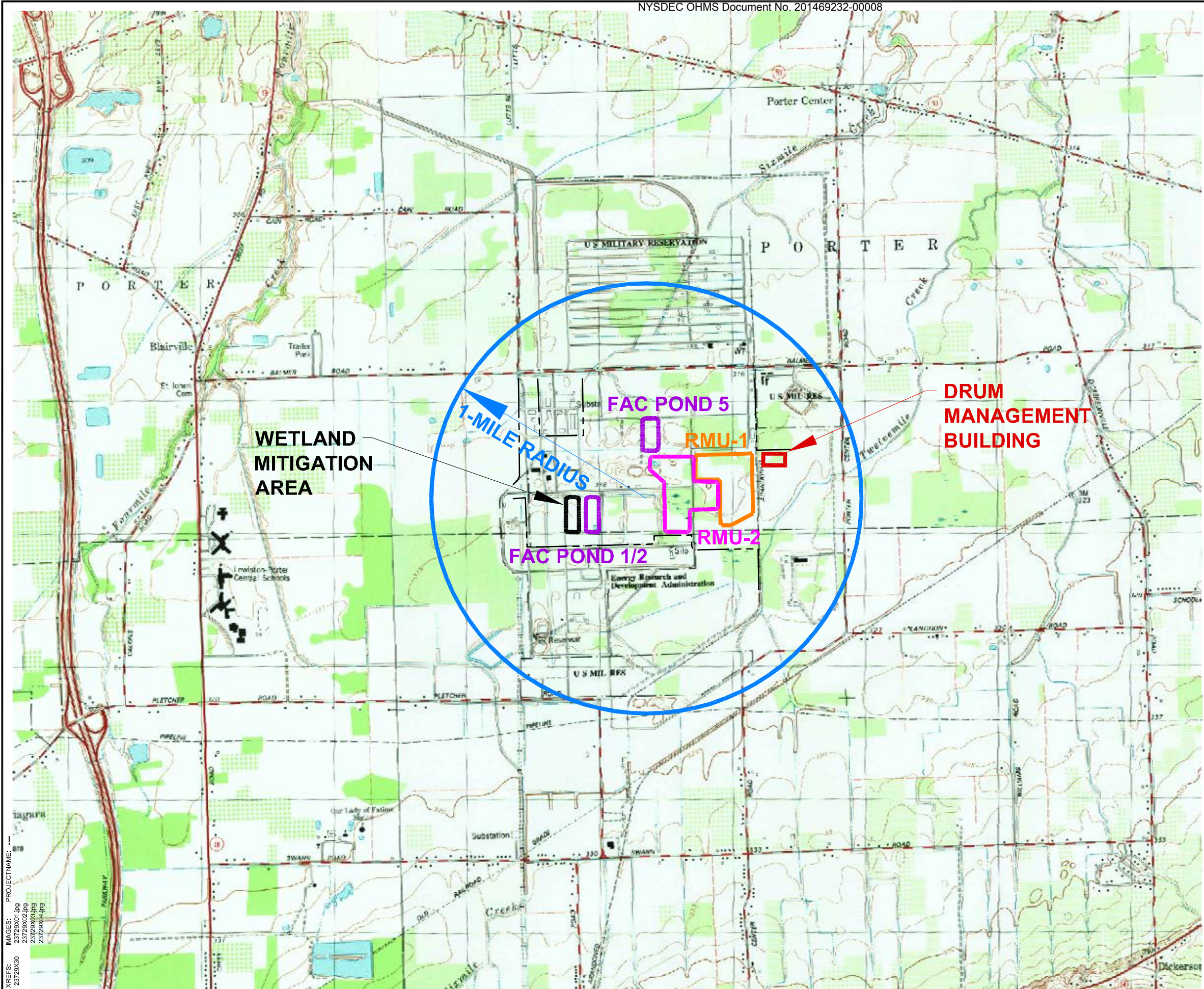


ATTACHMENT 1
SITE LOCATION MAPS

CITY: SYRACUSE DIV: GROUP: ENV: CAD: DB: K. DAVIS K. SARTORI L. FORAKER LD: PIC: W. POPIAM PW: T. FARMEN TM: B. STONE LY: R. ON: *OF: *REF*
G:\ENV\CAD\SYRACUSE\AC100023729201200001\DWG\RMU AREAS\23729202.dwg LAYOUT: 2 SAVED: 6/21/2012 3:55 PM ACADVER: 18.1 (LMS TECH) PAGES: 2 PLOT: 1/2 PLOT DATE: 6/21/2012 3:56 PM BY: FORAKER, LYDIA

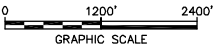


LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- BUILDING
- 300--- INDEX CONTOUR
- 305--- INTERMEDIATE CONTOUR
- RAILROAD TRACK
- EDGE OF WATER
- PRIMARY ROADWAY
- SECONDARY ROADWAY
- GRAVEL ROAD

NOTES:

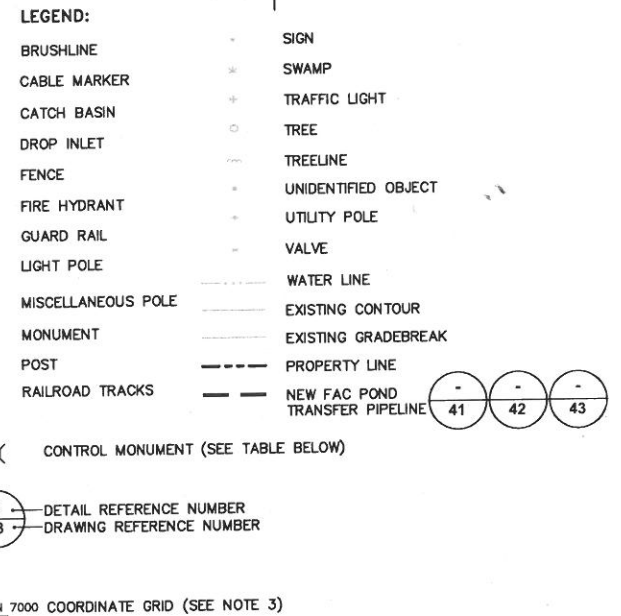
1. CONTOUR INTERVAL 5 FT.
2. PROPERTY LINE IS APPROXIMATE. EASEMENTS AND RIGHT-OF-WAYS NOT SHOWN.
3. RMU-2 LIMIT REPRESENTS TOE OF PERIMETER MSE WALL.
4. TOPOGRAPHIC MAPS OBTAINED FROM <http://store.usgs.gov/b2c-usgs/usgs/maplocator/> ON JUNE 15, 2012. THE TOPOGRAPHIC MAP ARE: RANSOMVILLE QUADRANGLE NEW YORK - NIAGARA COUNTY 7.5 MINUTE SERIES DATED 1980, LEWISTON QUADRANGLE NEW YORK - ONTARIO 7.5 MINUTE SERIES DATED 1980, SIXMILE CREEK QUADRANGLE NEW YORK - NIAGARA COUNTY 7.5 MINUTE SERIES DATED 1974, AND FORT NIAGARA QUADRANGLE NEW YORK - ONTARIO 7.5 MINUTE SERIES DATED 1980.



CWM CHEMICAL SERVICES, LLC
MODEL CITY, NEW YORK
RESIDUALS MANAGEMENT UNIT 2

CWM FACILITY AND RMU-2
PROJECT LOCATION

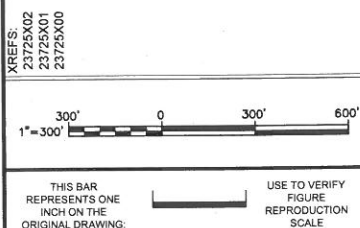




RMU-1/RMU-2 CONTROL MONUMENTS									
MONUMENTS	ELEVATION	CWM PLANT GRID		RMU-1 GRID		NY STATE PLANE COORDINATES (NAD-27)		NOV-29 ELEVATION	
		NORTHING	EASTING	NORTHING	EASTING	NORTHING	EASTING		
102R	319.72	100+94.55	111+87.56	100+94.65	11+87.56	1,175,430.46	396,380.12	319.66	
200	318.33	101+89.56	126+13.77	101+89.56	26+13.77	1,175,488.28	397,808.18	318.27	
101R	316.01	109+94.28	111+23.09	----	----	1,176,331.436	396,339.034	315.92	
201	316.62	110+17.82	126+3.49	----	----	----	----	----	

1. RMU-1 EASTING GRID COORDINATES ARE SIMPLIFIED PLANT GRID COORDINATES. SUBTRACTING 10,000 FROM THE CWM PLANT GRID EASTING COORDINATE WILL CONVERT THE CWM PLANT GRID TO THE RMU-1 GRID. NOTE THAT NO CONVERSION IS REQUIRED FOR NORTHING COORDINATES.

1. TOPOGRAPHIC BASE MAP CONSISTS OF COMBINATION OF DATA COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 5/31/01 BY AIR SURVEY CORP. (PROJECT NO.71010503), AND AN AUGUST 2008 SURVEY BY ENSLO, INC.
2. VERTICAL DATUM BASED ON NGS MEAN SEA LEVEL.
3. GRID COORDINATES SHOWN ARE CWM PLANT GRID.
4. CONTOUR INTERVAL 2 FT.
5. DASHED CONTOURS INDICATE THAT GROUND IS PARTIALLY OBSCURED BY VEGETATION OR SHADOWS. THESE AREAS MAY NOT MEET STANDARD ACCURACY AND REQUIRE FIELD VERIFICATION.
6. PROPERTY LINE IS APPROXIMATE. EASEMENTS AND RIGHT-OF-WAYS NOT SHOWN.
7. RMU-2 LIMIT REPRESENTS TOE OF PERIMETER MSE WALL.

[illegible]

ARCADIS
ARCADIS OF NEW YORK, INC.

CWM CHEMICAL SERVICES, LLC • MODEL CITY, NEW YORK
RESIDUALS MANAGEMENT UNIT 2 DRAFT ENVIRONMENTAL IMPACT STATEMENT

PROPOSED FACILITY LOCATIONS

GENERAL

ARCADIS Project No. B0023725.2009.00006
Date OCTOBER 2009
ARCADIS of New York, Inc. 6723 Towpath Road P.O. Box 66 Syracuse, New York TEL. 315.446.91220

ATTACHMENT 2
PHOTOGRAPHS OF PROPOSED LOCATIONS



Photo #1: Proposed Wetland Mitigation Area



Photo #2: Proposed Drum Management Building Location

Project Name: CWM Chemical Services, LLC - RMU-2

Project Location: Proposed RMU-2 Location

Date: June 2012

Project No: B0023725.2011



Photo #3: Proposed RMU-2 Location - Central Area.



Photo #4: Proposed RMU -2 Location - West Area

Project Name: CWM Chemical Services, LLC - RMU-2

Project Location: Proposed RMU-2 Location

Date: June 2012

Project No: B0023725.2011



Photo #5: Proposed FAC Pond 5 Location.



Photo #6: Proposed RMU-2 Location - West Area

Project Name: CWM Chemical Services, LLC - RMU-2

Project Location: Proposed RMU-2 Location

Date: June 2012

Project No: B0023725.2011



Photo #7: Proposed RMU-2 Location - Southern Area



Photo #8: Existing Area of Proposed FAC Pond 1/2 Expansion

Project Name: CWM Chemical Services, LLC - RMU-2

Project Location: Proposed RMU-2 Location

Date: June 2012

Project No: B0023725.2011

ATTACHMENT 3
RMU-2 DEIS SECTIONS



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1. Introduction

1.1 Brief Description of the Proposed Action

The proposed action is the construction and operation of additional secure landfill (SLF) disposal capacity to replace depleted existing hazardous and industrial non-hazardous waste disposal capacity at the CWM Chemical Services, LLC (CWM), Model City Hazardous Waste Management Facility (Model City Facility). The proposed facility will be designated Residuals Management Unit 2 (RMU-2) and will be located within the property boundaries of the Model City Facility. In recognition of the public policy that states that land disposal of industrial hazardous wastes, except treated residuals and untreated wastes posing little or no significant threat to the public health or to the environment, should be phased out as it is the least preferable method of waste management, the proposed landfill has been designated a residuals management unit. This designation reflects the fact that only wastes, waste treatment residuals and industrial non-hazardous wastes that meet United States Environmental Protection Agency (USEPA) and New York State Department of Environmental Conservation (NYSDEC) Land Disposal Restrictions (LDRs), would be accepted for disposal in RMU-2.

1.2 Environmental Impacts of the Proposed Action

Potential environmental impacts associated with the proposed action include the following:

1. Conversion of land that is presently comprised of existing storage, parking facilities and roads to an SLF.
2. Restrictions upon future land use in the area used for RMU-2.
3. Provision of additional capacity for land disposal of hazardous wastes and treatment residuals and industrial non-hazardous wastes in a manner that is protective of human health and the environment and in compliance with applicable federal and state land disposal regulations.
4. Creation of short-term employment during construction activities and continued long-term employment of facility employees during operation, closure and post-closure management of RMU-2.



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5. The proposed action will provide new land disposal capacity within New York State (NYS). This will aid continued NYS site cleanups and Brownfield development projects.
6. Incremental increase in cumulative impacts in conjunction with other projects in Model City Facility's Ten Year Plan.
7. Loss of wildlife habitat.
8. Generation of local tax revenue.
9. Potential for release of hazardous constituents to air, surface water, groundwater and soil.
10. A temporary increase in night time local light pollution.
11. Potential odor issues.
12. Impacts to visual aesthetics in the vicinity of the Model City Facility.
13. Potential waste-on-waste reactions.
14. Potential impacts to local traffic conditions and greenhouse gas emissions.
15. The excavation of contaminated soils.

1.3 Proposed Mitigation Measures

The following mitigation measures will be associated with the design, construction and operation of RMU-2:

1. Installation of a double composite synthetic liner system and a cover system for the landfill that exceed USEPA's regulations promulgated January 29, 1992, entitled *Liners and Leak Detection Systems for Hazardous Waste Land Disposal Units* (57 Federal Register 3462).
2. Installation of a primary leachate collection system and secondary leachate collection/leak detection systems for the landfill.



