


FINAL MEMORANDUM

DATE: May 20, 2008

TO: Neil Doyle – CenterPoint Intermodal, LLC

FROM: Peter M. Knysz – CBBEL 

SUBJECT: Summary of Sampling Activities Regarding USACE Permit No. 199900519, CenterPoint Intermodal Center/Deer Run Industrial Park, Will County, Illinois (CBBEL Project No. 99-58G.07)

COPIES: Eric Gilbert – CenterPoint Intermodal, LLC
Brian McKiernan – CenterPoint Intermodal, LLC
Kevin Breslin – Richmond Breslin LLP

As requested, this memorandum summarizes the various sampling activities required by the Section 404 (Clean Water Act) Permit for the CenterPoint Intermodal Center/Deer Run Industrial Park (CIC/DRIP) site located in Elwood, Will County, Illinois.

Introduction/Background

On September 22, 2000, the U.S. Army Corps of Engineers (USACE) authorized Permit No. 199900519 for 45.5 acres of wetland fill for the construction of CIC/DRIP. The CIC/DRIP project site is located adjacent to several special management/natural areas, including Midewin National Tallgrass Prairie (MNTP, USDA Forest Service property), Jackson Creek, and Grant Creek (Exhibit 1).

To determine if the construction, operation, and stormwater runoff from the intermodal center was potentially negatively impacting the adjacent creeks, the wetland permit issued by the USACE incorporated several special conditions, including monitoring of water quality, stormwater discharge, aquatic macro-invertebrates, and mussels. CenterPoint Intermodal Center, LLC (CNT) was required to prepare a sampling plan and collect several years of data. The sampling plan was prepared in coordination with MNTP and submitted to the USACE for review. If potential problems were noted during the multi-year sampling period, remedial action was to be coordinated with the USACE and/or Midewin. Sampling commenced in 2001. Annual reports summarizing the data collected were submitted to both the USACE and MNTP for review.

Stormwater and water quality sampling was performed by Carlson Environmental, Inc. (Carlson) and aquatic macro-invertebrate and mussel sampling was performed by Christopher B. Burke Engineering, Ltd. (CBBEL).

Purpose

To determine if the intermodal center was potentially having a negative impact on Jackson Creek and Grant Creek, biotic and abiotic sampling was completed over several years in



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Methodology

The sampling programs followed the procedures outlined in the following documents:

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Stormwater Sampling

Carlson performed stormwater sampling in 2001 and annually from 2003 through 2007. The stormwater sampling plan requires semi-annual monitoring to reflect winter and summer runoff quality for the intermodal center. Flush samples (i.e., grab samples taken during the first 30 minutes of a storm event to represent the early stages of the storm or overflow event when pollutant levels are expected to be higher) and composite samples (i.e., samples representing the average water quality during an entire storm event) were collected. Sampling was conducted at the outfalls from two large detention basins, one at the north end of the site and one at the south (Exhibit 1). In addition, sampling also took place at four sampling locations, one upstream and one downstream location in each creek.

Data collection included the following:


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All samples were sent out for analysis and maintained under standard chain-of-custody procedures.

Water Quality Sampling

Carlson performed water quality sampling annually from 2001 through 2006. The monitoring was to be completed between the months of May and September, and included field measurement of physical parameters in the creeks and collection of water samples for chemical analysis. Field measurements of physical parameters were collected at seven sampling locations in the two creeks. Four sampling locations were located in Jackson Creek (i.e., Stations 1-4) and three sampling locations were located in Grant Creek (i.e., Stations 5-7) (Exhibit 1). The seven sampling locations were also used for the aquatic macro-invertebrate sampling discussed below. Collection of water samples for chemical analysis was completed at one upstream and one downstream location on each creek, at a minimum.

Data collection included the following:

- stream flow measurement
- physical parameters (pH, temperature, conductivity, and dissolved oxygen)
- grab samples from non-stagnant areas of each stream for the same constituents as listed in the stormwater sampling

All samples were sent out for analysis and maintained under standard chain-of-custody procedures.

Aquatic Macro-Invertebrate Sampling

Aquatic macro-invertebrate surveys were conducted annually to provide qualitative and quantitative data on the fauna present in the two creeks located adjacent to CIC/DRIP. CBBEL biologists completed the aquatic macro-invertebrate sampling annually from 2001 through 2006. The sampling was to be completed between the months of May and September. Macro-invertebrates were collected in proximate location to the seven water quality sampling stations discussed above. A total of 60 minutes of one-person effort was spent at each station. Macro-invertebrates were identified to the genus level, when possible. Statistical analysis of aquatic macro-invertebrate data was limited to the Macro-invertebrate Biotic Index (MBI), which can be used to make general inferences about the relative quality of a water body. The MBI for each station sample was calculated using the numerical pollution tolerance rating of each taxon developed by the Illinois Environmental Protection Agency (IEPA). Comparisons were made between the years of data collected to see if pollution sensitive aquatic macro-invertebrates were being replaced by more tolerant species.

