Table 7
Summary of Proposed SPDI Samples
Hornell MGP
Revised June 14, 2019

Investigation Area	Goal of Investigation	Method of Investigation	Target Depth
Hotel Property/Former MGP Site	Confirm the extent of soil requiring removal and/or ISS	**TP7, TP8**: Excavate two test pits along the southwest corner of former MGP operations to confirm remedial action limits. Document visual observations. If no "gross impacts" observed, collect maximum 2 samples per location representing the worst-case observations (e.g., odor, staining, PID levels) for comparison to 500ppm tPAH cleanup target.	15' max (Note 1)
	Confirm/refine the extent of soil requiring removal and/or ISS	**TP9, TP10, TP11**: Excavate three test pits from southern edge of former MGP operations toward the line of borings SB32 through SB35 to confirm/refine remedial action limits. Document visual observations. Extend test pits at least 10' south of observed impacts or to prior delineation boundary (defined by SB32 through SB-35), whichever occurs first. Collect maximum 2 samples per location: one at the southern limit of the test pit and a second at the southernmost observation of worst-case, non-gross impacts (e.g., odor, staining, PID levels) for comparison to 500ppm tPAH cleanup target. **TP9** and **TP10** will also be used to confirm the location of Gas Holder A.	15' max (Note 1)
	Confirm/refine the extent of soil requiring removal and/or ISS	**TP12, TP13**: Excavate two test pits in the east/northeast portion of former MGP operations to confirm/refine remedial action limits. Commence test pits approximately 10-12' inside preliminary boundary and extend toward boundary until no impacts are observed for 10' laterally or preliminary boundary is reached, whichever is greater. Document visual observations. Collect maximum 2 samples per location: one at the outer limit of the test pit and a second at the outermost observation of worst-case, non-gross impacts (e.g., odor, staining, PID levels) for comparison to 500ppm tPAH cleanup target.	15' max (Note 1)
	Confirm the extent of soil requiring removal and confirm the location of concrete foundation pad	**TP14**: Excavate test pit along the northeast corner of former MGP operations to confirm remedial action limits and the location of the historic building foundation for designing the support of excavation system. Excavate to approximately 2' below the bottom of the foundation structure. Document visual observations. If no "gross impacts" observed beneath/beyond foundation, collect maximum 2 samples representing the worst-case observations (e.g., odor, staining, PID levels) for comparison to 500ppm tPAH cleanup target. Drive stakes to mark foundation boundary for subsequent survey.	Foundation depth + 2' (estimate 12' max)

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Investigation Area	Goal of Investigation	Method of Investigation	Target Depth
Hotel Property/Former MGP Site	Further investigate deep impacts at SB18R and extending south toward SB24	**SB52, SB53, SB54, SB55, and SB56**: Soil borings to at least 40'. Blind drill to 20' because other nearby borings characterize shallower soils. Record visual/olfactory observations only (i.e., no sampling).	40' or 10' below visible impacts
	Assess potential for impacts between SB13 and MW10 to confirm/refine remediation limits	**SB57**: Soil boring to 10' bgs. Document visual observations. If no "gross impacts" are observed, collect one sample representing the worst-case observations (e.g., odor, staining, PID levels) for comparison to 500ppm tPAH cleanup target. If gross impacts are observed, advance contingent boring **SB58 i**n Franklin Street.	10' max
	Establish baseline groundwater conditions at depth to assess post-remediation natural attenuation progress	**MW15, MW16**: Flush mount monitoring wells with standard 2" PVC construction, screened at 33' – 35' bgs. MW16 will be installed at location of soil boring SB54.	Screened 33'-35' bgs
	Initially assess 0-1' soils relative to ROD requirement to meet Commercial SCOs	**SS21**: Collect 0-1' soil sample for comparison to Commercial SCOs (PAHs, BTEX, metals, total cyanide).	1'
Franklin Street	Contingent location to further assess the extent of impacts between SB13 and MW10 based on SB57 observations	**SB58**: Contingent soil boring to 10' bgs, if warranted based on observation of "gross impacts" in SB57. If no gross impacts are observed in SB58, collect one sample representing the worst-case observations (e.g., odor, staining, PID levels) for comparison to 500ppm tPAH cleanup target.	10' max
19 Albion Street	Define the extent of shallow soil excavation to meet Residential SCOs	**SB49**: Shallow soil sample (2-4' bgs) to be collected 5-10' south of sample location SB40 by soil boring for analysis and comparison to Residential SCOs (PAHs, BTEX, metals, total cyanide).	4'
21 Albion Street	Define extent of shallow soil excavation to meet Residential SCOs	**SB50**: Shallow soil sample (2-4' bgs) for analysis and comparison to Residential SCOs (PAHs, BTEX, metals, total cyanide).	4'
23 Albion Street	Confirm shallow soils meet Residential SCOs on this parcel	**SB51**: Shallow soil sample (2-4' bgs) near the 21 Albion Street property line for analysis and comparison to Residential SCOs (PAHs, BTEX, metals, total cyanide).	4'