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3. On-site treatment of leachate before discharge pursuant to the Model City Facility State Pollutant Discharge Elimination System (SPDES) Permit.
4. Modification and maintenance of surface drainage in order to minimize infiltration and erosion.
5. Protection of berm slopes in order to minimize erosion.
6. Continuation of a Spill Prevention, Control and Countermeasures (SPCC) Plan.
7. Continuation of Air, Surface-Water and Groundwater Monitoring Plans.
8. Continuation of a Fugitive Dust Control Plan.
9. Use of equipment and continuation of operating procedures that will limit noise to acceptable levels.
10. Continued provision of emergency response equipment and trained emergency response personnel.
11. Continued patrol and surveillance of the unit by Model City Facility security personnel.
12. Protection and upkeep of final cover vegetation to minimize erosion.
13. Review of all waste streams per Model City facility's Waste Analysis Plan (WAP).
14. Pretreatment of selected waste streams prior to land disposal to meet USEPA and NYSDEC LDR criteria.
15. Federal wetland mitigation as determined by the United States, Department of the Army, Buffalo District, Corps of Engineers (USACE).
16. Stormwater runoff management.
17. Implementation of a post-closure plan for perpetual care that will ensure that the adequate funds for future maintenance and monitoring are available and



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that the post-closure escape of hazardous waste, hazardous waste constituents, leachate, contaminated runoff or waste decomposition products to groundwater, to surface water or to the atmosphere is controlled, minimized or eliminated so as to protect human health and the environment.

18. Relocation of existing Model City Facility structures, buildings and operational areas from within the footprint of the proposed RMU-2 location, to new locations within the facility.

1.4 Alternatives Considered

The following alternatives were considered relative to the proposed action:

1. No action.
2. Different site alternative.
3. Landfill design alternatives, such as the use of different materials.

1.5 Regulatory Requirements

1.5.1 The State Environmental Quality Review Act and Hazardous Waste Facility Siting Processes

The State Environmental Quality Review Act (SEQR) became law in NYS on August 1, 1975. The purpose of SEQR is to incorporate into the planning, review and decision-making process of state, regional and local government agencies the consideration of environmental factors in addition to social and economic factors and to do so at the earliest possible time. SEQR requires a systematic interdisciplinary approach to review environmental factors during the planning stages of a project so that any modification to avoid significant adverse environmental impacts may be incorporated into the project prior to an irreversible commitment of significant resources. An important aspect of SEQR is public participation in the planning process. The regulations implementing SEQR are contained in Title 6 New York Codes, Rules and Regulations (6 NYCRR) Part 617.

SEQR requires a determination of the environmental significance of every action and, where there is a potential for significant environmental impact (i.e., a Positive Declaration or Type I Action), the preparation of an Environmental Impact Statement



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3. Environmental Setting

3.1 Location of Proposed Action

The Model City Facility is located near Model City, New York in the Towns of Porter and Lewiston, Niagara County. The Model City Facility is situated along Balmer Road, 1.9 miles east of the intersection of Balmer Road and Creek Road (NYS Route 18). The Model City Facility occupies approximately 710 acres, including 630 acres of land in the Town of Porter and 80 acres of land in the Town of Lewiston. All existing TSDFs on the site are located within the Town of Porter. All land currently occupied by the Model City Facility in the Town of Porter is available for permitting by the NYSDEC for future activities to be proposed by CWM related to hazardous waste management. The nearest population concentrations are the Village of Lewiston, approximately 7 miles to the southwest; the Village of Youngstown, approximately 3 miles to the northwest and the Hamlet of Ransomville, approximately 2 miles to the east. The Lewiston-Porter Central Schools are located approximately 2 miles to the west. The Tuscarora Indian Reservation is approximately 4 miles to the south. Lake Ontario is situated approximately 4 miles north of the Model City Facility. Regional location and facility location maps showing the Model City Facility are presented as Figures 3-1 and 3-2. Owners of properties adjacent to the Model City Facility, as listed on the most recent tax maps for the Towns of Porter and Lewiston, are shown on Figure 3-12.

RMU-2 would be located in the area of the Model City Facility immediately adjacent to the western edge of existing RMU-1. RMU-2 would be bounded on the north by the existing stabilization facility, bounded on the west by the LTF and Hall Street and bounded on the south by SLF-1 through SLF-6 and SLF-10. The RMU-2 location is accessible by existing roads. A new access road would be constructed around the RMU-2 perimeter. As part of a former military complex, the site has a local grid and elevation system to provide control for construction and documentation. This grid system is monumented at the site with numerous permanent monuments. For clarity, the RMU-2 specific site descriptions, as well as the drawings, are provided in terms of this site grid system.

Passenger car access to the Model City Facility from the north or south is via the Robert Moses Parkway or other local roads; however, truck traffic is not permitted on the Robert Moses Parkway, so routes discussed in Section 3.6.3 must be used.



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3.1.1 Previous Use of Property

The area, including and surrounding the Model City Facility, was, at one time in the early 1940s through mid-1960s, part of the LOOW of the DOD and was used for a variety of government activities during that time period. The past uses of the area include research, development and production of explosives and solid/liquid fuels; a missile base; a radar station and waste storage related to the Manhattan Project.

Production of trinitrotoluene (TNT) on the site was carried out for less than a year, between late 1942 and August 1943. However, some 18- to 24-inch-diameter acid lines remain on the CWM site, although many of them have been removed or decontaminated in the course of the construction and remedial operations. Results of tests run on samples of residues in the pipes taken in October 1982 indicate that no danger of detonation of these materials exists. The TNT waste pipelines were the subject of an interim remedial action conducted by the USACE in 1999/2000. The NYSDEC provided oversight on the work plan, field work and reporting of results. The residual contents were removed from the entire length of pipeline. Several sections of pipe were left in place after high pressure washing. A final determination on the Corrective Action for these pipes has not yet been made. Based on a review of historical records and the location and configuration of the former TNT process areas, no TNT pipelines are expected to be found during construction of RMU-2. However, if unidentified pipelines are encountered during construction, the lines would be sampled, removed and disposed in accordance with results of testing.

3.1.2 Site Radiological Background

The Model City Facility is located within the boundary of the former LOOW. Starting in 1944, the Manhattan Engineer District (MED) and its successor, the United States Atomic Energy Commission (AEC), used portions of the LOOW for the storage of radioactive wastes. These radioactive wastes were primarily residues from uranium processing operations. They also included contaminated rubble and scrap from decommissioning activities, waste from the University of Rochester and low level fission-product waste from Knolls Atomic Power Laboratory. Receipt of radioactive waste ceased in 1954 and cleanup activities ensued. A portion of the LOOW was declared surplus and was sold to various private, commercial and government agencies. In 1972, ChemTrol, a predecessor of CWM, initially leased about 350 acres of former LOOW property and started a waste TSDF. Between 1974 and 1978, CWM's predecessors purchased 710 acres of former LOOW property. These 710 acres are comprised of the land/parcels referred to as Vicinity Properties A through G



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and parts of H, J, K, P, S, T and W. The locations of these Vicinity Properties are depicted on Figure 3-13. These properties now constitute the Model City Facility.

In 1970, the federal government determined that some of the properties that had been sold were not properly remediated. The AEC proposed cleanup to a specific level. The DOH disagreed with the proposed cleanup criteria. The DOH's concern was that if residences and buildings were built in these areas, additional exposure to radon, especially in the basements, could result. The AEC disagreed and did not change its criteria. During 1971 and 1972, a radiological survey and cleanup of the LOOW was performed by AEC. Several burial sites (including the University of Rochester animal burial area) were excavated and remediated. On April 27, 1972, the DOH issued four orders that imposed land use restrictions on most of the former LOOW properties. One of those orders referenced 614 acres owned by Fort Conti Corporation, but it did not contain any metes and bounds description and it incorrectly identified the property as primarily located in the Town of Lewiston. At that time, ChemTrol was leasing Fort Conti Corporation property in the Towns of Lewiston and Porter. Existing uses could continue without expansion. Any soil excavation was prohibited unless permitted by the Commissioner of the DOH. Shortly thereafter, ChemTrol requested that it be allowed to use its property for industrial/commercial purposes. The DOH issued an amended order in 1974 allowing industrial development on 240 acres of the ChemTrol property, complete with a metes and bounds description, as long as slab foundations were employed for any new buildings. However, the 1974 order did not remove or alter the soil excavation approval requirements stipulated in the 1972 order.

Since 1974, the DOE, as the successor to the AEC, has conducted additional remediation work at the former LOOW property, including the CWM property. In the 1980s, the DOE selected guidelines for remediating radiological contamination on this property and other sites formerly used by the AEC. In 1983, a comprehensive survey was performed by Oak Ridge Associated Universities. The status of each individual LOOW Vicinity Property was evaluated and described in a report entitled *Comprehensive Radiological Survey, Off-Site Property A-X, Niagara Falls Storage Site, Lewiston, NY*, dated March 1984. Additional remediation work was performed in 1985 and 1986.

In the mid-1970s, ChemTrol was purchased by SCA Services, Inc. (SCA). In 1984, Waste Management, Inc. (WMI) purchased certain parts of SCA, including the Model City Facility. The name was changed to CWM Chemical Services, LLC and it is currently a subsidiary of WMI.



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On May 7, 1992, as a result of the extensive corrective radiological remedial actions undertaken on the Vicinity Properties by the DOE, the DOE certified that the Vicinity Properties were in compliance with applicable federal radiological decontamination criteria. The exceptions to the certification included three Vicinity Properties located on CWM's property (E, E' and G). Small portions of these Vicinity Properties could not be evaluated: soil beneath the berm of Lagoon 6 (Vicinity Property E), soil under two PCB storage tanks and roadway (Vicinity Property E') and soil beneath the berm of Fac Pond 1/2 (Vicinity Property G). As these areas could not be accessed for characterization and remediation, if warranted, the DOE could not certify these areas. None of the three isolated areas are in the footprint of the proposed RMU-2.

In 1983, Oak Ridge had performed a comprehensive survey of Vicinity Property E and identified "hot spots" in the berm of Lagoon 6, west of the proposed RMU-2 footprint. The characterization showed that the contaminant was Radium-226 and the source was small pieces of scrap metal and plaster-like chips (likely lead cake residue). The contaminants are not near the surface. The pieces in the berm were reported to be small and scattered. The DOE was unable to remediate this area because the berms held low strength sludge at that time. The sludge has since been stabilized and capped. There is no exposure to site workers or the general public as the items are small, scattered and subsurface.

The July 1990 DOE Report, *Verification of 1985 and 1986 Remedial Actions, Niagara Falls Storage Site, Vicinity Properties, Lewiston, New York*, documents that remediation was performed around the two PCB storage tanks (Tanks 64 and 65) in Vicinity Property E', but the DOE was unable to access the area under the tanks for characterization and remediation as necessary. The tanks have since been removed and the soil was characterized in 1995. The soil that was under the tanks showed slightly elevated levels of volatile organics and radioactivity. The DOE cannot certify Vicinity Property E' until this area is addressed. The area of Tanks 64 and 65 has been covered with HDPE and is in the center of CWM's aqueous wastewater treatment system (AWTS), west of the proposed footprint for RMU-2 and any related project activities.

The July 1990 DOE Report documents that remediation was performed around Fac Pond 1/2 in Vicinity Property G, but the DOE was unable to access the area under the pond for characterization and remediation as necessary. Fac Pond 1/2 is currently used for storage and final treatment of treated wastewater effluent from the AWTS. Transfer of the treated effluent from the final AWTS batch qualifier tanks to Fac Pond



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1/2 is not performed until after the liquid in the tanks is tested and approved for discharge. Modification of Fac Pond 1/2 is part of the RMU-2 permit application.

Other areas affected by the proposed RMU-2 project include former Vicinity Properties B, C, D, F and K, which were certified as meeting the cleanup standards by the DOE in 1992. The 1984 status report documents where contamination was remediated in Vicinity Properties B and C. There is no evidence of the burial of contaminated materials in Vicinity Property D; however, several small isolated items were removed during sampling and characterization. Vicinity Property F has no history of waste burial, but was likely used for waste storage, where the source of a small area with an elevated radiation level was removed during sampling and characterization in 1985 and 1986. Vicinity Property K, located east of RMU-1, is the location for the new Drum Management Building. Vicinity Property K has no history of waste burial and has been recently used by the Model City Facility as a stockpile area for soil materials associated with RMU-1 cell construction and final cover construction.

Based on a separate DOE certification regarding the adjacent property, the owner, Modern Landfill, requested that the 1972 DOH order for its property be terminated. The DOH amended the order for the Modern Landfill property in 1982 and 1985, and DOH restrictions for excavation no longer apply. In December 2003, based on the 1992 DOE certification, CWM made a similar request asking that the DOH rescind the 1972/1974 orders for its property. During the ensuing discussions with the DOH and the NYSDEC, CWM also provided the agencies with its analysis of the statutory and regulatory changes that had been enacted and/or promulgated since 1972, noting CWM's opinion that from and after 1975 the State Legislature had removed from the DOH and transferred to the NYSDEC, the authority and responsibility to address any residual radiological contamination concerns related to the former LOOW property, including CWM's property. The DOH responded that it was unclear what impact those statutory changes had on the validity of the 1972 and 1974 orders.

In 2004, the DOH advised CWM that it had reviewed the DOE certification for the CWM property and had some concerns that the development of the CWM site during the 1970s and 1980s may have prevented the DOE from detecting all contamination that might still have been present. The DOH and the NYSDEC requested that CWM submit a plan for conducting radiological surveys of any areas where soil movement is proposed. In addition, because little radiological data had been obtained since the 1980s, the DOH and the NYSDEC requested that CWM conduct a site-wide radiological survey, as well as perform environmental monitoring for radiation, and the NYSDEC determined that it was appropriate to incorporate these requests into CWM's



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Part 373 Permit. These requirements are included in CWM's Site-Wide Part 373 Permit issued on August 5, 2005. The NYSDEC has stated that although there are some gaps in the AEC's and DOE's documentation and investigation, procedures have improved over the last 30 years. The fact remains that the DOE did remove radioactive contaminants from the Vicinity Properties and the DOE surveys provide reasonable assurances that widespread, immediately dangerous radioactive contamination is not present on the surface of the property.

In order to confirm the findings in the DOE certification, the NYSDEC, acting in conjunction with the DOH, required that CWM conduct additional investigations to further evaluate the current conditions of the Model City Facility property. A major component of this evaluation included a gamma radiation walkover surface survey of all accessible areas of the property (approximately 450 acres); detailed investigation and sampling of those areas identified during the survey that exceed the accepted radiological investigation level and an alpha and beta radiation survey inside six legacy buildings that were previously used by the U.S. Government. URS Corporation (URS) (Buffalo, New York) completed the survey in 2008. The results of the survey are included in the report entitled *Results of Gamma Walkover Survey, Soil Sampling, and Legacy Building Surveys* (URS, December 2008).

The radiological survey at the Model City Facility conducted by URS determined that a vast majority of the accessible areas of the property were well below the screening level. Less than 0.15% of over 4 million readings collected during the survey exceeded the threshold of 16,000 counts per minute (cpm). The readings that exceeded the 16,000 cpm threshold were generally in small areas and were often associated with the discovery of discrete, high activity sources that were removed with the sampling effort. A few elevated source items were found in the clay liner of Fac Pond 8; however, most of the rocks with elevated activity were in the cap systems of landfills and isolated areas on site. The majority of these items were removed as part of the investigation and sampling effort. The radiological characteristics exhibited by the items found during the survey were consistent with the radiological materials that were historically managed on the site by the U.S. Government from the 1940s to the mid-1960s.

