

# MEMORANDUM

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**To:** Billy Meyer

**From:** Christie Zawtocky, PE  
Timothy Klotz

**Date:** August 1, 2013

**Project:** One Hour Martinizing Site, DSCA ID 32-0013  
1103 W Club Blvd, Durham, NC

**Subject:** Monthly Update

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Hart & Hickman, PC (H&H) has completed review of project files related to the One Hour Martinizing site and is proceeding with implementation of the Remedial Action Plan (RAP). A brief summary of planned upcoming activities is provided below and an updated RAP schedule is attached.

### *Monthly Field Screening*

Withers & Ravenel (W&R) has been conducting monthly field screening for methane in soil vapor, indoor air, and outdoor ambient air to confirm methane levels are not above acceptable standards. Field readings for total volatile organic compounds (VOCs), carbon dioxide, and oxygen are also collected on a monthly basis. Methane readings collected at the site appear to be stable. H&H will continue with monthly field screening at the following locations:

- Soil Vapor Monitoring Points: SV-8S, SV-8I, SV-18S, SV-19S, SV-20S, SV-20D, SV-29S, SV-55S, SV-55I
- Excavation Vent Exhaust Pipe
- Sub-Slab Depressurization (SSD) System Exhaust and Indoor Air at 1414 Watts St (Triangle Family Church)
- Ambient, Outdoor Air on Subject Site Property

During each monthly field screening event, H&H will collect readings for total VOCs using a photoionization detector (PID) and for methane, carbon dioxide, and oxygen using a multi-gas meter. H&H will complete the first monthly field screening event in August 2013.

### *Monitoring Well Installation*

The RAP includes installation of six monitoring wells in the immediate vicinity of the soil excavation area. Two of these monitoring wells (MW-22S and MW-22I) were installed by W&R within the footprint of the excavation and were sampled in January 2013. In August 2013,

H&H will install the additional four monitoring wells identified in the RAP. Monitoring wells MW-21S and MW-21I will be installed near the southwest corner of the excavation area, and monitoring wells MW-23S and MW-23I will be installed near the southeast corner of the excavation. The shallow wells (MW-21S and MW-23S) will be screened across the water table, and the intermediate wells (MW-21I and MW-23I) will be screened at the top of rock. These monitoring wells will be used to evaluate the effectiveness of the soil excavation and the planned injection activities in reducing source area groundwater concentrations.

### *Groundwater Sampling*

Following installation of the additional monitoring wells, H&H will conduct a groundwater sampling event at the site to evaluate current groundwater concentrations. A limited sampling event of seven monitoring wells was completed by W&R in January 2013. H&H will conduct a comprehensive groundwater sampling event of all monitoring wells associated with the site. All of the samples will be analyzed for volatile organic compounds (VOCs) to evaluate current concentrations of dry-cleaning related constituents. In addition, monitoring wells in the vicinity of the planned injection area will be analyzed for additional parameters to evaluate groundwater conditions post-excavation/Daramend application and pre-injection of EHC (reagent addressing groundwater contamination). The monitoring wells listed below will be monitored for pH, temperature, dissolved oxygen, conductivity, oxidation-reduction potential, methane, ethane, ethene, total organic carbon, and iron:

- On-site: MW-3R, MW-3I, MW-4R, MW-4I, MW-21S, MW-21I, MW-22S, MW-22I, MW-23S, and MW-23I
- West of site: MW-10
- South of site: MW-18
- East of site: MW-14S, MW-14I, MW-16S, and MW-16I

H&H will review the groundwater analytical data to determine if any modifications are needed to the EHC injection plan to meet the intent of the RAP. If it is determined that modifications are needed, H&H will coordinate with the Underground Injection Control (UIC) Program.

### *Indoor Air Monitoring*

H&H will continue quarterly indoor air monitoring at the three structures adjacent to the subject site with observed vapor intrusion (1419 Dollar St, 1421 Dollar St, and 1414 Watts St). The next quarterly sampling event is planned for September 2013.

During each quarterly sampling event, H&H will collect two 30-day Radiello samples from the 1419 and 1421 Dollar St residences. The passive Radiello samplers will be placed in the first floor and basement of each residence. The samples will be submitted for laboratory analysis of tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), and vinyl chloride.

