Requires compliance with the Department approved Site Management Plan.

The site soils have been remediated for restricted residential use. Any future intrusive work that will encounter or disturb the remaining contamination will be performed in compliance with the Excavation Work Plan (EWP) that is part of the SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the site. Any intrusive construction work will be performed in compliance with the EWP, HASP and CAMP, and will be included in the periodic inspection and certification reports.

SSD systems were installed by Enviro Testing of Binghamton, New York at the three on-Site buildings in 2009. Details of the construction and location of the SSD system is included in the SMP.

The Institutional Controls have been implemented for the site and remain inforce. The Engineering Controls (SSD system) were inspected by OBG on July 5, 2017. During the inspection, the SSD system fan in Building 1 (office area) was found to be inoperable. OBG returned on July 13, 2017 to replace the fan and complete the SSD system inspection. See inspection letter dated July 17, 2017. The SSD system is now in compliance.

V. Monitoring Plan Compliance Report

Monitoring of the Site SSD system is performed on an annual basis, as identified in the SSD System Monitoring Requirements and Schedule (see below). A visual inspection of the complete system is conducted during each monitoring event. SSD system components to be monitored include, but are not limited to, the components presented in the table below.

SSD System Monitoring Requirements and Schedule

Remedial System Component	*Monitoring Parameter*	*Operating Range*	*Monitoring Schedule*
SSDS Systems	Blower Operation	Power On or Off	Annually *Completed 7/2017*
SSDS Systems	General Piping	Piping Intact	Annually *Completed 7/2917*

The SSD system was inspected on July 5, 2017. Details of the inspection are in the *Operation & Maintenance Plan Compliance Report* section of this report and in the attached inspection letter date July 17, 2017

Samples are collected from select on-Site groundwater monitoring wells once every three (3) years. Sampling locations, required analytical parameters and schedule are provided in Groundwater Sampling Requirements and Schedule table below.

Groundwater Sampling Requirements and Schedule

Sampling Location	*Analytical Parameters*		*Schedule*
	VOC's (EPA 8260)	*Cr^{+6} (EPA 6010B)*	
On site Groundwater monitoring Wells MW-1, MW-2 and MW-5	X	X	Once every 3 years *Next Round 2018*
Off-site Groundwater Monitoring Well 8	X	X	Once every 3 years *Next Round 2018*

Detailed sample collection and analytical procedures and protocols are provided in the SMP.

Groundwater monitoring will continue to be performed once every three years to assess the improvements associated with the IRM contaminated soil excavation done in May 2006 for on-Site soil and August 2011 for off-Site soil and the enhanced anaerobic bioremediation application remedy which was done in May 2012 via injection points at the Site.

A select number of existing monitoring wells will be used to monitor both up-gradient and down-gradient groundwater conditions at the site. Details of the well locations, sampling methods and well construction is included in the SMP. The last round of groundwater testing was completed in 2015, and the next round is scheduled for 2018.

Additional detail regarding monitoring and sampling protocols are provided in the SMP.

VI. Operation & Maintenance Plan Compliance Report

Four SSD systems were installed by Enviro Testing of Binghamton, New York within the three on-Site buildings in 2009. The Operation & Maintenance (O&M) associated with the on-site SSDS is as follows.

- Operation: The SSD system are hardwired into the electrical system at the Site and designed to operate continuously. If power loss occurs, the SSD system will shut down. Upon power restoration, the system will restart automatically.
- Maintenance: If a SSD system is no longer operating, malfunctioning or there is a loss of vacuum noted, maintenance of the SSD unit will be required. The type of maintenance

could vary pending the identified problem. It will require a visit to the Site by a qualified vendor (i.e., Enviro Testing or similar installer) to assess the problem.

- Monitoring: The on-Site SSD system will be visually inspected annually. This inspection will be documented in the Institutional and Engineering Control Report that will be required to be submitted annually.

Because the SSD system is designed to operate on a continual basis, the performance criteria for each unit will be limited to the following items.

- SSD system should always be operational
- SSD system piping should remain intact with pipe exhausting at the designated exterior location (e.g., through wall or through roof).

The system is designed to run continuously and does not require any routine operational procedures other than periodic visual verification of manometer indicating system operation. Further details of the O&M plan are found in the final SMP for the site.

