CON: 12-15
Doc #33744

resourceful. naturally.
engineering and environmental consultants

BARR

November 7, 2017

Dan Cook
Iowa Department of Natural Resources
Contaminated Sites – Land Recycling Program
502 E 9th Street
Des Moines, IA 50319

Re: CP West Davenport Final Report

Dear Mr. Cook:

The letter, prepared on behalf of Canadian Pacific (CP), summarizes site assessment, groundwater statistical evaluation, response actions (implementation of institutional controls), and risk calculator results for the CP West Davenport Yard (Site). The affected area at the Site was defined in the Land Recycling Program (LRP) Enrollment Application (Barr, 2013). Site activities were completed under the participation agreement between IDNR LRP and CP executed in January 2014.

Site conditions and proposed response actions were detailed in the IDNR-approved Risk Evaluation and Response Action Plan (RE/RAP; Barr, 2015). Response actions have been completed consistent with the RE/RAP (Barr, 2015). This letter is intended to satisfy the requirements of Iowa Administrative Code Chapter 137.10(8) for the final report, submitted after completion of response actions.

Site Assessments

Multiple assessments have been completed at the Site to evaluate soil and groundwater quality and develop response actions to address potential exposure risk from impacted soil and groundwater. A chronological summary of the previous assessments is provided below:

- Phase I Environmental Site Assessment (Barr, 2009) – Identified three recognized environmental conditions (RECs) within the affected area, including: 1) oil staining on the tracks near the Depot, 2) oil staining on the tracks near the greaser, and 3) regulatory listing for a spill (limited information in the IDNR file for the spill). Six RECs on upgradient or adjacent properties were also identified.
- Limited Phase II Environmental Site Assessment (Barr, 2010) – Identified petroleum impacts to soil near the stained tracks and arsenic and benzo(a)pyrene concentrations above the Iowa Statewide Standards in the near-surface fill comprising the track roadbed. The area of elevated concentrations is covered by railroad ballast or asphalt.
- Supplemental Investigation (Barr, 2011) – Identified low-level groundwater concentrations of arsenic and lead above Iowa Statewide Standards.
- Groundwater Monitoring (Barr, 2012 & 2013) – Identified arsenic and total petroleum hydrocarbons (TPH) in groundwater at concentrations greater than Iowa Statewide Standards.

Further information on the site assessments is provided in the RE/RAP (Barr, 2015).

Groundwater Statistical Evaluation

A statistical evaluation was conducted to evaluate the influence residual impacts at the affected area have on groundwater conditions. Total petroleum hydrocarbons (diesel and oil ranges) and arsenic have been measured at concentrations above Iowa statewide standards, and, for arsenic, EPA maximum contaminant levels (MCLs) in a small number of samples from wells in the affected area (MW-3, MW-4, and MW-5.). As the exeedences were only measured intermittently, statistical tests were conducted on the groundwater data set to assess whether a statistically significant trend of increasing concentration has been observed over time, and whether statistical outliers were present in the data set. The statistical tests were conducted using ProUCL, a groundwater statistical software developed by the United States Environmental Protection Agency. The outputs from each statistical test are provided in Attachment A.

The TPH results are all below the Iowa statewide standards (44 mg/L for non-protected, 2.2 for protected groundwater) except the TPH (C12-C22 and C-22-C54 range) results from a sample collected from MW-5 in August 2012. Dixon's test indicated these results are statistical outliers. Resampling at this well in May and October 2013 did not verify the August 2012 results. Therefore, this data does not appear to be representative of the conditions at the Site.

Arsenic concentrations in samples from well MW-3 have intermittently been above the MCL and Iowa statewide standard for protected groundwater of 0.010 mg/L (4 of 6 sampling events). The arsenic concentrations correlate with measurements of a negative oxidation-reduction potential, and appear to be related to the mobilization of arsenic from the soil matrix under reducing conditions. The resulting elevated arsenic concentrations are within the range of statewide groundwater concentrations in rural wells (Iowa Geological and Water Survey, 2015).

Trend tests were conducted on arsenic and TPH concentrations for each well (Mann-Kendall trend test) and for all wells grouped together (Theil-Sen trend test). All of the trend tests indicated that there was no statistically significant evidence of an increasing trend (i.e. groundwater concentrations are stable).

Risk Calculator

The IDNR Cumulative Risk Calculator (CRC) was completed for site worker, construction worker, and site resident exposure scenarios for all constituents detected above laboratory reporting limits. Because Site groundwater is not used and is precluded from future use by the environmental covenant, groundwater data was excluded from the CRC analysis as specified in the IDNR CRC instructions. The cumulative cancer risk for the remaining exposure pathways is less than 10^{-4} for the site worker and construction worker exposure scenarios. The cumulative cancer risk for the site resident exposure scenario is greater than 10^{-4}. The hazard quotient (HQ) for non-cancer risk was less than one for each target organ for each exposure scenario, with the exception of the HQ for the heart and gastrointestinal organs for the site resident exposure scenario. No one lives on the Site and maintenance of the soil cover as detailed in the environmental covenant will prevent exposure to shallow soil if future land use changes. The CRC results indicate that the risk is below acceptable levels through implementation of the environmental covenant. The CRC output for each exposure scenario is provided as Attachment C.

Conclusions

Soil and groundwater conditions have been characterized at the Site through subsurface investigation and groundwater monitoring. A statistical evaluation of groundwater monitoring data indicates that statistically stable groundwater concentrations are present, and that the constituents that have intermittently exceeded groundwater standards are either outliers or represent fluctuations in groundwater chemistry that results in groundwater concentrations similar to those present in other areas of the state. An environmental covenant has been recorded with Scott County to prevent future exposure to impacted soil and groundwater at the Site. The risk to site worker, construction worker, or site resident exposure scenarios are below acceptable levels through implementation of the environmental covenant. Based on the successful implementation of response actions, no further action is recommended.

