Maryland Department of the Environment

Chester River Hospital 2015 Proposed Action

Town of Chestertown Presentation

Chestertown Town Hall

July 14, 2015

Outline

- Purpose of Tonight's Meeting
- Regulatory Overview
- Site Characterization
  - Release Estimates
  - Site Maps
- Surfactant Remediation Summary
  - Pilot Test
  - Proposed Plan

Purpose of Tonight's Meeting

- A discussion of the remediation plan
- We are all working together to reach the common goal of protecting public health, including the Town's drinking water supply
- MDE is prepared to approve the proposed plan with modifications
- MDE believes the plan is safe
- MDE believes the plan will afford greater protection than the pump and treat system alone

Regulatory Overview

- The goal is to remediate a release of oil to protect public health and the environment, including public drinking water sources
- The Oil Control Program ensures that responsible parties assess and remediate their environmental liabilities and that they monitor their progress
- The Oil Control Program reviews and approves work plans submitted by responsible parties to achieve this goal
- At times, the Oil Control Program modifies responsible party plans as part of the approval process to enhance protection of public health and the environment

Site Characterization Overview

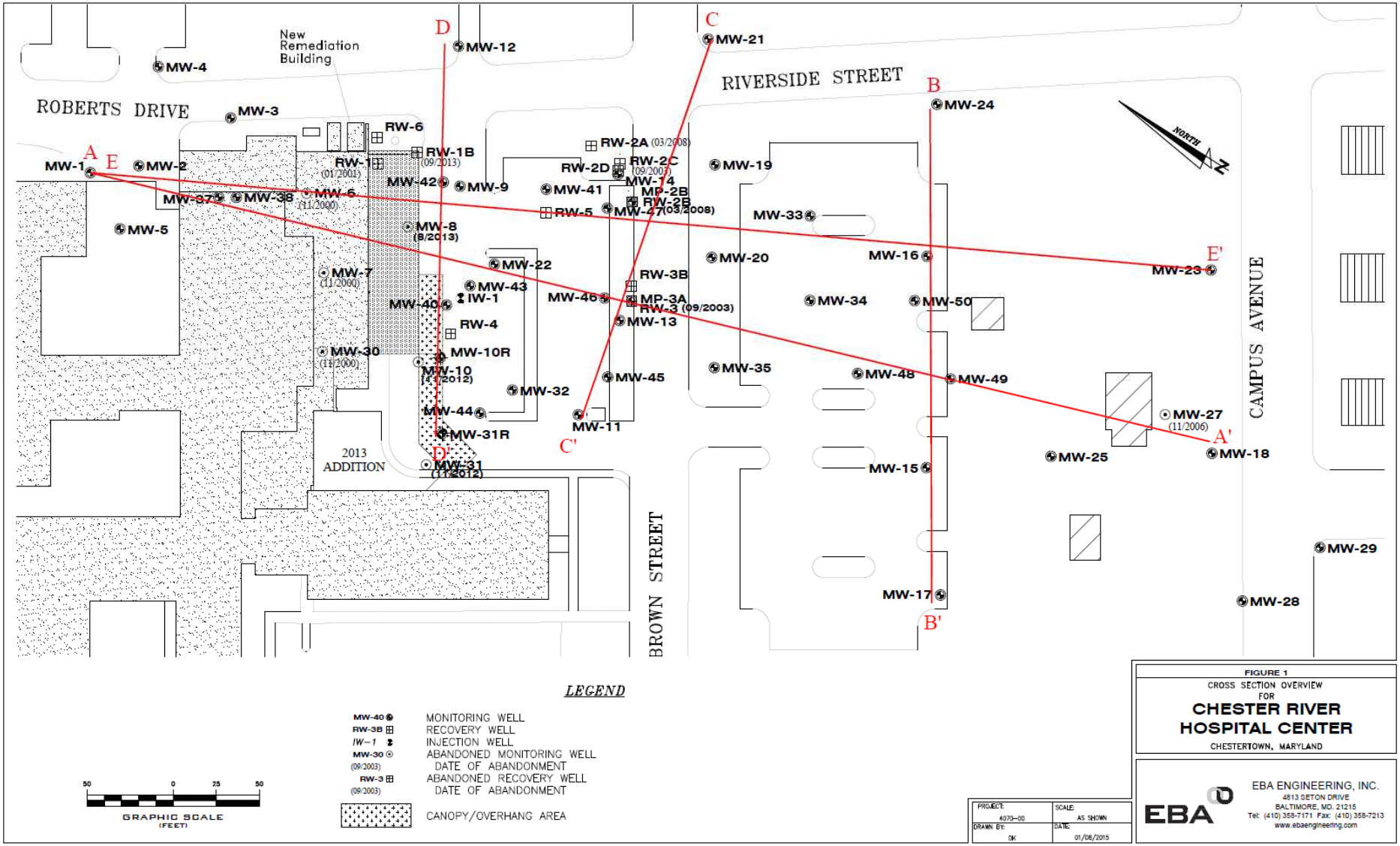
- Release Estimates
- Site Maps

How much Oil was Released?

- Case was opened in 1987
- Initial investigations concentrated on UST testing and removal/replacement
- There is no reliable way to know for certain
- Between 1991 and 2011, over 83,000 gallons of heating oil was recovered as LPH
- Additional unquantifiable amounts have been recovered through groundwater extraction and reduced through biodegradation
- The evidence from the monitoring well network provides the best picture

MDE


SITE
WASHINGTON COLLEGE
High Sch
Chestertown Cem
CHESTERTOWN
(BM 22)
CHESTER
Long Pt
Barroll Pt
Hope
Approximate Town Well Locations
BM 4
Swimming Pool
Kingstown



Appendix G–Figure 1 Cross Section Overview

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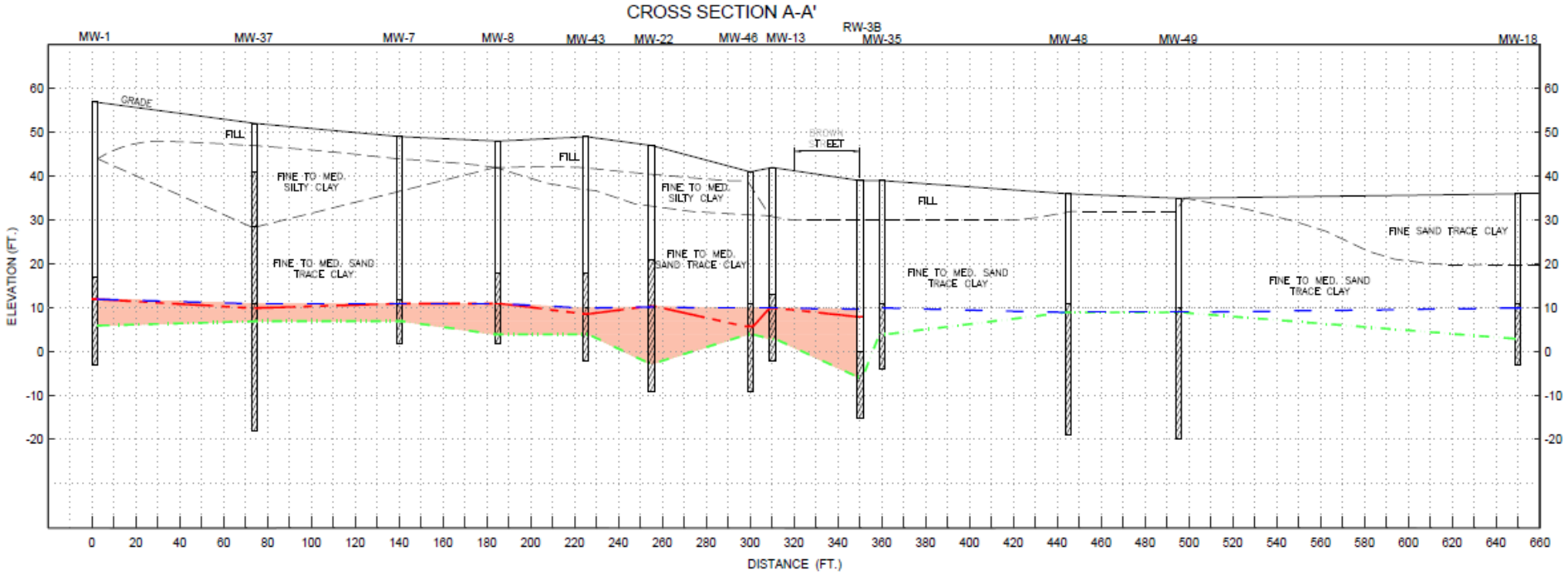

