ONONDAGA LAKE
SEDIMENT CONSOLIDATION AREA (SCA)
SITING EVALUATION

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1.0 INTRODUCTION

This report describes and evaluates potential locations for building and operating a sediment consolidation area (SCA) to contain sediment removed from Onondaga Lake during lake cleanup. A Record of Decision (ROD) issued by the New York State Department of Environmental Conservation (NYSDEC) in July 2005 describes the selected Onondaga Lake cleanup plan. The cleanup plan includes dredging as much as an estimated 2.65 million cubic yards of lake sediments and placing them in an SCA constructed on one or more of Honeywell's Solvay wastebeds. The SCA will be designed and built in accordance with State and Federal requirements and guidance; it will include an impermeable liner, collection and treatment of water that drains out of the sediment, and closure with a protective cover over the sediment. As stated in the ROD, based on evaluations to be conducted during the design, as well as during construction, it is likely that a portion of the dredged materials (e.g., pure-phase chemicals segregated during the dredging/handling process) will be treated and/or disposed of at an off-site permitted facility rather than at the SCA.

A review of Honeywell's Solvay wastebeds identified Wastebed B and Wastebeds 1 through 15 as potential SCA locations. The locations of these wastebeds are shown in Figure 1. Section 2 screens the wastebeds based on accessibility, estimated capacity, and consistency with current use and the potential reuse of the area. Since Honeywell plans to restore all of the wastebeds for productive future use and redevelopment, potential future use is an important consideration in SCA site selection. Sections 3 and 4 evaluate other important siting considerations; specifically, geotechnical feasibility and potential impacts to the local community. These considerations are evaluated only for those wastebeds that pass the initial screening and take into account the ROD Responsiveness Summary comments associated with SCA siting. The results of this evaluation are used to identify the preferred SCA location.

2.0 SITE SCREENING

2.1 Accessibility

All of the wastebeds being considered are easily accessed by truck traffic, which is an important consideration for construction of the SCA. All of the wastebeds considered are also reasonably accessible for sediment slurry piping from lake dredging operations. Close proximity to the lake or Ninemile Creek would likely allow piping to avoid overland obstacles. Wastebed B and Wastebeds 1 through 8 would require the simplest routing for sediment slurry piping because they are located on or near the shore of the lake. Wastebeds 9 through 15 would require longer piping, but are all reasonably accessible. Wastebeds 9 through 11 and Wastebed 13 could be accessed via piping, which would be placed along Ninemile Creek. Pipelines to Wastebeds 12, 14, and 15 could follow Ninemile Creek, then one of its tributaries or run across an adjacent wastebed.

2.2 Capacity and Consistency with Current and Future Potential Uses

To evaluate the capacities of potential SCA sites relative to the required SCA area, the thickness of the sediment within the SCA was assumed to be 10 feet, resulting in an assumed 14-

foot dike height. This preliminary thickness was assumed to minimize visual impacts resulting from increasing the overall height of the site following SCA construction. Under this assumption, the SCA would require an area of approximately 160 acres (excluding the area of the perimeter dikes, and ignoring volume increase that may result from sediment handling) to accommodate the volume of as much as an estimated 2.65 million cubic yards. If design evaluations indicate that less than 2.65 million cubic yards of dredging is required, or that a greater sediment thickness and dike height would be acceptable, it may be possible to reduce this area. However, this is a reasonable assumption for preliminary evaluations.

Wastebed B is located north of Interstate Route 690, along the southwest corner of Onondaga Lake in the Town of Geddes. Wastebed B has potential for many uses, including recreational use as a lakeside park with commercial amenities. Wastebed B is approximately 27 acres, significantly less than the area required for the SCA. Thus, Wastebed B is not a candidate site for the SCA.