Please contact Jeremy Coughlin (CP) at 612-904-5986 or myself at 952-832-2837 if you have any questions on this report or if you would like to discuss the CP West Davenport Yard.

Sincerely,

Alec Danielson, PE

References:

Iowa Geological and Water Survey. 2013 SURVEY OF IOWA GROUNDWATER and Evaluation of Public Well Vulnerability Classifications for Contaminants of Emerging Concern. Technical Information Series 57. May 2015. https://s-iihr34.iihr.uiowa.edu/publications/uploads/2015-06-23_11-06-38_tis-57.pdf

Attachments

Attachment A Groundwater Statistical Evaluation – ProUCL Outputs

Attachment B Recorded Environmental Covenant

Attachment C Cumulative Risk Calculator Output

Attachment A – Groundwater Statistical Evaluation – ProUCL Outputs

Mann-Kendall Trend Test Analysis

User Selected Options	
Date/Time of Computation	8/28/2017 1:15:09 PM
From File	ProUCL_data_CP-WEST_DAVENPORT_with date.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Arsenic-mw-3

General Statistics

Number of Events Reported (m)	6
Number of Missing Events	0
Number or Reported Events Used	6
Number Values Reported (n)	6
Minimum	0.00334
Maximum	0.0458
Mean	0.0204
Geometric Mean	0.0135
Median	0.0101
Standard Deviation	0.0194

Mann-Kendall Test

Test Value (S)	8
Tabulated p-value	0.068
Standard Deviation of S	5.228
Standardized Value of S	1.339
Approximate p-value	0.0903

Insufficient evidence to identify a significant trend at the specified level of significance.

Arsenic-mw-5

General Statistics

Number of Events Reported (m)	6
Number of Missing Events	0
Number or Reported Events Used	6
Number Values Reported (n)	6
Minimum	0.001
Maximum	0.005
Mean	0.00222
Geometric Mean	0.00179
Median	0.00137
Standard Deviation	0.00167

Mann-Kendall Test

Test Value (S)	6
Tabulated p-value	0.136
Standard Deviation of S	5.228
Standardized Value of S	0.956
Approximate p-value	0.169

Insufficient evidence to identify a significant trend at the specified level of significance.

Mann-Kendall Trend Test Analysis

User Selected Options	
Date/Time of Computation	8/28/2017 1:20:35 PM
From File	ProUCL_data_CP-WEST_DAVENPORT_with date.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Total Petroleum Hydrocarbons C12-C22-mw-3

General Statistics

Number of Events Reported (m)	6
Number of Missing Events	0
Number or Reported Events Used	6
Number Values Reported (n)	6
Minimum	0.242
Maximum	0.3
Mean	0.29
Geometric Mean	0.289
Median	0.3
Standard Deviation	0.0237

Mann-Kendall Test

Test Value (S)	-5
Tabulated p-value	0.235
Standard Deviation of S	3.416
Standardized Value of S	-1.171
Approximate p-value	0.121

Insufficient evidence to identify a significant trend at the specified level of significance.

Total Petroleum Hydrocarbons C12-C22-mw-5

General Statistics

Number of Events Reported (m)	6
Number of Missing Events	0
Number or Reported Events Used	6
Number Values Reported (n)	6
Minimum	0.242
Maximum	1470
Mean	245.3
Geometric Mean	1.231
Median	0.313
Standard Deviation	600

Mann-Kendall Test

Test Value (S)	-4
Tabulated p-value	0.235
Standard Deviation of S	5.228
Standardized Value of S	-0.574
Approximate p-value	0.283

Insufficient evidence to identify a significant trend at the specified level of significance.

Mann-Kendall Trend Test Analysis

User Selected Options	
Date/Time of Computation	8/28/2017 1:22:58 PM
From File	ProUCL_data_CP-WEST_DAVENPORT_with date.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Total Petroleum Hydrocarbons C22-C54-mw-3

General Statistics

Number of Events Reported (m)	6
Number of Missing Events	0
Number or Reported Events Used	6
Number Values Reported (n)	6
Minimum	0.3
Maximum	0.6
Mean	0.364
Geometric Mean	0.351
Median	0.3
Standard Deviation	0.12

Mann-Kendall Test

Test Value (S)	5
Tabulated p-value	0.235
Standard Deviation of S	4.435
Standardized Value of S	0.902
Approximate p-value	0.184

Insufficient evidence to identify a significant trend at the specified level of significance.

Total Petroleum Hydrocarbons C22-C54-mw-5

General Statistics

Number of Events Reported (m)	6
Number of Missing Events	0
Number or Reported Events Used	6
Number Values Reported (n)	6
Minimum	0.251
Maximum	33.8
Mean	5.885
Geometric Mean	0.66
Median	0.313
Standard Deviation	13.68

Mann-Kendall Test

Test Value (S)	-4
Tabulated p-value	0.235
Standard Deviation of S	5.228
Standardized Value of S	-0.574
Approximate p-value	0.283

Insufficient evidence to identify a significant trend at the specified level of significance.

Outlier Tests for Selected Variables replacing nondetects with 1/2 the Detection Limit

User Selected Options

Date/Time of Computation 8/31/2017 3:45:02 PM

From File ProUCL_data_CP-WEST_DAVENPORT_with date.xls

Full Precision OFF

Dixon's Outlier Test for Total Petroleum Hydrocarbons C12-C22

Total N = 13

Number NDs = 12

Number Detects = 1

Number Data (n) = 13

10% critical value: 0.467

5% critical value: 0.521

1% critical value: 0.615

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 1470 is a Potential Outlier (Upper Tail)?