LEGEND

- SCREEN
- HIGH WATER ELEVATION
- LOW WATER ELEVATION
- HISTORIC PRODUCT
- SMEAR ZONE

MARYLAND

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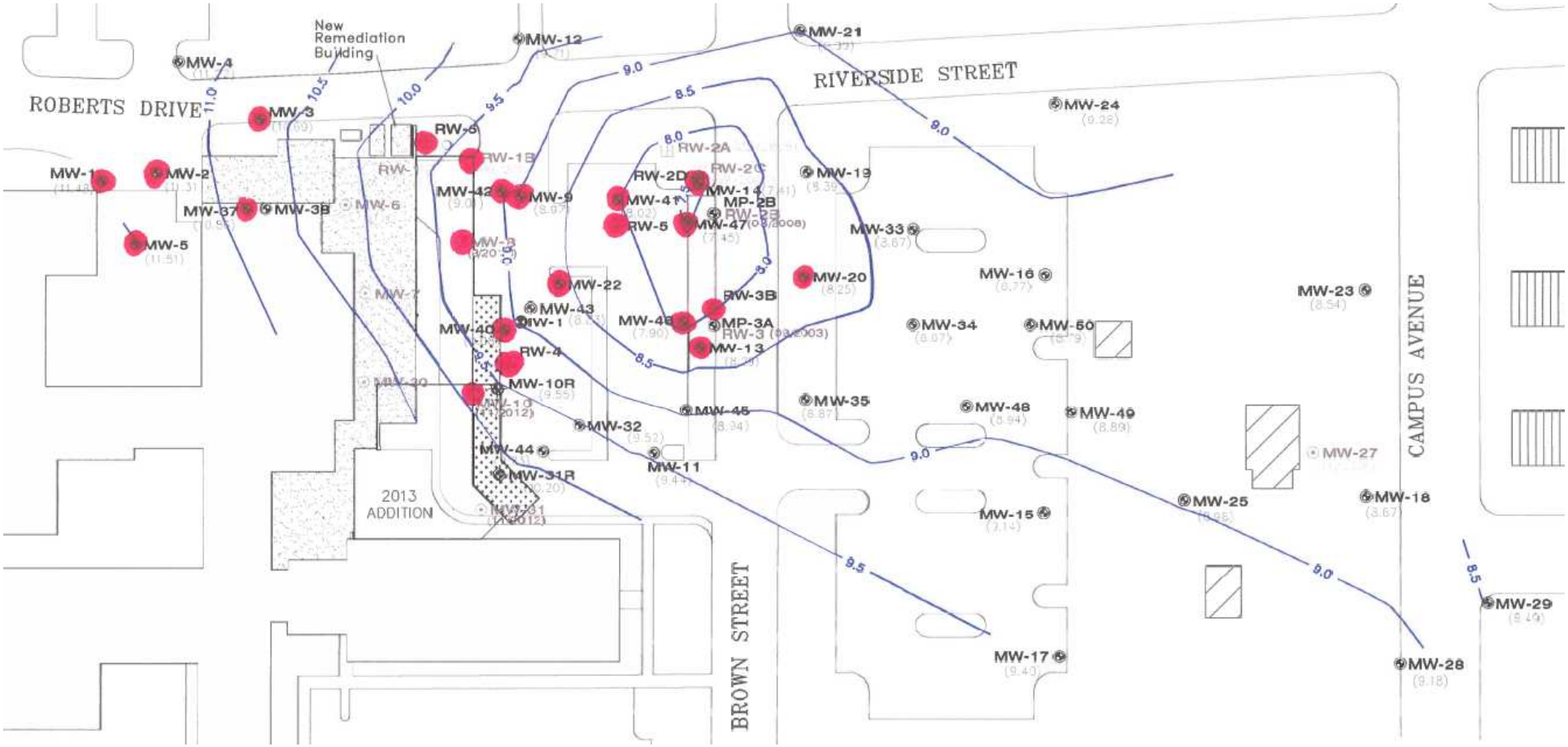