Areas where elevated sources were identified but the source material was not removed include the base of Fac Pond 8, the former Syms property and along the former railroad bed. With the exception of Fac Pond 8, these areas are not impacted by the RMU-2 project. URS determined that the presence of such items does not pose a significant health or environmental issues because of the relative isolation from site workers and the general public.



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As required by the 2005 Part 373 Permit, CWM has conducted recent radiological monitoring of groundwater, surface water, treated wastewater and air. Initial results were submitted as part of the *Radiation Environmental Monitoring Plan* (CWM, March 2006). All results obtained to date show no elevated radiological constituents in any of these media. Sampling and radiological analysis is ongoing and will be continued until approval to terminate is received from the NYSDEC. In addition to the surface survey and environmental media testing, CWM conducted a chemical and radiological subsurface sampling program in areas that would be affected by the RMU-2 project between August 2008 and February 2009 (*Results of Subsurface Soil and Pond Sediment Sampling for RMU-2* [URS, April 2009]). These areas include the RMU-2 footprint, location of the relocated Drum Management Building, location of new Fac Pond 5, Fac Pond 3 and Fac Pond 1/2. Soil borings up to 20 feet deep were completed in a systematic grid based pattern within the areas of RMU-2, Fac Pond 5 and the Drum Management Building. The soil cores were scanned for chemical and radiological contamination. If the meter identified elevated readings, a sample was taken and sent off site for analysis. In addition, sediments from the floor of Fac Ponds 1/2 and 3 were radiologically screened and samples were obtained for radiological analysis.

Over 300 sample locations were evaluated during the subsurface investigation program. Only three locations exhibited levels that exceeded background levels. At one location within the original RMU-2 footprint (location 63), the boring contained some plastic pieces which likely were the source of the higher concentrations of radionuclides found in the adjacent soil. Two other locations within the original RMU-2 footprint (locations 43 and 61) found significant chemical contamination which is likely attributable to past historical activities on the property (*Letter Report on RMU-2 Footprint Investigation Boring Program* [Golder, March 2009]). As a result of these discoveries, the RMU-2 footprint was revised to exclude these three areas.

During 2010, a Radiological Characterization Investigation was performed of Fac Pond 8. During the investigation, Fac Pond 8 was divided into twelve, 2,000-square meter survey units. The investigation included gamma walkover surveys, the installation of 193 soil borings, and the collection of 207 soil samples from the soil borings. Readings above investigation levels were discovered within two of the survey units, and radiological contamination was verified through sampling and laboratory analyses. This effort demonstrated in accordance with MARSSIM guidance that all but two of the survey units are below the remedial standards developed for nearby FUSRAP sites and consistent with background concentrations.

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A Remedial Action Plan (RAP) was prepared utilizing the data generated from the previous investigations to calculate the risk associated with various exposure scenarios and to derive an appropriate guideline level that can be used during Fac Pond 8 remedial activities. Remedial activities were performed between September and November 2011 and included the removal of soil with suspected MED material above established cleanup levels and the performance of a Final Status Survey (Completion Report for the Remediation of Facultative Pond 8, CWM Model City [Los Alamos Technical Associates, Inc., January, 2012]). Results of the remediation and FSS indicate that the area may be released for future development without the threat of MED radiological conditions above regulatory criteria.

CWM has developed a plan for performing chemical and radiological evaluation for routine small soil excavation projects. For smaller projects, chemical and radiological instrumentation will be used. Prior to any excavation, a radiological survey meter and VOC meter would be used to screen the soil surface prior to excavation. Investigation levels would be set to determine whether the excavation can safely proceed. Soil would be removed in approximately 6-inch lifts. During excavation, these same methods would be used on each lift prior to proceeding to the next deeper level. Finally, the radiological and chemical screening would be performed on the final excavated surface and the resulting stockpile of excavated soil. If readings higher than the investigation levels are detected at any stage, appropriate actions will be taken, such as stopping the excavation, characterization of the high reading, removal of suspect sources, detailed analysis of the contamination and disposal of the contaminated materials. For large project excavations, such as RMU-2, CWM has developed a similar plan for evaluating potential chemical and radiological contamination, which is included in Section K of the RMU-2 Part 373 Permit Application.

3.2 Geologic Resources

3.2.1 Topography

The Towns of Porter and Lewiston are part of the Iroquois Lake Plain. The plain is located north of the Niagara Escarpment, the northernmost major topographic feature in Niagara and Erie Counties. Both the elevation and relief of the land surface tend to increase from north to south. The Model City Facility is located on a flat plain forming a portion of the extended Lake Ontario shoreline natural grade. Ground elevations on the Model City Facility vary from 308 to 338 feet amsl. Surface drainage at and in the vicinity of the Model City Facility is generally to the north towards Lake Ontario.



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TABLE 3-8 (Continued)
ECOLOGICAL COMMUNITIES:
RMU-1, TRUCK ROUTE AND REGION

System	Sub-system	Class	Definition ¹	Dominant ¹ Species Observed ^{2,3}	Rank ⁴	RMU-1	Truck Route	Region
Terrestrial		Successional shrubland	Shrubland community that occurs on land disturbed by logging, farming, or other activity.	Plants: Gray Dogwood, Staghorn Sumac, Wild Grape	4/4	X	X	X
	Forested uplands	Successional northern hardwood forest	Hardwood or mixed deciduous/coniferous forest occurring on sites cleared by farming, logging, or other disturbance activity.	Plants: Red Maple, Pine Oak, Cottonwood. Animals: White Tail Deer, Eastern Cottontail, Blue Jay, Chickadee, Crow, Redtail Hawk.	5/5	X	X	X
	Cultural	Cropland/row crops	Agricultural field planted in row crops.	Plants: Corn.	5/5		X	X
		Cropland/field crops	Agricultural field planted in field crops & rotated to pasture.	Plants: Alfalfa, Timothy	5/5		X	X
		Orchard	Stand of cultivated fruit trees.	Plants: Apple Trees	5/5			X
		Mowed lawn	Residential, recreational, or commercial land dominated by clipped grasses with tree cover less than 30%.	Plants: Grass Animals: Robin	5/5		X	X
		Mowed lawn with trees	Same as mowed lawn but with tree cover greater than 30%.	Same as Mowed Lawn.	5/5		X	X
		Mowed roadside/pathway	Narrow strip of mowed vegetation along the side of the roadway, utility right-of-way, or similar.	Plants: Grasses	5/5	X	X	X
		Unpaved road/path	Sparsely vegetated road or pathway of gravel, soil, or bedrock outcrop.	Plants: Gray Dogwood, Grasses	5/5	X	X	X
		Paved road	Road or pathway paved with rock, cement, asphalt, etc.		5/5	X	X	

NOTES:

1: After Reschke, 1990.

2: See Tables 3-5 and 3-6 for scientific names.

3: Observed on March 24 and 26, 1992.

4: Heritage program rarity rank for state and world – 1 to 5 most to least rare.

3.5.4 Model City Facility

3.5.4.1 Proposed RMU-2 Site

The area for the RMU-2 site is approximately 43.5 acres that would be impacted due to construction and operations of the landfill. The following is a general description of the developed portions of the Model City Facility that is applicable to the proposed RMU-2



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site, followed by a description of the portions of the facility applicable to the proposed Fac Pond 5, relocated buildings and operational areas.

The proposed RMU-2 site is located within currently developed areas of the Model City Facility. The area currently includes the existing Emergency Response Garage, Drum Management Building, Full and Empty Trailer Parking Areas, Heavy Equipment and Facility Maintenance Building, Fac Ponds 3 and 8, various site roadways, surface-water drainage ditches and utilities. Prior to the construction of RMU-2, all of the aforementioned facilities would be abandoned and/or relocated to the areas presented on Figure 2-6.

Wildlife species observed and likely to occur at the RMU-1 site (that is applicable to RMU-2) are listed in Tables 3-6 and 3-7. Observations and/or signs of deer, rabbits, raccoon, opossum and squirrel were most common in forested and shrubland areas in the Model City Facility outside the proposed RMU-2 site. According to the NYSDEC Significant Habitat Unit, two deer concentration areas have historically been located outside the property limits of the Model City Facility. These will not be impacted by the proposed project.

3.5.4.2 Other Impacted Areas

Other than the footprint of RMU-2, additional areas of the Model City Facility will be affected by the RMU-2 project. In order to compensate for the closure of Fac Ponds 3 and 8, a new Fac Pond 5 will be constructed between SLF-7 and SLF-12. The Drum Management Building will be relocated to an area east of RMU-1. The Full Trailer Park will be relocated immediately west of its current location. The Stabilization Trailer Park will be relocated north of its current location. The Heavy Equipment Maintenance Building will be relocated to an area north of Fac Ponds 1 and 2. New trailer transfer ramps for the SLF-10 Leachate Building and the SLF 1-11 Oil/Water Separator Building will be relocated to other sides of the existing buildings.

All of the land to be used for the above facilities has been previously cleared as part of the CWM operational area. The species composition of the ecological communities within these areas is similar to that at the proposed RMU-2 site.

3.5.4.3 Federal and State Wetlands Associated with RMU-2

In November 2002, a Wetlands Investigation was performed by Environmental Design & Research, P.C. (EDR) at the Model City Facility in the area of the proposed RMU-2



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site and at the proposed locations for new and relocated facilities. During this investigation, EDR determined that RMU-2 and the new and relocated facilities would have no impact to state regulated wetlands, as verified by the NYSDEC. EDR also concluded that RMU-2 and the new and proposed locations for relocated facilities would impact less than 2 acres of jurisdictional federal wetlands (comprised of manmade ditches and isolated pockets of wetland areas).

EDR updated the RMU-2 wetlands delineation in April 2009. The investigation areas were redefined based on the current scope of the RMU-2 project (i.e., slightly redesigned landfill footprint and new locations of relocated facilities) as compared to the 2002 investigation. Results of this investigation are described in the *Wetland Delineation Report, RMU-2 Landfill Expansion Area*, dated June 2009. Again, EDR concluded that the RMU-2 project would have no impact to state wetlands and impact less than 2 acres of federal wetlands, pending confirmation by the USACE. EDR again updated the RMU-2 wetlands delineation in April 2011 to include an area within the RMU-2 development area that was not included in the previous delineations. Results of this supplemental delineation are described in the *Supplemental Wetland Delineation Report, RMU-2 Landfill Expansion Area*, dated April 2011. Again, EDR concluded that the RMU-2 project would have no impact to state wetlands and impact less than 2 acres of federal wetlands, pending confirmation by the USACE.

Appendix D presents the *Delineation Reports* prepared by EDR, dated June 2009 and April 2011, that describes the wetlands in the areas where RMU-2, Fac Pond 5 and the relocated facilities would be constructed.

A jurisdictional determination was received from the USACE on September 13, 2011. Approximately 2.5 acres of jurisdictional wetlands, as determined by the USACE, are located within the RMU-2 development area. The jurisdictional determination from the USACE is also included in Appendix D.

3.5.5 Threatened and Endangered Species

Information on the potential occurrence of threatened and endangered species at the RMU-1 project site was obtained through a September 1988 correspondence with the NYSDEC NHP, a literature review and during field investigations. The NYSDEC NHP record review identified three species of endangered plants that have been reported in the vicinity of the Model City Facility, these are small skullcap, fringed gentian and Ohio goldenrod. All the records of the species' occurrence are historical, the most recent being 1930 for small skullcap, 1833 for fringed gentian and 1873 for Ohio goldenrod.



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The literature review was conducted to supplement information from the NYSDEC NHP. Literature consulted for protected plant species included Mitchell and Sheivak (1981) and the NYSDEC list of endangered, threatened and special concern animals (NYSDEC, 1985). The list of special concern species was compared to their geographic range maps to assess their potential occurrence at the Model City Facility. Geographic range sources consulted included Connet (1975) for amphibians and reptiles, the NYS Breeding Bird Atlas (Anderle and Carroll, 1988) for birds and Hamilton and Whitacker (1979) for mammals. Potential habitat may exist for ginseng (*Panax quinquefolia*) in the northern hardwood forest community. This plant is not listed as threatened and endangered but is listed as "exploitively vulnerable" by the NYSDEC Protective Plant Program. It typically occurs in rocky gravelly soil and deciduous forests but is also known to occur in a variety of soils and forest types. The literature review indicated three salamander species, listed as special concern species, may potentially occur at the project site. Special concern species do not have legal protective status but are under study for potential listing. The three salamanders include the Jefferson salamander (*Ambystoma jeffersonianum*), Blue spotted salamander (*A. laterale*) and the Spotted salamander (*A. maculatum*). Each of these salamanders inhabits wooded areas and breed in early spring in temporary wooded ponds. They are difficult to observe due to their reclusive habit of living under logs and leaf litter. The past and present habitat disturbances at this site make it an unlikely habitat for sensitive species.

Information on the potential occurrence of threatened and endangered species at the adjacent RMU-2 project site was obtained through a January 2003 correspondence from the NYSDEC NHP (Appendix E). Based upon the correspondence received from the NYSDEC NHP, there have been no recent observations of rare or state-listed animals and plants, significant communities and other significant habitats located within the proposed project site. The NYSDEC NHP database indicated that the last observation of rare or state-listed animals and plants, significant communities and other significant habitats at this location was in 1893.

3.6 Human Resources

3.6.1 Socioeconomics

3.6.1.1 Demographics

Land use in the vicinity of the Model City Facility is primarily residential, agricultural, government services and military. Within 1 mile of the Model City Facility, the



New York State Office of Parks, Recreation and Historic Preservation

Historic Preservation Field Services Bureau • Peebles Island, PO Box 189, Waterford, New York 12188-0189

518-237-8643

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Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

June 29, 2012

Todd Farmen
Arcadis
295 Woodcliff Drive, Third Floor
Fairport, New York 14459

Re: EPA, DEC
CWM Chemical Services Proposed RMU-2
Expansion, Model City/LEWISTON, Niagara
PORTER, Niagara County
12PR02656

Dear Mr. Farmen:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Based upon this review, it is the SHPO's opinion that your project will have No Effect upon cultural resources in or eligible for inclusion in the National Registers of Historic Places.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont
Deputy Commissioner for Historic Preservation

APPENDIX C

Draft Wetland Mitigation and Monitoring Plan

DRAFT WETLAND MITIGATION AND MONITORING PLAN

FOR THE

Residuals Management Unit 2 Expansion Area

Town of Porter, Niagara County, New York

Prepared for:



CWM Chemical Services, LLC
1550 Balmer Road
Model City, New York 14107

Prepared by:



edr Companies (edr)
274 North Goodman Street
Rochester, New York 14607
Contact: James B. Pippin
Phone: (585) 271-0040

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INTRODUCTION

CWM Chemical Services, LLC (CWM; the Applicant), is submitting a Joint Application for Permit to the U.S. Army Corps of Engineers (Corps) and the New York State Department of Environmental Conservation (NYSDEC). The permit application serves as a formal request for a permit from the Corps accordance with the conditions of Nationwide Permit Program (NWP) and to the NYSDEC in accordance with Section 401 of the Clean Water Act and New York State Environmental Conservation Law (ECL) Article 24 (Freshwater Wetlands).