The SSD system was inspected by OBG on July 5, 2017. During the inspection, the SSD system fan in Building 1 (office area) was found to be inoperable. OBG returned on July 13, 2017 to replace the fan and complete the SSD system inspection. See inspection letter dated July 17, 2017. The SSD system is now in compliance.

VII. Overall PRR Conclusions and Recommendations

All requirements of the SMP have been met for this site. Through annual monitoring of the site, an issue with the EC was discovered and corrected. This ensures continued protection for site visitors.

Thus far the remedy is proving successful in achieving the remedial objectives for the site. The IRM and enhanced anaerobic bioremediation reduced TCE concentrations to values below its Class GA guidance value at 7 of the 9 well (MW-2 and MW-5) locations. For the two well locations exceeding Class GA guidance, reducing concentrations of TCE daughter compounds (cis-1, 2DCE) between sampling events is evidence that contamination concentration reduction is on-going.

Based on the minimal remaining contaminants, continued operation of the SSD system, a limited groundwater monitoring and sampling program, and imposition of land use and groundwater use restrictions will protect public health and the environment. There is no requested change in the schedule for submittal of the PRR.

July 17, 2017

Frank Evangelisti, Director
Broome County Department of Planning and Economic Development
PO Box 1766
Binghamton, New York 13902

RE: Sub-slab Depressurization System Inspection – 312 Maple Street
FILE: 1140/66153

Dear **Mr. Evangelisti:**

Enclosed please find the attached inspection forms that document the results of the sub-slab depressurization system (SSDS) inspections at 312 Maple Street, Endicott, New York. The SSDSs were inspected by O'Brien & Gere (OBG) in accordance with the site management plan (SMP) prepared by GZA GeoEnvironmental of New York.

Attachment No. 1 presents the inspection forms and a hand-marked systems layout drawing for the 2017 SSDS inspection. A brief discussion of the inspection objectives and inspection results is presented below.

SSDS INSPECTION OBJECTIVES

In accordance with the SMP, annual inspection of the SSDSs is necessary to document that the systems are operating as designed. According to the SMP, the systems are considered to be operating as designed when the SSDS blowers (fans) are in operation and the SSDS piping is in-tact. Therefore, OBG conducted a visual inspection of the systems on July 5, 2017 as follows:

- Recording fan and suction point vacuums
- Inspecting the fans for mechanical operation, noise and vibration
- Inspecting accessible piping and piping connections (indoors and outdoors)
- Inspecting accessible piping supports for proper anchoring

OBG inspected accessible (unfinished) areas of the floor to identify cracks or other penetrations that go through the slab and can cause the systems to underperform. No cracks or penetrations were observed that impeded system performance.

OBG also conducted communication testing using the approximate 26 vacuum monitoring points (communication test points (CTPs)) installed through the slab by Enviro-Testing in February 2009. Given that prior commissioning data (system suction point vacuum measurements) were not available, the communication testing was conducted to confirm that sub-slab vacuum is maintained at CTPs previously installed and recorded by Enviro-Testing.

333 West Washington Street, PO Box 4873
Syracuse, NY 13221-4873

p 315-956-6100
f 315-463-7554

OBG
www.obg.com

SSDS INSPECTION RESULTS

As previously indicated, OBG performed the SSDS inspection on July 5, 2017. All SSDS piping was found to be intact. During the inspection, OBG found that the SSDS fan installed in Building 1 (office area) was inoperable. A replacement fan was ordered and OBG remained onsite to conduct inspection of the SSDSs installed in the remaining buildings (Buildings 2 & 3). OBG returned on July 13, 2017 to replace the fan and complete the inspection of the SSDS installed in Building 1.

To the extent possible, OBG tried to locate the CTPs previously installed by EnviroTesting; however, not all CTPs could be located as a result of stored cabinets and other items that blocked access to the floor. OBG installed 13 temporary CTPs proximate to the previously installed CTPs that could not be located.

Note that CTP S could not be located and a temporary CTP could not be installed due to the presence of vinyl tile (potential asbestos containing material). Given that CTP S is centrally located between system suction point (SSP) 1, CTP R and CTP T, it can be assumed that vacuum is maintained proximate to CTP S.