H&H will also collect two 3-hour Summa canister indoor air samples from the Triangle Family Church at 1414 Watts St on a quarterly basis. The samples will be collected during the church's Sunday service. One sample will be collected in the meeting room at the north end of the building and one sample will be collected directly above the HVAC intake vent on the south end of the building. The samples will be submitted for laboratory analysis of PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride.

### *Injection of Adventus EHC*

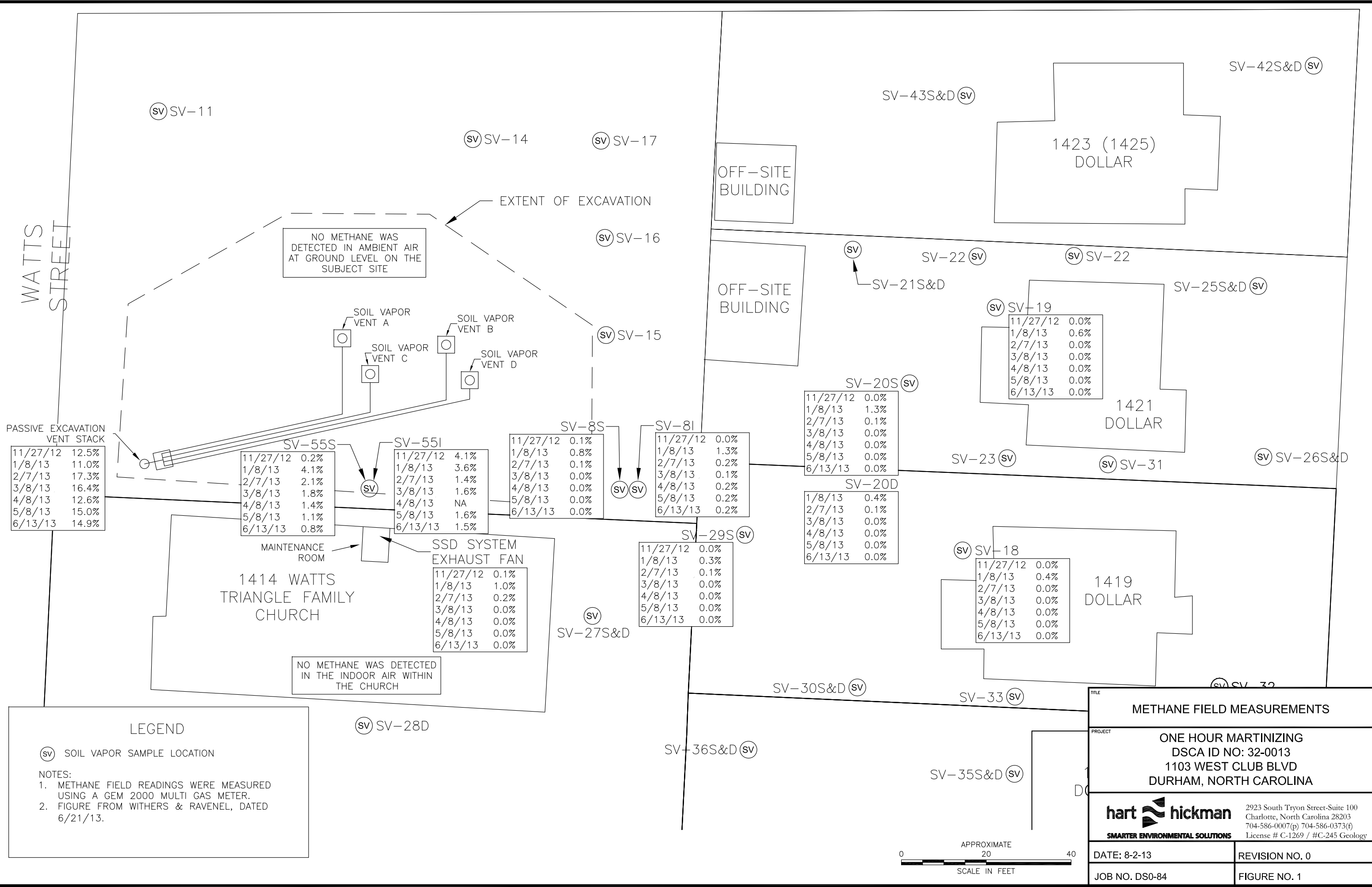
The RAP includes injection of Adventus EHC (a commercial remediation product that contains zero-valent iron and carbon) to treat shallow groundwater impacts at the subject site. As described in the RAP, the EHC injection was designed to target shallow groundwater with PCE concentrations of 15 mg/L or greater. A UIC (Underground Injection Control) permit for the planned injection activities was issued in August 2012.