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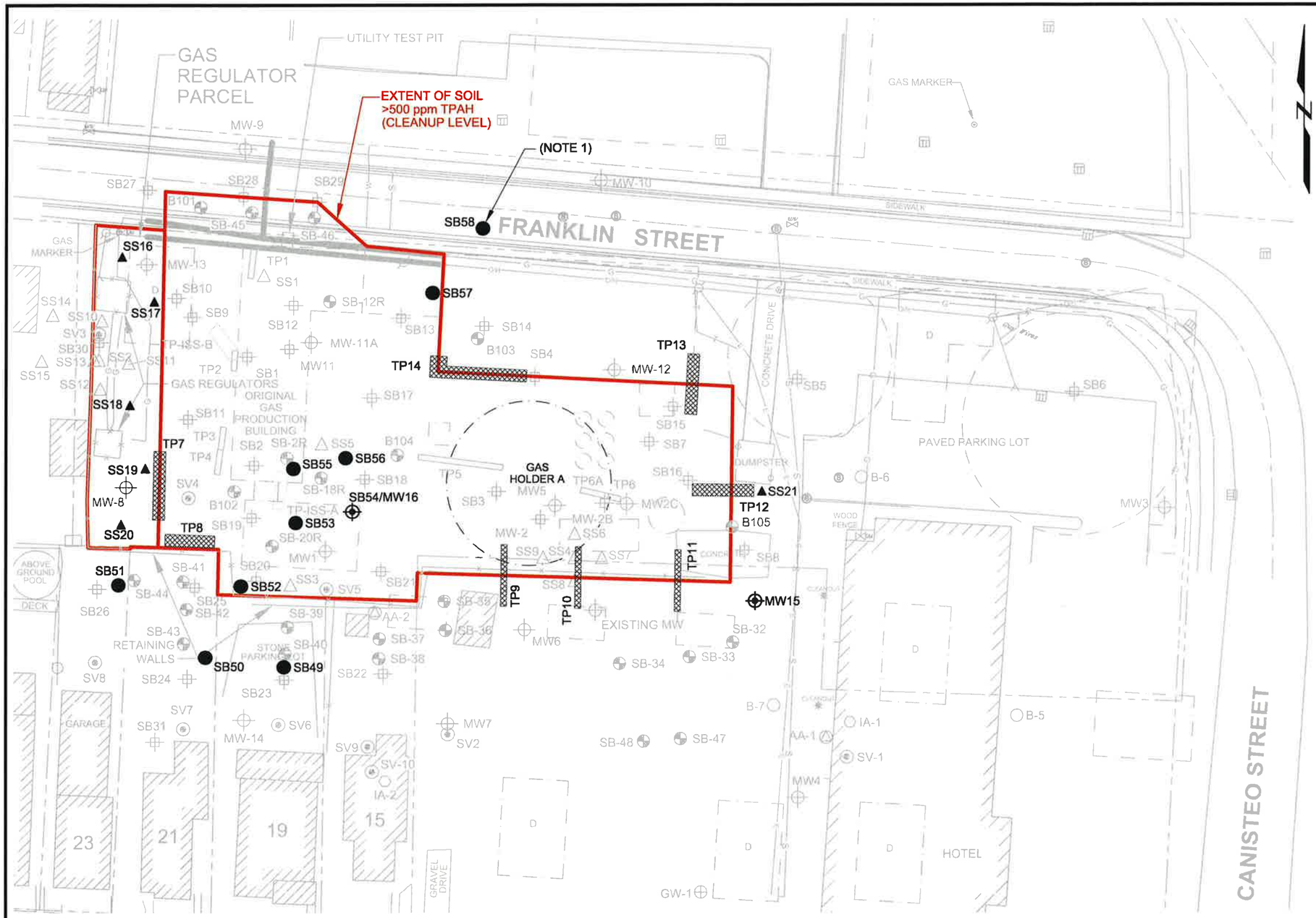
Investigation Area	Goal of Investigation	Method of Investigation	Target Depth
City-Owned Property (gas regulator parcel)	Assess surface soils relative to ROD requirement to meet Commercial SCOs and define extent of the 1' excavation; potentially avoid excavating over some of the gas lines	**SS16, SS17, SS18, SS19, and SS20**: Collect 0-1' soil samples for analysis and comparison to Commercial SCOs (PAHs, BTEX, metals, total cyanide).	1'