The previously installed CTP W was located; however, it was found that the test point did not completely penetrate through the concrete slab. This may have resulted in the variable vacuum reading observed by EnviroTesting in 2009 (-0.006 inches of water column ("wc) to +0.005 "wc). OBG advanced the test point through the slab; however, vacuum at this point was not observed. Given that a reliable vacuum measurement was not observed at CTP W by EnviroTesting, OBG cannot confirm that sub-slab vacuum originally extended to this location. We believe that EnviroTesting's original commissioning did not verify that sub-slab vacuum extended to CTP W.

Following replacement of the SSDS fan, all SSDS blowers (fans) were in operation and all SSDS piping was intact; therefore, the SSDSs are operating as designed. The communication testing results indicate that sub-slab vacuum is maintained at CTPs previously installed by EnviroTesting, with the exception of CTP W.

If you have any questions regarding the SSDS inspection, please feel free to contact Eric Alongi at (315) 956-6674.

Very truly yours,
O'BRIEN & GERE ENGINERS, INC.

Eric Alongi
Project Associate

Mark Distler
Senior Vice President

Attachments: 1 – 2017 Inspection Forms and Hand Drawing

cc: Leslie Boulton – Broome County
Scott Scheidelman – OBG

2017 Inspection Forms and Hand Drawing

System Inspection Field Form

STRUCTURE INSPECTION

Routine or Non-Routine (circle one)

Address: 312 MAPLE ST, ENDICOTT NY **Structure ID #:** _____

Performed by: GK / JW **Date:** 7/5/17 & 7/13/17

Have the following items changed since the last visit?

	Yes	No
Building Foot Print	UNK	
Basement/Slab Occupancy	UNK	
Heating / Ventilating Systems	UNK	
Basement Finish	UNK	
Crawlspaces	UNK	
Drains, Sumps, Floor Cracks	UNK	
Wall Penetrations, Cracks	UNK	
Appliances (in basement)	UNK	
Siding	UNK	
Are there any new buildings on the property or conversion of spaces in previously existing building to occupiable living areas? *If Yes, describe in comments section below.*	UNK	
Ownership		✓

If Yes, write new owner name contact information below

Date of Ownership Change _____

Owner Name _____

Telephone No. _____

If any of these items have changed, a redesign may be required. Contact the maintenance supervisor for field review.

Documentation

Were digital photographs taken of the entire system?	☐ Yes	☑ No	
Was Homeowner provided "Operational Fact Sheet"?	☐ Yes	☐ No	☐ No - has already been provided NA
Was the drawing updated to show any changes?	☐ Yes	☐ No	☑ N/A
Was a Service Call filed for items that could not be addressed during this visit?	☐ Yes	☐ No	☑ N/A

Comments

UNK - UNKNOWN. THIS IS THE FIRST INSPECTION CONDUCTED BY OBG. FAN 1 FOUND INOPERABLE ON 7/5/17. FAN 1 REPLACED BY OBG ON 7/13/17. COMMUNICATION TEST POINT READINGS RECORDED ON 7/5/17 + 7/13/17. COMMUNICATION TEST POINT (CTP) READINGS ARE DOCUMENTED ON ATTACHED FIGURE. CTP W (PREVIOUSLY INSTALLED) DID NOT PENETRATE SLAB. CTP S COULD NOT BE LOCATED AND A NEW CTP COULD NOT BE INSTALLED DUE TO PRESENCE OF VINYL TILE (POTENTIAL ASBESTOS CONTAINING MATERIAL).

System Inspection Field Form

FAN AND ELECTRICAL

Routine or Non-Routine (circle one)

Address: 312 MAPLE ST **Structure ID #:** ________

Performed by: GK / JW **Date:** 7/5/17 + 7/13/17

Equipment Documentation

Manometer Reading at Fan Inlet (" w.c. vacuum)

Prior commissioning: UNK Fan model: FAN 1 - HS-3000

As found: * (1)-0, (2)-1.25", (3)-1.0", (4)-1.75" FANS 2-4 - HP220

As left: * (1)-13", (2)-1.25", (3)-1.0", (4)-1.75"

Manometer Reading at Sub-Slab SSPs (" w.c. vacuum)

Note: For SSPs located in accessible crawlspaces with EPDM membrane, use the crawlspace field form to record the SSP manometer reading.

