

DRAFT PUBLIC SCOPING DOCUMENT

FOR

PROPOSED DRAFT ENVIRONMENTAL IMPACT STATEMENT

FOR

RESIDUALS MANAGEMENT UNIT NO. 2

CWM CHEMICAL SERVICES, LLC
1550 BALMER ROAD
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November 2005

Revised: May 2006

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List of Acronyms and Definitions

AAQS	Ambient Air Quality Standards
AEC	(United States) Atomic Energy Commission
AWTS	Aqueous Wastewater Treatment System
BBL Board	Blasland, Bouck & Lee, Inc. Hazardous Waste Facility Siting Board
CAC	Community Advisory Committee
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CMS	Corrective Measures Systems
CQA	Construction Quality Assurance
CWA	Clean Water Act
CWM	CWM Chemical Services, LLC
DEIS	Draft Environmental Impact Statement
DOD	(United States) Department of Defense
DOE	(United States) Department of Energy
DOT	(United States) Department of Transportation
ECL	Environmental Conservation Law
EDR	Environmental Design & Research, P.C.
EIR	Environmental Information Report
EIS	Environmental Impact Statement
Fac	Facultative
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
Fmsl	Feet above mean sea level
GCL	Geosynthetic Clay Liner
GC/MS	Gas Chromatograph/Mass Spectrograph
GES	Groundwater Extraction System
Hazmat	Hazardous Materials
HDPE	High Density Polyethylene
H:V	Horizontal:Vertical
LDR	Land Disposal Restrictions
LLCP	Leachate Level Compliance Plan
LOOW	Lake Ontario Ordinance Works
LTF	Leachate Tank Farm

MET	Meteorological
MSE	Mechanically Stabilized Earth
NYCRR	New York State Codes, Rules & Regulations
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOED	New York State Department of Economic Development
NYSDOH	New York State Department of Health
NYSDOS	New York State Department of State
NYSDOT	New York State Department of Transportation
PCB	Polychlorinated Biphenyl
PM	Particulate Matter
POTW	Publicly Owned Treatment Works
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RMU-1	Residuals Management Unit No.1
RMU-2	Residuals Management Unit No. 2
ROLE	Residents Organized for Lewiston-Porter's Environment, Inc.
SEQR	State Environmental Quality Review Act
SLF	Secure Landfill
SWMU	Solid Waste Management Unit
SPDES	State Pollutant Discharge Elimination System
SVOC	Semi-Volatile Organic Compound
TNT	Trinitrotoluene
TSCA	Toxic Substances Control Act
TSDF	Treatment, Storage and Disposal Facility
TSP	Total Suspended Particulate
USACE	United States Department of the Army, Buffalo District, Corps of Engineers
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
WMI	Waste Management. Inc.

1.0 INTRODUCTION

The proposed action is the construction and operation of additional secure landfill 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). State permits will be processed by Region 9 of the New York State Department of Environmental Conservation (NYSDEC).

The Model City Facility is permitted as a commercial hazardous waste treatment, storage and disposal facility (TSDF). The Model City Facility began operation in 1972 as ChemTrol Pollution Services, Inc. (ChemTrol). As a result of corporate acquisitions and name changes, CWM, a subsidiary of Waste Management, Inc. (WMI), is the present owner and operator of the facility. WMI is based in Houston, Texas.

The area, including and surrounding the Model City Facility, was, at one time in the early 1940s through the mid 1960s, part of the Lake Ontario Ordnance Works (LOOW) of the United States Department of Defense (DOD), and was used for a variety of government activities during that time period. 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. Areas in the vicinity of the Model City Facility have been and are used for Army and National Guard maneuvers, detonation of out-of-date explosives, sanitary landfill, agriculture and light commercial operations.

The Model City Facility is located on Balmer Road in Model City, New York, approximately 1.9 miles east of New York State (NYS) Route 18 (Creek Road) and occupies approximately 80 acres of land in the Town of Lewiston and approximately 630 acres of land in the Town of Porter. All existing treatment, storage and disposal facilities on the site are located within the Town of Porter.

The CWM Model City Facility is permitted as a TSDF under the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section 6901 et. seq., and authorized under the Toxic Substances Control Act (TSCA), 15 U.S.C. Section 2601 et. seq. Previous approvals also include approval by a Hazardous Waste Facility Siting Board (Board). Numerous units at the site are used to store, treat and dispose of a variety of liquid and solid organic and inorganic hazardous wastes. Capabilities include an Aqueous Wastewater Treatment System (AWTS)

from which treated wastewater is discharged to the Niagara River in accordance with the facility's State Pollutant Discharge Elimination System (SPDES) Permit, secure landfilling of approved waste solids including polychlorinated biphenyls (PCBs), waste stabilization, container and tank storage, transformer decommissioning and PCB storage.

The proposed facility is a 44 acre landfill, designated Residuals Management Unit 2 (RMU-2) which would be located in the Town of Porter within the property boundaries of the Model City Facility. Only hazardous wastes and waste treatment residuals that meet United States Environmental Protection Agency (USEPA) and NYSDEC Land Disposal Restrictions (LDRs), and industrial non-hazardous wastes, would be accepted for disposal in RMU-2. As allowed under the TSCA regulations (40 CFR 761.60 through 63) and the NYSDEC LDRs (6 NYCRR 376.4(f)), CWM would be allowed to landfill wastes contaminated with greater than 50 parts per million (ppm) PCBs in the form of soil, sediment, debris, pollution control media (e.g., activated carbon and baghouse dust), treatment residues (e.g., wastewater treatment sludge), drained/flushed transformer carcasses, small capacitors from appliances, ballasts from fluorescent lights and PCB bulk product wastes (e.g., caulking, auto shredder fluff, gaskets, waxes, plastic insulation/parts and items coated with PCB containing paint). The waste disposal capacity of RMU-2 would serve as replacement capacity for the existing 47 acre Residuals Management Unit 1 (RMU-1) landfill as it reaches maximum capacity. Thus, construction and operation of proposed RMU-2 would allow the Model City Facility to continue to provide hazardous waste management and service into the future.

NYSDEC is the permitting agency of primary jurisdiction and has been designated lead agency pursuant to 6 NYCRR Part 617 Regulations - State Environmental Quality Review (SEQR). It is expected that the RMU-2 project will require the following permits and approvals subject to SEQR review:

- NYSDEC Permit for the Treatment, Storage, or Disposal of Hazardous Wastes, pursuant to 6 NYCRR Part 373;
- NYSDEC Air Pollution Control Registration, pursuant to 6 NYCRR Part 201;
- NYSDEC Water Quality Certification, pursuant to Section 401 of the Clean Water Act (CWA);
- Siting Certificate issued by a duly constituted Facilities Siting Board, pursuant to 6 NYCRR Part 361; and
- Town of Porter Special Permit (i.e., Excavation), Building Permit and Site Plan approval.

Other approvals not subject to SEQR review include USEPA TSCA approval pursuant to 40 CFR Part 761, United States Department of the Army, Buffalo District, Corps of Engineers (USACE) jurisdictional wetlands determination pursuant to Section 404 of the CWA and any required approvals under the 1972 and 1974 New York State Department of Health (NYSDOH) orders (see Section 3.2).

NYSDEC is required to develop a Statewide Hazardous Waste Facility Siting Plan pursuant to Environmental Conservation Law (ECL) Section 27-1102. The most recent draft plan has been presented for public review and comment. Public hearings were held on that draft plan in each of the nine NYSDEC Regions and an additional hearing was held on May 6, 2004, in the Town of Porter. NYSDEC is currently in the process of reviewing written public comments and the hearing transcripts. The draft plan and its related Draft Environmental Impact Statement (DEIS) will be revised based on these comments and the revised documents will be the subject of another round of public hearings and comment period before they are finalized. The RMU-2 permit application can not be deemed complete until the final Hazardous Waste Facility Siting Plan is issued.

The proposed RMU-2 project is being reviewed under SEQR to identify potentially significant environmental impacts, and to establish methods and procedures to prevent or mitigate these impacts. The SEQR review process (described in Section 2.0 of this document) must be completed before completing agency action to issue the 6 NYCRR Part 373 Permit, Siting Certificate, Water Quality Certification, Air Registration and any discretionary Town permits or approvals.

This Public Scoping Document (Scoping Document) provides a brief overview of issues which have been identified by CWM to be addressed in the RMU-2 DEIS, and is intended to assist involved parties and interested parties, in providing input on the environmental issues to be addressed in the DEIS. All studies, evaluations and analyses which are referred to in this Scoping Document will be discussed in greater detail and/or provided as part of the RMU-2 DEIS. The NYSDEC will utilize this draft Scoping Document as the basis for soliciting comments from all involved agencies and interested parties and conducting a public scoping meeting. Comments from involved agencies and interested parties presented at the scoping meeting will be considered by NYSDEC in determining what, if any, additional environmental concerns should be considered, documented and reviewed in the DEIS. The final Scoping Document issued by NYSDEC will identify the range of issues and topics to be addressed in the DEIS as provided in NYCRR Part 617.8(f).

Comments on the scope of the DEIS may be submitted in writing to NYSDEC. These comments will be given the same consideration for inclusion in the final scope of the DEIS as comments received verbally at the scoping meeting. Written comments should be submitted to:

Mr. Steven Doleski, Regional Permit Administrator, or
Mr. Jeffrey Dietz, Environmental Analyst I
Division of Environmental Permits
New York State Department of Environmental Conservation - Region 9
270 Michigan Avenue
Buffalo, New York 14203-2999
716-851-7165

2.0 ENVIRONMENTAL REVIEW PROCESS

2.1 PURPOSE OF SEQR

SEQR provides a process for the consideration of potential environmental impacts in the early planning stages of actions that are directly undertaken, funded or approved by local, regional or state agencies. By incorporating a systematic interdisciplinary approach to environmental review in the early stages, projects can be modified, as needed, to avoid or minimize adverse impacts on the environment.

An important tool of the SEQR process is the Environmental Impact Statement (EIS). If it is determined that a proposed action may have significant environmental impacts (i.e., a Type I Action), a DEIS is prepared to evaluate those impacts, explore ways to minimize adverse environmental effects and identify potential alternatives. NYSDEC has determined that the proposed project is a Type I Action and that there may be some significant adverse environmental impacts, so a DEIS will be prepared. A copy of the “Positive Declaration” issued by NYSDEC on October 12, 2005, is provided in Attachment 1.

A very important aspect of SEQR is its public participation component. There are opportunities for public participation throughout SEQR’s EIS process. This includes the SEQR Lead Agency options for public scoping of the DEIS, conducting a SEQR public hearing and the mandated 30-day public comment period on the DEIS. These opportunities allow other agencies and the public to provide input into the planning, review and approval process.

2.2 SEQR PROCESS

The SEQR process is illustrated on the SEQR Flow Chart provided in Attachment 2. NYSDEC has determined that this project will follow the procedural requirements of a Type I Action, as shown on the SEQR Flow Chart.

2.3 SCOPING THE DEIS

Scoping is the process that identifies the important environmental issues of a project to be addressed in the DEIS. The objectives of scoping are to:

1. Identify significant environmental issues;
2. Eliminate insignificant or irrelevant issues;
3. Identify limits of the project's impacts;
4. Identify the range of reasonable alternatives to be addressed; and
5. Identify potential mitigation measures.