Test Statistic: 1.000

For 10% significance level, 1470 is an outlier.

For 5% significance level, 1470 is an outlier.

For 1% significance level, 1470 is an outlier.

Dixon's Outlier Test for Total Petroleum Hydrocarbons C22-C54

Total N = 13

Number NDs = 9

Number Detects = 4

Number Data (n) = 13

10% critical value: 0.467

5% critical value: 0.521

1% critical value: 0.615

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 33.8 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.993

For 10% significance level, 33.8 is an outlier.

For 5% significance level, 33.8 is an outlier.

For 1% significance level, 33.8 is an outlier.

Theil-Sen Trend Test Analysis

User Selected Options	
Date/Time of Computation	8/28/2017 13:12
From File	ProUCL_data_CP-WEST_DAVENPORT_with date.xls
Full Precision	OFF
Average Replicates	Replicates at sampling events will be averaged!
Confidence Coefficient	0.95
Level of Significance	0.05

Arsenic

General Statistics	
Number of Events	13
Number of Values Reported (n)	13
Number of Values After Averaging	6
Number of Replicates	7
Minimum	0.00198
Maximum	0.0254
Mean	0.0112
Geometric Mean	0.00752
Median	0.00555
Standard Deviation	0.0106
Mann-Kendall Statistics	
Test Value (S)	8
Tabulated p-value	0.068
Standard Deviation of S	5.228
Standardized Value of S	1.339
Approximate p-value	0.0903
Approximate inference for Theil-Sen Trend Test	
Number of Slopes	15
Theil-Sen Slope	2.70E-05
Theil-Sen Intercept	-1.106
M1	2.377
M2	12.62
95% LCL of Slope (0.025)	-1.59E-06
95% UCL of Slope (0.975)	5.35E-05

Insufficient evidence to identify a significant trend at the specified level of significance.

Theil-Sen Trend Test Analysis

User Selected Options	
Date/Time of Computation	8/28/2017 1:17:59 PM
From File	ProUCL_data_CP-WEST_DAVENPORT_with date.xls
Full Precision	OFF
Average Replicates	Replicates at sampling events will be averaged!
Confidence Coefficient	0.95
Level of Significance	0.05

Total Petroleum Hydrocarbons C12-C22

General Statistics

Number of Events	13
Number of Values Reported (n)	13
Number of Values After Averaging	6
Number of Replicates	7
Minimum	0.242
Maximum	735.2
Mean	122.8
Geometric Mean	1.077
Median	0.306
Standard Deviation	300

Mann-Kendall Statistics

Test Value (S)	-2
Tabulated p-value	0.36
Standard Deviation of S	5.228
Standardized Value of S	-0.191
Approximate p-value	0.424

Approximate inference for Theil-Sen Trend Test

Number of Slopes	15
Theil-Sen Slope	-3.188E-5
Theil-Sen Intercept	1.616
M1	2.377
M2	12.62
95% LCL of Slope (0.025)	-1.129
95% UCL of Slope (0.975)	1.009

Insufficient evidence to identify a significant trend at the specified level of significance.

Theil-Sen Trend Test Analysis

User Selected Options	
Date/Time of Computation	8/28/2017 1:19:09 PM
From File	ProUCL_data_CP-WEST_DAVENPORT_with date.xls
Full Precision	OFF
Average Replicates	Replicates at sampling events will be averaged!
Confidence Coefficient	0.95
Level of Significance	0.05

Total Petroleum Hydrocarbons C22-C54

General Statistics

Number of Events	13
Number of Values Reported (n)	13
Number of Values After Averaging	6
Number of Replicates	7
Minimum	0.3
Maximum	17.2
Mean	3.124
Geometric Mean	0.603
Median	0.312
Standard Deviation	6.896

Mann-Kendall Statistics

Test Value (S)	6
Tabulated p-value	0.136
Standard Deviation of S	5.228
Standardized Value of S	0.956
Approximate p-value	0.169

Approximate inference for Theil-Sen Trend Test

Number of Slopes	15
Theil-Sen Slope	2.1595E-5
Theil-Sen Intercept	-0.575
M1	2.377
M2	12.62
95% LCL of Slope (0.025)	-0.026
95% UCL of Slope (0.975)	0.0232

Insufficient evidence to identify a significant trend at the specified level of significance.

Attachment B – Recorded Environmental Covenant

Doc ID: 020619430017 Type: LAN
Recorded: 02/25/2016 at 09:39:09 AM
Fee Amt: $87.00 Page 1 of 17
Scott County Iowa
Rita A. Vargas Recorder
File 2016-00004401

Type / Title of Document: Environmental Covenant

Return Document to:

Name: Canadian Pacific, Attn: Jeremy Coughlin

Address: 120 South Sixth Street, Suite 900 Minneapolis 55402
Street Address City Zip

Telephone: 612-904-5986

Preparer Information

Name: Barr Engineering – Alec Danielson

Address: 4700 West 77th Street Edina 55435
Street Address City Zip

Telephone: 952-832-2837

Taxpayer Information

Name: Canadian Pacific

Address: 120 South Sixth Street; 7th Floor Tax Department, Minneapolis 55402
Street Address City Zip

Telephone: 1-800-852-6750

Grantor(s): Dakota, Minnesota & Eastern Railroad Corporation doing business as Canadian Pacific

Holder(s) / Grantee(s): Dakota, Minnesota & Eastern Railroad Corporation doing business as Canadian Pacific

Legal Description, including parcel identification number, if available:

See Attached

State law requires that all instruments have signatures notarized. See Iowa Code, 9E.14, 9E.15, and 558.39.

On or after July 1, 2005, any document that does not conform to the document formatting standards shall not be recorded except upon payment of an additional recording fee of ten dollars ($10.00) per document or instrument.