The Applicant is proposing a 43.5-acre expansion of the existing CWM Model City Hazardous Waste Management Facility (Model City Facility or the Facility), located in the Town of Porter, Niagara County, New York (see Figure 1, Appendix A). This expansion (the Project) is needed to allow continued disposal of hazardous and industrial nonhazardous waste at the Model City Facility. The currently active landfill (Residuals Management Unit 1, or RMU-1), the only commercial land disposal facility in the northeast United States, is approaching full capacity. The proposed expansion will be designated Residuals Management Unit 2 (RMU-2), and will be located within the property boundaries of the Model City Facility. The proposed landfill has been designated a residuals management unit, and will therefore only accept wastes, waste treatment residuals, and industrial non-hazardous wastes that meet United States Environmental Protection Agency (USEPA) and NYSDEC Land Disposal Restrictions.

The proposed RMU-2 footprint includes land currently occupied by two Facultative (Fac) ponds designated as Fac Pond 3 and Fac Pond 8. Fac Pond 8, located immediately west of RMU-1, is permitted for storage of treated wastewater. Fac Pond 8 is currently out of service and undergoing closure, which is expected to be completed prior to RMU-2 permitting. In order to compensate for the treated wastewater volume reduction due to the removal of Fac Ponds 3 and 8, existing Fac Ponds 1 and 2, located west of SLF-1 through SLF-6, will be upgraded and a new Fac Pond 5 will be constructed between SLF-12 and SLF-7. The Fac Ponds 1 and 2 is approximately 7.1 acres in size and the upgrade will be performed within the existing footprint of the pond. Proposed Fac Pond 5 is approximately 7.7 acres in size.

The existing Drum Management Building, located west of RMU-1, is located within the footprint of RMU-2. A new Drum Management Building is to be located east of RMU-1. The new Drum Management Building will include facilities for storage of drums and other small containers, offices, a laboratory and mechanical room.

The proposed Project requires disturbance/excavation of large contiguous areas of land, which limits opportunities for minimizing/avoiding wetland impacts. Based upon Project design and engineering completed to date, construction activities will result in permanent loss of 2.567 acres of federally-jurisdictional wetlands. However, the natural surface

water hydrology and/or vegetation have been altered to such an extent that limited wetland functions and values remain. No temporary disturbance to wetlands or conversion of forested wetlands to other wetland communities will occur. No NYSDEC freshwater wetlands will be impacted, however approximately 0.74 acres of 100-foot adjacent area will be impacted.

To mitigate for the unavoidable permanent loss of wetlands and 100-foot adjacent area within the Project Site, the Applicant proposes the construction of a 4.3-acre wetland and the preservation of 11.6 acres of existing wetlands and associated uplands on a 21-acre parcel of land owned by CWM immediately west of the RMU-2 site. This parcel is currently dominated by successional deciduous forest, but also includes areas of disturbed land, successional old field, and approximately 5 acres of forested and emergent wetland communities.

The following narrative describes the mitigation goals and objectives, including information on mitigation area design characteristics, planting plans, hydrology, and monitoring. The mitigation plan described herein is based upon the requirements in the Code of Federal Regulations (33 CFR 332), the Final Rule of the Corps Compensatory Mitigation for Losses of Aquatic Resources, published in the Federal Register on April 10, 2008.

1.0 RESTORATION PROJECT GOALS AND OBJECTIVES

The development of the Project will result in permanent impacts to approximately 2.567 acres of federally jurisdictional wetlands. To mitigate for unavoidable, direct wetland impacts associated with the Project, approximately 4.3 acres of successional wetlands will be created on-site, designed to succeed from scrub-shrub into forested wetlands. This represents a mitigation ratio of approximately 1.7 to 1 (mitigation to impact) for direct impacts to wetlands/streams.

The goals of the proposed wetland mitigation area are to offset the cumulative wetland loss associated with development of the Project. The proposed wetland mitigation area will be designed and constructed in a manner that will provide the following functions:

- Stormwater detention and water quality improvement
- Improved sediment and nutrient retention
- Habitat for wetland plant species
- Waterfowl and amphibian habitat
- Passerine bird nesting, feeding, and resting habitat

2.0 SITE SELECTION

The mitigation site is an approximate 21 acre area and was selected as the preferred location for the wetland mitigation area for the following reasons: 1) proximity to the impact site within the Model City Facility, 2) its location within the same watershed, and 3) its hydrologic connectivity to on-site jurisdictional wetlands.

In addition, as described in Section 4.2, soils at the mitigation site are mapped as Made land and Rhinebeck silt loam, which are both classified as hydric (NRCS, 2012a). Locating the proposed mitigation area within a site with hydric soils suggests that properly designed and implemented hydrological modifications could create conditions that would support facultative wetland plant species, and therefore indicate a suitable mitigation area.

3.0 SITE PROTECTION INSTRUMENT

CWM shall place a perpetual deed restriction, in the form of a conservation easement, on the mitigation site to protect the compensatory wetland mitigation area and adjacent uplands in perpetuity and guarantee its preservation. The conservation easement will protect a total of 15.94 acres. The Applicant shall provide an approved certified copy of the recorded deed restriction to the Corps no later than December 31 the year construction starts or within 30 days after it is recorded or by approved extension date. It is anticipated that the site protection instrument will be the Corps "boilerplate" covenant language included in Appendix B.

4.0 BASELINE INFORMATION

CWM's Model City Facility is situated along Balmer Road, 1.9 miles east of the intersection of Balmer Road and Creek Road (NYS Route 18) near Model City, New York. The nearest population concentrations are the Village of Lewiston, approximately seven miles to the southwest; the Village of Youngstown, approximately three miles to the northwest and the Hamlet of Ransomville, approximately two miles to the east. The Facility occupies approximately 710 acres, including 630 acres of land in the Town of Porter and 80 acres of land in the Town of Lewiston. All existing treatment, storage, and disposal facilities are located within the Town of Porter.

Located approximately four miles south of Lake Ontario, the Facility is within the Ontario Plain section of the Central Lowland physiographic province of New York. The Ontario Plain extends from the shore of Lake Ontario to the foot of the Niagara Escarpment. Elevation of this province within Niagara County ranges from 250 feet above mean sea level (amsl) along the lakeshore to 390 feet amsl located at the base of the Niagara Escarpment located in the Town of Lewiston, New York (NRCS, 1972). Land uses in the vicinity of the site include a municipal landfill, a United States National Guard training area, disturbed but undeveloped woodlands, rural residential areas, and agricultural lands.

The Facility is located in the Great Lakes Drainage Basin, and is part of USGS Hydrologic Unit 04130001 of the Oak Orchard-Twelvemile Watershed. In Niagara County, total annual precipitation averages 37 inches (NRCS, 2012b) throughout its watersheds. The majority of surface hydrology on the Project site is generated by precipitation and surface water run-off from adjacent land. A series of ditches drain the Model City facility, connecting on-site wetlands to other off-site hydrological features and draining into Fourmile Creek and Twelve Mile Creek, which discharge into Lake Ontario.

4.1 IMPACT SITE

Existing plant communities at the proposed RMU-2 expansion (the impact site) were identified and characterized through interpretation of aerial photographs, reconnaissance-level field surveys, and wetland/stream delineation surveys. The impact site consists largely of previously disturbed/developed land, and therefore lacks significant areas of natural vegetation. On-site vegetation can be characterized as maintained (regularly mowed), old-fields with interspersed patches of maintained lawn, deciduous forestland, and shrubland vegetative communities. In addition, a number of small wetland vegetative communities were observed, including emergent, emergent/scrub-shrub, emergent/scrub-shrub/forested, and scrub-shrub forested wetland communities. However, the majority of on-site wetlands are essentially drainage ditches that are part of the man-made stormwater management system. A Wetland Delineation Report and Supplemental Wetland Delineation Report were prepared for the Project Site and

were submitted to the Corps in June of 2009 and April 2011. A jurisdictional determination (JD) was issued by the Corps on September 13, 2011. Table 1 below summarizes the proposed impacts at the impact site.

Table 1. Permanent Impacts to Wetlands and Streams

Wetland ID	Community Type	Permanent Impact (Square Feet)	Permanent Impact (Acres)	Permanent Adjacent Area Impact (Square feet)
G	PEM	17,052.5	0.391	--
	Drainage	793.4	0.018	
H	PEM	1,596.3	0.037	--
I	PEM	1,406.9	0.032	--
	Drainage	3,017.3	0.069	
J	PFO	19,779.1	0.454	--
	PEM Drainage	15,599.8	0.358	
K	PEM	14,630.4	0.336	--
	Drainage	11,384.3	0.261	
M	PFO	11,627.3	0.267	--
	PSS	1,560.6	0.036	
	PEM	1,887.3	0.043	
	Drainage	12,341.2	0.283	
N	PEM	46.4	0.001	--
	Drainage	702.1	0.016	
O	PFO	615.0	0.014	--
	PSS	531.7	0.012	
	Drainage	360.1	0.008	
Drum Wetland	PFO	--	--	32,171
Total: 111,808 Square Feet (2.567 Acres)				
Community Type (Acres) - PFO: 0.734 , PSS: 0.048, PEM: 0.84, PEM Drainage: 0.358, Drainage: 0.587				

Notes: PSS = Palustrine Scrub-Shrub Wetland; PEM = Palustrine Scrub-Shrub Wetland; PFO = Palustrine Forested Wetland.

NYSDEC stream mapping indicates that one Class C unprotected stream occurs within the impact site. This stream is an unnamed tributary of Fourmile Creek and occurs within the Oak Orchard-Twelvemile United States Geologic Survey (USGS) hydrologic unit 04130001, which is part of the Southwestern Lake Ontario drainage basin. Activities

that would alter or disturb this stream, and/or hydrologically connected wetlands, require a permit from the Corps under Section 404 of the Clean Water Act. Since the NYSDEC does not regulate Class C streams, a permit under Article 15 of the Environmental Conservation Law (ECL) is not required.

Review of NYSDEC mapping indicates that there is one NYSDEC-mapped wetlands (RV-8) regulated under Article 24 located adjacent to the new Drum Management Building area of disturbance. Review of NWI mapping indicates that multiple federally mapped wetlands occur in the area, three of which occur within the impact site. Each of these wetlands are classified as PUBKHx (Palustrine, Unconsolidated Bottom, Artificially Flooded, Permanently Flooded, and Excavated) and correspond to Facultative Ponds, which are man-made reservoirs constructed to store treated waste water. As they are engineered components of the working Model City, the Facultative Ponds are not considered to be jurisdictional waters of the U.S. One additional federally mapped wetland, identified as PFO1/4Bd (Palustrine, Forested, Broad-Leaved Deciduous, Forested, Needle-Leaved Evergreen, Saturated, and Partially Drained/Ditched) is located immediately adjacent to the impact site.

edr wetland biologists conducted wetland and stream investigations at the impact site during the Spring of 2009, 2011, and July 2012. The 15 delineated wetland areas within the Project Site cumulatively totaled approximately 3.25 acres and were primarily emergent communities dominated by common reed and sedges, as well as scrub-shrub communities dominated by silky dogwood and willows. Only three wetlands identified by edr personnel included forested communities. The wetlands were all characterized by hydric soils and clear indicators of wetland hydrology at the time of Site investigation. Eight of these areas are associated with the stormwater management system (SPDES Permit # NY 0072061) and do not offer the structural or functional attributes inherent to natural waters of the U.S. Even in the on-site wetland areas where the land appears relatively undisturbed, the natural surface water hydrology and/or vegetation have been altered to such an extent that limited wetland functions and values remain.

4.2 MITIGATION SITE

There are no NWI or NYSDEC wetlands or NYSDEC protected streams mapped within the mitigation site (Figure 2, Appendix A). According to soils mapping for Niagara County (NRCS, 1972) (Figure 3, Appendix A), the majority of the mitigation site is underlain by soils mapped as "Made land." This soil type is filled with stones, old masonry materials, brick, and other waste covered with a thin mantle of soil material. A small area of Rhinebeck silt loam soil is also mapped as occurring within the mitigation site. Both the Rhinebeck silt loam and Made land mapping units are classified as hydric (NRCS, 2012a).

Existing ecological communities at the 21 acre mitigation site, a portion of which is the proposed mitigation area, were mapped based on interpretation of aerial photography, and then verified in the field by **edr** biologists on May 22, 2012. Following field reconnaissance and aerial photo review, vegetative community boundaries were digitized, and approximate acreages calculated through the use of GIS analysis. The mitigation site contains five ecological communities: upland deciduous forest (10.27 acres), disturbed/developed (4.95 acres), forested wetland (3.05 acres), emergent wetland (2.07 acres), and successional old-field (1.15 acres). See the Wetland Delineation Report in Appendix C for further detail about the existing wetlands at the mitigation site.

Existing hydrologic sources at the mitigation site are primarily from rainfall. The applicant has several water table groundwater monitoring wells in the vicinity of the mitigation site. One existing monitoring well is at the east boundary of the proposed conservation easement. Groundwater elevation measurements were obtained from this well in October 2011, April and October 2012, and April 2013 and ranged between approximately 304 feet amsl in the Fall of 2011 to 318 feet amsl in the Spring of 2012. At this location the ground surface is approximately 319 feet amsl. This indicates that the groundwater table ranges from approximately 1 to 15 feet below the ground surface. Other nearby monitoring wells recorded ground water elevations to be between 3 and 11 feet below the ground surface.

5.0 DETERMINATION OF CREDITS

The RMU-2 expansion will result in permanent impacts to approximately 2.567 acres of jurisdictional wetlands (Impacts by community type (acres) - PFO: 0.734, PSS: 0.048, PEM: 0.84, PEM Drainage: 0.358, Drainage: 0.587). To mitigate for unavoidable, direct wetland impacts associated with the Project, approximately 4.3 acres of successional wetlands (mitigation area) will be created on-site in a disturbed/developed area, designed to succeed from scrub-shrub into forested wetlands. This represents a mitigation ratio of approximately 1.7 to 1 (mitigation to impact) for direct impacts to wetlands/streams.

Most of the wetland areas to be impacted are associated with the Facility stormwater management system and do not offer the structural or functional attributes inherent to natural waters of the U.S. Even in the wetland areas where the land appears relatively undisturbed, the natural surface water hydrology and/or vegetation have been altered to such an extent that limited wetland functions and values remain. Therefore, the mitigation ration of approximately 1.7 to 1 is more than adequate to offset the unavoidable impacts to aquatic resources.