Mussel Survey

In 2001, CBBEL completed an initial study of Jackson and Grant Creeks to locate mussel beds for future monitoring efforts. Mussel beds that were identified during the initial study were re-surveyed in 2003, 2005 and 2007 to determine the status of the mussel beds and to



evaluate any trends over time. Sampling was to be completed between the months of May and September. Inferences were then made as to whether or not populations of mussels were being impacted by water quality. Per the sampling plan, mussel surveys are to occur every other year through 2011 with the next sampling date scheduled for 2009.

Sampling locations were based on data collected during the 2001 initial survey. Qualitative and quantitative methods were used. Qualitative methods included random search and seize conducted by one to two biologists wading at each re-sampled mussel bed location (based on 2001 data). Mussels were re-inventoried at twelve mussel bed locations in Jackson Creek. Ten mussel beds were qualitatively sampled and two quantitatively sampled (using transects). In Grant Creek, two mussel beds were re-inventoried including one qualitatively and one quantitatively (using transects). Collected mussels were identified to species. The time out of water for identification purposes was minimized to the extent practicable. All live mussels were re-positioned into the stream substrate in the general location where they were collected. Representative dead shells collected from the banks and bed of the creeks, were identified and discarded at the location where observed.

Discussion/Conclusion

Stormwater Sampling

Carlson completed stormwater sampling in 2001 and 2003 through 2007. All samples were analyzed for Total Copper, Total Zinc, Total Suspended Solids (TSS), Non-Polar Fats, Oils, and Grease (FOG), and Chlorides. All sample results were compared to the corresponding U.S. EPA Benchmark Values. Throughout the stormwater sampling program, there have been slight exceedences of copper, zinc and TSS in previous years. However, based on Carlson's annual reports, none of the results indicated or warranted the need for remedial actions. In addition, upstream and downstream samples collected in connection with the stormwater events (when collected) have not shown evidence that stormwater runoff from the CIC/DRIP site has impacted the nearby creeks. As such, it does not appear that the site re-development and its stormwater runoff have adversely impacted the adjacent creeks.

Water Quality Sampling

Carlson completed water quality sampling from 2001 through 2006. Similar to the stormwater sampling, samples were analyzed for Total Copper, Total Zinc, Total Suspended Solids (TSS), Non-Polar Fats, Oils, and Grease (FOG), and Chlorides. All sample results were compared to the corresponding U.S. EPA Benchmark Values.

Except for a minor TSS exceedence at one sampling location in 2001, none of the concentrations detected in the samples that were submitted for analysis exceeded Illinois Water Quality Standards. Dissolved oxygen levels in all locations monitored were above the minimum water quality standard required for Illinois streams. The pH measured at all locations was within the general use water quality standards of Illinois EPA. The analytical results of the stream samples appear to be in direct correlation with the stream flow measurements. In general, flow rates and TSS are greater in Jackson Creek than in Grant Creek. This may be due to the increased turbidity experienced in streams exhibiting higher



FINAL MEMORANDUM

flow rates and the streambank erosion that was observed along the portions of the banks of Jackson Creek. In general, Chloride concentrations were higher in Grant Creek. Based on Carlson's annual reports, none of the results indicated or warranted the need for remedial actions. In addition, the water quality sampling has not shown evidence that CIC/DRIP operations have adversely impacted the nearby creeks.

Aquatic Macro-Invertebrates

Based on the results of our sampling and the MBI values calculated from 2001 through 2006, it does not appear that the CIC/DRIP site has negatively impacted the macro-invertebrate populations in Jackson Creek or Grant Creek. MBI values have remained relatively consistent throughout the six years of sampling. The majority of the sampling locations yielded MBI values representative of highly valued aquatic resources (IEPA, Illinois Water Quality Report, Volume 1, 1996).

Mussels

Mussel populations in Grant Creek and Jackson Creek were similar in the years that were sampled between 2001 and 2007. However, diversity has increased since 2001. This may be attributed to the visual water clarity of the creeks at the time of sampling. In our opinion, diversity continues to be satisfactory with eight species found in Jackson Creek and two species found in Grant Creek during our sampling since 2001. Additionally in 2007, ten live mussels were found in Jackson Creek outside of known mussel beds while wading between sampling locations due to good water clarity; this is higher than in previous years.

The ellipse (*Venustaconcha ellipsiformis*), an Illinois watch list species (<http://www.museum.state.il.us/exhibits/midewin/streams.html>), continues to be found in Jackson Creek and its population appears stable. The ellipse has not been identified in Grant Creek during our surveys. Based on the data collected thus far and the relatively stable mussel populations, it does not appear that the CIC/DRIP site has negatively affected the mussel populations in Jackson Creek and Grant Creek.

Should you have any questions regarding this memorandum, please do not hesitate to call.