LRP
ENVIRONMENTAL COVENANT

This environmental covenant is established pursuant to Iowa Code 455I entitled Uniform Environmental Covenants Act (*see also* 2005 Iowa Acts, Senate File 375).

Dakota, Minnesota & Eastern Railroad Corporation doing business as Canadian Pacific, hereafter "grantor(s)", Dakota, Minnesota & Eastern Railroad Corporation doing business as Canadian Pacific, hereafter "holder", and the Iowa Department of Natural Resources (Department) in its capacity as an agency enter into this environmental covenant for the purpose of subjecting the property described below to certain activity and use limitations in accordance with the terms and conditions as specified below, authority granted the Department in Iowa Code sections 455B.103(7), 455H.206, and 455I, and Department rules in chapter 567 Iowa Administrative Code (I.A.C.) 137.

1. **Affected Property**. The grantor(s) identified below is the fee title owner(s) of the property located at730 Schmidt Road, Davenport, Iowa. The affected area is provided in Exhibit A and is composed of a portion of multiple parcels with the legal descriptions provided in Exhibit B. Hereinafter, the affected property will be referred to as "the property."

2. **Land Recycling Program Risk Management**. The property subject to this covenant is enrolled in the Department's Land Recycling Program (LRP) established in Iowa Code chapter 455H and administered under Department rules in chapter 567 Iowa Administrative Code (I.A.C.) 137.

Under the LRP, the environmental response project as defined in Iowa Code section 455I.2(5) has consisted of a soil and groundwater investigation and risk assessment of an affected area which includes this property. This response action has been undertaken by Canadian Pacific Railway. Soil and/or groundwater contamination has been identified on the property. The Department has approved a response action plan which includes the use of this environmental covenant as one method for managing the risk of future exposure to this contamination.

Site Assessment Activities include the following documents:

- Barr Engineering Company, 2009. *Phase I Environmental Site Assessment, DM&E Corridor – West Davenport, Iowa.* Prepared for Canadian Pacific. November 2009.
- Barr Engineering Company, 2011a. *Limited Phase II Investigation Report, West Davenport Corridor – Dakota Minnesota and Eastern Railroad, West Davenport, Iowa.* Prepared for Canadian Pacific. January 2011.
- Barr Engineering Company, 2011b. *Supplemental Investigation and Monitoring Report, West Davenport Corridor – Dakota Minnesota and Eastern Railroad.* Prepared for Canadian Pacific. November 2011.
- Barr Engineering Company, 2012. 2012 *Groundwater Monitoring Report, West Davenport Corridor – Dakota Minnesota and Eastern Railroad.* Prepared for Canadian Pacific. October 2012.

- Barr Engineering Company, 2013. 2013 *Groundwater Monitoring Report, West Davenport Yard – Dakota Minnesota and Eastern Railroad.* Prepared for Canadian Pacific. November 2013.
- Barr Engineering Company, 2015. West Davenport Yard Risk Evaluation and Response Action Plan. Prepared for Canadian Pacific Railway. April, 2015.

3. **Institutional Controls.** Iowa Code section 455H.206 and Department rules in chapter 567 I.A.C. 137 authorize the use of an environmental covenant as an institutional control. The purpose of this environmental covenant is to manage the risk of future exposure to existing contaminant conditions by limiting specified land use activities at this property, establishing affirmative obligations and enforcing the terms of this covenant.

4. **Reopening.** The signatories acknowledge that failure of these activity and use limitations to serve their intended purpose of preventing the risk of exposure to contaminant conditions could result in the Department reopening review and regulation of the property as provided under the terms of this environmental covenant, Iowa Code chapter 455H, Iowa Code chapter 455I and applicable Department administrative rules.

5. **Identity of Grantor(s) and Holder(s):**

GRANTOR(S): Dakota, Minnesota & Eastern Railroad Corporation doing business as Canadian Pacific

HOLDERS: Dakota, Minnesota & Eastern Railroad Corporation doing business as Canadian Pacific

AGENCY: Iowa Department of Natural Resources

6. **Representations and Warranties**. The grantor(s) warrant to the other signatories to this covenant the following:

a. that the grantor is the sole fee title owner of the property;
b. that the grantor holds sufficient fee title to the property to grant the rights and interests described in this covenant free of any conflicting legal and equitable claims;

7. **Running with the Land**. This environmental covenant is perpetual and runs with the land as provided in Iowa Code section 455I.9 until modified or terminated. The terms of this environmental covenant are binding on the grantors and all successors in interest, assigns and all transferees acquiring or owning any right, title, lien or interest in the property and their heirs, successors, assigns, grantees, executors, administrators and devisees. The term "transferee," as used in this environmental covenant, shall mean any future owner of any interest in the property or any portion thereof, including, but not limited to, owners of an interest in fee simple, contract buyers, mortgagees, easement holders and/or lessees.

8. **Activity and Use Limitations and Terms**. The property is subject to the following use limitations and terms:

- Drinking water wells as defined by 567 IAC Chapter 135.2 may not be installed at the property.
- Engineered cover materials, such as pavement, engineered ballast rock, compacted gravel roadbase or other compacted materials which would limit the potential for incidental direct contact exposure to underlying contaminated soils, shall be maintained in the affected area. The current distribution of engineered cover materials at the property are shown in Exhibit C. Periodic inspections of the cover will be conducted (at a minimum during changes of land use) and the records of the inspections will be maintained by the grantor. Inspection records will be available for review at Agency request and/or prior to property transaction.

9. **Notice of Non-Compliance.** Any property owner or subsequent transferee of an interest in the property shall notify the Department as soon as possible of conditions which would constitute a breach of the activity and use limitations in paragraph eight (8) if they have actual knowledge of these conditions or would reasonably be deemed to have knowledge within the normal course of administration of their property interest.