6.0 MITIGATION WORK PLAN

No construction activities pertaining to wetlands impacts or mitigation have been initiated or completed to date. Mitigation will be implemented prior to or concurrent with the authorized impacts. Construction activities pertaining to wetland/stream impacts and mitigation will include:

- survey and stakeout
- erosion control/silt fence installation
- excavation of wetland mitigation areas to subgrade
- clearing and grubbing of impacted wetland areas
- construction-related disturbance to the authorized portion of wetlands and streams on-site
- finalize mitigation area subsoil contouring
- verify proposed grade/elevation of mitigation area through survey
- adjust subgrade as necessary
- spread reserved topsoil
- seed mitigation area basin and adjacent area
- plant woody vegetation

Construction in the project area and the mitigation area is anticipated to commence in 2014 or 2015. The impact areas will be staked out and lined with silt fence prior to clearing and grubbing activities in accordance with a Stormwater Pollution Prevention Plan (SWPPP). Installation of orange protective fencing around the area of wetlands that are to be preserved will remain throughout the duration of construction activities.

6.1 MITIGATION DESIGN SPECIFICATIONS AND CHARACTERISTICS

Conceptual construction grading and planting plans and specifications for the compensatory wetland mitigation area were prepared by **edr** ecologists and registered landscape architects. Specifications for mitigation topsoil placement, seeding, and planting are included as Appendix D.

Wetland hydrology for the mitigation area will be provided by direct precipitation and runoff from adjacent upland areas. Annual precipitation rates over 30 years (1971-2000) at the Buffalo Niagara monitoring station average 40.54 inches (NOAA 2004). Given local precipitation rates, the hydric soils at the mitigation site, the depressional nature of the proposed mitigation area, and its landscape position, it is anticipated that soils will be saturated in the compensatory mitigation area for sufficient time to promote the growth of hydrophytic vegetation. In addition, nearby

groundwater data indicates that the seasonally high groundwater table has the potential to supply the mitigation site with hydrology.

Proposed grading within the wetland mitigation area is designed to lower ground elevation to achieve saturated soil conditions. Topsoil will be stripped from the proposed wetland mitigation area and temporarily stockpiled. The areas will then be excavated 6 to 12 inches below the final elevation. Topsoil will be redistributed throughout the mitigation area to achieve final grades. The soils will be distributed in a rough manner so as to create uneven microtopography and variability in hydrologic conditions. Grading will be designed to create conditions conducive to development of a successional wetland community that will transition from scrub-shrub to forest.

After final grading is completed, all disturbed areas within the new wetland will be seeded with a native seed mix, as detailed in the seeding specification (see Appendix D). In addition, a 50/50 seed mixture of wetland and upland grass species will be applied to any disturbed upland surrounding the mitigation area for erosion control and to provide a vegetated wetland buffer. The buffer will also serve as a transitional zone from the wetland to upland vegetative communities.

6.2 VEGETATION AND SOILS

The mitigation areas will be vegetated by seeding with Ernst retention basin wildlife mix (ERNMX-127), a combination of native species that provide food and cover for various wildlife species. Dominant species by percentage include fox sedge, fowl bluegrass, Virginia wild rye, deer-tongue grass, lurid sedge, blue vervain, and green bulrush. To encourage the growth of woody wetland vegetation, the wetland shrub seed mix will be supplemented with ball and burlap plantings of black willow, green ash, and red maple tree seedlings and gray dogwood shrubs. Detailed specifications for Mitigation Area Seeding and Planting are included as Appendix D.

Native/on-site subsoil and topsoil will be used as the substrate for the created wetland mitigation area. Soils in the mitigation site are primarily mapped as Made land, with a lesser amount of Rhinebeck silt loam, both classified as hydric soils (NRCS, 2012a). Detailed specifications for Mitigation Area Topsoil Placement are included in Appendix D.

A potential threat to the mitigation site and adjacent wetland and stream resources is the risk of introduction or spread of invasive vegetative species, through the movement of topsoil, fill, gravel, and construction equipment. Such activities will occur during construction of the Project. The Applicant will utilize the Invasive Species Control

Plan (Appendix E) during construction and monitoring of the mitigation area in order to identify and control the spread of invasive species.

7.0 MAINTENANCE PLAN

The mitigation area will be reviewed once annually by a staff member of the Applicants facilities operation staff (for up to five years after the mitigation area construction is complete. Inspections shall be conducted during the growing season (May – October). All inspections will be done on foot; vehicular access to the wetland area is prohibited. The inspector shall be experienced in this type of work, and shall have a working knowledge of wetland and invasive plants.

The maintenance plan addresses all post-construction maintenance, repair, and replacement of landscape features on-site, including:

1. Invasive and nuisance plant species control – the perimeter and interior of the compensatory wetland mitigation area shall be inspected for the establishment of invasive plant species.
2. Litter removal – remove and haul away any debris from the compensatory wetland mitigation area. Avoid removal of tree branches, logs, or stumps.
3. Response to any recommended remedial plans – the specific maintenance and/or repair activities that may be indicated in monitoring reports are not known at this time (see Section 9.0). Typical post-construction maintenance activities could include: reseeding or supplemental seeding, replanting or supplemental planting, implementation of herbivory deterrents, removal of undesired plant species, and repair of topsoil in area exhibiting erosion.

All mowing and/or mechanized cutting shall be prohibited within the compensatory mitigation areas. Additionally, no mowers or other vehicles shall enter the upland slope area of the mitigation areas. The application of herbicides to control invasive species shall be avoided, unless specified in the annual monitoring report (Section 9.0).

8.0 PERFORMANCE STANDARDS

The goals of the proposed wetland mitigation are to off-set cumulative wetland loss associated with construction of the Project, at a ratio of approximately 1.7 to 1 (mitigation to impact). The proposed wetland mitigation area has been designed and will be constructed to provide the following functions:

- Stormwater detention and water quality improvement
- Improved sediment and nutrient retention
- Habitat for wetland plant species
- Waterfowl and amphibian habitat
- Passerine bird nesting, feeding, and resting habitat

Success criteria for the 4.3-acre compensatory wetland mitigation area will include the following: 1) 85% vegetative cover, 2) 85% coverage by plant species with an indicator status of FAC or wetter, and 3) 50% coverage by plant species with an indicator status of FACW or wetter (including at least one OBL species).

An annual report will be prepared documenting the success of the mitigation area. The annual report will present collected vegetation and hydrologic data, photographic documentation, and a qualitative description of the progress of the mitigation effort (see Section 9.0 for additional detail).

9.0 MONITORING REQUIREMENTS

Following construction of the mitigation area, a monitoring plan will be implemented to assure success of the mitigation area in accordance with permit requirements. Monitoring procedures, success criteria, and reporting requirements are proposed as follows:

1. The Applicant will submit an "as built" survey documenting construction of the required acreage of wetland (in accordance with the final wetland mitigation plans). Survey to be submitted to the Corps by December 31 of the year of completion of all mitigation construction activities.
2. The Applicant will perform annual monitoring for up to 5 years, starting one year after construction of the mitigation area, to take place between July 1 and October 15 of each year. The monitoring effort shall be documented in a report to include:
 - A complete list of established vegetation,
 - A list of dominant species of each community type with relative percent cover occupied by each type,
 - Photographs taken from fixed locations and indicated on a vegetative cover type map,
 - Water depth and date of measurement from representative, fixed locations within the mitigation area. Water levels will be inspected by either surface water inspection (visual indicators) or by shovel testing to a depth not to exceed 12".
3. Success criteria for the 4.3 acre compensatory wetland mitigation area will include the following: 1) 85% vegetative cover, 2) 85% coverage by plant species with an indicator status of FAC or wetter, and 3) 50% coverage by plant species with an indicator status of FACW or wetter (including at least one OBL species). An annual report will be prepared documenting the success of the mitigation area. The annual report will present collected vegetation and hydrologic data, photographic documentation, and a qualitative description of the progress of the mitigation effort.
4. At the end of a given monitoring season, the Applicant shall evaluate the functions and values of the created wetland area. The evaluation will be presented in a report that addresses hydrology, flood storage, sediment control, and wildlife values (same report as discussed in #3 above).
5. After the second full growing season, if annual monitoring shows that coverage by wetland plant species within the mitigation area is 85% or greater, then third and fourth year monitoring will be limited to

photographic documentation and a qualitative status report. A full monitoring effort, as described in #2 above, will again be undertaken and a monitoring report submitted to the Corps at the end of the fifth full growing season.

If the success criteria are not met at the end of the third monitoring season, the Applicant will prepare a remediation plan outlining all practicable steps taken, or proposed to be taken, to achieve the success criteria described in #3 above. The plan will be submitted to the Corps Buffalo District office and implemented as approved.

10.0 LONG-TERM MANAGEMENT PLAN

As indicated in Section 3.0, CWM shall place a perpetual deed restriction, in the form of a conservation easement, on the mitigation site to protect the compensatory wetland mitigation area and adjacent uplands in perpetuity and guarantee its preservation. The conservation easement will protect a total of 15.94 acres.

The Applicant will continue to ensure that the mitigation site continues to function and is maintained as outlined in Sections 7.0 and 9.0 for a period of up to five years after the mitigation area construction is complete.

To ensure the long term viability of this wetland mitigation site, the Applicant or any future deed holder will monitor the site. Any corrective actions and their subsequent cost will be the responsibility of the deed holder.

11.0 ADAPTIVE MANAGEMENT PLAN

If success criteria are not met at the end of the third monitoring season, the Applicant will prepare a remediation plan outlining all practicable steps taken, or proposed to be taken, to achieve the success criteria described in Section 8.0. The plan will be submitted to the Corps' Buffalo District office and implemented as approved.

12.0 FINANCIAL ASSURANCES

The Applicant assumes the financial responsibility to design, construct, maintain, protect, and manage the created wetland mitigation area on site for a time of 5 years post construction. In addition, CWM shall hold a 10% retainage on the contractor until satisfactory completion of work is attained.

Any corrective actions required beyond the 5 year monitoring period will be financed by the Applicant or future deed owner.

REFERENCES

Natural Resources Conservation Service (NRCS). 1972. *Soil Survey of Niagara County, New York*. United States Department of Agriculture Soil Conservation Service, in cooperation with Cornell University Agricultural Experiment Station. October 1972.

NRCS. 2012a. *New York Portion of the 2012 National Hydric Soil List*. Available at: <http://soils.usda.gov/use/hydric/> (Accessed June 12, 2012). Last updated April 2012.

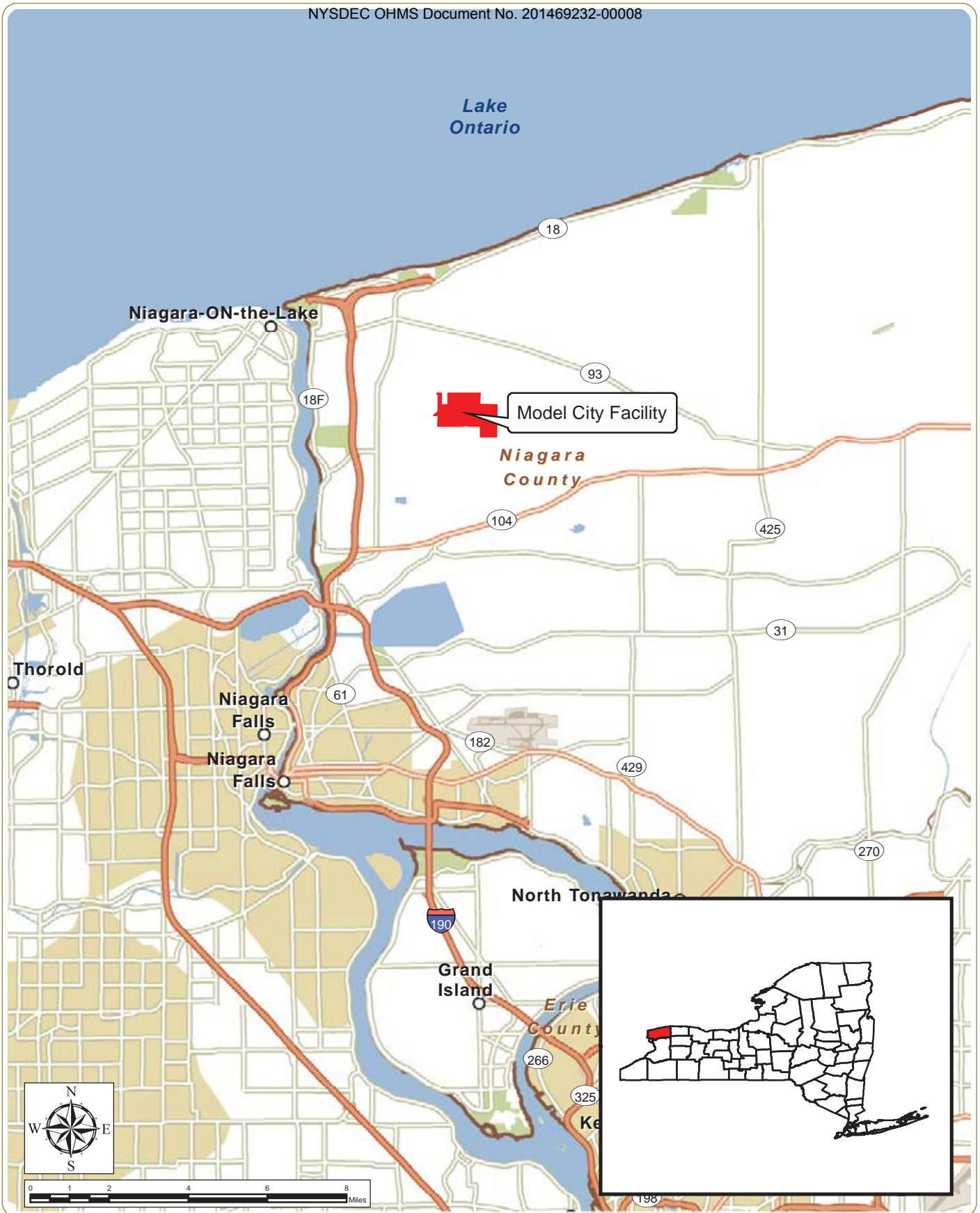
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National Oceanic & Atmospheric Administration (NOAA). 2004. *Climatology of the United States No. 20 1971-2000 Station Buffalo Niagara Intl, NY*. U.S. Department of Commerce National Oceanic & Atmospheric Administration National Environmental Satellite, Data, and Information Service. Available at http://cdo.ncdc.noaa.gov/cgi-bin/climatenormals/climatenormals.pl?directive=prod_select2&prodtype=CLIM20&subnum= (Accessed October 2012).