It is the responsibility of the SEQR Lead Agency to organize and conduct scoping. The involved agencies have an obligation to give their perspective/comments to the SEQR Lead Agency and to participate in the scoping process. Involved agencies are those state and local agencies that have the discretionary authority to fund, approve, or directly undertake a project or action. The anticipated potential involved agencies for this project are listed in Section 7.

This scoping process ensures that the DEIS will be a concise, accurate and complete document upon which all agencies can base their decisions. By including the public, as well as other agencies, in the scoping process, the SEQR Lead Agency can obtain additional information and specialized knowledge which may reduce the likelihood of additional issues arising during the public review period of the DEIS.

3.0 PROJECT SETTING

3.1 LOCATION AND CURRENT LAND USE

The Niagara Quadrant, in which the Model City Facility is located, has no known active major tectonic features. Stress relief tensional faults are known to exist regionally in the subsurface bedrock units of western New York and are related to pressure release and uplift following retreat of the Pleistocene glaciation. However, these features have not been positively identified or correlated in on-site bedrock lithologies. A number of earthquakes have occurred in New York State since 1737 with magnitudes of 4.0 or greater. In 1928, an earthquake with an estimated magnitude of 5.2 was recorded near Attica, New York, approximately 45 miles east of the Model City Facility, along the Clarendon-Linden fault zone. More recently, minor earthquakes with estimated magnitudes between 2.0 and 2.9 have been recorded within a 50 mile radius of the Town of Lewiston. Given the frequency of seismic activities and reported magnitudes, previous CWM permitting has regarded the Model City Facility area as having moderate seismic risk.

The CWM Model City Facility is located in the Towns of Porter and Lewiston, Niagara County, New York. An aerial photograph of the CWM Model City Facility and surrounding land is provided in Attachment 3. 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 the 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 above mean sea level (fmsl). Surface drainage at and in the vicinity of the facility is generally to the north towards Lake Ontario.

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, 630 of which are available for permitting by the NYSDEC for activities 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. Lake Ontario is situated approximately 4 miles north of the Model City Facility. Passenger car access to the facility from the north or south is via the Robert Moses Parkway or

other local roads. Truck traffic is not permitted on the Robert Moses Parkway, so routes discussed in Section 3.11 must be used. Regional location and facility location maps showing the Model City Facility are presented as Figures 3-1 and 3-2. Owners of property 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 3-3.

RMU-2 will be located in the area of the Model City Facility immediately adjacent to the western edge of existing RMU-1 (see Figure 2-6). RMU-2 will be bounded on the north by the existing stabilization facility, bounded on the west by the Leachate Tank Farm and Hall Street and bounded on the south by SLF 1-6 and SLF 10. The RMU-2 location is accessible by existing roads. A new access road will be constructed around the RMU-2 perimeter.

3.2 RADIOLOGICAL BACKGROUND

The CWM Model City Facility is located within the boundary of the former LOOW. Starting in 1944, the Manhattan Engineer District and its successor, the United States Atomic Energy Commission (AEC), used portions of the LOOW for the storage of radioactive wastes. These 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 the Knolls Atomic Power Laboratory. Receipt of radioactive waste ceased in 1954, and clean up 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 treatment, storage and disposal facility. Between 1974 and 1978, CWM's predecessors purchased 710 acres of former LOOW property (Vicinity Properties A through G and parts of H, J, K, P, S, T and W) and that property now constitutes the CWM Model City Facility (see Attachment 4).

In 1970, the federal government determined that some of the properties that had been sold were not properly remediated. The AEC proposed clean up to a specific level. NYSDOH disagreed with the proposed clean up criteria. The NYSDOH'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 1971-72, a radiological survey and clean up 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 NYSDOH issued four orders which 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 part of the Fort Conti Corporation property in the Town of Porter. Existing uses could continue without expansion. Any soil excavation was prohibited unless permitted by the Commissioner of NYSDOH. Shortly thereafter, ChemTrol requested that it be allowed to use its property for industrial/commercial purposes. After reviewing a 1972 AEC survey, NYSDOH 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 United States Department of Energy (DOE), as the successor to AEC, has conducted additional remediation work at the former LOOW property, including the CWM property. In the 1980s, 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 titled "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. In 1984, Waste Management, Inc., purchased certain parts of SCA, including the Model City Facility, the name was changed to CWM Chemical Services, and it became a subsidiary of Chemical Waste Management, a subsidiary of Waste Management.

On May 7, 1992, as a result of the extensive corrective radiological remedial actions undertaken on the Vicinity Properties by DOE, the DOE certified that the Vicinity Properties were in compliance with applicable federal radiological decontamination criteria. The exceptions to the certification included a small portion in each of three Vicinity Properties located on CWM's property: E (soil beneath the berm of Lagoon 6), E' (soil under two PCB storage tanks and roadway) and G (soil beneath the berm of Fac Pond 1/2). 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. See Section 5.2.2 for a

description of the current status, and nature of disturbances, of the Vicinity Properties associated with the RMU-2 project.

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. 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 DOE was unable to access the area under the tanks for characterization and remediation if 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. DOE can not certify Vicinity Property E’ until this area is addressed. The area of Tanks 64 and 65 has been covered with High Density Polyethylene (HDPE) and is in the center of CWM’s 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 DOE was unable to access the area under the pond for characterization and remediation if 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 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 and F, which were certified as meeting the clean up 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 1985-86.

Based on a separate DOE certification regarding adjacent property, the owner, Modern Landfill, requested that the 1972 NYSDOH order for its property be terminated. NYSDOH terminated the order for the Modern Landfill property in 1990. In December 2003, based on the 1992 DOE certification, CWM made a similar request asking that the NYSDOH rescind the 1972/1974 orders for its property. During the ensuing discussions with NYSDOH and 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 NYSDOH, and transferred to NYSDEC, the authority and responsibility to address any residual radiological contamination concerns related to the former LOOW property, including CWM's property. NYSDOH responded that it was unclear what impact those statutory changes had on the validity of the 1972 and 1974 orders.

In 2004, the NYSDOH 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 DOE from detecting all contamination that might still have been present. NYSDOH and NYSDEC requested that CWM submit a plan for conducting radiological surveys of any areas where soil movement is proposed. In addition, since little radiological data had been obtained since the 1980s, the NYSDOH and NYSDEC requested that CWM conduct a sitewide radiological survey, as well as perform environmental monitoring for radiation, and NYSDEC determined that it was appropriate to incorporate these requests into CWM's Part 373 Permit. These requirements are included in CWM's Sitewide Part 373 Permit issued on August 5, 2005. NYSDEC has stated that although there are some gaps in AEC's and DOE's documentation and investigation procedures have improved over the last thirty years, the fact remains that DOE did remove radioactive contaminants from the Vicinity Properties and DOE surveys provide reasonable assurances that widespread, immediately dangerous radioactive contamination is not present on the surface of the property. The preliminary results of the ongoing surface survey being performed by URS Corporation (URS) confirm this. It is possible that residual radioactive material exists at some locations that would not meet current guidelines. Any residual radioactive material that is found will be evaluated to determine the appropriate remedial action to be taken, consistent with current laws, regulations and guidance.

3.3 GEOLOGY AND SOIL

The bedrock beneath the Model City Facility is mapped as the Queenston Formation of Upper Ordovician age. Based on core samples, the Queenston Formation in this area consists of reddish brown fissile shale with occasional green shale bands and ½-inch to 1-inch diameter gypsum (calcium sulfate) nodules. Gypsum was also identified as joint and bedding plane fillings. The upper 5 to 15 feet of bedrock is highly weathered, obliterating any preferential joint patterns and bedding surfaces.

Overlying the bedrock in the vicinity of the Model City Facility is a sequence of approximately 30 to 60 feet of glacial and glaciolacustrine deposits of Late Wisconsin age deposited as a result of the advance, retreat, and re-advance of major continental ice sheets during the Pleistocene Epoch.

A Basal Red Till unit immediately overlies the shale bedrock and is the lowermost glacial deposit encountered in the vicinity of the facility. This unit is a Lodgement Till, derived from eroded and reworked materials from the Queenston Formation. It is generally characterized as a very compact, reddish, high density silt and coarse to fine sand, with a little fine gravel. Red and green shale clasts are common. In general, this unit varies in thickness from 2 to 10 feet in the vicinity of RMU-2.

The Glaciolacustrine Silt/Sand unit directly overlies the Basal Red Till. The thickness and composition of this unit varies across the Model City Facility. This unit typically consists of four subunits: stratified coarse sand, non-stratified silt and sand, stratified silt and fine sand, and inter layered silt, sand, and clay. The Glaciolacustrine Silt/Sand unit varies from 5 to approximately 25 feet thick in the vicinity of RMU-2.

The Glaciolacustrine Clay unit typically overlies the Glaciolacustrine Silt/Sand unit. The Glaciolacustrine Clay is described as very soft to firm reddish brown to gray brown silty clay with occasional silt and fine sand particles and seams. In the northwest portion of the Model City Facility, the Glaciolacustrine Clay is split into an upper and lower member by the Middle Silt Till. The Middle Silt Till is compact to very dense, gray to gray-brown, silt and coarse to fine sand, trace to some fine gravel. In the RMU-2 area, the Glaciolacustrine Clay ranges between 1 to 25 feet thick. The Middle Silt Till is discontinuous in the vicinity of RMU-2 and, where present, generally ranges between 4 to 11 feet thick.

The Upper Silt Till is discontinuous throughout much of the Model City Facility and is generally more prevalent in the northern portion of the facility. This unit directly overlies the Glaciolacustrine Clay unit and occasionally is overlain by thin, discontinuous pockets of clay, silt, and fine sand. The Upper Silt Till is typically described as compact to very dense, gray to gray-brown, silt and coarse to fine sand, trace to some fine gravel. This unit varies in thickness from 3 to 7 feet in the vicinity of RMU-2.

In general, the Upper Clay Till is a continuous unit found at the Model City Facility. This unit overlies the Upper Silt Till or in some areas (for example, the southern half of the Model City Facility) it directly overlies the Glaciolacustrine Clay unit. The Upper Clay Till is typically described as stiff to hard, brown to purple-brown mottled, clayey silt to silty clay, some coarse to fine sand, little fine gravel. The thickness of this unit varies from 5 to 16 feet at the location of RMU-2.

The Upper Till units form most of the ground surface at the Model City Facility. Both tills were most likely deposited during glacial readvances. The Upper Till units have a combined thickness of 10 to 20 feet across the Model City Facility.

3.4 GROUNDWATER

The hydraulic conductivities of the geologic units assessed in previous studies indicate that the Glaciolacustrine Silt/Sand unit is the most permeable unit and forms the uppermost, major confined aquifer beneath the Model City Facility. Recharge to this aquifer is restricted by the overlying, less permeable Glaciolacustrine Clay unit, and the Upper Till units. Discharge of the overburden aquifer (Glaciolacustrine Silt/Sand unit) to the bedrock is restricted in part by the Basal Red Till below. The shallow weathered and fractured shale bedrock is more permeable than the deeper, unweathered bedrock and forms a lower confined aquifer. The groundwater flow in the Glaciolacustrine Silt/Sand unit at the Model City Facility is predominantly north-northwest.