10. **Notice to Lessees.** Grantor, any holder with a property interest sufficient to grant a lease of the property, and any subsequent transferee shall incorporate the activity and use limitations of this covenant either in full or by reference to this instrument in any lease, license, or other instrument granting a right to possession of the property.

11. **Access to Property.** Reasonable access to the property is granted the Department or any authorized representative of the Department, public or private, for the purpose of implementation, monitoring and enforcement of the terms of this environmental covenant. The Department, its authorized representatives or other persons entitled to access shall provide the current owner of the property with reasonable notice, an explanation of the reasons for entry and the scope of onsite activities prior to access. Right of access includes, but is not limited to, the following activities:

a. repair and maintenance of remedial action equipment, soil caps, groundwater monitoring wells and associated aboveground or subsurface structures
b. fencing and other technological controls.
c. groundwater sampling and monitoring
d. additional drilling
e. construction of soil boring and/or groundwater monitoring wells
f. other activities authorized or otherwise directed by the Department.

12. **Groundwater Hazard Statement Notice.** Iowa Code section 558.69 requires submission of a groundwater hazard statement and disclosure if "hazardous waste" exists on the property as defined in Iowa Code subsections 455B.411(3), 455B.412(2) or section 455B.464 or if the Department determines that solid waste exists on the property that is potentially hazardous. If hazardous waste is present, the groundwater hazard statement must state that the condition is

being managed in accordance with Department rules. The signatories and all subsequent transferees required to submit a groundwater hazard statement under Iowa Code section 558.69 shall make reference to this environmental covenant in substantially the following form:

> THE INTEREST CONVEYED IS SUBJECT TO AN ENVIRONMENTAL COVENANT, DATED *[date month, day, year]* RECORDED IN THE DEED OR OFFICIAL RECORDS OF THE *[NAME]* COUNTY RECORDER ON *[date month, day, year]* IN *[document, book and page, or parcel number]*.
>
> THE ENVIRONMENTAL COVENANT CONTAINS THE FOLLOWING ACTIVITY AND USE LIMITATIONS: *[language that describes the activity and use limitations exactly as it appears in the environmental covenant.]*

13. **Modification and Termination.** Modification or termination of the terms of this covenant shall comply with the standards in Iowa Code chapter 455H.206 and applicable Department administrative rules. The terms of this environmental covenant may be modified or terminated by written consent of the Director of the Department, the then current fee simple title owner and all original signatories (unless exempted under the provisions of Iowa Code section 455I.10(1)"c" in accordance with and subject to the provisions of Iowa Code section 455I.10). The termination or modification is not effective until the document evidencing consent of all necessary persons is properly recorded. If not by consent, any modification or termination of this environmental covenant shall be in accordance with Iowa Code section 455I.9 and such additional terms as specified in this covenant.

14. **Enforcement.** The terms of this environmental covenant may be enforced in a civil action for injunctive or other equitable relief by the signatories and those persons authorized by and in accordance with Iowa Code section 455I.11.

15. **Severability.** If any provision of this environmental covenant is found to be unenforceable in any respect, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired.

16. **Governing Law**. This environmental covenant shall be governed by and interpreted in accordance with the laws of the State of Iowa.

17. **Recordation.** Within thirty (30) days after Department approval of this environmental covenant, the grantor[s] shall record the environmental covenant in the same manner as a deed to the property with the Clinton County Recorder's Office.

18. **Effective Date**. The effective date of this environmental covenant shall be the date upon which the fully executed environmental covenant has been properly recorded with the Clinton County Recorder's Office.

19. **Notice**. Unless otherwise notified in writing by the Department, any document or communication required by this environmental covenant shall be submitted to:

Iowa Department of Natural Resources
Land Recycling Program
Wallace State Office Building
502 E 9th Street
Des Moines, IA 50319

20. **Subordination and Consent**. By signing this environmental covenant, the signatories knowingly and intelligently acknowledge their consent to the terms of this agreement and agree to subordinate their interest in the property. The following persons have expressly consented and subordinated interests: None.

21. **Notice of Change in Ownership**. Grantor and holder with sufficient property interest to convey a possessory interest in the property and any subsequent transferee with sufficient interest shall reference and incorporate the terms of this agreement into any subsequent instrument which conveys a possessory interest in the property.

ACKNOWLEDGMENTS

GRANTORS

_____ Signed this 29th day of October, 2015.
Patrick Mooney
Director, Real Estate & Facilities Management-U.S.
Canadian Pacific

State of Minnesota
County of Hennepin

This instrument was acknowledged before me on Oct. 29, 2015 (date) by Patrick Mooney (name(s) of persons) as Director, RE+Fac Mgmt-US (type of authority, e.g., officer, trustee, etc.) of Canadian Pacific (name of party on behalf of whom the instrument was executed).

_____
Notary Public, State of Minnesota:

Kristine Marie Williams
Title

1/31/17
Date Commission Expires

KRISTINE MARIE WILLIAMS
NOTARY PUBLIC
MINNESOTA
My Commission Expires Jan. 31, 2017

HOLDERS:

_____ Signed this 29 day of October, 2015.
Patrick Mooney
Director, Real Estate & Facilities Management-U.S.
Canadian Pacific

State of Minnesota
County of Hennepin

This instrument was acknowledged before me on Oct. 29, 2015 (date) by Patrick Mooney (name(s) of persons) as Director, RE+Fac Mgmt-US (type of authority, e.g., officer, trustee, etc.) of Canadian Pacific (name of party on behalf of whom the instrument was executed).

