



April 16, 2019

MR JAMES FARKAS
FRASER SHIPYARD INC.
1 CLOUGH AVENUE
SUPERIOR WI 54880

Subject: Request for Technical Assistance
Supplemental Site Investigation Work Plan
Punch Shed Building
BRRTS #02-16-562899

Dear Mr. Farkas,

On March 20, 2019 the Department of Natural Resources (Department) Remediation and Redevelopment Program received a completed Technical Assistance, Environmental Liability Clarification or Post-Closure Modification Request (Form 4400-237) prepared by Environmental Troubleshooters, Inc. (ETI). The technical assistance request was submitted by ETI on behalf of Fraser Shipyards Inc. (FSI). The form was accompanied by the appropriate review fee for a Site Investigation Work Plan (SIWP) dated March 1, 2019 associated with the Fraser Shipyards – Punch Shed Building, BRRTS #02-16-562899 (Site).

Site Background

The Fraser Shipyards Inc. property has a one-hundred-year history as a shipyard facility. In 2014 an addition to the existing Punch Shed building was planned. Geotechnical soil borings performed for building/foundation design encountered soil with petroleum odor. Soil samples were collected for laboratory analysis which lead to a notification of discharge of hazardous substances at the Site in November of 2014. The Department issued a correspondence on December 8, 2014 detailing Fraser Shipyards of their responsibility to bring the site into compliance with Wis. Statue § 292.11, and Wis. Admin. Code chs. NR 700-754.

FSI retained ETI as an environmental consultant in 2014. Prior to this technical assistance request, ETI submitted the following documents for the Site:

- Site Investigation Work Plan (SIWP), February 2015.
- Supplemental SIWP, May 2015.
- Site Investigation Report (SIR), January 2016
- Request for Technical Assistance (formal review of SIR) October 2016
- Additional Site Data with Request for Technical Assistance, December 2018

Between 2015 and 2018 soil sample laboratory analysis, well installation and groundwater monitoring were performed as site investigation efforts. Additionally, approximately 800 tons of

soil was excavated from the addition footprint and landfill disposed. Both the investigative efforts and soil disposal are documented in the January 2016 SIR and the December 2019 additional Site data.

Site Investigation Review Summary

The data from the January 2016 SIR and the data submitted with the December 20, 2018 technical assistance request was reviewed to determine if the site investigation efforts defined the degree and extent of contamination as required by Wis. Admin. Code ch. NR716. The following are comments resulting from the review included in a January 30, 2019 correspondence to FSI:

1. The Department concurs that PAHs are the chemicals of concern at the site.
2. The Department concurs that the Site is zoned Industrial and the use of the Wis. Admin. Code. ch. NR 720 Industrial-Direct Contact (IDC) Residual Contaminant Level (RCL) is appropriate. The Wis. Admin. Code. Ch. NR 720 groundwater protection RCLs are also appropriate at this site.
3. The Department concurs that the degree and extent of soil contaminated by PAHs has been adequately defined. Figure 4 submitted with the December 20, 2018 technical assistance request accurately displays the area of soil impact exceeding the IDC-RCL.
4. The Department does not concur that degree and extent of groundwater contamination by PAHs at the site is adequately defined. This pertains to consistent exceedances of Wis. Admin. Code NR 140 Enforcement Standards in sidegradient well MW-3 and upgradient well MW-4. It is recommended to install additional wells to full define degree and extent as required by Wis. Admin. Code NR § 716.01.

Additional comments regarding a pathway to Site closure were also presented in the January 30, 2019 Supplemental SIR review and are as follows:

- Vapor intrusion was not addressed in any submittals to date. Even though PAHs are not considered volatile, this should be noted in the SIR as per Wis. Admin. Code §. NR 716.11(5)(a).
- A remedial action options report as required by Wis. Admin. Code. § NR 722.13 should be submitted for the Site.
- To comply with Wis. Admin. Code. ch. NR 726, the following continuing obligations may be required for site closure:
 - Groundwater contamination is present at or above ch. NR 140, Wis. Adm. Code enforcement standards therefore continuing obligation such as Department approval to construct a new potable water well may be required.
 - Residual soil contamination exists that would require proper management should it be excavated or removed.
 - An engineered cover or a soil cover be required over contaminated soil and the Department would require notification and approval for any changes to any barrier.
 - If a structural impediment that obstructed a complete site investigation and/or cleanup is removed or modified, additional environmental work must be completed.

- Industrial soil standards may be applied for closure, and industrial zoning is required. Before the land use may be changed from industrial to non-industrial, additional environmental work may be required.
- Per Wis. Admin. Code ch. NR 712 all future submittals should include the proper certification language as outlined in Guidance Document RR081 – *Wis. Admin Code ch. NR 712 Qualifications and Certifications* which can be found at the following link: <https://sp.dnr.enterprise.wisstate.us/org/em/Bureau-RR/Publications/RR081.pdf>.
- Per Wis. Admin. Code § NR 700.11(3g) future submittals should follow the procedures outlined in Guidance Document RR690 – *Guidance for submitting Documents* which can be found at the following link: <https://sp.dnr.enterprise.wisstate.us/org/em/Bureau-RR/Publications/RR690.pdf>.

The January 30, 2019 technical review indicated further site work was required regarding the degree and extent of groundwater contamination and vapor intrusion. That correspondence also requested a Supplemental Site Investigation Work Plan that addresses the comments in that review.

Supplemental Site Investigation Work Plan Review

The Supplemental SIWP efforts focus on two (2) activities at the Site:

1. Groundwater Contamination Investigation
2. Vapor Intrusion Assessment

Groundwater Contamination Investigation;

The January 30, 2019 SIR review correspondence indicated further groundwater delineation of PAH contamination was required around existing wells MW-3 and MW-4. The groundwater investigation efforts proposed in the Supplemental SIWP include installation of five (5) temporary wells. In the Supplemental SIWP, Figure 5, Groundwater Benzo(a)Pyrene dated February 28, 2019 by ETI displays the proposed location of the temporary wells; three (3) of the temporary wells proposed locations are down/sidegradient of PS-MW-3 and two (2) of the temporary wells proposed locations are upgradient of PS-MW-4. The wells would be sampled for analysis of PAH compounds. The Supplemental SIWP also states if results from the temporary wells indicate the need for further delineation, additional temporary wells would be installed. The data would then be used to determine locations for installation of permanent groundwater monitoring wells.

The Department concurs on the proposed strategy regarding the use of temporary wells and the proposed locations displayed on Figure 5. The ultimate objective of the site investigation activities is to fully define the degree and extent of contamination to all site media as required by Wis. Admin. Code ch. NR716.

Vapor Intrusion Assessment;

The Supplemental SIWP proposes a vapor intrusion assessment in accordance with the Department's guidance document RR-800 *Assessing Vapor Intrusion at Remediation and Redevelopment Sites in Wisconsin*. A vapor pathway assessment is proposed at the Punch Shed Building. The assessment would inspection for direct vapor pathways (i.g. dry floor drains, cracked concrete). If the inspection locates direct routes of vapor intrusion, further investigative efforts would be proposed to the Department. required by Wis. Admin Code ch. NR716.

The Department concurs with the proposed approach regarding vapor intrusion.

Thank you for the opportunity to provide technical assistance for this Site. If you have any comments or questions, please feel free to contact me.

Sincerely,



John T. Hunt
Hydrogeologist - Remediation & Redevelopment Program
Northern Region

Cc: John McCarthy (ETI jmccarthy@etsmn.com.)