In addition to the confined Glaciolacustrine Silt/Sand aquifer, there is a near surface water table in the Upper Tills which is considered to be part of the uppermost water bearing unit by the NYSDEC. Groundwater in this unit is not considered usable as a potable water supply due to water quality and quantity. Potentiometric contours in the Upper Tills indicate that lateral flow

of shallow groundwater in this unit is predominantly north-northwest following the slope of the ground surface. In addition to surface topography, potentiometric contours in this unit are also affected by area drainage features and ponded areas. Barring the effects of these features, the water table surface in the Upper Tills unit is approximately parallel to the ground surface. Its depth is noted to be approximately 2 to 5 feet below grade.

The estimated groundwater flow rates through the various geologic units are low, on the order of approximately 4 feet to fractions of a foot per year.

3.5 SURFACE WATER

The following streams, with the applicable NYS Stream classifications and standards as indicated, receive surface water run-off from the Model City Facility:

- Twelve Mile Creek: Class B, Standard B(T), from the mouth to NYS Route 18, then Class C, Standard C(T), to Braley Road, then Class C, Standard C, to headwaters; and
- Four Mile Creek: Class B, Standard B, from the mouth to 0.9 miles upstream at Tributary 1, then Class C, Standard C, to headwaters.

All portions of these creeks and tributaries to these creeks within the Model City Facility area are Class C, Standard C, streams. Most of the Model City Facility property drains to Six Mile Swale. Six Mile Swale empties into Four Mile Creek, approximately 2 miles northwest of the Model City Facility. Four Mile Creek is the principal watershed flowing north through Four Mile Creek State Park to Lake Ontario. Twelve Mile Creek flows through the eastern portion of the Model City Facility then north to Lake Ontario. None of these streams are located within the proposed site of RMU-2, nor will they be modified as part of the RMU-2 project.

NYSDEC SPDES Permit NY0072061 for the Model City Facility contains the requirements for point source discharges of stormwater run-off through existing Outfalls 002, 003, and 004. Outfalls 002 and 003 discharge the majority of stormwater from the Model City Facility to a tributary of Four Mile Creek. Outfall 004 discharges the RMU-1 East Stormwater Retention Basin to Twelve Mile Creek.

Based on operational experience at the Model City Facility, no history of on-site flooding and flood-related problems have been identified since the Model City Facility began operations in

1972. Additionally, Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) for the proposed area of RMU-2 have not been printed.

As part of previous permitting for RMU-1, the 100-year floodplain and floodway area for Twelve Mile Creek was determined via hydraulic analysis (Wehran EnviroTech, 1993). It was determined that the location of RMU-1 would not alter the pre-development 100-year floodplain, flood flow velocities or flood water surface elevations. However, the analysis showed that approximately 16 acre-feet of flood water storage capacity would be lost. Therefore, CWM constructed a compensatory flood water storage area in 2000 to replace this capacity. This flood water storage area is located near Twelve Mile Creek in an undeveloped portion of the Model City Facility within the Town of Lewiston. Since RMU-2 would be located over 1500 feet further away from Twelve Mile Creek than the affected portion of RMU-1, and as verified by the previous hydraulic analysis, RMU-2 would not impact the 100-year floodplain. Due to its remote location from Four Mile Creek (approximately 2 miles), RMU-2 would also not affect its 100-year floodplain.

3.6 TREATED WASTEWATER

Discharge of treated wastewater from the Model City Facility is covered by NYSDEC SPDES Permit NY0072061. Process wastewaters, landfill leachates, and contaminated aqueous wastes are treated through the AWTS and pumped into Facultative (“Fac”) Ponds for final treatment and storage prior to discharge. The receiving water body for this discharge, designated Outfall 001, is the Niagara River. The maximum quantity for discharge to the Niagara River is 1,000,000 gallons per day. The facility typically discharges about 25,000,000 gallons per year.

Any treated wastewater proposed for discharge to Outfall 001 must be “prequalified” before such discharge can occur. The pre-qualification procedure includes:

- Analysis for all chemical constituents listed in the SPDES Permit;
- Gas Chromatograph/Mass Spectrograph (GC/MS) testing for all organic priority pollutants; and
- Acute toxicity testing.

The proposed RMU-2 site includes land currently occupied by Fac Pond 3 and Fac Pond 8. Fac Pond 3, located west of SLF 10, is currently utilized for storage of treated wastewater.

Wastewater stored in Fac Pond 3 is discharged to the Niagara River following approval of the pre-qualification testing described above. Fac Pond 8, located immediately west of RMU-1, is currently out of service and scheduled for closure. 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 1-6, will be up-graded and separated into two ponds to increase capacity and serve as the final qualification ponds.

3.7 AIR RESOURCES

The Model City Facility is located within the Niagara Frontier Air Quality Control Region. The status of the region with respect to the National Ambient Air Quality Standards (NAAQS) is attainment with respect to carbon monoxide, lead, sulfur dioxide, nitrogen dioxide and respirable particulates (PM-10). With respect to ozone, USEPA has included NYS as part of the Northeast Ozone Transport Region. However, USEPA has determined that the Buffalo-Niagara Falls area, specifically, including Erie and Niagara County, is a Marginal Ozone Non-Attainment area. The region is also covered by NYS Ambient Air Quality Standards (NYS AAQS). Regional air quality data has historically showed all monitoring stations within the region to be in compliance with NYS AAQS. All NYS monitoring sites were in compliance with standards for sulfur dioxide, total suspended particulate (TSP), carbon monoxide, ozone, nitrogen dioxide and lead. Monitoring for sulfates, nitrates and PM-10 was also performed. The prevailing winds are predominantly from the southwest.

The Model City Facility currently has six ambient air monitoring stations, one predominantly upwind and five downwind. The facility also maintains “non-routine” air monitoring equipment and a meteorological (MET) monitoring system. During its operational history, facility-wide ambient air testing has been performed for TSP, PCB, semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs) and PM-10, in addition to real-time analysis for PM-10 and VOC at the perimeter of an operating landfill.

In February 1992, NYSDEC allowed CWM to discontinue monitoring for SVOCs since none of these compounds had ever been detected. NYSDEC approved the elimination of the PM-10 and VOC real-time programs in 1994 after data showed no significant differences between upwind and downwind samples. In August 1996, NYSDEC approved a request by CWM to discontinue monitoring for PCBs, based on data that demonstrated that PCBs were rarely detected, there were no significant differences between upwind and downwind samples, and distinctive PCB

treatment processes at the Model City facility (e.g., PCB Dechlor unit) were eliminated. In August 2000, NYSDEC approved the suspension of VOC ambient air monitoring since the processes of concern (e.g., solvent distillation) had been removed.

Ambient PM-10 monitoring superseded the TSP program in 1987 and is the only routine ambient air monitoring that continues to be performed. The PM-10 network measures respirable dust 10 micrometers or greater in diameter for 24 hours once every 6 days. The monitoring data collected to date indicates that the facility meets the ambient air quality standard for industrial areas for PM-10 per 40 CFR Part 50.6 and that dust contributions resulting from facility operations are minimal. In accordance with recent NYSDEC Policy, NYSDEC is currently evaluating the need to require PM-2.5 particulate monitoring (i.e., respirable dust 2.5 micrometers or greater) for each NYSDEC permitted facility throughout the state. To make this change at the Model City Facility, a modification to CWM's Part 373 Permit would be needed.

Odors from the Model City Facility are generally not a problem with current operations. Improvements have been attributed to changes in operational practices at the AWTS, especially replacement of open surface impoundments with closed tanks for receipt and treatment of aqueous wastes in 1985. Normally, no odor sources are encountered in the landfill due to the types of wastes received, e.g., putrescible wastes are not permitted. However, occasionally, when an odorous waste is received, it is stabilized or promptly covered in the landfill to minimize odorous emissions.

3.8 WILDLIFE

The site is in a rural area of Niagara County known to be inhabited by a variety of common wildlife including deer, small furbearers (rabbits, raccoon, opossum, squirrel, etc.), small rodents (mice, moles, etc.) and a variety of birds (Canada geese, robins, sparrows, starlings, etc.) . No rare, threatened or endangered species of animals, nor any wildlife species of concern, have been identified on the site based on a February 2002 field study by Blasland, Bouck & Lee, Inc. (BBL, 295 Woodcliff Drive, Fairport, NY 14450, Mr. William Popham) and a January 2003 review by the NYSDEC Natural Heritage Program.

3.9 WETLANDS

In November 2002, a Wetlands Investigation was performed by Environmental Design & Research, P.C. (EDR, 238 West Division Street, Syracuse, NY 13204, Mr. John Hecklau) at the Model City Facility in the area of the proposed RMU-2 site and at the proposed locations for facilities to be relocated by this project. During this investigation, EDR determined that RMU-2 and the relocated facilities would have no impact to state wetlands. EDR also concluded that RMU-2 and the proposed locations for relocated facilities would impact less than 2 acres of Federal wetlands (comprised of man made ditches and isolated pockets of wetland areas) pending verification by the USACE.

3.10 ZONING

All operational areas of the Model City Facility, including the area proposed for RMU-2, are designated as M-3 Heavy Industrial in the Town of Porter Zoning Law. Porter has designated M-3 zoned areas as suitable for heavy manufacturing and processing facilities, industrial uses, and storage, processing and disposal of hazardous and non-hazardous wastes. RMU-2 construction and operation are commensurate with that designation.

3.11 TRANSPORTATION

The major routes to the Niagara Falls area are Interstate 90 (I-90), 190 (I-190) and 290 (I-290). Interstate 190 and the Robert Moses Parkway lead to NYS Route 104 in Lewiston; however, trucks are not permitted on the Robert Moses Parkway, making it necessary for most trucks to approach NYS Route 104 via the New York Thruway (I-90, I-290, I-190). From NYS Route 104, transporters use NYS Route 18. The last 8,000 feet to the facility is along Balmer Road which is a paved two-way, Niagara County road, 24 feet wide.

Wastes are transported to the Model City Facility by truck. Shipment vehicles include box-type trailers carrying 55-gallon drums and other sized containers. Bulk solids shipments are generally received in roll-off boxes and dump trailers. Bulk liquid trailers are used for large quantities of liquids. In addition, flat bed trucks are used to deliver transformers for decommissioning.

In July 1993, representatives from the Town of Lewiston, the Town of Porter, the County of Niagara and the Resident's Organized for Lewiston-Porter's Environment, Inc. (ROLE) formed a Community

Advisory Committee (CAC) to facilitate discussions with CWM and potentially resolve public concerns regarding the then proposed permitting of RMU-1. Part of the resulting CAC agreement requires all waste trucks approaching and leaving the site to follow the designated route between the site and the New York Thruway. Stopping or standing along the route or traveling in convoys is prohibited, as well as traveling along the route outside of normal site operating hours. Traffic routes to and from the facility, days and hours when trucks may be scheduled for arrival or departure, the maximum number of daily and hourly waste trucks, and penalties for violating these restrictions are specified.

3.12 VISUAL RESOURCES

The Model City Facility is located in a predominantly rural, undeveloped area. There are no structures of significant architectural design within or immediately adjacent to the property. The predominant visual resource in the area is the vista provided from the Niagara escarpment south of the facility.

The nearest significant visual resource is Our Lady of Fatima Shrine, approximately 1.9 miles southwest of the project site, on Swann Road. The Tuscarora Indian Reservation is located approximately 3.5 miles south of the project site, on the Niagara escarpment.

The Model City Facility is not visible from the area's parks, including Four Mile Creek State Park, Joseph Davis State Park, Fort Niagara State Park, Art Park, and the Lower Niagara River State Park. All of these parks are 3.5 miles or more from the project site.