SSP #	1	2	3	4	5	6	
Manometer Reading (Prior Commissioned)	UNK	UNK	UNK	UNK	UNK	UNK	
Manometer Reading (As Found)	0	-1.25	-0.9375	-1.0	-0.9375	-1.875	
Meet Criteria?**	No	UNK	UNK	UNK	UNK	UNK	
Manometer Reading (As Left)	-13	-1.25	-0.9375	-1.0	-0.9375	-1.875	

Fan System Inspection

	As Found			As Left		
Is fan cover still present?	☑ Yes	☐ No	☐ NA	☐ Yes	☐ No	☑ UC
Each fan mounted securely?	☑ Yes	☐ No		☐ Yes	☐ No	☑ UC
Coupling connections secure?	☑ Yes	☐ No		☐ Yes	☐ No	☑ UC
Is excessive noise heard when fan is running?	☐ Yes	☑ No		☐ Yes	☐ No	☑ UC
Switch is locked in the ON position?	☑ Yes	☐ No		☐ Yes	☐ No	☑ UC
Is set point indicated on speed controller?	☐ Yes	☐ No	☑ NA	☐ Yes	☐ No	☑ UC
Has fan been in continuous operation since previous visit?	☐ Yes	☑ No FAN 1 INOPERABLE		☑ Yes	☐ No	☐ UC
Is the pipe penetration sealed on the structure's exterior?	☑ Yes	☐ No	☐ NA	☐ Yes	☐ No	☑ UC
Is the downspout/PVC junction sufficiently sealed?	☐ Yes	☐ No	☑ NA	☐ Yes	☐ No	☑ UC
Is conduit penetration sealed on the structure's exterior?	☑ Yes	☐ No	☐ NA	☐ Yes	☐ No	☑ UC
Each fan runs when switch is ON position?	~~☑ Yes~~	☑ No FAN 1 INOPERABLE		☑ Yes	☐ No	~~☑ UC~~
Each fan stops when switch is in OFF position?	☑ Yes	☐ No		☐ Yes	☐ No	☑ UC
Does the condensate line appear to be functioning correctly?	☑ Yes	☐ No		☐ Yes	☐ No	☑ UC
Is each fan below its maximum vacuum?	☑ Yes	☐ No		☐ Yes	☐ No	☑ UC

(HP220 = 2.5" w.c., GP501 = 4.25" w.c., FR-250 = 2.6" w.c., HS-5000 = 53" w.c.)

If fan vacuum is at maximum, measure velocity at each SSP (record below).

SSP #							
Velocity at SSP (As Found)							
Velocity at SSP (As Left)							

	As Found			As Left		
Does the SSP velocity meet criteria (> 1 ft/min)?	☐ Yes	☐ No	☑ NA	☐ Yes	☐ No	☑ UC

Electrical System Inspection

	As Found			As Left		
Are all electrical connections secure?	☑ Yes	☐ No		☐ Yes	☐ No	☑ UC
Each junction box closed?	☑ Yes	☐ No		☐ Yes	☐ No	☑ UC
Conduit/Wire properly supported?	☑ Yes	☐ No		☐ Yes	☐ No	☑ UC
Are audible alarm(s) present and working properly?	☐ Yes	☐ No	☑ NA	☐ Yes	☐ No	☑ UC
Are appliances affected by fan operation?	☐ Yes	☑ No		☐ Yes	☐ No	☑ UC

Labeling Inspection

	As Found		As Left		
Correct labels applied in proper location? ***	☑ Yes	☐ No	☐ Yes	☐ No	☑ UC
Are labels still legible?	☑ Yes	☐ No	☐ Yes	☐ No	☑ UC
Is SSDS breaker identified in the electrical panel?	☑ Yes	☐ No	☐ Yes	☐ No	☑ UC
Commissioned value written on SSP sticker?	☐ Yes	☑ No	☐ Yes	☐ No	☑ UC

Comments/Corrective Action

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* As Found conditions = before corrective action. [NA = Not Applicable]
* As Left conditions = after corrective action. [UC = Unchanged from As Found conditions]

** Criteria is met if deviation is less than or equal to 0.25"wc (for all fans with the exception of the HS-5000). For an HS-5000 fan, criteria is met if deviation is less than or equal to 10% of the prior commissioned value or less than or equal to 0.25"wc, whichever is greater.
If deviation exceeds criteria (0.25"wc or 10% of prior commissioned value, as applicable), conduct communication testing and document on Re-Commissioning Field Form.
*** Correct labels are at least one green label per floor and one white sticker at every suction point.

