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MEMORANDUM

TO:	Peter Ramanauskas/EPA	REF. NO.:	017322
FROM:	Thomas Kinney/MC/ds/26/Det.	DATE:	September 12, 2014
CC:	Dave Favero/RACER		
RE:	**Storm Sewer Bulkhead Completion PCC-Validation Pontiac, Michigan**		

1.0 Introduction

Conestoga-Rovers & Associates (CRA) is providing this memorandum on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust to provide a summary of the July 9, 2014 bulkheading of storm sewer lines near the LNAPL area on the PCC-Validation (Site) located in Pontiac, Michigan. The decision to bulkhead storm sewer lines was first discussed during the July 1, 2013 conference call and the scope of work (SOW) was submitted to the United States Environmental Protection Agency (U.S. EPA) on January 15, 2014, updated in April 2014 and approved in May 2014 by the U.S. EPA. The bulkheading was conducted to prevent impacts from potentially discharging to a surface water of the State via storm sewer lines. Section 2.0 provides a brief summary of bulkheading activities. Figure 1 provides a partial Site map with bulkheading locations. Attachment A provides a photographic log of bulkheading activities.

2.0 Bulkheading Activities

Prior to bulkheading activities, a storm sewer line inspection in the vicinity of the Light Non-Aqueous Phase Liquid (LNAPL) area was conducted on April 23, 2014. Storm sewer lines were identified east, west and south of the LNAPL area. To prevent a potential pathway, bulkhead locations were proposed to the east, west and south of the LNAPL area to prevent LNAPL and dissolved volatile organic compounds (VOC) migration through storm sewer lines.

On July 9, 2014, the three bulkhead locations were completed. The process involved removing the upper 2 to 5 feet of concrete and soil to expose the specified area of the storm sewer to be bulkhead. The storm sewer lines were cut, a segment of the line removed, and both remaining open ends were plugged. Bulkheading the lines included the use of concrete blocks and cement to plug the line and prevent any flow through that portion of the storm sewer. The surrounding bedding material of the utility corridor was removed and a bentonite collar was placed around the plugged line to prevent potential migration of water through the storm sewer line corridor bedding material. Groundwater was not encountered during the

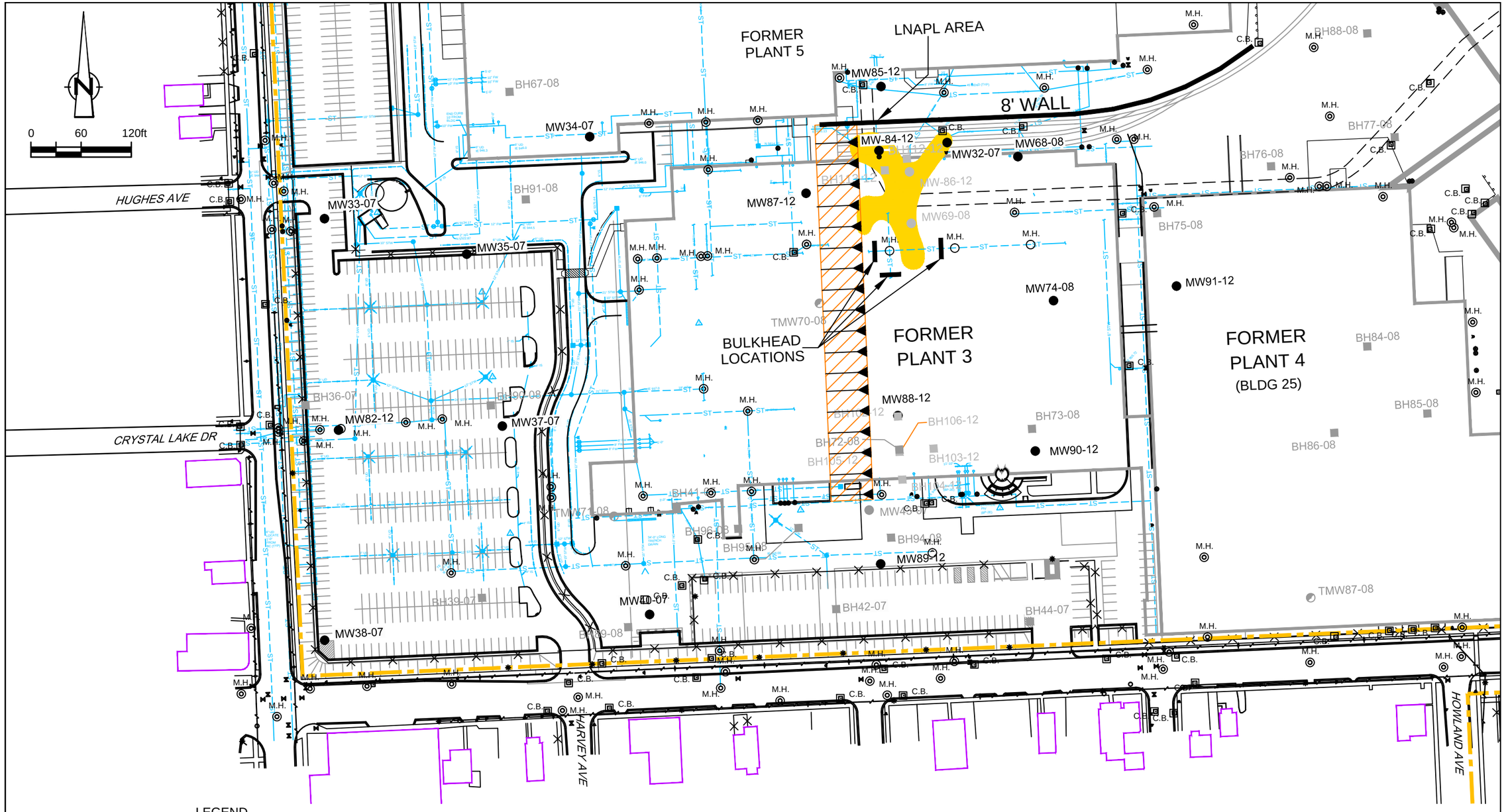
work. Upon completion of the bulkheading and bentonite collar installation, the excavation was backfilled with the excavated soil and the concrete was removed for off-Site disposal/recycling. Clean sand was brought on Site and was used to finish the excavation at grade. The work was completed in 1 day.