Wastebeds 1 through 8, owned by Onondaga County and the State of New York, are located along the southwest side of Onondaga Lake, between the New York State Fairgrounds and Onondaga Lake (Figure 1). Although each individual wastebed is less than the required area, the total area of Wastebeds 1 through 8 is approximately 300 acres. However, approximately 150 acres is used for State Fair parking, and approximately 20 acres is occupied by the Crucible Landfill. Most of the remaining Wastebed 1 through 8 area slopes down to Ninemile Creek or the lake. Passive dewatering of hydraulically-dredged sediments, which is what is anticipated for the lake remedy, requires a large flat area for construction of the SCA. The sloped areas are not consistent with SCA construction requirements. Ownership concerns, current and future land use, and site topography combine to make the Wastebeds 1 through 8 area impractical as a candidate site for the SCA.

Wastebeds 9 and 10 are contiguous with a combined area of approximately 68 acres. Wastebed 11, which is separated from Wastebeds 9 and 10 by a right-of-way for power transmission lines, has an area of approximately 52 acres. The combined area of Wastebeds 9 through 11 is 120 acres, which is likely sufficient for the SCA with higher dikes than preferred unless the final design resulted in a substantial volume reduction. Further, the right-of-way poses some construction challenges. There is a broad range of potential reuse options for Wastebeds 9, 10, and 11. Final site use will be determined pursuant to community input. Placement of the SCA on these wastebeds would not significantly impact potential future reuse opportunities. Potential reuse opportunities could be realized on top of the SCA following capping. Therefore, Wastebeds 9, 10, and 11 are retained for further consideration.

Wastebeds 12, 13, and 14 cover approximately 120, 160, and 120 acres, respectively. One or more of these contiguous wastebeds would provide sufficient area for the SCA. There is a broad range of potential reuse options for Wastebeds 12, 13, and 14. Final site use will be determined pursuant to community input. Placement of the SCA on these wastebeds would not significantly impact potential future reuse opportunities. Potential reuse opportunities could be

realized on top of the SCA following capping. Therefore, Wastebeds 12, 13, and 14 are retained for further consideration.

Wastebed 15 occupies approximately 115 acres. Approximately 12 acres of this is being used for the Town of Camillus Construction and Demolition (C & D) Landfill. The Camillus C & D Landfill anticipates expanding to 22 acres over the next few years. The limited available area and potential conflict with the C & D Landfill make Wastebed 15 impractical for the SCA.

2.3 Screening Summary

None of the wastebeds were screened from further consideration based on accessibility. Wastebed B, Wastebeds 1 through 8, and Wastebed 15 were screened from further consideration based on consideration of capacity and/or compatibility with current or future site use. Wastebeds 9 through 14 were retained as potential sites for the SCA and are evaluated further based on geotechnical considerations and community impact. The evaluation below, pertaining to geotechnical considerations and community impact, addresses only Wastebeds 9 through 14.

3.0 GEOTECHNICAL CONSIDERATIONS

Wastebed 13 has significant capacity remaining within its dikes, minimizing or eliminating the need for raising the dikes. The other wastebeds are filled to near the top of the perimeter dikes, and therefore the dikes at these wastebeds would have to be raised by approximately 14 feet. Stability of the existing dike structures and their functionality as a foundation for higher SCA perimeter dikes was considered for all wastebeds. Dike construction methods and materials varied between the wastebeds and were considered in the evaluation process. Wastebed 13 offers the following advantages pertaining to the perimeter dikes, as compared to the other wastebeds:

- There would be less additional loading on the existing dikes at Wastebed 13 than the other wastebeds because the dikes would not have to be raised significantly.

- Wastebed 13 was the last wastebed constructed, and design and construction documentation is available. This documentation will aid in the development of geotechnical investigations that will confirm the dike conditions and provide the necessary information for stability evaluations and detailed design.

- The Wastebed 13 dikes were constructed and subsequently expanded following stringent specifications and quality assurance/quality control procedures. Both historical documents and recent data collection activities confirm these construction practices.

Based on the above, Wastebed 13 offers significant geotechnical advantages over the other wastebeds.