System Inspection Field Form

PIPING, SLAB AND WALL

Routine or Non-Routine (circle one)

Address: 312 MAPLE ST

Structure ID #: ______

Performed by: GK | JW

Date: 7/5/17 + 7/13/17

Piping Check	As Found			As Left		
System suction point seals are accessible?	☑ Yes	☐ No		☐ Yes	☐ No	☑ UC
System suction points are sealed to the slab?	☑ Yes	☐ No		☐ Yes	☐ No	☑ UC
Each component is installed?	☑ Yes	☐ No		☐ Yes	☐ No	☑ UC
Piping system is properly supported (6'-horizontal/8'-vertical)	☑ Yes	☐ No		☐ Yes	☐ No	☑ UC
Excessive noise is heard in piping joints?	☐ Yes	☑ No		☐ Yes	☐ No	☑ UC
Smoke 10% of all pipe joints and/or piping modifications?	☑ Yes	☐ No		☐ Yes	☐ No	☑ UC
Did smoke enter joints? **	☐ Yes	☑ No		☐ Yes	☐ No	☑ UC

Floor Check						
Are areas of the slab not visible (e.g. floor covering)?	☑ Yes	☐ No		☐ Yes	☐ No	☑ UC
Are areas of the slab not accessible (e.g. stored items)?	☑ Yes	☐ No		☐ Yes	☐ No	☑ UC
Were drawing-identified slab crack repairs/modifications smoke tested?	☐ Yes	☐ No	☑ NA	☐ Yes	☐ No	☑ UC
Did smoke enter? **	☐ Yes	☐ No	☑ NA	☐ Yes	☐ No	☑ UC
Are other cracks present that did not draw smoke?	☑ Yes	☐ No	☐ NA	☐ Yes	☐ No	☑ UC
Are other cracks present that did draw smoke?**	☐ Yes	☑ No	☐ NA	☐ Yes	☐ No	☑ UC
Were newly identified slab cracks indicated on drawing?	☐ Yes	☐ No	☑ NA	☐ Yes	☐ No	☑ UC
Check and clean Dranjer(s)?	☐ Yes	☐ No	☑ NA	☐ Yes	☐ No	☑ UC
Smoke Dranjer(s)?	☐ Yes	☐ No	☑ NA	☐ Yes	☐ No	☑ UC

Wall Check						
Are areas of the walls not visible (e.g. finished walls)?	☑ Yes	☐ No		☐ Yes	☐ No	☑ UC
Are areas of the walls not accessible (e.g. stored items)?	☑ Yes	☐ No		☐ Yes	☐ No	☑ UC
Were drawing-identified wall crack repairs/modifications smoke tested?	☐ Yes	☐ No	☑ NA	☐ Yes	☐ No	☑ UC
Did smoke enter wall crack(s)? **	☐ Yes	☐ No	☑ NA	☐ Yes	☐ No	☑ UC
Are other wall cracks/penetrations present that did not draw smoke?	☑ Yes	☐ No	☐ NA	☐ Yes	☐ No	☑ UC
Are other wall cracks/penetrations present that did draw smoke?**	☑ Yes	☑ No	☐ NA	☐ Yes	☐ No	☑ UC
Were newly identified wall cracks indicated on drawing?	☐ Yes	☐ No	☑ NA	☐ Yes	☐ No	☑ UC
Is top course of block wall open?	☑ Yes	☐ No	☐ NA	☐ Yes	☐ No	☑ UC
Smoke top course of block wall (open-top block only)?	☐ Yes	☐ No	☑ NA	☐ Yes	☐ No	☑ UC
Did smoke enter top course? **	☐ Yes	☐ No	☑ NA	☐ Yes	☐ No	☑ UC
Are utility penetrations sealed so they don't draw smoke?	☑ Yes	☐ No		☐ Yes	☐ No	☑ UC

Sump Check						
Have any non-approved modifications been made to sump cover?	☐ Yes	☐ No	☑ NA	☐ Yes	☐ No	☑ UC
Is sump cover structurally sound?	☐ Yes	☐ No	☑ NA	☐ Yes	☐ No	☑ UC
Verify integrity of sump cover seal?	☐ Yes	☐ No	☑ NA	☐ Yes	☐ No	☑ UC
Does sealed sump cover draw smoke? **	☐ Yes	☐ No	☑ NA	☐ Yes	☐ No	☑ UC