As indicated above, H&H plans to review the EHC injection plan after the August 2013 groundwater sampling event to determine if any modifications (e.g., number of injection points, locations of injection points, volume of EHC injected, etc.) are needed to meet the intent of the RAP. If it is determined that modifications are needed, H&H will contact NCDENR's UIC Program and obtain approval for the modifications. H&H will then proceed with scheduling and completing the injection activities. We anticipate completing the injection activities in November 2013. Following completion of the injection activities, H&H will proceed with the post-injection monitoring activities described in the RAP and required by the UIC permit.

### *Information Session*

The DSCA Program is planning to hold a public information session prior to the start of the Adventus EHC injection. The meeting will likely be held in October 2013. The schedule and website will be updated once details regarding the public information session are finalized.

S:\AAA-Master Projects\DSCA - DS0\DS0-84 One Hr Martinizing (former BB&T)\Figures\DC320013\_20130802\_Update\Figures-hh.dwg, SV Methane, 8/27/2013 10:38:46 AM.



(SV) SV-11

(SV) SV-14

(SV) SV-17

SV-43S&D (SV)

SV-42S&D (SV)

(SV) SV-16

(SV) SV-15

(SV)

SV-22 (SV)

(SV) SV-22

SV-25S&D (SV)

(SV) SV-19

11/27/12	0.0%
1/8/13	0.6%
2/7/13	0.0%
3/8/13	0.0%
4/8/13	0.0%
5/8/13	0.0%
6/13/13	0.0%

SV-20S (SV)

11/27/12	0.0%
1/8/13	1.3%
2/7/13	0.1%
3/8/13	0.0%
4/8/13	0.0%
5/8/13	0.0%
6/13/13	0.0%

SV-23 (SV)

(SV) SV-31

(SV) SV-26S&D

11/27/12	12.5%
1/8/13	11.0%
2/7/13	17.3%
3/8/13	16.4%
4/8/13	12.6%
5/8/13	15.0%
6/13/13	14.9%

SV-55S

11/27/12	0.2%
1/8/13	4.1%
2/7/13	2.1%
3/8/13	1.8%
4/8/13	1.4%
5/8/13	1.1%
6/13/13	0.8%

SV-55I

11/27/12	4.1%
1/8/13	3.6%
2/7/13	1.4%
3/8/13	1.6%
4/8/13	NA
5/8/13	1.6%
6/13/13	1.5%

SV-8S

11/27/12	0.1%
1/8/13	0.8%
2/7/13	0.1%
3/8/13	0.0%
4/8/13	0.0%
5/8/13	0.0%
6/13/13	0.0%

SV-8I

11/27/12	0.0%
1/8/13	1.3%
2/7/13	0.2%
3/8/13	0.1%
4/8/13	0.2%
5/8/13	0.2%
6/13/13	0.2%

SV-20D

1/8/13	0.4%
2/7/13	0.1%
3/8/13	0.0%
4/8/13	0.0%
5/8/13	0.0%
6/13/13	0.0%

SV-29S (SV)

11/27/12	0.0%
1/8/13	0.3%
2/7/13	0.1%
3/8/13	0.0%
4/8/13	0.0%
5/8/13	0.0%
6/13/13	0.0%

(SV) SV-27S&D

SSD SYSTEM EXHAUST FAN

11/27/12	0.1%
1/8/13	1.0%
2/7/13	0.2%
3/8/13	0.0%
4/8/13	0.0%
5/8/13	0.0%
6/13/13	0.0%

(SV) SV-18

11/27/12	0.0%
1/8/13	0.4%
2/7/13	0.0%
3/8/13	0.0%
4/8/13	0.0%
5/8/13	0.0%
6/13/13	0.0%

(SV) SV-28D

SV-30S&D (SV)

SV-33 (SV)

SV-36S&D (SV)

SV-35S&D (SV)