The effects of placing additional material on the Solvay waste will also be considered. To address this issue, a pilot study is in progress on Wastebed 13 to evaluate Solvay waste

settlement due to fill placement. For the pilot study, 10 feet of material was placed over a 1-acre area. Preliminary results indicate predictable Solvay waste settlement, which will be incorporated into the SCA construction, operation, and closure design.

4.0 COMMUNITY IMPACT

Potential impacts to the community during construction and operation of the SCA include:

- Dust generation during construction;
- Possible odors and emissions from the sediments during placement in the SCA;
- Noise and visibility during construction; and
- Truck traffic during importing of construction materials.

Engineering controls and work practices will be implemented to mitigate these impacts, and all construction and operation activities will be coordinated with the local community in order to minimize all community impacts. Details on these efforts will be developed as part of the detailed design and shared with the local community for comment and coordination.

A significant factor in minimizing potential community impact is the distance from residents and public facilities to the SCA. Wastebeds 9 through 14 are all located away from areas of high population density and commercial activity. The approximate distances from the nearest resident to the top of the dike, estimated from aerial photographs, are listed below and discussed in the subsequent paragraph. The estimated distances are from the top of the wastebed dike rather than the base of the dike because the majority of construction and operation activity would occur near the top of the dike. The base of the dikes, which are typically between 100 and 200 feet closer than the distances listed below, may also require some construction activity.

- Wastebed 9 and 10 — Approximately 550 feet
- Wastebed 11 — Approximately 350 feet
- Wastebed 12 — Approximately 1,000 feet
- Wastebed 13 — Approximately 950 feet
- Wastebed 14 — Approximately 800 feet

Public facilities near the wastebeds include a golf course approximately 200 feet away from Wastebeds 9 and 10, the New York State Fairgrounds across Interstate I-695 from Wastebeds 9 and 10 (approximately 850 feet away), and the Town of Camillus Reed Webster Park approximately 250 feet from Wastebed 14. Based on the distance to residential areas and public facilities, construction on Wastebeds 12 and 13 present a lower potential for community impacts than construction on Wastebeds 9, 10, 11, or 14.

Construction of the SCA at Wastebed 13 would result in significantly less construction traffic, a shorter construction time, and less noise, as compared to the other wastebeds. As discussed under geotechnical stability above, Wastebed 13 is the only wastebed with significant capacity within the current dikes, therefore, building the SCA on Wastebed 13 would require minimal or no increase in the perimeter dike height. Construction of the SCA may, depending on the final design, require importing fill for building the liner system. However, increasing the dike height at the other wastebeds would require import of a large volume of additional fill, which would result in significantly more truck traffic on local roads, more noise, and a longer construction schedule.

Although some construction activities may be required on the dikes if the SCA is located at Wastebed 13, it would be considerably less than would be needed at the other wastebeds, and some or all of the current vegetation would remain to serve as a visual screen. Raising the dike height at the other wastebeds would result in significantly more construction activities on the existing dike slopes. In addition to raising the dike height, the width would likely have to be increased outward to achieve the required slope and stability. This would require removing existing trees and vegetation which would otherwise serve to screen the construction activities. These construction activities would be along the wastebed perimeter where they have the greatest potential to affect the local community due to noise, dust, and visual impact.

Odors and emissions will be controlled to prevent impacts to the local community regardless of which wastebed is selected for the SCA. Predesign investigations are ongoing to evaluate the potential for odors and emissions resulting from placement of sediments within the SCA. Results from these investigations will be used to develop and implement odor and emission controls as necessary.

5.0 RECOMMENDATIONS

Based on consideration of access, capacity, current and future site use, geotechnical considerations and potential community impacts, Wastebed 13 is the preferred location for the SCA. Upon DEC concurrence with this recommendation, ongoing predesign investigation and design activities will focus on developing a successful approach for construction of the SCA at Wastebed 13. As predesign investigation and design activities continue, this conclusion will be re-evaluated, and revised if appropriate. Working together with the DEC, Honeywell will ensure that the local community remains informed as activities progress and new information becomes available, that all SCA-related activities will be coordinated with the local community to minimize the potential for community impacts, and that the community has input into the eventual land reuse planning.