Exhaust Stack Check

Distance above eave	Commissioned distance: ≥ 1'	Criteria: ≥ 1 ft	AND
Distance from nearest opening	Commissioned distance: ≥ 2'	Criteria: ≥ 10 ft	OR
Distance above nearest opening	Commissioned distance: ≥ 2'	Criteria: ≥ 2 ft	

Are vertical exhaust stack supports installed every 8' maximum?	☑ Yes	☐ No	☐ NA	☐ Yes	☐ No	☑ UC
Distances from stack exhaust to openings appear to be unchanged?	☐ Yes	☐ No	UNK	☐ Yes	☐ No	☑ UC

*** If the existing exhaust stack is modified and/or removed and replaced as part of non-routine system maintenance, complete the "Stack Modification Field Form" and attach

Comments

______

______

______

Notes:
* As Found conditions = before corrective action. [NA = Not Applicable]
* As Left conditions = after corrective action. [UC = Unchanged from As Found conditions]
** If answered YES to this question, perform corrective action and re-test.

System Inspection Field Form

CRAWLSPACE
Routine or Non-Routine (circle one)

Address: 312 MAPLE ST **Structure ID #:** _____

Performed by: GK | JW **Date:** 7/5/17 - 7/13/17

Inaccessible Crawlspace (Ventilation) ☑ NA

As Found*	Crawlspace 1	Crawlspace 2	Crawlspace 3	Crawlspace 4
SSP#				
Target Velcocity (fpm)				
Measured Velocity (fpm)				
Meets Criteria? **				

As Left*	Crawlspace 1	Crawlspace 2	Crawlspace 3	Crawlspace 4
SSP#				
Target Velcocity (fpm)				
Measured Velocity (fpm)				
Meets Criteria? **				

Is sampling port to Inaccessible crawl space threaded with a plug? ☐ Yes ☐ No ☐ Yes ☐ No ☐ UC

Accessible Crawlspace (Sub-Membrane Depressurization) ☑ NA

As Found*	Crawlspace 1	Crawlspace 2	Crawlspace 3	Crawlspace 4
SSP#				
Prior Commissioned Manometer reading (" w.c.)				
As found Manometer reading (" w.c.)				

As Left*	Crawlspace 1	Crawlspace 2	Crawlspace 3	Crawlspace 4
SSP#				
Manometer reading (" w.c.)				

Accessible Crawlspace Performance Inspection	As Found		As Left		
Was each membrane joint smoke tested?	☐ Yes	☐ No	☐ Yes	☐ No	☐ UC
Did smoke enter? ***	☐ Yes	☐ No	☐ Yes	☐ No	☐ UC
Was the membrane perimeter smoke tested?	☐ Yes	☐ No	☐ Yes	☐ No	☐ UC
Did smoke enter? ***	☐ Yes	☐ No	☐ Yes	☐ No	☐ UC
Is the suction point manometer(s) reading ≤ -1/10" w.c.?****	☐ Yes	☐ No	☐ Yes	☐ No	☐ UC