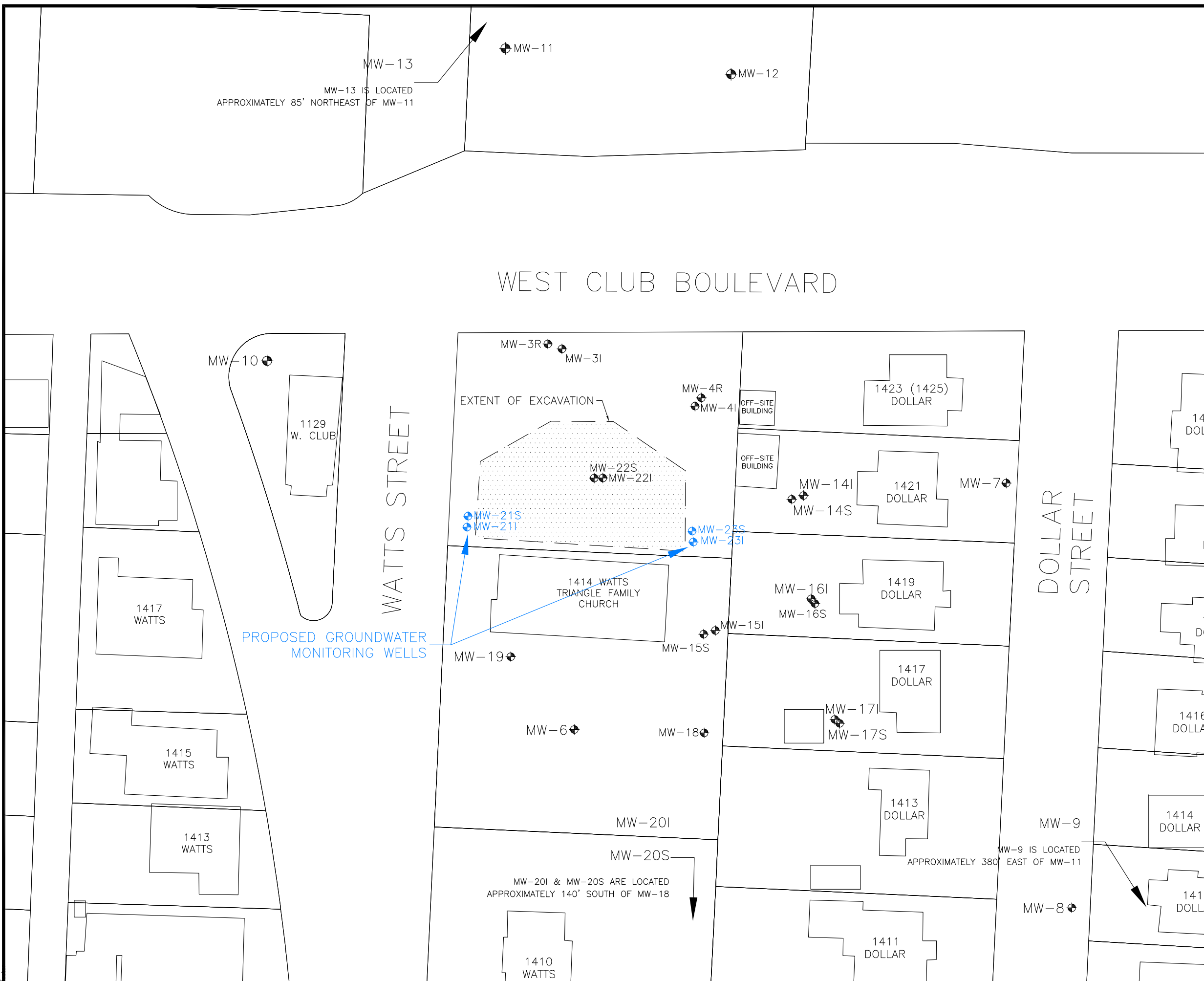
**METHANE FIELD MEASUREMENTS**

PROJECT  
**ONE HOUR MARTINIZING**  
DSCA ID NO: 32-0013  
1103 WEST CLUB BLVD  
DURHAM, NORTH CAROLINA



**hart hickman**  
SMARTER ENVIRONMENTAL SOLUTIONS  
2923 South Tryon Street-Suite 100  
Charlotte, North Carolina 28203  
704-586-0007(p) 704-586-0373(f)  
License # C-1269 / #C-245 Geology