3.0 Conclusion

Per Section 324.20120e(3)(e) of the Act 190 amendments, the presence of artificial structures must be taken into account when determining the relevance of the Groundwater to Surface Water Interface (GSI) pathway. Artificial structures such as storm sewers and their bedding are present in the area of the LNAPL and therefore could provide preferential pathways for groundwater movement to surface water. However, there is no basis to believe such a preferential path would be present following the bulkheading in the LNAPL area. Upon completion of the bulkheading, there is no connected storm sewer through impacted areas above GSI or LNAPL that vent to a surface water body. Therefore, the GSI pathway, in regard to the storm sewers, is not a complete pathway.

Encl: Figure 1 – Site Map With Bulkheading Locations
Attachment A – Photographic Log of Bulkheading Activities

Figure



LEGEND

TP1-07	COMPLETED TEST PIT LOCATION
MW28-07	COMPLETED MONITORING WELL LOCATION
TMW71-08	COMPLETED TEMPORARY MONITORING WELL LOCATION
BH8-07	COMPLETED SOIL BORING LOCATION
	CURRENT SLOPE/ELEVATION CHANGE FROM ~955 TO 943 FEET AMSL FROM EAST TO WEST, RESPECTIVELY
	APPROXIMATE SITE BOUNDARY
	EXISTING STRUCTURE
	FORMER SITE STRUCTURE
ST	STORM SEWER LINE
M.H.	MANHOLE
C.B.	CATCH BASIN

figure 1

SITE MAP WITH BULKHEADING LOCATIONS

PCC-Validation

Pontiac, Michigan

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Attachment A

Photographic Log of Bulkheading Activities

Photo 1: View of cut/separation of pipe at bulkhead location #1.

Photo 2: View cut and separated pipe and brick and cement in pipe of bulkhead location #1.

SITE PHOTOGRAPHS

Photo 3: View of bentonite collar at bulkhead location #1.

Photo 4: View of cut/separation of pipe at bulkhead location #2.

SITE PHOTOGRAPHS

Photo 5: View of cut/separation of pipe at bulkhead location #3.

Photo 6: View of bentonite collar around lines at bulkhead location #3.

SITE PHOTOGRAPHS

Photo 7: View of backfill at bulkhead locations.

Photo 8: View of backfill at bulkhead locations.

SITE PHOTOGRAPHS