- Indicates location where LPH have historically been detected

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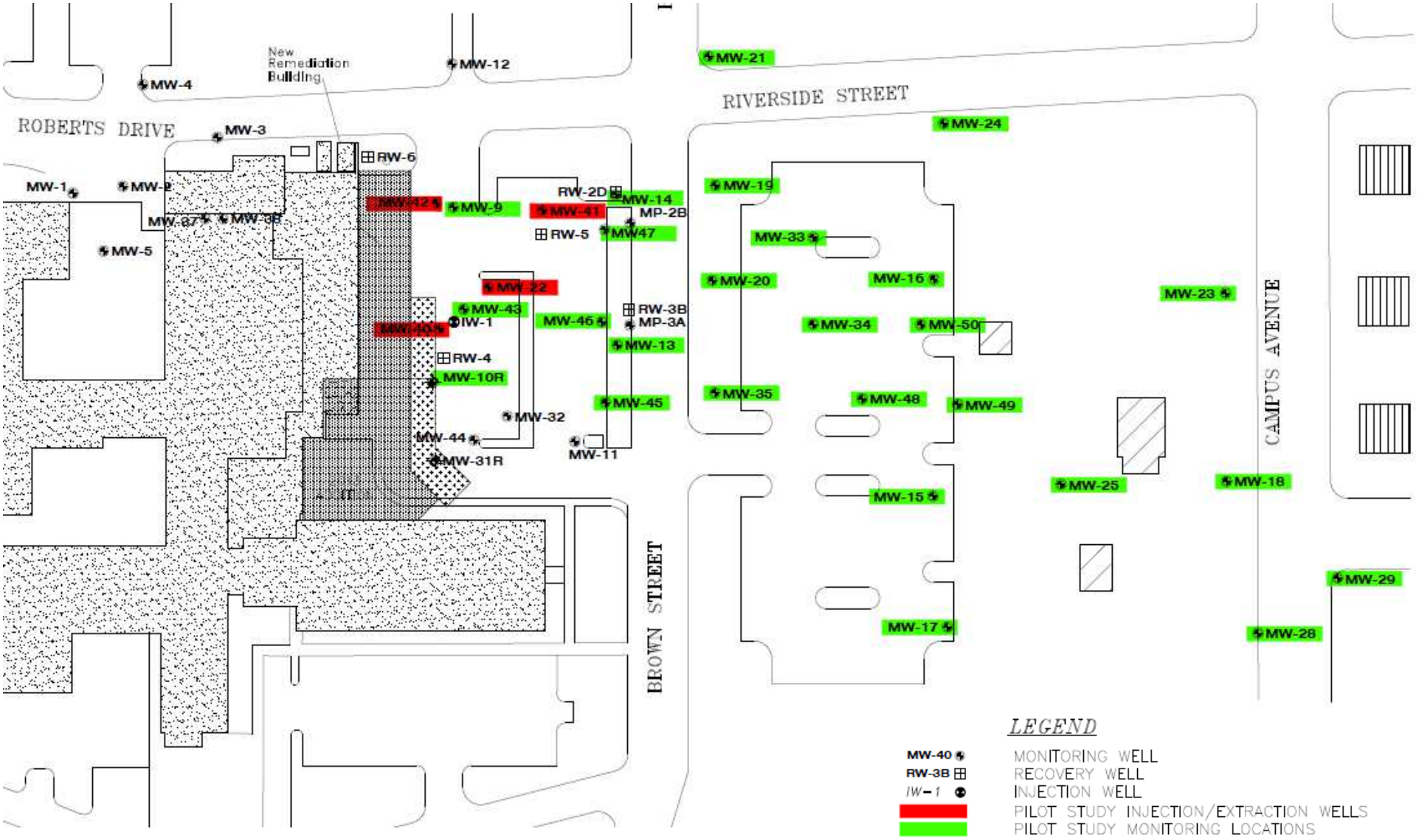
Pilot Test Summary