_____
Notary Public, State of Minnesota:

Kristine Marie Williams
Title

1/31/17
Date Commission Expires

KRISTINE MARIE WILLIAMS
NOTARY PUBLIC
MINNESOTA
My Commission Expires Jan. 31, 2017

AGENCY:

Chuck Gipp Signed this 16th day of October, 2015

Chuck Gipp
Director, Iowa Department of Natural Resources

State of Iowa)
County of Polk)

On this 16 day of October, 2015, before me personally appeared Chuck Gipp, known to me to be the Director of the Iowa Department of Natural Resources or the lawful designee of the Director who executed the foregoing instrument, and acknowledge that this person executed the same as his/her/their voluntary act and deed.

Karen Fynaardt,
Notary Public for State of Iowa

NOTARIAL SEAL IOWA
KAREN FYNAARDT
COMMISSION NO. 188249
MY COMMISSION EXPIRES
JANUARY 13, 2018

EXHIBIT A – AFFECTED AREA

Affected Area

Site Boundary

N

Feet

100 0 100

BARR

Exhibit A

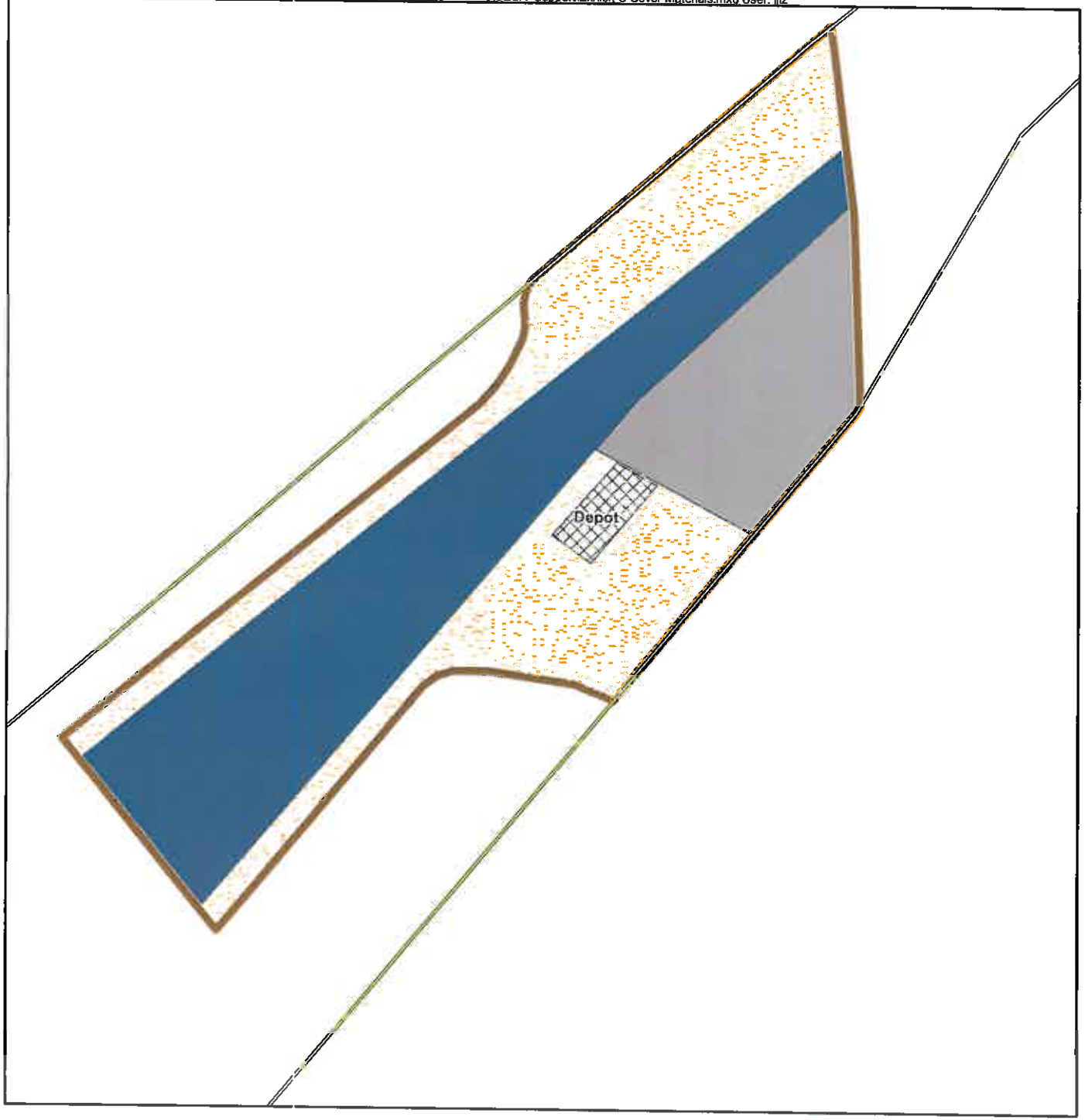
AFFECTED AREA
730 Schmidt Road
Davenport, IA

EXHIBIT B – PROPERTY LEGAL DESCRIPTION

Exhibit B

"A parcel of land located in the NW ¼ of the SE ¼ of section 34, township 78N, and range 3E, as described in document recorded with the Scott County Recorder's office on 1/27/1806 in book 62, page 604."

EXHIBIT C – COVER MATERIALS



Depot
Compacted Gravel
Pavement
Track and Engineered Ballast
Affected Area
Site Boundary

N

Feet
100 0 100

BARR

Exhibit C

COVER MATERIALS
730 Schmidt Road
Davenport, IA

EXHIBIT D – PROPERTY INTEREST FORM

PROPERTY INTEREST FORM

To: Iowa Department of Natural Resources (DNR)
Wallace State Office Building
902 E 9th Street
Des Moines, IA 50319

Re: Environmental Covenant Supporting Documentation
Subject Property Location: 730 Schmidt Road, Davenport, Iowa
Source Site Location: 730 Schmidt Road, Davenport, Iowa
DNR File Reference: Enrolled in Land Recycling Program as Canadian Pacific Railyard – West Davenport, Iowa

This letter is to certify that Canadian Pacific has conducted a thorough search of the real estate records and has identified the following legal and equitable interests in the property in accordance with Department rules in chapter 567 Iowa Administrative Code 14.