Draft Wetland Mitigation and Monitoring Plan

APPENDIX A

Figures



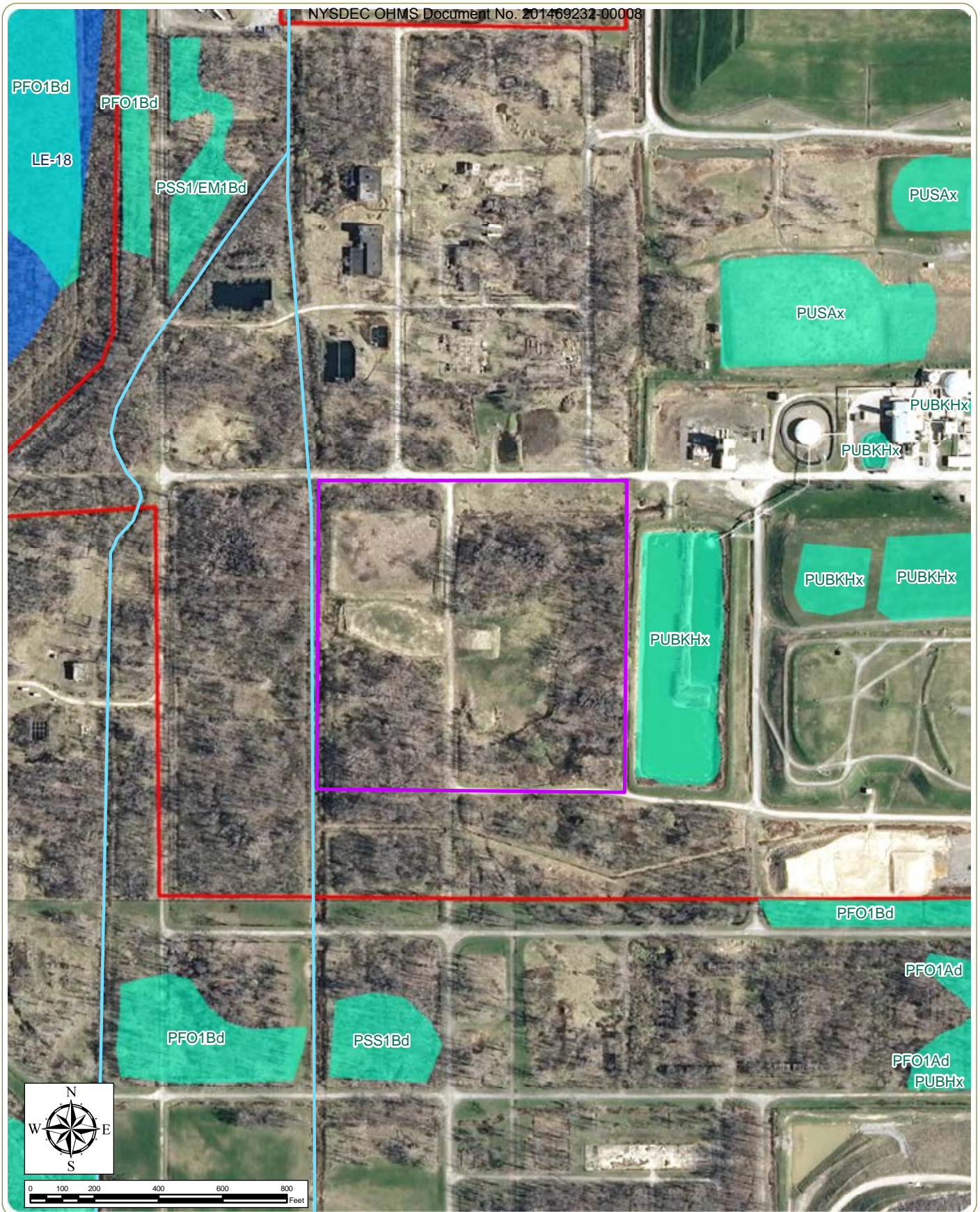
RMU-2 Landfill Expansion

Town of Porter - Niagara County, New York

Figure 1: Regional Location Map

June 2013

Notes: Basemap: ESRI Streetmap North America 2012.



RMU-2 Landfill Expansion

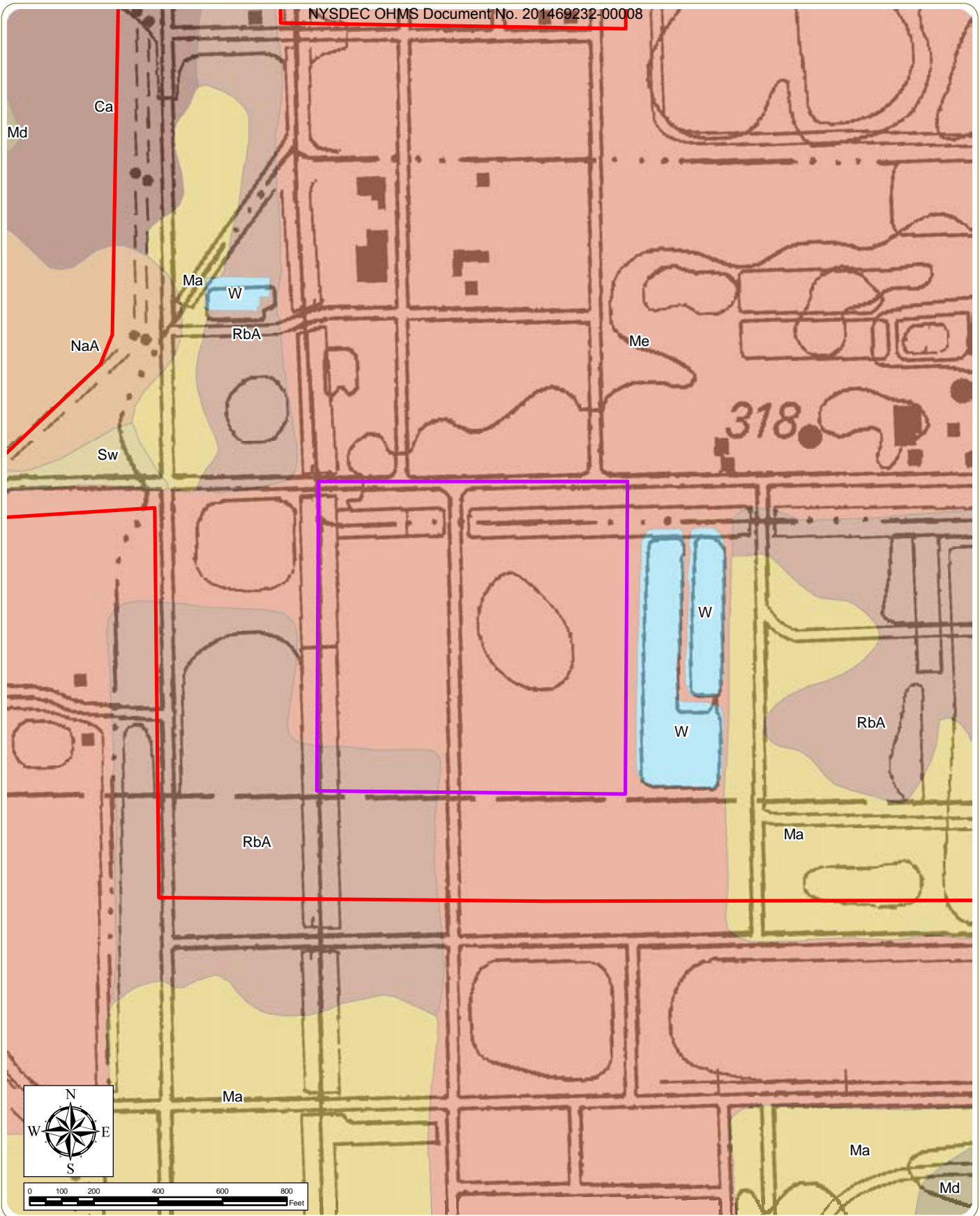
Town of Porter - Niagara County, New York

Figure 2: NWI and NYSDEC Mapped Streams and Wetlands

July 2013

Notes: Basemap: NYS Orthoimagery 2011, 1ft resolution.

- Unprotected Streams
- NYS Protected Streams
- Model City Facility
- Wetland Mitigation Area
- NWI Wetland
- NYSDEC Mapped Wetland



RMU-2 Landfill Expansion Town of Porter - Niagara County, New York

Figure 3: Mitigation Site Soils
July 2013

Notes: Basemap: NYSDOT 1:24,000 Quadrangle, Ransomville.

- Wetland Mitigation Area
- Model City Facility
- Ca - Canandaigua silt loam
- Ma - Madalin silt loam
- Md - Madalin silt loam, loamy subsoil variant
- Me - Made land
- NaA - Niagara silt loam
- RbA - Rhinebeck silt loam
- Sw - Sun silt loam
- W - Water

Draft Wetland Mitigation and Monitoring Plan

APPENDIX B

Protection Instrument

STATE OF NEW YORK
COUNTY OF _____

DECLARATION OF
RESTRICTIVE COVENANTS

THIS DECLARATION OF RESTRICTIVE COVENANTS is made this _____ day of _____, 2010, by _____, ("Declarant"), A New York corporation with offices at _____, _____, New York.

RECITALS

WHEREAS, Declarant is the owner in fee of certain real property (*"real property" includes wetlands, any interest in submerged lands, uplands, associated riparian/littoral rights*) (the "Property") comprising _____ acres \pm and located in the Town of _____, _____ County, New York. The Property is more particularly described as tax map ID number _____, and is indicated on a plat recorded with the _____ County Clerk at Book _____, Page _____. The Declarant's deed to the Property is recorded at Book _____, page _____; and

WHEREAS, Declarant plans a development on the Property to be known as "_____", which includes discharge of dredged or fill material in a manner authorized by Department of the Army Permit ("DA Permit") number _____ issued on _____, 201__ by the United States Army Corps of Engineers, New York District ("Corps of Engineers", to include any successor agency) in accordance with the federal Clean Water Act, 33 U.S.C. § 1344; and

ALTERNATIVE CLAUSE FOR NATIONWIDE PERMIT

WHEREAS, Declarant plans a development on the Property to be known as "_____", which includes discharge of dredged or fill material in a manner authorized by Department of the Army Nationwide General Permit(s) Number _____ ("DA Permit") in accordance with the federal Clean Water Act, 33 U.S.C. § 1344, authorization number _____ having been verified by letter issued on _____, 201__ by the United States Army Corps of Engineers, New York District ("Corps of Engineers", to include any successor agency); and

WHEREAS, Declarant also seeks to develop the Property in a manner authorized by New York State Department of Environmental Conservation ("NYSDEC", to include any successor agency) Permit number _____ issued on _____, 200__ in accordance with _____ ("NYSDEC Permit"); and

WHEREAS, as a portion of the compensatory mitigation required by the DA Permit and the NYSDEC Permit; in recognition of the continuing benefit to the Property; and for the protection of waters of the United States and scenic, resource, environmental, and general property values; Declarant agrees to place certain Restrictive Covenants on the a portion of the property (the "Restricted Property"), in order that the Restricted Property shall remain substantially in its natural condition forever; and

WHEREAS, the Restricted Property comprises a total of _____ acres of wetlands and adjacent uplands and is shown on the map entitled “_____ Map”, dated _____ and filed with the plat described above; and

WHEREAS, a metes and bounds description of the Restricted Property is attached to this Declaration as Exhibit “A” and made a part hereof; and a reduced copy of the “_____ Map” is attached to this Declaration as Exhibit “B” and made a part hereof.

NOW THEREFORE, for good and valuable consideration as set forth above, Declarant hereby declares that the Restricted Property shall be held, occupied, and used, and shall be transferred, conveyed, leased, or otherwise disposed of subject to the following Restrictive Covenants, which shall run with the land and be binding on all heirs, successors, assigns lessees, other occupiers and users (they are included in the term, “Declarant,” below).

PROHIBITIONS

The Declarant shall ensure that these Prohibitions shall run with the Restricted Property in perpetuity, and be binding on the Declarant and its successors, assigns, lessees, and other occupiers and users. These Restrictive Covenants are subject to Declarant’s reserved rights, which follow, and to the requirements of the DA and NYSDEC Permits.

1. **General.** There shall be no future filling, flooding, excavating, mining or drilling; no removal of natural materials; and no alteration of the topography which would materially affect the Restricted Property in any manner, except as authorized by the DA or NYSDEC Permit.
2. **Waters and Wetlands.** In addition to the general restrictions above, within the Restricted Property there shall be no draining, dredging, damming or impounding; no changing the grade or elevation, impairing the flow or circulation of waters, or reducing the reach of waters; and no other discharges or activity requiring a permit under applicable water pollution control laws or regulations, except as authorized by the DA or NYSDEC Permit.
3. **Trees/Vegetation.** On the Restricted Property there shall be no clearing, burning, cutting or destroying of trees or vegetation, except removal or trimming of vegetation hazardous to person or property, or of timber downed or damaged due to natural disaster, or as authorized by the DA or NYSDEC Permit. There shall be no planting or introduction of non-native or exotic species of trees or other vegetation.
4. **Disposal:** There shall be no dumping of trash, waste, garbage or toxic, unsightly, hazardous or offensive material on the Restricted Property.
5. **Uses.** No agricultural, animal husbandry, industrial, mining, logging or commercial activity shall be undertaken or allowed on the Restricted Property.
6. **Structures/Utilities.** There shall be no construction, erection, or placement of buildings, billboards, utilities components or any other structures, to include trailers, mobile homes or recreational vehicles, telecommunications towers or antennas, on the Restricted Property.

7. **Roads.** There shall be no construction of roads, trails or walkways on the Restricted Property.
8. **Pest Control.** There shall be no application of pesticides or herbicides to control vegetation on the Restricted Property, without prior written approval of the Corps of Engineers or NYSDEC.
9. **Vehicle Use.** There shall be no driving or use of any mechanical conveyance which may alter or impair the natural contour of the Restricted Property or its natural vegetation, except that motor vehicles may be used in case of emergency, for law-enforcement purposes, or to perform mitigation activity as required by the DA or NYSDEC Permit.
10. **Other Prohibitions.** Any other use of, or activity on, the Restricted Property which is or may become inconsistent with the purposes of this Declaration, the preservation of the Restricted Property substantially in its natural condition, or the protection of its environmental systems, is prohibited.