- Pilot test in summer 2014
- Four wells tested
- Surfactant was successfully removed and residuals degraded during the three month post monitoring period
- TPH-DRO levels increased during the test, which is indicative of surfactant working
- Evidence of surfactant observed in treatment system

MDE


New Remediation Building
ROBERTS DRIVE
RIVERSIDE STREET
BROWN STREET
CAMPUS AVENUE
MW-1
MW-2
MW-3
MW-4
MW-5
MW-9
MW-10R
MW-11
MW-12
MW-13
MW-14
MW-15
MW-16
MW-17
MW-18
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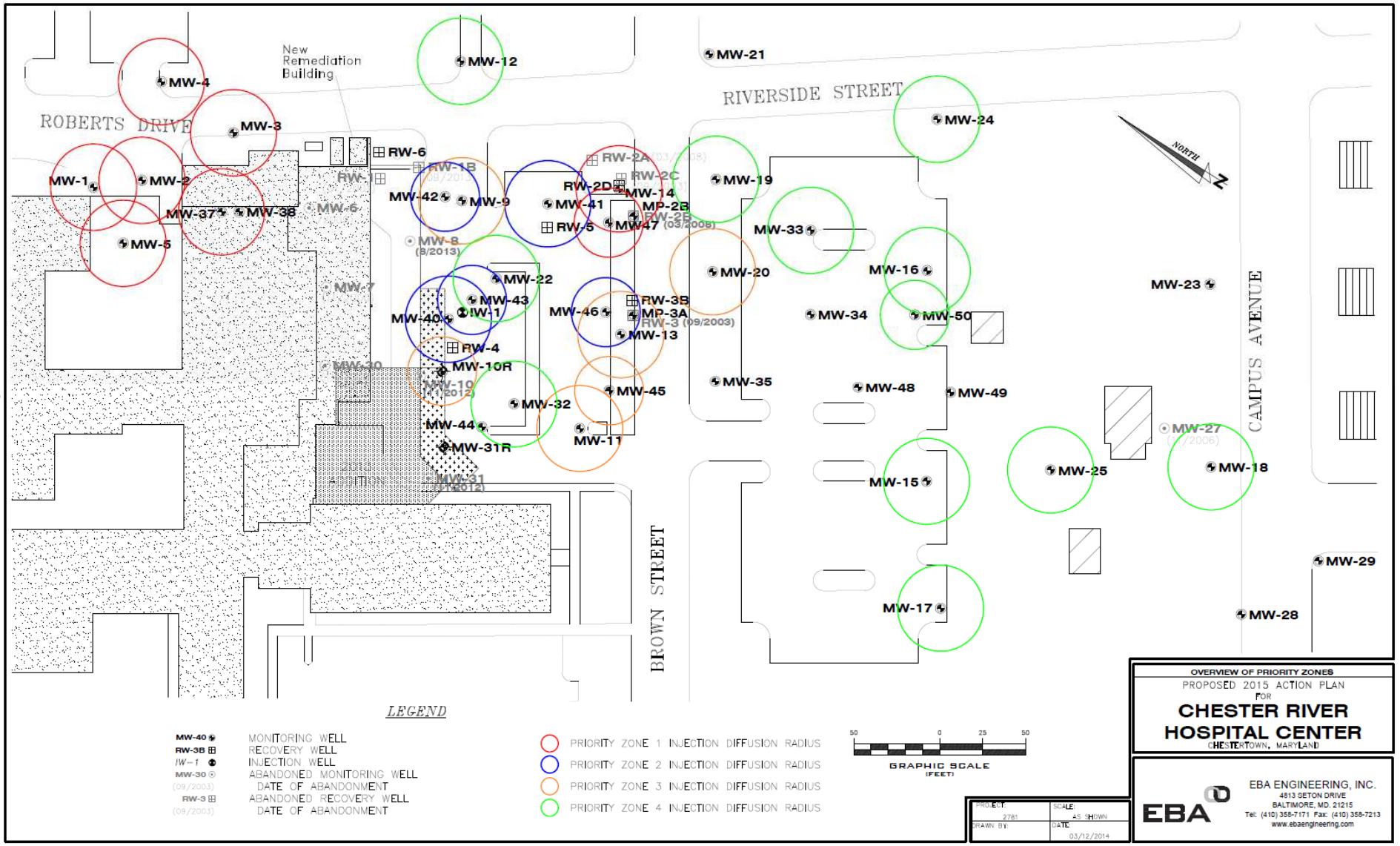
MW-38
MW-40
MW-41
MW-42
MW-43
MW-44
MW-45
MW-46
MW-47
MW-48
MW-49
MW-50
RW-2D
RW-3B
RW-4
RW-5
RW-6
MP-2B
MP-3A
IW-1
LEGEND
MW-40 MONITORING WELL
RW-3B RECOVERY WELL
IW-1 INJECTION WELL
PILOT STUDY INJECTION/EXTRACTION WELLS
PILOT STUDY MONITORING LOCATIONS