1. If field conditions do not allow test pits to extend to a suitable depth to achieve their objective, additional soil borings may be proposed in those areas to fulfill the investigation objectives. The need for such borings would be based on the results of the test pits and would be discussed with NYSDEC before installation.



LEGEND

- APPROXIMATE SITE BOUNDARY (FROM NYSDEC)
- APPROXIMATE PROPERTY BOUNDARIES
- CHAIN-LINK FENCE
- EXISTING STRUCTURE
- APPROXIMATE LOCATION OF HISTORICAL STRUCTURES
- INDICATES DWELLING
- ELECTRIC OVERHEAD WIRE TO BE RELOCATED
- UNDERGROUND ELECTRIC LINE TO BE RELOCATED
- UNDERGROUND GAS LINE TO BE RELOCATED
- TELEPHONE LINE
- SANITARY SEWER LINE
- WATER LINE
- UTILITY POLE
- LIGHT POLE
- GAS METER
- WATER VALVE
- MANHOLE
- FIRE HYDRANT
- DROP INLET

REMEDIAL INVESTIGATION SAMPLE LOCATIONS

- PROPOSED SOIL BORING (SUPPLEMENTAL PRE-DESIGN INVESTIGATION)
- PROPOSED SURFACE SOIL SAMPLE (SUPPLEMENTAL PRE-DESIGN INVESTIGATION)
- PROPOSED TEST PIT (SUPPLEMENTAL PRE-DESIGN INVESTIGATION)
- PROPOSED MONITORING WELL (SUPPLEMENTAL PRE-DESIGN INVESTIGATION)
- MW1 — MONITORING WELL
- SB1 — SOIL BORING
- TP1 — TEST PIT
- TP-ISS-A — TEST PIT (PRE-DESIGN INVESTIGATION)
- IA-1 — INDOOR AIR SAMPLE
- AA-1 — AMBIENT AIR SAMPLE
- SV-1 — SOIL VAPOR SAMPLE
- GW-1 — FORMER MONITORING WELL
- B-1 — FORMER SOIL BORING
- SS1 — SURFACE SOIL SAMPLE
- SB36 — BORING (PRE-DESIGN INVESTIGATION)

SOURCES:

1. Survey prepared for GEI Consultants, Inc. by William J Tucker, II PLS #50369, Clear Creek Land Surveying, L.L.C., Springville, N.Y. dated February 11, 2011.
2. City of Hornell, Steuben County, NY Tax Map No. 166.06 dated Oct. 18, 2008.
3. *Modification to Order on Consent and Administrative Settlement, Attachment 1* between New York State Department of Environmental Conservation, Office of General Counsel, and National Fuel Gas dated Oct. 21, 2010.
4. Sanborn Fire Insurance Maps from 1888 to 1961.
5. Survey prepared for GEI Consultants, Inc. by William J Tucker, II PLS #50369, Clear Creek Land Surveying, L.L.C., 7449 Mill Street, Caneadea, N.Y., dated November 26, 2018.

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NOTES:

1. SB58 IS CONTINGENT BORING LOCATION THAT WILL ONLY BE ADVANCED IF IMPACTS ARE OBSERVED AT SB57.

0 40' 80'

SCALE: 1" = 40'

Supplemental Pre-Design Investigation
Hornell Former MGP Site
Hornell, New York

National Fuel Gas Distribution Company

GEI Consultants

DRAFT SUMMARY OF PROPOSED SPDI SAMPLES

Project 1801687 | May 2019 | Fig. 1

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