GENERAL CONDITIONS

1. **Other Restrictions.** The Declarant represents and warrants that no restriction of record on the use of the Restricted Property, nor any presently existing future estate or interest in the Restricted Property, nor any lien, obligation, covenant, limitation, lease, mortgage or encumbrance of any kind precludes the imposition of the restrictions, covenants, obligations or agreements of this Declaration, or the maintenance of the Restricted Property in accordance herewith.
2. **Existing Conditions.** The Declarant represents and warrants that no structures of any kind, to include roads, trails or walkways, and that no violations of any these Restrictive Covenants exist on the Restricted Property at the time of execution of this Declaration.
3. **Reserved Rights.** The Restrictive Covenants set forth in this Declaration are created solely for the protection of the Restricted Property, and for the consideration and values set forth above, and Declarant reserves the ownership of the fee simple estate upon the Restricted Property and all rights appertaining thereto, including the right to engage in all acts or uses not prohibited by this Declaration and not inconsistent with the conservation purposes hereof. It is expressly understood and agreed that the terms of this Declaration do not grant or convey to members of the general public any rights of ownership, entry or use of the Restricted Property.
4. **Marking.** The Declarant shall mark the limits of the Restricted Property in a manner approved by the Corps of Engineers, and shall maintain the marking in place so as to notify the public that the Restricted Property is an area preserved for conservation purposes.
5. **Recording.** A plat depicting the boundaries of the Restricted Property is recorded with the _____ County Clerk at Book _____, Page _____. The Declarant shall record this Declaration in the records of the _____ County Clerk, shall insure that this Declaration is indexed against the Restricted Property, and shall provide the Corps of Engineers with a copy of this Declaration, as filed, within 30 days of execution hereof.

6. Compliance Inspections. The Corps of Engineers, NYSDEC and their authorized agents shall have the right to enter and go upon the lands of Declarant to inspect the Restricted Property and take actions necessary to verify compliance with the Restrictive Covenants set forth in this Declaration.

7. Enforcement. The Declarant grants to the Corps of Engineers, the U.S. Department of Justice and NYSDEC a discretionary right to enforce the Restrictive Covenants set forth in this Declaration in a judicial action against any person or other entity violating or attempting to violate these Restrictive Covenants; provided, however, that no violation of these Restrictive Covenants shall result in a forfeiture or reversion of title. In any enforcement action, an enforcing agency shall be entitled to a complete restoration for any violation, as well as any other judicial remedy such as civil or criminal penalties or an award of agency attorneys' fees. Nothing herein shall limit the right of the Corps of Engineers or NYSDEC to modify, suspend or revoke their respective Permits.

8. Notice to Government. Any permit application or request made to any governmental entity and affecting the Restricted Property shall expressly reference and include a copy (with the recording stamp) of this Declaration.

9. Property Transfers. Declarant shall include the following notice on all deeds, mortgages, plats, or any other legal instruments used to convey any interest in the Property (failure to comply with this paragraph does not impair the validity or enforceability of these Restrictive Covenants):

NOTICE: This Property is Subject to Declaration of Restrictive Covenants
Recorded at *[insert book and page references, county(ies), and date of recording]*.

At least 30 days prior to conveyance of any interest in the Restricted Property, Declarant (to include any successor Declarant) shall notify the Corps of Engineers and NYSDEC of such intended conveyance, providing the full names and mailing addresses of all Grantees.

10. Amendment. This Declaration may only be amended by a recorded document signed by the Declarant after written approval by the Corps of Engineers and NYSDEC. Any amendment shall be consistent with the Corps of Engineers' model conservation restrictions at the time of amendment. Amendment shall be allowed at the discretion of the Corps of Engineers and NYSDEC, in consultation with resource agencies as appropriate, and then only in exceptional circumstances. Mitigation for amendment impacts will be required pursuant to Corps of Engineers and NYSDEC mitigation policy at the time of amendment. There shall be no obligation to allow an amendment.

11. Severability Provision. Should any separable part of these Restrictive Covenants be held contrary to law, the remainder shall continue in full force and effect.

IN WITNESS WHEREOF, the Declarant has duly executed this Declaration of Restrictive Covenants on the date written above.

IN THE PRESENCE OF:

_____, Declarant

By: _____

Printed Name: _____

Printed Name: _____

Title: _____

STATE OF NEW YORK)
) ss.:
COUNTY OF _____)

On this ____ day of _____ in the year _____, before me personally appeared _____ personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed in the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

NOTARY PUBLIC
STATE OF NEW YORK

Draft Wetland Mitigation and Monitoring Plan

APPENDIX C

Mitigation Area Wetland Delineation Report

Wetland Delineation Report

RMU-2 Landfill Expansion Proposed Wetland Mitigation Area Town of Porter, Niagara County, New York

Prepared for:

CWM Chemical Services
1550 Balmer Road
Model City, New York 14107

Prepared by:



edr Companies
217 Montgomery Street, Suite 1000
Syracuse, New York 13202
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June 2012

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1.0 INTRODUCTION

1.1 Project Site Description

At the request of CWM Chemical Services, LLC (CWM), **edr** Companies (**edr**) investigated approximately 21 acres of land located in the Town of Porter, Niagara County, New York (Figure 1). The land (hereafter referred to as the Project site) is located at CWM's Model City facility off of Balmer Road, and is proposed for development of a compensatory wetland mitigation area. The Project site is currently dominated by successional deciduous forest, but also includes areas of disturbed land, successional old field, and wetland communities. The Project site is located immediately west of FAC ponds 1 and 2 in the western portion of CWM's Model City property (Figure 2).

1.2 Purpose

The purpose of this study was to delineate and describe all on-site wetlands and other waters that may fall under state or federal jurisdiction. Specific tasks included 1) review of background resource data/mapping, 2) field delineation and flagging of all potential state and federal jurisdictional wetlands and streams, 3) survey of jurisdictional area boundaries using a global positioning system (GPS) with reported sub-meter accuracy, 4) quantification of the area of on-site wetlands/waters, and 5) a detailed description of these potential jurisdictional areas based on hydrology, vegetation, and soils data collected in the field.

This report describes the results of the on-site wetland delineation conducted by **edr**, including a description of the wetlands and other waters that were identified and their likely jurisdictional status. This document is intended to provide all of the information necessary to identify on-site jurisdictional areas and support a permit application to the United States Army Corps of Engineers (USACOE) and the New York State Department of Environmental Conservation (NYSDEC).

1.3 Resources

Data and literature supporting this investigation have been obtained from a number of sources including United States Geological Survey (USGS) topographic mapping (Ransomville, NY 7.5 minute quadrangle), United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping, NYSDEC Freshwater Wetlands mapping, the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey of Niagara County, New York (1972), correspondence with the New York State Natural Heritage Program

(NHP), and recent (2008) natural color orthoimagery obtained from the NYS Geographic Information Systems (GIS) Clearinghouse.

Vascular plant names and wetland indicator status used in this report follow the National Wetland Plant List (Lichvar & Kartesz, 2009). Jurisdictional areas were characterized according to the wetlands and deepwater habitats classification system used in NWI mapping (Cowardin, 1979).

1.4 Qualifications

edr's Environmental Project Manager Jim Pippin and Senior Ecological Resource Specialist Sara Stebbins performed the on-site wetland delineation. John Hecklau served as the edr Principal-in-Charge on the project.

Mr. Hecklau serves as principal-in-charge on many of edr's environmental inventory, management, and permitting projects. He received a bachelor's degree in biology from Middlebury College and a master's degree in wildlife biology from State University of New York (SUNY) College of Environmental Science and Forestry. With over 25 years of experience in the environmental field, professional expertise includes wetland delineations, plant and wildlife identification, community mapping, resource management planning, habitat assessments, and environmental impact analysis.

Mr. Pippin is an Environmental Project Manager/Environmental Scientist with over 15 years of experience in the environmental field. He received a bachelor's degree in Natural Resources Management from the University of Maryland at College Park. Professional expertise includes State Environmental Quality Review Act (SEQRA) compliance, local, state, and federal permitting, wetland delineations, wetland mitigation monitoring, stream restoration and monitoring, forest conservation management, global positioning system (GPS) mapping, and geographic information system (GIS) data analysis.

Ms. Stebbins is a plant ecologist with over 10 years of applicable environmental experience, and holds both Bachelor's and Master's degrees from SUNY College of Environmental Science and Forestry. Since joining edr, Ms. Stebbins has been involved in a wide variety of projects, with field tasks including rare plant surveys, ecological community inventory and mapping, wetland delineations, habitat assessments, and invasive species surveys. As a skilled technical writer, report writing tasks have included preparation of numerous environmental review and permitting documents, including environmental impact statements (SEQRA and NEPA), Biological Evaluations (NEPA), Siting Board Applications, and Conservation Analyses.

2.0 SITE PHYSICAL CHARACTERISTICS AND RESOURCES

2.1 Existing Vegetation

Existing ecological communities on the Project site were mapped based on interpretation of aerial photography, and then verified in the field by **edr** biologists on May 22, 2012. Following field reconnaissance and aerial photo review, vegetative community boundaries were digitized, and approximate acreages calculated through the use of GIS analysis. As shown in Figure 3, the site contains five broad ecological community types: upland deciduous forest (10.27 acres), disturbed/developed (4.95 acres), forested wetland (3.05 acres), emergent wetland (2.07 acres), and successional old-field (1.15 acres).

Upland deciduous forest is the dominant ecological community type on the Project site. This community comprises approximately 10.27 acres of the site, and is characterized by eastern cottonwood (*Populus deltoides*), black locust (*Robinia pseudoacacia*), red oak (*Quercus rubra*), and box elder (*Acer negundo*) in the overstory, with honeysuckle (*Lonicera morrowii*), black raspberry (*Rubus occidentalis*), and poison ivy (*Toxicodendron radicans*) in the understory. Portions of the upland deciduous forest on site were previously disturbed, as evidenced by piles of soil/excavated material among the trees.

Forested wetlands occupy approximately 3.05 acres of the site, and are dominated by black willow (*Salix nigra*), green ash (*Fraxinus pennsylvanica*), gray dogwood (*Cornus racemosa*), and various wetland grasses. This community is found along the eastern edge of the Project site and is surrounded by upland deciduous forest and developed access roads.

Emergent wetland occupies approximately 2.07 acres in the northern portion of the Project site and is characterized by sedges (*Carex* sp.), willowherbs (*Epilobium* sp.), and various wetland grasses. A few small green ash saplings are also present. This wetland is a stormwater management pond with soils comprised of excavated clay.

Successional old field occupies approximately 1.15 acres of the site and is dominated by herbaceous species including goldenrod (*Solidago* sp.), common milkweed (*Asclepias syriaca*), wild strawberry (*Fragaria virginiana*), crown vetch (*Coronilla varia*), and various grasses. Eastern red cedar (*Juniperus virginiana*) shrubs are scattered throughout. This community occurs along the northern edge of the site, on previously disturbed areas that are in the early stages of secondary succession.

The remainder of the site (approximately 4.95 acres) is characterized as disturbed/developed, and includes areas that generally lack vegetation, including disturbed soils, gravel access roads, and a dry drainage ditch (described below as delineated Wetland C).

2.2 Physiography and Soils

The Project site is located within the Erie-Ontario Plain physiographic province of New York, which in this region extends from the shore of Lake Ontario to the foot of the Niagara Escarpment. Elevation of this province within Niagara County ranges from 250 feet above mean sea level (amsl) along the lakeshore to 390 feet amsl at the base of the Niagara Escarpment in the Town of Lewiston, New York (NRCS, 1972). Topography is generally level throughout the Project site and surrounding area, ranging from 304 to 320 feet amsl (Figure 4).

Based on available soils mapping for Niagara County (NRCS, 1972), the majority of the site is underlain by soils mapped as "Made land" (see Figure 5). This soil type occurs on approximately 94 percent of the Project site, and is described by the County Soils Survey as areas filled with stones, old masonry materials, brick, and other waste covered with a thin mantle of soil material. A small area of Rhinebeck silt loam soil is also mapped as occurring on site. Both the Rhinebeck silt loam and Made land mapping units are classified as hydric (NRCS, 2012a). Table 1 presents detailed information on all of the soils found on-site.

Table 1. On-Site Soils

Soils Name ¹	Mapping Unit	Slope (%)	Drainage ²	Depth to Seasonal High Water Table (in)	Hydric Soil ³
Made land	Me	0-2	vpd	0-6	Yes
Rhinebeck silt loam	RbA	0-2	spd	6-12	Yes

¹ Unless otherwise noted, information derived from the Soil Survey of Niagara County, New York (1972).

² Soil drainage is represented by the following abbreviations: "ed" = excessively drained, "sed" = somewhat excessively drained, "wd" = well drained, "mwd" = moderately well drained, "spd" = somewhat poorly drained, and "vpd" = very poorly drained.

³ NRCS, 2012a.

2.3 Hydrology

The Project site is located in the Great Lakes Drainage Basin and is part of USGS Hydrologic Unit 04130001 of the Oak Orchard-Twelvemile Watershed. In Niagara County, total annual precipitation averages 37 inches (NRCS, 2012b). The majority of surface hydrology on the Project site is generated by precipitation and surface water run-off from adjacent land. A series of ditches drain the Model City facility, connecting delineated wetlands to other off-site

hydrological features, and ultimately draining into Fourmile Creek. USGS topographic mapping does not indicate the presence of any ponds in the Project site (Figure 4). One stream/ditch is depicted running east-west across the northern end of the Project site; this feature was delineated as Wetland B. Field review also revealed the presence of a drainage ditch on the southeastern side of the access road running through the center of the Project site, which was delineated as Wetland C.

3.0 JURISDICTIONAL AREA MAPPING

3.1 Waters of the United States

As defined by the USACOE, Waters of the United States include all lakes, ponds, streams (intermittent and perennial), and wetlands. Jurisdictional wetlands are defined as “Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (EPA, 2001). Such areas are indicated by the presence of three criteria: hydrophytic vegetation, hydric soils, and evidence of wetland hydrology during the growing season (Environmental Laboratory, 1987). However, as a result of the Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers Supreme Court case (No. 99-1178; January 9, 2001), it has been determined that the USACOE does not have jurisdictional authority over waters that are “nonnavigable, isolated, and intrastate” (EPA, 2001). Subsequent Supreme Court rulings have indicated that jurisdictional waters include headwaters and wetlands that have a “significant nexus” to navigable or interstate waterways. The USACOE offered a preliminary opinion during field review on May 22, 2012 that the delineated wetlands at the Project site will be considered jurisdictional. However, final jurisdictional status will be determined during the formal application review.

NWI maps indicate the approximate location of wetlands that could be under federal jurisdiction. NWI mapping does not indicate the presence of any federally mapped wetlands within the Project site (see Figure 6). However, there are numerous NWI wetlands mapped within the Model City facility. The closest, FAC ponds 1 and 2, is located approximately 35 feet east of the Project site. This wetland is a freshwater pond, coded by the NWI as PUBKHx (palustrine, unconsolidated bottom, artificially flooded, diked/impounded, excavated).