Proposed Plan Overview

- The pump and treat system will remain on during the entirety of the remediation plan implementation
- A 275-gallon mixture of Ivey-sol (surfactant) and potable water will be injected into several wells and left to soak for 48 hours (Push events)
- A pump will be used to extract liquids from the well (approximately 825 to 1,375 gallons) until there is no sign of surfactant presence remaining (Pull events)
- This process will be repeated at each well within Priority Zone 1 until TPH-DRO results are at or near laboratory detection limits. Once this milestone is achieved, the process will be repeated for each of the remaining Priority Zone wells
- The plan predicts it will take three to six months to complete the remediation phase
- The monitoring phase will take at least one year, and potentially longer, depending on the data collection



Appendix F – Figure 1 – Site map showing overview of priority zones 1-4 injection diffusion radius

Proposed Plan Overview, cont.

- Monitoring Plan
  - Monthly gauging of all monitoring and recovery wells
  - Monthly sampling for TPH-DRO of 11 monitoring wells (MW15, MW16, MW19, MW20, MW24, MW33, MW34, MW35, MW48, MW49, MW50)
  - Quarterly sampling of all monitoring and recovery wells for TPH-DRO, VOCs, and surfactants
  - Monthly, all laboratory and field testing results that were performed during the implementation of the Priority Zones will be provided to MDE
- Post-remedial Monitoring
  - The pump and treat system will be on until surfactants are not detected
  - MDE will issue written notice when the system may be turned off and the post-remedial monitoring period may begin
  - Year begins when surfactants are no longer detected
  - The post-remedial monitoring may be extended pending review of the data

Key Points

- The pump and treat system is not the longterm solution, but can be used for short term goals
- The modified version of the Hospital's plan that MDE is prepared to approve will lead to a significant amount of residual LPH being removed in a safe manner
- The net benefit will reduce the longterm risk to the Town's wells
- Once completed, there will be a minimum observation time of over a year before any final case closure decisions are made
- If the data indicates more remediation is warranted, then that is where the MDE will direct the case
- MDE is committed to continued communication with the Town

For More Information

Website

http://www.mde.state.md.us/programs/Land/OilControl/RemediationSites/Pages/Programs/LandPrograms/Oil_Control/RemediationSites/index.aspx

Or

http://bit.ly/MDEOCPRemediationSites

Maryland Department of the Environment

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