FEE TITLE OWNER

1. The current fee title interests evidenced by a warranty deed, deed of trust or similar instrument:
   a. Owner: Dakota, Minnesota & Eastern Railroad Corporation doing business as Canadian Pacific
   b. Name as written on instrument: The Chicago, Rock Island and Pacific Railway Company
   c. Address: Suite 900 120 S. 6th Street Minneapolis MN 55402
   d. Phone Number: 612-904-5986
   e. Reference: 100085 (copy attached)
2. Current property interests evidenced by a "Quit Claim Deed":
   a. None
   b.

CONTRACT INTEREST

1. Current contract buyers or assignees of contracts for the sale of the property:
   a. None
   b.
2. Current contract sellers of the property:
   a. None

b. _____

LEASEHOLDERS

1. all current leaseholders, whether recorded or not:
   a. None

MORTGAGES

1. Current recorded mortgages (i.e., persons and institutions who have filed a mortgage interest against the property):
   a. None
   b. _____

LIENS

1. Any recorded liens against the property:
   a. None
   b. _____

OTHER INTERESTS

1. _____
2. _____

Prepared By:

Alec Danielson – Barr Engineering

Attachment C – Cumulative Risk Calculator Output

PREPARER

Preparer N	Site Name	Address	City State Z	Comment
Alec Danie	West Davenport Yard		Davenport, IA	

PREPARER INPUT

Chemical	CASRN	Exposure F	Site-Specific Background Soil Level* (mg/kg)
Acenaphth	000083-32	0.0228	
Acenaphth	000208-96	0.0526	
Acetone	000067-64	0.133	
Anthracen	000120-12	0.223	
Arsenic, In	007440-38	60.6	
Barium	007440-39	528	
Benzo[a]ar	000056-55	0.379	
Benzo[a]py	000050-32	0.931	
Benzo[b]fl	000205-99	1.33	
Benzo[g,h,	000191-24	1.8	
Benzo[k]fl	000207-08	0.143	
Chromium	016065-83	77	
Chrysene	000218-01	0.883	
Dibenz[a,h	000053-70	0.0563	
Fluoranthe	000206-44	1.07	
Fluorene	000086-73	0.0141	
Indeno[1,2	000193-39	0.178	
Lead and C	007439-92	365	
Mercury	007439-97	0.462	
Methylnap	000091-57	2.05	
Naphthale	000091-20	0.898	
Phenanthr	000085-01	1.83	
Pyrene	000129-00	0.862	
TEH Diesel	068334-30	162	
TEH Waste	008002-05	520	

CANCER OUTPUT

Chemical	CASRN	Construction Worker Soil
Arsenic, In	007440-38	0.04
Benzo[a]ar	000056-55	0
Benzo[a]py	000050-32	0
Benzo[b]fl	000205-99	0
Benzo[k]fl	000207-08	0
Chrysene	000218-01	0
Dibenz[a,h	000053-70	0
Indeno[1,2	000193-39	0
Lead and C	007439-92	NQ
Naphthale	000091-20	NQ
TEH Diesel	068334-30	0
TEH Waste	008002-05	0
TOTALS:	Â	0.04

Cumulative Cancer Risk Construction Worker: 0.04

All cancer risk values are x 10^-4

CONSTRUCTION WORKER - NON CANCER OUTPUT BY TARGET ORGAN

Chemical N	CASRN	Media	Heart	Liver	Blood	Kidney	Skin	Endoc	Eye	Immu	Nerve	GenUr	Respi	Other	Devel	Gastro
Acenaphth	000083-32-9															
		Soil			0											
Acenaphth	000208-96-8															
		Soil					0									
Acetone	000067-64-1															
		Soil			0	0	0									
Anthracen	000120-12-7															
		Soil			0										0	
Arsenic, In	007440-38-2															
		Soil	0.57					0.57								0.57
Barium	007440-39-3															
		Soil	0.01				0.01									
Benzo[a]ar	000056-55-3															
		Soil														
Benzo[a]py	000050-32-8															
		Soil													0.01	
Benzo[b]fl	000205-99-2															
		Soil														
Benzo[g,h,	000191-24-2															
		Soil					0									
Benzo[k]fl	000207-08-9															
		Soil														
Chromium	016065-83-1															
		Soil													0	
Chrysene	000218-01-9															
		Soil														
Dibenz[a,h	000053-70-3															
		Soil														
Fluoranthe	000206-44-0															
		Soil			0	0	0									
Fluorene	000086-73-7															
		Soil			0	0										
Indeno[1,2	000193-39-5															
		Soil														
Lead and C	007439-92-1															
		Soil	0.18				0.18									0.18
Mercury	007439-97-6															
		Soil					0									
Methylnap	000091-57-6															
		Soil												0		
Naphthale	000091-20-3															
		Soil										0			0	
Phenanthr	000085-01-8															
		Soil					0									
Pyrene	000129-00-0															
		Soil					0									
TEH Diesel	068334-30-5															
		Soil				0						0			0	
TEH Waste	008002-05-9															
		Soil														
		Sum:	0.76	0	0	0.19	0.57	0	0	0	0	0	0	0	0.19	0.57

PREPARER

Preparer N	Site Name	Address	City State Z	Comment
Alec Danie	West Davenport Yard		Davenport, IA	