As part of a planned vertical enhancement of RMU-1, EDR (238 West Division Street, Syracuse, NY 13204, Mr. John Hecklau) performed a visual analysis in April 1997 for a proposed height of 120 feet above existing grade. The analysis included a viewshed map, an assessment of potential project visibility and photographic simulations to represent viewpoints within a 4 mile radius from the center of RMU-1. Topographic maps, a site survey and helium filled balloons raised to the proposed maximum height were all used in the analysis. Leaves had yet to emerge on the trees when the field portions were completed. It was concluded that the proposed height would not be visible from the majority of directions and distances and that visual impacts would be extremely limited. Since the maximum proposed height for RMU-2 is also 120 feet and the location of RMU-2 would be more toward the center of the facility, adverse visual impacts associated with RMU-2 are expected to be the same, or less than, the impacts evaluated for RMU-1 vertical enhancement.

3.13 NOISE

The major sources of noise at the Model City Facility are:

- Heavy equipment used for materials handling, earth moving, and aqueous waste treatment;
- Dust collection systems at the Stabilization Facility;
- Vehicular traffic entering and leaving the facility; and
- Vehicular traffic loading or unloading at the facility.

A noise level survey was conducted at the Model City Facility by CWM in March 2002. The survey identified noisy areas and noise sources associated with operation of heavy equipment, and quantified noise levels at the point of operation.

Noise levels associated with heavy equipment (i.e., tractors, payloaders, and backhoes) are high, ranging from 90 dBA to 111 dBA. Some work areas, including the Compressor Room, Transportation Maintenance Garage, Stabilization Facility and Drum Warehouse, can also be noisy (greater than 90 dBA). These areas are located in the central part of the facility.

3.14 SECURITY

The primary access to the facility is via the entrance gate off Balmer Road. This entrance is used by plant employees, contractors, waste haulers, suppliers, salesmen and visitors. The entrance gate is monitored 24-hours a day by one or more security guards who stop all trucks or other vehicles entering and leaving the facility. The guardhouse is equipped with telephone and radio communications. All hazardous waste shipments are stopped at this checkpoint. Unauthorized access to the facility is prevented by the security guard.

In addition to the 24-hour security surveillance at the entrance gate to the facility, the entire Model City Facility is enclosed with a chain link fence to prevent accidental or unauthorized access to active portions of the facility. The perimeter fence is a minimum of 6 feet high with barbed wire on top. Warning signs, labeled “DANGER – Unauthorized Personnel Keep Out”, are posted at the facility entrance and at intervals along the fence line, visible from a distance of

25 feet. All gates in the perimeter fence with roadway access from public thoroughfares to the active portion of the facility, except the main gate, are kept securely locked at all times when not in use. Whenever any of these gates are opened, a CWM employee or security officer is stationed at the gate to prevent unauthorized access. All security measures, including the entire length of perimeter fence, gates, locks and warning signs, are inspected at least quarterly.

3.15 COMMUNITY SERVICES AND UTILITIES

The Model City Facility maintains an alarm system, communication system and emergency response equipment. On-site equipment enables facility personnel to react and respond to most minor emergency incidents that might occur. The facility's Emergency Response Team is trained in fire fighting and hazardous materials emergencies. Water for fire fighting within the Model City Facility is provided by fire hydrants located throughout the facility. The volunteer fire companies of Youngstown, Ransomville, Lewiston, and Wilson are available to respond to more significant incidents as needed. Manpower and equipment for each fire company has been established to provide the required response for their area of service. In addition, the Town of Lewiston has a Hazardous Materials (Hazmat) Team which is available when needed.

Mount St. Mary's Hospital (Lewiston, N.Y.) and Niagara Falls Memorial Medical Center (Niagara Falls, N.Y.) may provide emergency care services as needed. In addition, the Erie County Medical Center in Buffalo has an Emergency Room and Burn Unit.

Routine municipal solid waste produced at the facility is landfilled or recycled off-site. Other non-hazardous wastes generated at the site are typically landfilled on-site. Sanitary wastes generated on site are discharged to holding tanks, with subsequent pumping and removal by a licensed hauler to the Town of Lewiston Publicly Operated Treatment Works (POTW).

Electric power is supplied to the facility by Niagara Mohawk Power Corporation. The Model City Facility obtains its water from the Town of Porter.

4.0 PROJECT DESCRIPTION

4.1 OVERVIEW

RMU-2 is designed to occupy 50 acres (44 acre landfill and 6 acre surface water retention basin) with 7 disposal cells (cell numbers 15 through 21), providing additional hazardous and industrial non-hazardous waste landfill capacity to allow continued waste disposal at the Model City Facility. The proposed unit is a secure waste residuals management unit employing state-of-the-art design and operating technology, incorporating primary and secondary liners, and independent primary and secondary leachate collection and pumping systems. The liners incorporate compacted clay and synthetic components. The leachate collection systems consist of drainage nets, synthetic filters and granular material. The leachate pumping systems consist of submersible centrifugal pumps and discharge pipes with automatic or manual operation. RMU-2 would be constructed and operated in phases as disposal capacity is needed.

The proposed location of the unit is on hydrogeologically suitable land. That is, the proposed location meets the requirements contained in 6 NYCRR Part 373-2.14 (b)(1)-(3); namely:

1. The soil beneath the facility shall have a hydraulic conductivity of 1×10^{-5} centimeters per second (cm/sec) or less.
2. No waste shall be closer than 10 feet to an aquifer or bedrock.
3. No facility shall be located over groundwater recharge areas serving public water supplies.

Waste quantities to be accepted by RMU-2 are expected to be similar to those accepted in RMU-1, currently approximately 15,000 to 20,000 tons per month. Considering separation berms, daily cover and access roads, the net waste capacity in RMU-2 is 3,976,100 cubic yards. The active life of the unit is expected to be at least 11.2 years, with variable quantities in the incoming waste potentially affecting the estimated life of the unit. Based on the current rate of waste receipts, the active life could be approximately 20-25 years.

The design of RMU-2 is similar to past on-site landfills having double composite liner systems, most notably, RMU-1. RMU-2 would be bounded by a perimeter berm to control stormwater run-on and run-off. RMU-2 would be divided into 7 cells with intercell berms constructed of compacted clay. The cells would be constructed on an as-needed basis to match the operational

aspects of the facility based upon waste receipts. The floor of each cell would be sloped at a minimum of 1.0% (post-settlement) towards the cell centerline and ultimately to a leachate collection sump. Along the perimeter of RMU-2, the top of final cover grades would extend from the perimeter anchor trench at a 3 Horizontal to 1 Vertical (3H:1V) slope to a grade break occurring at an elevation ranging from approximately 423 fmsl to 428 fmsl and then at 5% to 440 fmsl (approximately 120 feet above existing surface grades). RMU-2 design incorporates NYSDEC required safety factors for stability under static and seismic conditions.

4.2 WASTE TYPES

The proposed service area of RMU-2 is expected to be similar to that of RMU-1. The majority of the waste accepted would originate from the northeast, mid-Atlantic and central part of the United States (most areas east of the Mississippi River). The majority of the waste generators are expected to be industrial treatment processes creating residual wastes and environmental site remediation efforts. Based on past history and future predictions, CWM Model City anticipates that the following generalized types of waste will be accepted for RMU-2:

- Heavy metal wastes from wastewater treatment residues, filter cakes, and air pollution control dusts;
- PCB contaminated soils and decommissioned transformers formerly containing PCB dielectric fluid;
- Hazardous wastes that meet Federal Land Disposal Restrictions (Land Ban);
- Filter cake from solid/liquid separation processes in the on-site wastewater treatment plant;
- Wastes that have been stabilized in order to meet the Land Ban;
- Stabilized incinerator ash and residues from the pretreatment of wastes;
- Soil and debris from CERCLA/RCRA cleanups;
- Soil containing heavy metals;
- Soil with organics that meet the alternate soils standard;
- Sandblast grit and paint chips with metals;
- Industrial non-hazardous wastes;
- Petroleum product spill cleanup soil and debris;
- Construction and demolition debris;
- Non-regulated fly ash, bottom ash, and baghouse dust;
- Non-K088 aluminum processing wastes;
- RCRA empty crushed drums;

- Asbestos wastes;
- Characteristic wastes treated, by either CWM or the generator to remove the characteristic;
- Fluorescent light ballasts and small capacitors;
- Transformer carcasses;
- Outdated, spent, or off-specification virgin chemicals (e.g., epoxy, resins, styrofoam, silica gel, copper sulfate);
- Non-hazardous industrial sludge, and filter cake;

A complete list of the hazardous wastes is presented in Part A of the RMU-2 Part 373 Permit application. Wastes would be accepted in accordance with NYSDEC and USEPA regulations in effect at the time RMU-2 is in operation. In accordance with the facility's Waste Analysis Plan, any hazardous wastes restricted from land disposal under state or federal regulations would be treated to meet LDRs criteria, sent off-site to an approved TSD facility for treatment, or returned to the generator. A variety of industrial non-hazardous wastes would also be handled at the facility.

4.3 SITE PREPARATION

The proposed location for RMU-2 is within an existing developed portion of the Model City Facility currently occupied by certain structures, buildings and operational areas. Site preparation for RMU-2 would include:

1. Relocation of existing CWM facilities and operational areas from within the proposed RMU-2 footprint to new locations within the facility, including the drum management building, empty and full trailer parking areas, emergency response garage, heavy equipment/facility maintenance building and meteorological tower.
2. Minor clearing and grubbing of existing vegetation and stripping of topsoil; topsoil would be stockpiled at another location on the CWM property.
3. Installation of temporary and permanent drainage ditches and culverts.
4. Construction of perimeter drainage swales for control of surface run-on and run-off.
5. Construction of access ramps and roads at the perimeter to facilitate waste filling activities.
6. Abandonment of groundwater monitoring wells and piezometers within the footprint of RMU-2.
7. Removal and relocation of existing utilities and communication services.

8. Closure of Fac Ponds 3 and 8.
9. Upgrade to Fac Pond 1/2.

CWM has proposed that the existing drum management building will be replaced prior to RMU-2 construction under a separate project through construction of a new modern building which CWM considers necessary and independent of approval for RMU-2.

4.4 LANDFILL LINER SYSTEM

A rigid Construction Quality Assurance (CQA) Plan, meeting the requirements of the USEPA and NYSDEC, would be implemented during all aspects of landfill construction. After site preparation has been completed, excavation would proceed to the subbase grade. The average depth of excavation is approximately 12 feet. The subbase elevation is designed to allow an appropriate thickness of in-situ Glacial Till to be left in place above the in-situ Glaciolacustrine Clay formation to withstand hydrostatic pressures and provide a suitable surface for construction equipment. The thickness of this till varies because of the irregularity of the surface of the Glaciolacustrine Clay.

Excavated material would be segregated and stockpiled on-site at the Model City Facility for future appropriate uses, including construction of the exterior berms, the re-compacted clay secondary liner system and the final cover. Additional clay for use in the liner system would be obtained from existing on-site stockpiles or off-site sources as needed. The exact sources of this clay are not currently known, but would be obtained on a contract basis from appropriately permitted or exempt sources.