DATE: 8-2-13  
JOB NO. DS0-84  
REVISION NO. 0  
FIGURE NO. 1


S:\AAA-Master Projects\DSCA - DS0\DS0-84 One Hr Martinizing (former BB&T)\Figures\DC320013\_20130802\_Update\Figures-hh.dwg, Proposed MW, 8/2/2013 10:38:11 AM



**LEGEND**

-  TYPE II GROUNDWATER MONITORING WELL
-  PROPOSED TYPE II GROUNDWATER MONITORING WELL

NOTE: FIGURE BASED ON WITHERS & RAVENEL BASE MAP DATED 6/21/13.

TITLE <b>PROPOSED MONITORING WELL LOCATIONS</b>	
PROJECT <b>ONE HOUR MARTINIZING DSCA ID NO: 32-0013 1103 WEST CLUB BLVD DURHAM, NORTH CAROLINA</b>	
 2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology	
DATE: 8-2-13	REVISION NO. 0
JOB NO. DS0-84	FIGURE NO. 2

## ~ August 2013 ~

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Note: Schedule tentative and subject to change. Please check <a href="http://portal.ncdenr.org/web/wm/dsca/bbt_updates">http://portal.ncdenr.org/web/wm/dsca/bbt_updates</a> regularly for any changes in the schedule.				1	2	3
				4	5	6
11	12	13	14	15	16	17
			<b>Monthly Methane Field Screening</b>	<b>Monitoring Well Installation</b>		
18	19	20	21	22	23	24
		<b>Groundwater Monitoring Event</b>				
25	26	27	28	29	30	31

## ~ September 2013 ~

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
<b>1-Month Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						
	Labor Day					
8	9	10	11	12	13	14
<b>1-Month Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						
<b>3-Hour Summa Canister Indoor Air Sampling at 1414 Watts St</b>			<b>Monthly Methane Field Screening</b>			
15	16	17	18	19	20	21
<b>1-Month Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						
22	23	24	25	26	27	28
<b>1-Month Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						
	<b>Finalize Injection Plan and Submit Any Modifications to UIC Program (if necessary)</b>					
29	30	Note: Schedule tentative and subject to change. Please check <a href="http://portal.ncdenr.org/web/wm/dsca/bbt_updates">http://portal.ncdenr.org/web/wm/dsca/bbt_updates</a> regularly for any changes in the schedule.				
<b>1-Month Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						

## ~ October 2013 ~

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	1	2	3	4	5
6	7	8	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>Monthly Methane Field Screening</b> </div>	10	11	12
13	14  Columbus Day	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	Note: Schedule tentative and subject to change. Please check <a href="http://portal.ncdenr.org/web/wm/dsca/bbt_updates">http://portal.ncdenr.org/web/wm/dsca/bbt_updates</a> regularly for any changes in the schedule.	



## ~ November 2013 ~

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Note: Schedule tentative and subject to change. Please check <a href="http://portal.ncdenr.org/web/wm/dsca/bbt_updates">http://portal.ncdenr.org/web/wm/dsca/bbt_updates</a> regularly for any changes in the schedule.					1	2
					3	4
<b>Inject Adventus EHC</b>						
10	11	12	13	14	15	16
<b>Inject Adventus EHC</b>						
	Veterans Day					
17	18	19	20	21	22	23
<b>Inject Adventus EHC</b>						
24	25	26	27	28	29	30
				Thanksgiving		

## ~ December 2013 ~

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
<b>1-Month Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						
8	9	10	11	12	13	14
<b>1-Month Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						
<b>3-Hour Summa Canister Indoor Air Sampling at 1414 Watts St</b>						
15	16	17	18	19	20	21
<b>1-Month Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						
<b>Post-Injection Groundwater and Soil Vapor Sampling</b>						
22	23	24	25	26	27	28
<b>1-Month Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						
			Christmas Day			
29	30	31	Note: Schedule tentative and subject to change. Please check <a href="http://portal.ncdenr.org/web/wm/dsca/bbt_updates">http://portal.ncdenr.org/web/wm/dsca/bbt_updates</a> regularly for any changes in the schedule.			
<b>1-Month Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						