PREPARER INPUT

Chemical	CASRN	Exposure P	Site-Specific Background Soil Level* (mg/kg)
Acenaphth	000083-32	0.0228	
Acenaphth	000208-96	0.0526	
Acetone	000067-64	0.133	
Anthracen	000120-12	0.223	
Arsenic, In	007440-38	60.6	
Barium	007440-39	528	
Benzo[a]ar	000056-55	0.379	
Benzo[a]py	000050-32	0.931	
Benzo[b]flu	000205-99	1.33	
Benzo[g,h,	000191-24	1.8	
Benzo[k]flu	000207-08	0.143	
Chromium	016065-83	77	
Chrysene	000218-01	0.883	
Dibenz[a,h	000053-70	0.0563	
Fluoranthe	000206-44	1.07	
Fluorene	000086-73	0.0141	
Indeno[1,2	000193-39	0.178	
Lead and C	007439-92	365	
Mercury	007439-97	0.462	
Methylnap	000091-57	2.05	
Naphthaler	000091-20	0.898	
Phenanthr	000085-01	1.83	
Pyrene	000129-00	0.862	
TEH Diesel	068334-30	162	
TEH Waste	008002-05	520	

CANCER OUTPUT

Chemical	CASRN	Resident Si	Site Worker Soil
Arsenic, In	007440-38	1.56	0.34
Benzo[a]ar	000056-55	0.01	0
Benzo[a]py	000050-32	0.02	0.01
Benzo[b]flu	000205-99	0.02	0.01
Benzo[k]flu	000207-08	0	0
Chrysene	000218-01	0	0
Dibenz[a,h	000053-70	0.01	0
Indeno[1,2	000193-39	0	0
Lead and C	007439-92	NQ	NQ
Naphthaler	000091-20	NQ	NQ
TEH Diesel	068334-30	0	0
TEH Waste	008002-05	0	0
TOTALS:	Â	1.62	0.36

Cumulative Cancer Risk Site Resident: 1.62
Cumulative Cancer Risk Site Worker: 0.36
All cancer risk values are x 10^-4

SITE RESIDENT - NON CANCER OUTPUT BY TARGET ORGAN

Chemical N	CASRN	Media	Heart	Liver	Blood	Kidney	Skin	Endoc	Eye	Immu	Nerve	GenUr	Respi	Other	Devel	Gastro
Acenaphth	000083-32-9															
		Soil			0											
Acenaphth	000208-96-8															
		Soil					0									
Acetone	000067-64-1															
		Soil			0	0	0									
Anthracen	000120-12-7															
		Soil			0										0	
Arsenic, In	007440-38-2															
		Soil	2.8					2.8								2.8
Barium	007440-39-3															
		Soil	0.04				0.04									
Benzo[a]ar	000056-55-3															
		Soil														
Benzo[a]py	000050-32-8															
		Soil														0.05
Benzo[b]flu	000205-99-2															
		Soil														
Benzo[g,h,	000191-24-2															
		Soil					0.01									
Benzo[k]flu	000207-08-9															
		Soil														
Chromium	016065-83-1															
		Soil													0	
Chrysene	000218-01-9															
		Soil														
Dibenz[a,h	000053-70-3															
		Soil														
Fluoranthe	000206-44-0															
		Soil			0	0	0									
Fluorene	000086-73-7															
		Soil			0	0										
Indeno[1,2	000193-39-5															
		Soil														
Lead and C	007439-92-1															
		Soil	0.91				0.91									0.91
Mercury	007439-97-6															
		Soil					0.02									
Methylnap	000091-57-6															
		Soil												0.01		
Naphthaler	000091-20-3															
		Soil										0			0	
Phenanthr	000085-01-8															
		Soil					0									
Pyrene	000129-00-0															
		Soil					0									
TEH Diesel	068334-30-5															
		Soil				0						0			0	
TEH Waste	008002-05-9															
		Soil														
		Sum:	3.75	0	0	0.98	2.8	0	0	0	0	0	0.01	0	0.96	2.8

SITE WORKER - NON CANCER OUTPUT BY TARGET ORGAN

Chemical N	CASRN	Media	Heart	Liver	Blood	Kidney	Skin	Endoc	Eye	Immu	Nerve	GenUr	Respi	Other	Devel	Gastro
Acenaphth	000083-32-9															
		Soil			0											
Acenaphth	000208-96-8															
		Soil					0									
Acetone	000067-64-1															
		Soil			0	0	0									
Anthracen	000120-12-7															
		Soil			0									0		
Arsenic, In	007440-38-2															
		Soil	0.55					0.55								0.55
Barium	007440-39-3															
		Soil	0.01				0.01									
Benzo[a]ar	000056-55-3															
		Soil														
Benzo[a]py	000050-32-8															
		Soil													0.01	
Benzo[b]flu	000205-99-2															
		Soil														
Benzo[g,h,	000191-24-2															
		Soil					0									
Benzo[k]flu	000207-08-9															
		Soil														
Chromium	016065-83-1															
		Soil												0		
Chrysene	000218-01-9															
		Soil														
Dibenz[a,h	000053-70-3															
		Soil														
Fluoranthe	000206-44-0															
		Soil			0	0	0									
Fluorene	000086-73-7															
		Soil			0	0										
Indeno[1,2	000193-39-5															
		Soil														
Lead and C	007439-92-1															
		Soil	0.324				0.324								0.324	
Mercury	007439-97-6															
		Soil					0									
Methylnap	000091-57-6															
		Soil												0		
Naphthale	000091-20-3															
		Soil										0			0	
Phenanthr	000085-01-8															
		Soil					0									
Pyrene	000129-00-0															
		Soil					0									
TEH Diesel	068334-30-5															
		Soil				0						0			0	
TEH Waste	008002-05-9															
		Soil														
		Sum:	0.884	0	0	0.334	0.55	0	0	0	0	0	0	0	0.334	0.55