The liner system is designed to be approximately 6 feet thick constructed on the prepared subbase, with the following components, listed in ascending order:

- A secondary composite liner system consisting of 3 feet of re-compacted Glacial Till or other suitable clay having a permeability of at least 1.0×10^{-7} cm/sec and an 80-mil textured High Density Polyethylene (HDPE) geomembrane on the cell floors and sideslopes.
- A secondary leachate collection system consisting of a layer of geocomposite on the cell floors and sideslopes, a 1 foot layer of granular drainage material with non-woven

geotextile on the cell floors and an 8 inch diameter perforated collection pipe along the cell floor centerline.

- A primary composite liner system consisting of a geosynthetic clay liner (GCL) on the cell floors that provides a maximum equivalent hydraulic conductivity equal to or less than 1.5 feet of compacted clay with a hydraulic conductivity of 1×10^{-7} cm/sec and an 80-mil textured HDPE geomembrane on cell floors and sideslopes.
- A primary leachate collection system consisting of a layer of geocomposite on the cell floors and sideslopes, a 1 foot layer of granular drainage material with non-woven geotextile on the cell floors and an 8 inch diameter perforated collection pipe along the cell floor centerline.
- A 1 foot layer of operations stone on the cell floors and sideslopes to protect the liner system from operating equipment.

4.5 PERIMETER BERMS

The exterior perimeter berms would be constructed as an extension of the primary and secondary liner and leachate collection systems. The berms are designed with consideration for reducing surface run-on into the landfill and anchoring of the various components of the liner and leachate collection systems. Erosion protection of the berms has also been evaluated, with long term protection against possible erosion provided for with diversion ditches and establishment of vegetation on the external slopes.

The perimeter berm along the southern boundary of RMU-2 would be constructed with a 2H:1V slope on the outside, similar to the existing perimeter berm of RMU-1. The existing west perimeter berm of RMU-1 would be utilized as the east perimeter berm of RMU-2. The outside slope of the existing berm would be regraded from a 2H:1V slope to a 3H:1V slope. Glacial Tills excavated for the landfill or from an acceptable borrow source would be used to construct the perimeter berms. The perimeter berms would be built to a maximum elevation of approximately 342 fmsl. The landfill side of the berm would be constructed of 3 feet of compacted clay, primary and secondary HDPE geomembrane and geocomposites, and 1 foot layer of run of crusher stone (operations layer). A cutoff wall would extend downward from the perimeter berm and extend 1 foot into the Glaciolacustrine Clay unit to add a further measure of protection to the groundwater.

The perimeter berms would be mechanically stabilized earth (MSE) walls along the entire north and west boundaries of the proposed RMU-2 site. All MSE wall installation areas would be scarified and cleared of rocks, debris, or topsoil that would interfere with compaction efforts. The bottom of the wall would be constructed at a depth of at least 3 feet below ground surface. Welded wire basket forms would be used to develop a 1H:4V MSE wall face. The wall face would ultimately be vegetated with vine growth. The welded wire basket forms, the geosynthetic soil retention layer (i.e., geosynthetic three-dimensional erosion control mat), the geosynthetic reinforcement (i.e., geogrid) and reinforced backfill materials would be installed in successive lifts.

4.6 INTERCELL BERMS

The intercell berms would physically separate the 7 waste cells, with each cell capable of operating independently with regard to leachate collection and pumping. The berms would be constructed of compacted clay, geosynthetics and stone with an approximate width of 5 feet at the top. The berms would be constructed in lifts as necessary in order to provide separation between cells and containment of waste. These berms, as well as the exterior berms, would be subject to a rigid CQA protocol to assure acceptable clay placement and compaction.

4.7 CUTOFF WALL

A low-permeability cutoff wall would be installed along the inside toe of the RMU-2 perimeter berm. Consistent with RMU-1, the cutoff wall would extend to the underlying Glaciolacustrine Clay layer. Rather than using compacted clay as done for RMU-1, the RMU-2 cutoff wall would be constructed as an open trench slurry wall. This would minimize the potential for hydrostatic uplift and simplify the construction process. The top of the cutoff wall would contact the bottom of the secondary clay layer of the liner system. Since the top of the Glaciolacustrine Clay layer is expected to vary across the RMU-2 footprint, soil borings would be performed along the cutoff wall alignment prior to the construction of the cutoff wall to determine the top elevation of the Glaciolacustrine Clay layer.

If the Glaciolacustrine Clay layer is not encountered at the anticipated elevation (as estimated from the preconstruction borings) during construction of the cutoff wall, excavation would continue down to the elevation where clay or the “maximum termination depth” is encountered, whichever comes first. The maximum termination depth is 5 feet below the anticipated clay

elevation. If clay is not encountered at or above the maximum termination elevation, a reasonable effort would be made to widen the trench (if possible, based on construction techniques) to key into a clay layer that may exist in the trench side wall. Preference would be given to widening the trench toward the inside of the landfill footprint. If no clay is encountered in the side wall or trench bottom, installation of the cutoff wall would proceed from the maximum termination elevation.

4.8 DAILY COVER

Daily cover requirements for RMU-2 would be similar to those currently used for RMU-1. CWM would apply cover materials, as defined by 6 NYCRR 370.2(b)(39), on all exposed waste, to sufficiently cover the waste, at the end of each day of operation. CWM would apply daily cover on all lifts of waste using a graded granular material, or an alternative NYSDEC approved synthetic fabric or other alternative approved cover material. All daily cover material must be effective in controlling odors and capable of suppressing airborne dust and light weight debris. Any previously applied daily cover which is identified as being absent or significantly deteriorated must also be restored by the end of each day of operation.

4.9 FINAL COVER

The RMU-2 final cover system would be similar to that originally used in RMU-1 with the exception of the substitution of GCL for 2 feet of compacted clay and a reduction of the general soil fill thickness (also proposed for a portion of RMU-1 in a separate request for permit modification). The RMU-2 final cover system is designed to consist of the following components in descending order:

- 6 inches of vegetated topsoil;
- 18 inches of general soil fill;
- A layer of geocomposite;
- A 40-mil textured HDPE geomembrane;
- A GCL layer that provides a maximum equivalent hydraulic conductivity equal to or less than 2 feet of compacted clay with a hydraulic conductivity of 1×10^{-7} cm/sec; and
- 6 inches of general soil fill to be used as a grading layer.

The final cover slope is designed as 3H:1V with a minimum top slope of 5% that allows for gravity drainage of stormwater under post-settlement conditions. The design of the final cover considered slope stability and waste settlement to provide the integrity of the final cover. Vegetative cover and surface water drainage were also thoroughly analyzed with appropriate designs to minimize potential erosion.

4.10 LEACHATE AND STORMWATER MANAGEMENT

The design philosophy behind the double composite liner system proposed for RMU-2 is to provide an additional measure of environmental protection against contaminant migration by providing leachate collection above and between the liners. The primary leachate collection system above the top liner is intended to minimize the amount of leachate on the liner system and to remove liquids. The secondary leachate collection system is intended to collect and remove any liquids infiltrating into the space between the liners from the landfill or from the groundwater, as well as to provide for long-term minimization of migration of hazardous constituents through the closed unit. The USEPA regulations require a composite liner system of “synthetic and compacted clay components” for only the lower liner. The design for RMU-2 has provided an additional environmental safeguard by incorporating the composite approach for both the primary and secondary liner systems.

RMU-2 is divided into 7 cells that are used as separate operational areas. The primary and secondary leachate collection systems would slope to separate sumps within each cell. Liquids collected in the primary and secondary leachate collection system sumps would be pumped from the sumps into a system of pipes (forcemains) surrounding the landfill. All new RMU-2 forcemains would be 6-inch-diameter double walled HDPE pipe, which is consistent with the design of the RMU-1 leachate transfer system. New 8-inch-diameter double walled HDPE forcemains would convey the combined leachate from all of RMU-2 and RMU-1 to the existing SLF 12 lift station and then to the existing Leachate Tank Farm (LTF). The leachate would be sampled and analyzed for hazardous waste constituents and processed at Model City facility’s existing AWTS.

Surface water management measures during construction of individual cells (i.e., before placement of wastes into the cells) would involve sediment control barriers consisting of silt fences and/or hay bales. The number and location of these would be determined by the progress of construction operations. During construction, surface water would be directed to the facility’s

existing surface water collection system. The discharge from the surface water collection system is monitored for hazardous constituents according to the facility's existing 6NYCRR Part 373 Permit. During operation of RMU-2, precipitation entering the cells would be collected in the leachate collection system and treated as leachate as described above. Stormwater run-off from the final cover system would be managed as surface water. The majority of the surface water run-off from the final cover system would be directed to the south and discharged through down flume piping to a newly constructed retention basin.

5.0 POTENTIAL ENVIRONMENTAL IMPACTS/MITIGATION MEASURES

The range of environmental issues to be covered in the DEIS will be developed based on input from the public and involved agencies. The evaluation of potential impacts and corresponding mitigation measures will cover all environmental resources. A preliminary analysis of the proposed action was performed with respect to existing environmental conditions, including water resources, air resources, terrestrial ecology, human resources, aesthetics and public health. The potential environmental impacts which are possible as a result of construction and/or operation of RMU-2 and associated activities are described in the following sections. This list may be modified as a result of input from the public and other involved agencies.

5.1 TOPOGRAPHY AND SITE DRAINAGE

The final cap for RMU-2 is designed to rise no more than 120 feet above existing grade when completed (elevation 440 fmsl). Perimeter berms, except for the MSE wall, would have an exterior slope of 2H:1V and the minimum design slope of the final cover system is 5% which allows for gravity drainage of stormwater under post-settlement conditions. Given that the area immediately surrounding the Model City Facility (i.e., not considering the Niagara escarpment) has little topographic relief, RMU-2 and its new stormwater retention basin would represent a deviation from the current topographic setting.

During construction of RMU-2, surface water would be directed to the existing stormwater management system. Appropriate sediment controls would be utilized. Since there would be no increase of surface area during this period, impact to the existing system would be minimal.

After closure of RMU-2, all precipitation would also be directed to the facility's existing surface water drainage system. However, in addition to the altered flow pattern, the rate of run-off from the capped landfill would be greater than the current rate of run-off due to the increased slope of the land surface. This increased rate of run-off would not result in increased flooding due to the capacity of the new stormwater retention basin. The new basin would contain appropriate sediment control structures and be designed to manage the capacity of a 24-hour, 25-year, storm event. The basin would discharge to a tributary of Four Mile Creek via an engineered outlet structure and open channels, as regulated by the facility's SPDES Permit.

Erosion due to changes of topography would be mitigated by minimizing the area to be disturbed at any one time, application of erosion control measures to slopes and embankments and placement of topsoil and vegetation upon completion of construction activities and as part of final cover.

5.2 SOILS

5.2.1 PREVIOUS REMEDIAL MEASURES

CWM's permit and the 6NYCRR Part 373 Regulations require an investigation to determine the potential for releases of hazardous wastes and constituents from any Solid Waste Management Unit (SWMU) present at the site in order to establish if any corrective action is needed to protect human health and the environment. In 1993, CWM concluded its investigation into the nature and extent of contamination in soil and groundwater throughout the facility with the submission of the RCRA Facility Investigation (RFI) Summary Report to the NYSDEC. Several areas of contamination were identified, likely resulting from historical (pre-1980) spills and leaks rather than releases from regulated landfills. VOCs and PCBs are the hazardous constituents observed at these locations. Due to the slow rate of groundwater flow at the facility, there are no cases where contamination has traveled more than a short distance from its presumed source. A Corrective Measures Study (CMS) was completed in 1996. The CMS proposed that no Corrective Measures were required for most areas of the facility. However, Groundwater Extraction Systems (GES) were proposed, and have been installed, at several areas of the site to control the migration of the hazardous constituents. In 2001, NYSDEC revised the CWM permit to require that these GES Corrective Measures be operated in perpetuity.