Comments

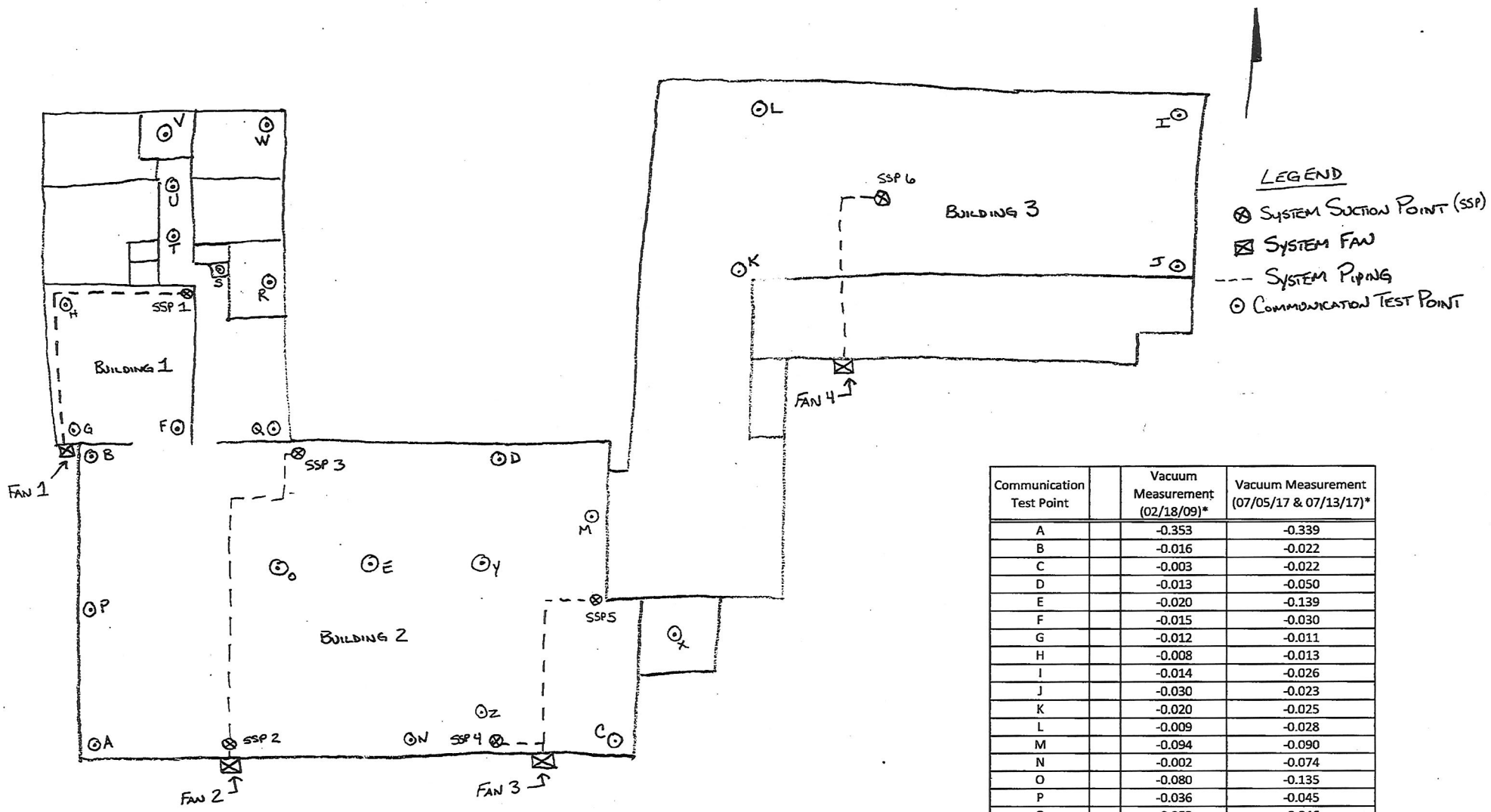
_____

_____

_____

* As Found conditions = before corrective action. [NA = Not Applicable]
* As Left conditions = after corrective action. [UC = Unchanged from As Found conditions]
** Inaccessible Crawlspace Criteria: Measured velocity ≥ 90% of Target Velocity (adjust if >110% of target velocity)
*** If answered YES to this question, perform corrective action and re-test.
**** If answered NO to this question, adjust valve accordingly and re-check all SSP and fan readings.

_____



Communication Test Point		Vacuum Measurement (02/18/09)*	Vacuum Measurement (07/05/17 & 07/13/17)*
A		-0.353	-0.339
B		-0.016	-0.022
C		-0.003	-0.022
D		-0.013	-0.050
E		-0.020	-0.139
F		-0.015	-0.030
G		-0.012	-0.011
H		-0.008	-0.013
I		-0.014	-0.026
J		-0.030	-0.023
K		-0.020	-0.025
L		-0.009	-0.028
M		-0.094	-0.090
N		-0.002	-0.074
O		-0.080	-0.135
P		-0.036	-0.045
Q		-0.053	-0.046
R		-0.041	-0.008
S		-0.432	Not Recorded
T		-0.101	-0.106
U		-0.006	-0.010
V		-0.010	-0.013
W		-0.006 to 0.005	0.000
X		-0.070	-0.027
Y		-0.063	-0.044
Z		-0.006	-0.599

*Units are inches of water column