3.2 New York State Freshwater Wetlands

The Freshwater Wetlands Act (Article 24 and Title 23 of Article 71 of the Environmental Conservation Law) gives the NYSDEC jurisdiction over state-protected wetlands and adjacent areas (100-foot upland buffer). The Freshwater

Wetlands Act requires the NYSDEC to map all state-protected wetlands (typically over 12.4 acres in size) to allow landowners and other interested parties a means of determining where state jurisdictional wetlands exist. NYSDEC Freshwater Wetland mapping does not indicate the presence of any state mapped wetland within the Project site (see Figure 7). The nearest NYSDEC Freshwater Wetland, LE-18, is located approximately 0.2 mile west of the Project site.

3.3 Summary of On-Site Jurisdictional Areas

3.3.1 Wetlands

edr personnel delineated four wetlands totaling 5.16 acres within the Project site. Information pertaining to these wetlands is summarized in Table 2. Detailed descriptions of the delineated wetland are presented in Section 4.2. Additional information is provided on the data sheets included in Appendix B.

Table 2. On-Site Wetlands.

Wetland ID ¹	Area ²	Federal Jurisdiction ³	State Jurisdiction
A	3.05	Yes	No
B	0.25	Yes	No
C	0.04	Yes	No
D	1.82	Yes	No

¹Delineated wetlands were identified with a unique letter by edr personnel during field investigations.

²Area is expressed in acres, and includes on-site portions of wetlands only.

³Based on field observations of hydrologic connections. Final jurisdiction will be determined during formal application review.

3.3.2 Streams and Ponds

There are no lakes or ponds within the Project site. There is one mapped stream/ditch depicted running east-west across the northern end of the Project site; this feature was delineated as Wetland B (see Figure 8). This ditch originates in Wetland D (a retention basin) and is characterized by well-defined, excavated banks and a slow, gentle flow (see additional discussion in Section 4.2). Field review also revealed the presence of a drainage ditch on the southeastern side of the access road running through the center of the Project site, which was delineated as Wetland C.

4.0 ON-SITE JURISDICTIONAL AREA DELINEATION

4.1 Methodology

The entire Project site was investigated, and all the wetlands were delineated on May 22, 2012. The determination of wetland boundaries was made by **edr** personnel according to the three-parameter methodology described in the *USACOE Wetland Delineation Manual* (Environmental Laboratory, 1987). Determination of wetland boundaries was also guided by the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeastern Region* (hereafter referred to as the Regional Supplement) (USACOE, 2009). Attention was also given to the identification of potential hydrologic connections between wetland areas that could influence their jurisdictional status. Wetland boundaries were defined in the field with sequentially numbered pink surveyor's flagging.

Data was collected from sample plots in each delineated wetland on May 22, 2012, and was recorded on USACOE *Routine Wetland Determination* forms (Appendix B). Data collected by **edr** personnel included dominant vegetation, hydrology indicators, and soil characteristics.

The vegetative data collection process focused on dominant plant species in four categories: trees (>3" diameter at breast height), saplings/shrubs (<3.0" diameter at breast height and >3.2' tall), herbs (<3.2' tall), and woody vines. Dominance was measured by visually estimating those species having the largest relative basal area (trees), greatest height (saplings/shrubs), greatest number of stems (woody vines), and greatest percentage of aerial coverage (herbaceous) by species. Dominant species for each stratum in the plant community were identified for all sample points. The dominant species from each category are defined as those plants with the highest ranking which, when cumulatively totaled, exceeds 50 percent of the total dominance measure for that category, plus any additional plant species comprising 20 percent or more of the total dominance measure for the category. The species were rank ordered for each category by decreasing value of percent cover.

Soils data at each sampling location were collected by **edr** personnel using a trenching shovel. Information concerning soil name, drainage classification, texture, matrix and redoximorphic feature color was obtained by reviewing the County Soil Survey and through field sampling. Soil colors were determined using *Munsell Soil Charts* (Kollmorgen Corp., 2000). This information was used to determine whether the soils displayed hydric characteristics. Hydric soils are those that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part of the soil layer. Hydric soils are poorly drained, and their presence is indicative of the likely occurrence of wetlands (Environmental Laboratory, 1987).

The Regional Supplement lists the following indicators as evidence of wetland hydrology (in order of decreasing reliability): (A1) surface water, (A2) high water table, (A3) saturation, (B1) water marks, (B2) sediment deposits, (B3) drift deposits, (B4) algal mat or crust, (B5) iron deposits, (B7) inundation visible on aerial imagery, (B8) sparsely vegetated concave surface, (B9) water-stained leaves, (B13) aquatic fauna, (B15) marl deposits, (C1) hydrogen sulfide odor, (C3) oxidized rhizospheres on living roots, (C4) presence of reduced iron, (C6) recent iron reduction in tilled soils, and (C7) thick muck surface. Hydrologic characteristics (inundation and soil saturation) were visually assessed to a depth of 12 inches. The hydrology indicators described above are considered "primary indicators," and any one of these indicators is sufficient evidence that wetland hydrology is present. In addition, "secondary indicators" used by **edr** personnel included: (B6) surface soil cracks, (B10) drainage patterns, (B16) moss trim lines, (C2) dry-season water table, (C8) crayfish burrows, (C9) saturation visible on aerial imagery, (D1) saturation visible on aerial imagery, (D2) geomorphic position, (D3) shallow aquitard, (D4) microtopographic relief, and (D5) fac-neutral test. Any two of these also indicate the presence of wetland hydrology. Wetland hydrology, when combined with a hydrophytic plant community and hydric soils, indicate the presence of a wetland.

Photographs representative of the delineated wetland on-site are included in Appendix C.

4.2 Description of On-Site Delineated Wetlands

edr personnel delineated four wetlands on-site. The size and location of these wetlands are illustrated in Figure 8. A description of these wetlands is presented below.

Wetland A

Wetland A (3.05 acres) is a forested wetland located in the eastern portion of the Project site (Figure 8). Vegetation is dominated by green ash, black willow, gray dogwood, and various grasses and mosses. Evidence of hydric soils included low chroma matrix colors (2.5YR 3/1) with clay cobbles present throughout the pedon, and dark loamy soil over mottled clay (10YR 3/1 and 10YR 4/2). Evidence of wetland hydrology included inundation, water-stained leaves, oxidized rhizospheres on living roots, and moss trim lines. Hydrologic connectivity is present between this wetland and other wetlands both on- and off-site. Wetland A generally drains to the north into Wetland B, which flows off-site to the east. Wetland A is also connected to Wetland C, another drainage ditch that flows to the south.

Uplands adjacent to Wetland A are characterized as deciduous forest. Vegetation in this area includes cottonwood, box elder, black locust, honeysuckle, dame's rocket (*Hesperis matronalis*), and white avens (*Geum canadense*).

There was no evidence of wetland hydrology in these areas, and the bright soils (10YR 4/3) did not display any hydric soil characteristics.

Wetland B

Wetland B (0.25 acre) is located in the northeastern portion of the Project site (Figure 8). The wetland is a man-made drainage channel that runs parallel to an access road, but is presently overgrown and has the characteristics of an emergent wetland community. Vegetation is dominated by wetland species including cattails (*Typha angustifolia*), sedges, and a small amount of black willow. Evidence of hydric soils included a low chroma matrix (10YR 4/1) with a clay texture. Evidence of wetland hydrology included saturation, water-stained leaves, and the presence of a hydrogen sulfide odor. This wetland flows from west to east, receiving drainage from Wetland D via a culvert under a road separating the two wetlands, and flowing off-site to the east.

Uplands to the north of Wetland B are characteristic of an old field community, while the adjacent community to the south is upland deciduous forest (as described above). Dominant vegetation found at the sample point include goldenrod crown vetch, common milkweed, and wild strawberry. There was no evidence of wetland hydrology in this area and the bright soils (10YR 5/3) along with the hard packed rock/soil did not display hydric characteristics.

Wetland C

Wetland C (0.04 acre) is a drainage ditch that runs through the middle of the southern portion of the site, parallel to an access road (Figure 8). Stream flow appears ephemeral, with no water present during the field investigation. The channel has well defined banks and a vegetated channel. Bank width is approximately 10 feet, with a stream width of approximately 3 feet. Wetland C is connected to Delineated Wetland A and flows south into an east to west aligned drainage ditch that flows to a ditch called the "Central Ditch", which ultimately flows north into Fourmile Creek. Uplands adjacent to Wetland C consist of deciduous forest (described above) to the east and an access road to the west.

Wetland D

Wetland D (1.82 acres) is located in the northwestern corner of the site (Figure 8), and is the basin of a storm water retention pond. At the time of the investigation, the basin lacked standing water, and was vegetated with a wet meadow or emergent wetland community. Dominant species include wetland sedges and grasses, with scattered willowherb, water plantain (*Alisma* sp.), and green ash seedlings. Evidence of hydric soils included low chroma clay soils (10YR 4/2). Hydrologic indicators at the time of investigation included water-stained leaves and oxidized rhizospheres on living roots. Wetland D drains to the east via Wetland B.

Uplands adjacent to the Wetland D sample point are characteristic of a disturbed old field community, and are dominated by crown vetch (*Coronilla varia*). There is no evidence of wetland hydrology in the area and the high chroma soils (10YR 4/4) do not support the presence of a wetland. The soils are also generally disturbed and hard-packed clay/rock.

5.0 THREATENED AND ENDANGERED SPECIES

A letter request was sent to the New York Natural Heritage Program (NHP) on May 16, 2012 to determine whether any listed endangered or threatened species have been documented within or adjacent to the Project site. **edr** received a response from the NHP on June __, 2012. The response indicated that no state or federally-listed threatened or endangered species have been documented on or near the Project site.

6.0 CONCLUSIONS

edr delineated four wetlands within the Project site, totaling approximately 5.16 acres. The delineated wetlands were identified based on the presence of hydrophytic vegetation, hydric soils, and wetland hydrology. The delineated area includes forested and emergent cover types. The primary functions provided by these wetlands appear to include storm water detention, ground water recharge, water quality improvement, and provision of wildlife habitat. The functions provided by the on-site wetlands are limited due to their shallow depth, ephemeral nature, and lack of habitat diversity. Because these wetlands are located on the site of an active hazardous waste landfill, they offer no opportunities for public recreational use, education, or research.

Wetlands on site do not correspond to areas where wetlands are shown on the NWI maps. However, they display wetland characteristics (vegetation, soils and hydrology) and therefore, pursuant to the provisions of the Clean Water Act, could be under the jurisdiction of the USACOE. All four wetlands delineated at the Project site are connected to off-site wetlands and appear to be jurisdictional. The USACOE gave preliminary consensus that the delineated wetlands would be jurisdictional during field review on May 22, 2012. However, final jurisdictional status will be determined during the formal application review.

7.0 REFERENCES

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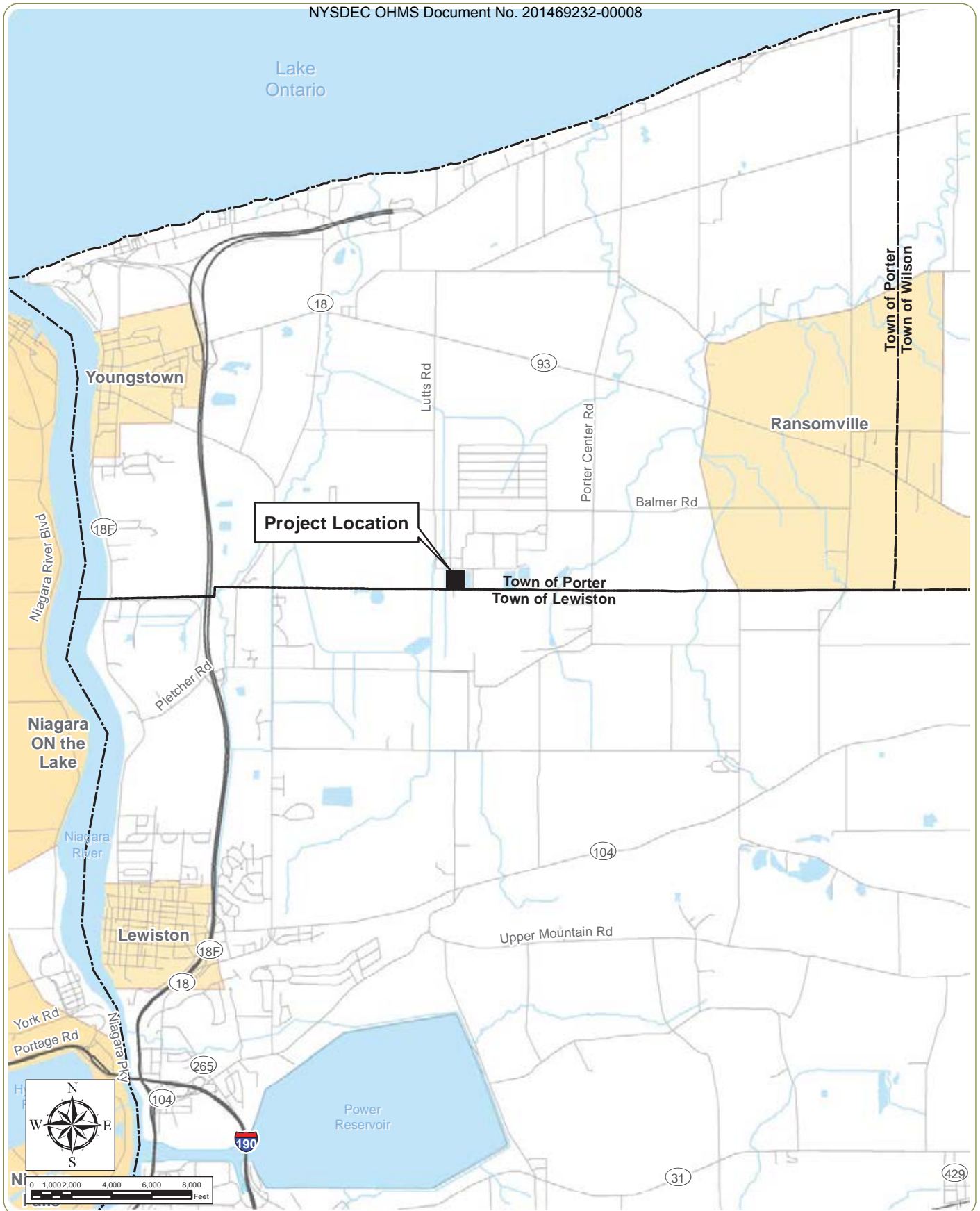
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APPENDICES

Appendix A - Figures

Appendix B – Routine Wetland Determination Forms

Appendix C – Photo Documentation



CWM Model City Facility

Wetland Delineation - Proposed Mitigation Area

Town of Porter, Niagara County

Figure 1: Regional Site Location

June 2012

Notes: Base Map: ESRI StreetMap North America, 2008.