The NYSDEC "Statement of Basis Summary" for selection of these Final Corrective Measures, issued by the Director of the Division of Solid & Hazardous Materials, on January 31, 2001, addresses each of the criteria required by 6NYCRR 373-2.6 and 6NYCRR 373-2.19 and provides the following conclusions:

1. Overall Protection – The proposed remedies would extract groundwater and treat it to remove contaminants thereby reducing the risks of direct contact and minimizing the potential for migration of contaminants from the site.

2. Attainment of Media Cleanup Standards – The proposed remedies include attainment of State groundwater standards as a remedial goal. Termination of the remedial program will only be possible when the standards are achieved. Because site conditions may preclude achievement of the standards, perpetual operation and maintenance of the remedial systems is required. (Cleanup of contaminated soils is not required; however, the Permittee is required to cap or cover contaminated soils to preclude their dispersal.)
3. Controlling the Sources of Releases – Historical data indicate that the proposed remedies will be effective in reducing, to the extent practicable, further migration of contaminants in groundwater. The proposed remedies would remove contaminated groundwater prior to reaching the facility boundary.
4. Compliance with Waste Management Standards – The removal of groundwater and its treatment will comply with the applicable requirements for the management of generated wastes. This compliance will assure that the management of wastes is conducted in a protective manner.
5. Long-term Reliability and Effectiveness – Historical operations of similar remedial systems in New York State, particularly the Niagara Frontier, indicate that the technology of the proposed remedy is effective and reliable on a long-term basis.
6. Reduction of Toxicity, Mobility or Volume of Wastes – The proposed remedy should reduce the mobility, volume and, hence, the toxicity of the hazardous constituents via removal of contaminated groundwater from the site.
7. Short-term Effectiveness – Historical operations of similar remedial systems indicate that the technology of the proposed remedy is effective and reliable on a short-term basis. Performance data obtained during operations of the interim measures systems support their effectiveness in containing the contaminated groundwater.
8. Implementability – The proposed remedy can be readily implemented. Most of the major elements of the remedy are already in place.
9. Cost – Historical operations of similar remedial systems in the Niagara Frontier indicate that the technology of the proposed remedy is cost effective.

As discussed in Section 3.2, the CWM Model City Facility is located within the boundary of the former LOOW. During World War II, trinitrotoluene (TNT) was manufactured on CWM's property for a short time. 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. There are no remaining sections of the TNT waste pipeline in the proposed RMU-2 footprint. Identification of other potential underground pipelines, e.g., related TNT process pipelines, within all project excavations will be completed as part of the project.

5.2.2 RADIOLOGICAL ASSESSMENT

Section 3.2 describes the radiological history of the CWM property. Soil excavations for the proposed RMU-2 footprint, relocated facilities and associated construction would disturb portions of former Vicinity Properties B, C, D, E, E', F and G. Project activities for each of these Vicinity Properties are discussed below. In all cases, NYSDEC and NYSDOH will determine if there is a potential for residual radioactive material to be present in concentrations which exceed current guidelines due to possible gaps in the previous DOE surveys and other factors.

The northeast section of the RMU-2 footprint will occupy a small portion of the western edge of Vicinity Property B. Vicinity Property B was certified by DOE as meeting the clean up criteria in 1992. No elevated radiation readings have been identified in this portion of Vicinity Property B. Preliminary surface survey results obtained by URS in 2005 did not identify any obvious areas of elevated readings at ground level in the proposed RMU-2 footprint within Vicinity Property B.

A portion of the proposed RMU-2 footprint is in the northwest corner of former Vicinity Property C. Vicinity Property C was certified by DOE as meeting the clean up criteria in 1992. Preliminary results obtained by URS during the surface survey started in 2005 revealed several isolated areas with elevated radiological readings in the area of existing Fac Pond 8 (proposed cells 15 and 16 of RMU-2). These areas will be sampled and characterized in accordance with existing Part 373 Sitewide Permit requirements. As soil is removed and scanned, it will be placed on a drop cloth to

prevent distribution. If the soil is dry, it will be wetted to prevent dusting. Based on site history, an area of elevated reading could be due to a discreet item (chip of filtercake, piece of slag, piece of debris, etc.). In this case, it is expected that the source will be placed in a sample jar for analysis. The area where the item/material was removed will be resurveyed. If there is more material than will fit in a sample jar, the excess will be placed in a container and labeled. Any residual radioactive material that is found will be evaluated to determine the appropriate action consistent with current laws, regulations and guidance. There will be no exposure to site workers or the public during the sampling activities. The activity will be very localized and dusting will be prevented. Any item/soil that has an elevated reading will be placed promptly into a container. Surface water run-on and run-off will be prevented during this short duration activity.

The new drum management building is proposed for the area west of SLF 7, in the central portion of former Vicinity Property D. Vicinity Property D was certified by DOE as meeting the clean up criteria in 1992. It currently contains two closed landfills and a capped surface impoundment. Preliminary results from the 2005 URS survey did not identify any obvious areas of elevated readings at ground level in the proposed drum management building footprint within Vicinity Property D.

The footprint for RMU-2 is proposed to extend into the eastern portion of former Vicinity Property E. Based on the 1971-72 survey, the only area of elevated reading within the RMU-2 footprint in Vicinity Property E was in the southeast section of Vicinity Property E along the railroad tracks on the boundary between Vicinity Property E and Vicinity Property E'. After completing remediation in Vicinity Property E, the 1983 Oak Ridge survey identified an area of elevated radiological readings along "5" Street on the western edge of Vicinity Property E. Material in this area consists of crushed rock/slag and is believed to be common construction fill. Elevated readings were also noted near small white chips. When these readings were averaged over a 100 square meter area in accordance with standard DOE procedures, the results were determined to meet acceptable guidelines in most situations. The July 1990 DOE Report, "Verification of 1985 and 1986 Remedial Actions, Niagara Falls Storage Site, Vicinity Properties, Lewiston, New York", indicates that no remediation was performed in Vicinity Property E in 1985 or 1986. This report also states that the major area of potential contamination in Vicinity Property E is within the berm of Lagoon 6. Neither the rock/slag or berm of Lagoon 6 fall within the proposed RMU-2 footprint and will not be disturbed by this project. Preliminary results from the 2005 URS survey did not identify any obvious areas of elevated readings in the proposed RMU-2 footprint within Vicinity Property E.

The footprint for RMU-2 is proposed to extend into the eastern portion of former Vicinity Property E'. In this section of Vicinity Property E', contamination was noted along the railroad track (at the split and along the southern spur). The remediation of this area was documented in the July 1990 DOE Report, "Verification of 1985 and 1986 Remedial Actions, Niagara Falls Storage Site, Vicinity Properties, Lewiston, New York". Remediation included the area around Tanks 64 and 65 at the western end of Vicinity Property E'. In 1993, TMA Eberline performed a walkover survey of Vicinity Property E' and the only elevated radiological readings found were in the area around these tanks. The major area of potential contamination in Vicinity Property E' is within the area previously underneath Tanks 64 and 65. This area does not fall within the proposed RMU-2 footprint and will not be disturbed by this project. Preliminary results from the 2005 URS survey did not identify any obvious areas of elevated readings in the proposed RMU-2 footprint within Vicinity Property E'.

The proposed RMU-2 stormwater retention basin and the new Emergency Response Garage are located in former Vicinity Property F. Vicinity Property F was certified by DOE as meeting the clean up criteria in 1992. Preliminary results from the 2005 URS survey did not identify any obvious areas of elevated readings in locations affected by the RMU-2 project within Vicinity Property F.

Although the proposed footprint of RMU-2 will not extend into Vicinity Property G, the project does include soil work necessary to increase the size and capacity of Fac Pond 1/2, which is located in the northeastern section of Vicinity Property G. Fac Pond 1/2 was constructed during the mid-1970s and is used for final treatment and storage of treated wastewater. Within Vicinity Property G, the Castle Garden Dump and two burial sites were remediated in 1972. The 1983 Oak Ridge survey found numerous small areas with elevated radiological readings and radar identified buried metallic objects. In 1985-86, surface remediation was performed and buried drums were excavated and removed. The July 1990 DOE Report, "Verification of 1985 and 1986 Remedial Actions, Niagara Falls Storage Site, Vicinity Properties, Lewiston, New York", documents that, after remediation, all areas within Vicinity Property G met DOE acceptable guidelines for surface soils, except for three areas. Two of the areas met the definition of hot spots, but were very small (i.e., less than 1 square meter) and complied with the acceptable guideline for average radionuclide concentration over a 100 square meter area. A determination could not be made for the third area since it was beneath Fac Pond 1/2. Because the former Linde Scrap Yard Facility was located in Vicinity Property G, there is the potential for

radiological contamination and DOE recommended evaluation when the pond is removed. Therefore, CWM will follow procedures specified in the Soil Monitoring and Management Plan for excavations in Vicinity Property G (see Section 5.2.3).

5.2.3 PROJECT IMPACTS AND MITIGATION

Construction activities would involve removal of Glacial Till soils from above the Glaciolacustrine Clay. Despite the investigations, remedial efforts and conclusions described above, there still exists the possibility of encountering contaminated soils within the Glacial Till layer during excavation activities to achieve RMU-2 design subgrade elevations. This contamination may be chemical or radiological.

CWM must submit and obtain approval for a project specific Soil Monitoring and Management Plan for all large excavation projects. In order to address the possibility of existing chemical or radiological contamination in any areas disturbed by the project, an Excavation and Sampling Plan will be prepared by CWM and submitted to the NYSDEC as part of the RMU-2 DEIS/Permit Application. Plan approval must be obtained prior to excavation of any soils. This plan will include procedures to be followed during excavation of soils in these areas to evaluate and identify any areas with elevated chemical or radiological readings and minimize the potential of spreading contamination, as well as procedures to be followed during post-excavation verification sampling to ensure soils left in-place meet applicable requirements. The plan will include chemical screening and a surface radiation survey of the footprint for RMU-2 and any related areas of disturbance (e.g., the location of the new parking containment area). While excavating the floor of the landfill for construction of the liner system, a radiation survey would be performed as each new layer of soil is exposed. Similarly for the relocation of any other facilities, a radiation survey would be required as each new layer of soil is exposed during the excavation for the foundation of the facility. If chemically or radiologically contaminated soil is identified, dust control measures would be employed and stormwater run-off controls would be established to minimize exposure to site workers and the public. In addition, the plan will also include analytical procedures to determine proper disposal methods of any contaminated soil.

Availability of suitable clay materials from the excavation of RMU-2 is limited. In addition, no gravel from on-site is available for construction. However, the facility contains sufficient quantities of structural fill soils that may be used for RMU-2. It would be necessary, then, to obtain suitable clay and gravel from off-site and transport it to the site. The soil balance

determinations show that a total of approximately 155,716 cubic yards of clay, and 180,560 cubic yards of gravel would be required to be brought to the site and temporarily stored in stockpile areas. It is estimated 198,541 cubic yards of soil (i.e., general fill and topsoil) would be available from on-site sources. Associated transportation impacts are discussed in Section 5.8

Stockpile capacity for RMU-2 has been estimated as 200,000 cubic yards between three storage areas. Soils, clay, and gravel cannot, in total, be stockpiled all at once. Instead, as a necessary aspect of the multi-phased construction, soil materials would be stockpiled on a temporary basis at any one stockpile, with continual additions and removals to the stockpiles as soil resources are required. All stockpiles would be approximately 30 feet maximum height and have slopes no steeper than 1.5H:1V in order to obtain acceptable soil erosion rates. Utilization of perimeter channels, silt fences, hay bales, rock check dams and other measures would provide the primary sediment controls to prevent soils from entering into the facility's stormwater drainage system.

5.3 GROUNDWATER

No impacts to groundwater as a result of construction of RMU-2 are expected. The potential impacts to groundwater are associated with operation of the unit, primarily resulting from production of landfill leachate and potential spills of hazardous wastes. The double-lined design in a geologically suitable location and continuation of CWM's Groundwater Monitoring Program minimizes or eliminates impacts to groundwater. A Response Action Plan has been prepared to quantify and evaluate the amount of liquids present in the secondary leachate collection system. Actions are specified to investigate and/or remediate sources of quantities which exceed the acceptable values.

Leachate is produced by infiltration and percolation of water or liquids through the waste in a land disposal unit. However, the unit's leachate collection system is designed to prevent release of leachate to the groundwater by directing the leachate to collection sumps from which the leachate is pumped out of the landfill. Due to the double composite liner system and perimeter cut-off wall, the possibility of leachate leaving the landfill, entering the soil and eventually migrating to the groundwater off-site without being detected is extremely remote.

5.4 SURFACE WATER

Impacts to surface water resources may result from construction and operation activities. Suspended solids may result from entrainment of soil particles in stormwater run-off. The pattern of stormwater run-off may also change due to changes in site topography and ground cover. The design of the unit incorporates features to convey, collect, desilt and discharge stormwater run-off from RMU-2 into the stormwater management system.

Consistent with RMU-1, the surface water management features for RMU-2 have been designed for the estimated peak run-off rates and, where appropriate, the cumulative volumes resulting from the 25-year, 24-hour, storm event. Sediments disturbed during construction and eroding from soil stockpiles would be trapped by sediment fences, berms, hay bales or other sediment control measures to minimize any impact to the environment from the construction of RMU-2.

All collected drainage from current operational areas at the Model City Facility is tested prior to being released off-site. In addition, surface water discharged from the site is tested under flowing conditions in accordance with the CWM SPDES Permit. RMU-2 surface water would continue these requirements.

Any leachate that is generated would require treatment by the on-site AWTS prior to discharge to the Niagara River. The discharge of treated effluent from the facility is governed by the conditions established in the Model City Facility's SPDES Permit. The permit specifies that the wastewater must be adequately treated and pre-qualified before it is discharged to the Niagara River. The pre-qualification criteria include chemical analyses and bio-toxicity testing. Discharges meeting permit limitations would have no significant impacts on water quality.

To assess the capacity of the Model City Facility's leachate management systems to accommodate the leachate generated by RMU-2 during its active life, a detailed engineering analysis was performed. The evaluation demonstrates the adequacy of the surface water run-off design, detention basin sizing, capacity of the SLF-12 lift station, LTF storage and AWTS with regards to the operation of RMU-2. In addition, prior to opening a new cell within RMU-2, CWM would update the facility's Leachate Level Compliance Plan (LLCP) to demonstrate that the surface water management features and the leachate storage and treatment facilities have sufficient capacity to manage leachate from active areas of the RMU-2 immediately after the 25-year, 24-hour, storm event in accordance with current facility requirements.

5.5 AIR

Potential impacts to air resources may include fugitive dust, emissions resulting from operation of internal combustion engines and volatile emissions resulting from hazardous waste disposal operations, including odors.

Fugitive dust may result from traffic, operation of equipment and earth moving, including land clearing, excavation, landfill construction and disposal operations. Emissions of fugitive dusts will vary depending on the type of operation, level of activity, and meteorological conditions. The Model City Facility has prepared a Fugitive Dust Control Plan which requires identification of loads prone to dusting and adequate wetting of the waste before and during unloading. The plan also requires dust suppression of all internal roads used by waste hauling vehicles. Model City Facility operates a PM-10 air monitoring network to determine ambient dust levels. Results have consistently shown particulate matter levels below the ambient air quality standards.

Internal combustion engines powering equipment used for construction or operation of RMU-2 would emit low levels of carbon monoxide, nitrogen oxides, sulfur oxides and hydrocarbons. These emissions are expected to be minor and would not contribute significantly to contravention of ambient air quality standards.

Facility air monitoring data for volatile and semi-volatile organics has been collected. Between 1992 and 2000, NYSDEC permitted the elimination of these monitoring programs because no significant levels of the compounds were ever detected. Historically, landfill operations have had no effect on perimeter air monitoring results. Due to the Land Disposal Restrictions, organic concentration of waste currently allowed for land disposal is significantly less than those levels present when facility ambient air monitoring results showed no impact from land disposal operations. Since operations at RMU-2 should not differ significantly from operations associated with RMU-1, RMU-2 is also not expected to result in a measurable effect on air pollution.

5.6 WETLANDS

The proposed areas of RMU-2 and relocated facilities have been determined to have no impact to any NYSDEC regulated wetlands and contain less than 2 acres of federal wetlands, all of which

may be considered waters of the United States pending verification by the USACE. If USACE determines that mitigation for wetlands impact is needed, it will be provided. The wetlands were identified and delineated based on the presence of hydrophytic vegetation, hydric soils and indicators of wetland hydrology.

As determined by EDR, the delineated federal wetlands consist of man-made roadside ditches and isolated pockets of wetland areas which provide limited function and value (primarily stormwater detention and flood storage). The limited function and value is due to the small size, shallow depth and seasonal inundation/saturation of these delineated wetlands. The wetlands on-site provide no aesthetic, recreational or educational value and appear to have little if any groundwater recharge or discharge function. The wetlands have little beneficial effect on water quality and do not provide spawning areas for fish, waterfowl habitat or shoreline erosion control. The wetlands also provide limited value for wildlife due to the lack of habitat diversity, water level fluctuations and adjacent land development.

5.7 LAND USE AND ZONING

The area to be used for RMU-2 is currently zoned as M-3 (Heavy Industrial) to allow use for hazardous waste management activities. No additional changes in zoning are required for the proposed action. Future use of land that has been used for hazardous waste disposal activities is restricted by Federal and State regulations.

Post-closure care for the existing Model City Facility, including monitoring and maintenance of the properly closed landfills, surface impoundments and Corrective Action Units, will continue in perpetuity. Perpetual post-closure care of RMU-2 would also be provided. Future land use would not disturb the integrity of the final cover, liner, containment system or monitoring system. Financial assurances for closure and post-closure activities are based upon the closure and post-closure estimates prepared for each treatment, storage and disposal unit. Such assurances are intended to guarantee funding that would allow the completion of closure and post-closure activities regardless of the financial situation of the owner/operator of the Model City Facility. Closure and post-closure activities are guaranteed financially, pursuant to the requirements for hazardous waste management facilities given in 6 NYCRR Part 373. The current financial assurance provided for closure and perpetual post-closure care of the Model City Facility is in excess of \$70 million.

5.8 TRANSPORTATION

The Model City Facility is limited to 425,000 tons/year of hazardous waste gate receipts destined for the current operating landfill, RMU-1. However, in consideration of the exemptions that do not count toward this limit, RMU-1 can realistically accept a maximum of 500,000 tons/year for land disposal. In recent years the average level for land disposal has been approximately 200,000 tons/year. The level of trucks delivering waste to the site can typically range from 20 to 120 trucks per day. CWM anticipates that there would be no increase in trucks hauling wastes to the site when RMU-2 becomes operational.

All transporters would comply with all Federal Department of Transportation (DOT) requirements in 49 CFR; NYSDEC requirements as found in 6 NYCRR Parts 364 and 373; and NYSDOT requirements as found in Parts 390-396 of the Federal Motor Carriers Safety Regulations. Any vehicle found to be out-of-compliance upon arriving at the facility is immediately reported to the proper authorities.

All transporters would also comply with the Model City Transporter Rules and Regulations and the CAC Agreement. The current CAC Agreement will remain in effect until July 28, 2008. CWM and the CAC meet frequently to review the conditions and effectiveness of the CAC Agreement. It is updated when needed. CWM would continue to comply with the CAC Agreement and negotiate new conditions with the CAC for RMU-2, as needed.

Construction of RMU-2 would require deliveries of approximately 530,000 cubic yards of soil materials (e.g., clay, gravel and general fill) from off-site sources over the life of RMU-2, i.e., over an estimated 11-25 years. Delivery of these soil materials would be by truck and consequently would result in truck traffic in the immediate vicinity of the Model City Facility. The impact on local traffic loads of delivery of these materials to the site has been evaluated based on RMU-2 being constructed during several construction seasons as additional RMU-2 airspace is needed and all soil materials being delivered during the first two months of each construction season. Under conservative worst-case assumptions, construction activities for RMU-2 may result in an additional 100 trucks per day arriving at the site during an anticipated 12-hour work day (operating hours for borrow source). The specific clay borrow source for this project has not been determined, although one specific source, i.e., the Green Lakes (Pletcher Pond) property is located adjacent to the CWM facility. Trucks from this property would not

need to travel on any existing public roadways. The level of truck traffic during RMU-2 construction would not be significantly different than levels during construction of RMU-1.

Previous traffic impact analyses have concluded that the existing highway system along the designated waste transportation route and potential routes for construction vehicles can adequately handle the anticipated load. Likewise, studies have indicated that there would be no unacceptable increase in traffic noise levels.

5.9 ENVIRONMENTAL JUSTICE

Environmental justice is meant to provide the fair treatment and meaningful involvement of all people regardless of race, color or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies. Permit applications must be prepared and reviewed in consideration of environmental justice concerns as described in NYSDEC Policy No. CP-29, Environmental Justice and Permitting, dated March 19, 2003. USEPA has also developed guidance under the National Environmental Policy Act and Executive Order No. 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.

The CWM Model City TSDF is not located in an area containing significant minority or low income communities. The NYSDEC map for Niagara County contains no potential environmental justice areas in the Town of Porter based on data from the 2000 United States Census. Additionally, the NYSDEC Niagara County map shows only the Tuscarora Indian reservation as a potential environmental justice area in the Town of Lewiston. The Tuscarora Indian reservation is approximately 3.5 miles south of the Model City Facility and not adjacent to any CWM transportation route. Therefore, construction and operation of RMU-2 is not expected to result in disproportionate adverse environmental impacts to any minority or low income communities. Accordingly, environmental justice procedures are not applicable to this project.

5.10 COMMUNITY SERVICES AND UTILITIES

Construction and normal operation of RMU-2 would be consistent with current activities and is not expected to have any additional impact on external providers of fire protection, health care and security services. The Model City facility would continue to provide on-site response for

minor emergencies and use local police and fire departments per current practice as needed. CWM would continue to use contract security services at their current levels. There would be minimal increase in utility usage.

5.11 VISUAL IMPACTS

The proposed location for RMU-2 is within the central portion of the Model City Facility. The final height of RMU-2 would be approximately 120 feet above the existing land surface. Based solely on topography, RMU-2 would be theoretically visible from virtually anywhere within a 5-mile radius. However, this is unrealistic due to the lack of consideration of the screening effects of trees and structures. The viewshed considering the effect of tree screening is much smaller than that based solely on land surface and suggests that RMU-2 may be visible from the Niagara escarpment and the Ransomville area. A viewshed analysis predicts that the completed RMU-2 would not be visible from residences located east of the site on Porter Center Road and north on Balmer Road. The unit would not be visible to an observer standing at the intersection of Porter Center and Balmer Roads (northeast of the site), but may be visible to individuals at higher elevations. This impact is not considered significant. Another viewshed analysis also indicates that the proposed site for RMU-2 would have no visual impact on Our Lady of Fatima Shrine due to the screening effects of several stands of trees.

In order to confirm the conclusions reached from the viewshed analysis, CWM will perform a visual impact analysis as part of the RMU-2 DEIS, similar to the one completed for RMU-1 in 1997. This impact analysis will include an assessment of potential project visibility using a site survey and helium filled balloons raised to the proposed maximum height to predict views within a 4 mile radius from the center of RMU-2. Field portions of the evaluation will be conducted at a time before leaves have emerged on the trees.

CWM intends to maintain the on-site vegetation barriers, located primarily along the perimeter of the facility, by maintaining set-backs from the boundaries of the facility. The Town of Porter Zoning Law requires that waste storage, processing or disposal shall not be conducted within 300 feet of any residence or public street. CWM complies with this requirement by maintaining the perimeter vegetation. Trees are typically not removed from this buffer zone unless they become diseased. Additionally, the fact that the typical vegetation over most of the facility is northern hardwoods, natural biological succession will help ensure effective vegetation screening around the undeveloped facility perimeter.

It is anticipated that there will be no impact to nighttime light levels during construction of RMU-2 and associated facilities since all construction is planned to occur during daylight hours. During operation, the existing RMU-1 requirements allow land disposal of bulk wastes not requiring stabilization until 8:00 p.m. Drummed and stabilized bulk wastes may be placed in the landfill 24 hours per day. Artificial lighting shall be used during non-daylight hours. It is expected that RMU-2 operations would follow these same requirements. Due to the relatively low quantities of waste requiring land disposal in recent years, most disposal in RMU-2 would occur during daylight and utilization of artificial lighting would be very infrequent with negligible impact to the surrounding communities. If needed, artificial lighting would be restricted to the immediate area of disposal and partially shielded by the perimeter vegetation.

5.12 NOISE

A theoretically based analysis of noise as received at the nearest residence, approximately 4200 feet northeast of the Model City Facility at the intersection of Porter Center Road and Balmer Road, was carried out for RMU-2 by BBL in 2003. This analysis disclosed that both the daytime and the nighttime energy equivalent ambient sound level of 57 and 47 dBA, respectively, set by 6 NYCRR Part 360-1.14(p), would not be exceeded, even if there were no attenuation due to trees or due to the topography.

Construction equipment with acceptable noise control specifications would be used. Special noise barriers and other muffling devices would be employed when equipment design, natural barriers, and distance to off-site receptors would not adequately control noise. However, calculation of anticipated noise levels indicates that such levels would be acceptable without special noise control efforts.

5.13 EXPOSURE IMPACTS

An Exposure Information Report (EIR) has been prepared for the Model City Facility to assess possible receptor locations, potential for exposure of site workers and potential for off-site exposure. To address possible air, surface water, groundwater and subsurface soil pathways, reasonably foreseeable potential releases from both normal operations and accidents at the

facility, including releases associated with transportation to or from the facility, have been considered.

The EIR addresses two major categories of air emissions that have potential for off-site exposure. These are long-term releases of VOCs and particulates, and short-term releases of toxic gases resulting from accidental mixing of incompatible wastes, accidental ignition of wastes, leaks or spills and traffic accidents. CWM will continue to mitigate these potential exposures through implementation of existing programs, including the Fugitive Dust Control Plan, Waste Analysis Plan, Contingency Plan and air monitoring system.

Two categories of potential releases of chemical contaminants to surface water are considered, i.e., long-term releases from treated effluent discharge and surface water run-off, and short-term releases from upsets and accident conditions. The CWM SPDES Permit requires strict compliance with the monitoring and concentrations of specific contaminants from these sources.

Groundwater contamination is addressed through compliance with the USEPA LDRs, design of the leachate collection system and implementation of the existing groundwater monitoring program. Due to relatively impermeable soils and slow groundwater flows under the Model City Facility, the travel times for potential groundwater contamination to be an exposure concern are hundreds to thousands of years.

Because municipal-type or putrescible wastes are not permitted to be deposited within the facility, the generation of methane and the potential for off-site migration of methane are considered to be negligible. The potential for exposure of off-site populations to contaminated soil is minimized by the security fence and guards which limit access to the site, environmental monitoring programs, soil testing and landfill final cover.

Construction and operation of RMU-2 is not expected to significantly alter the exposure potential at the Model City Facility. Due to protective measures, air and water monitoring programs and various safety measures employed by the site, the potential for exposure impacts is considered to be small.

5.14 HISTORIC AND ARCHEOLOGICAL RESOURCES

Previous surveys and literature review of the Model City Facility area have indicated that the study area was not involved in any major historic event. No artifacts of cultural or prehistoric importance were found during any previous construction at the Model City Facility. No such objects are expected to be found during construction of RMU-2.

A reconnaissance survey of the property did not locate any cultural material of the pre-historical or early historic periods. The survey indicated that no resources listed or eligible for inclusion in the National Register of Historic Places would be affected by construction at the Model City facility.

5.15 COMMUNITY ECONOMY

CWM provides public revenues associated with property and school taxes, New York State hazardous waste assessments and operating program fees, employee salaries, charitable contributions and more. Also, CWM pays a 6% tax on its gross receipts annually, distributed as follows: 2% to the Town of Porter, 2% to the Town of Lewiston and 2% shared by three school districts (Lewiston-Porter, Niagara-Wheatfield and Wilson). CWM's presence creates business for local suppliers, contractors and trucking companies. The monetary contribution from CWM to the state and local economies has averaged approximately \$25 million per year over the last decade. This monetary contribution to state and local economies is expected to be similar during the operation of RMU-2.

In addition, CWM and the Town of Porter entered into a Host Community Agreement on October 10, 2001. Among other things, the Host Community Agreement stipulates that CWM shall pay the Town of Porter the greater of \$0.50/ton of waste landfilled in RMU-1 or \$500,000 (first year of the agreement)/\$200,000 (subsequent years) until waste placement begins in a new landfill (i.e., RMU-2). If, and when, RMU-2 begins operation, payments become the greater of \$3.00/ton of waste landfilled in RMU-2, less gross receipts tax payments, or \$200,000/year. A minimum of \$3 million must be paid by May 1, 2007. The effective date of the agreement was February 24, 2004, after all legal challenges had expired. CWM has been making the required payments since that time.

5.16 HUMAN RESOURCES

Land use in the vicinity of the Model City Facility is primarily industrial, military and agricultural. Within one mile of the Model City Facility, the estimated population density is less than 1 person/2 acres, based on the 2000 United States Census. No population or housing impacts by RMU-2 are anticipated. The nature of facility operations is not expected to change in a manner that would tend to attract or repel potential residents.

Contractors will be employed for the short term during construction of RMU-2 and associated activities, such as construction oversight, testing and environmental monitoring. The operation of RMU-2 will allow continuation of employment for approximately 80 current Model City personnel. The operation of RMU-2 will not create any new full-time employment opportunities.

6.0 ALTERNATIVES TO PROPOSED ACTION

6.1 NO ACTION

This alternative is defined as the continuation of the hazardous waste processing and disposal operations presently conducted at the Model City Facility with no further commitments to modify or expand the Model City Facility's existing capabilities. Implementation of this alternative would exhaust land disposal capacity at the Model City Facility in about 5-6 years based on current waste receipt rates. As the currently operating land disposal unit (RMU-1) closes, it would not be replaced. While it is possible that another company may attempt to develop a similar facility, either locally or at a different location within New York, there have been no plans announced to do so, and the design, permitting and construction of such a facility would take many years. Assuming no new secure landfills would be constructed, a significant capacity shortfall would develop based on the projections for need developed by New York State.

In CWM's opinion, the NYSDEC's 2004 draft of the Hazardous Waste Facility Siting Plan concluded that the relevant market for hazardous wastes generated in New York State was Nationwide disposal capacity. While this analysis reflects a comparison of available disposal capacity to annual demand, it does not consider the potential economic, environmental and safety considerations that might arise if the transportation distances were to significantly increase. Relying on traditional market forces applicable to private sector development of new or expanded disposal capacity, the draft further concluded that there was no need for NYSDEC to try to provide economic or other support for the development of additional disposal capacity in New York State. However, for this approach to be viable, all states, including New York, will need to let the traditional market forces function to foster private sector development of additional disposal capacity, provided that legitimate siting criteria are otherwise met. If all states were to develop overly strict siting criteria, all future private sector development of new capacity could be stopped, thus creating a Nationwide shortfall.

When the existing RMU-1 capacity is exhausted, the majority of the economic benefits afforded by CWM would be eliminated or severely reduced. There would be a significant decrease in the tax revenues and fees realized by New York State, Niagara County, the Town of Porter, the Town of Lewiston, and several school districts. The purchase of fewer materials and services would impact other regional local businesses and decrease sales tax revenues. The loss of jobs at the Model City Facility would result in decreased spending locally.

While it is not possible to state with certainty what the exact consequences of a waste capacity shortfall within New York State might be, some possible affects could include that hazardous waste generated in New York would need to be shipped out-of-state, resulting in increased disposal costs to New York companies, placing an additional economic burden on those companies. New York State would also suffer a decrease in the revenues derived from the regulatory fee system and Hazardous Waste Assessments.

6.2 DIFFERENT LOCATION WITHIN THE MODEL CITY FACILITY

An alternative to the proposed action would be construction and operation of a hazardous and industrial non-hazardous waste landfill at a different location within the existing Model City Facility. Locating a new landfill within the existing CWM facility would be currently possible in the property that is presently zoned for such activity (i.e., M-3 zone in the Town of Porter). Existing M-3 areas are largely utilized by active and closed waste management units. The proposed location for RMU-2 represents the only feasible area within the central portion of the Model City Facility meeting the zoning requirements.

On October 10, 2001, the Town of Porter Town Board approved the rezoning of 75 acres of CWM's property east of RMU-1, known as the "Eastern Area," from zone M-2 to M-3. Although the Eastern Area could be used for RMU-2, the proposed location is closer to the site infrastructure and provides reduced environmental impact for certain aspects, such as visual impacts and wetlands. Use of the Eastern Area would increase overall project costs and potentially require the relocation of several existing Model City Facility units (e.g., AWTS, Stabilization, etc.) and Twelve Mile Creek. Relocation of the units included in the proposed action (e.g., emergency response garage, parking areas, etc.) is much less complicated.

Use of other CWM property at the Model City Facility for this project, i.e., property in the Town of Porter not currently zoned M-3 and all property in the Town of Lewiston, would require Siting Board approval to override current zoning restrictions. In addition, these areas are currently undeveloped and would have additional potential environmental impacts, such as loss of vegetation and disturbance of wetlands.

For the above reasons, CWM does not believe that the "action at a different location within the Model City Facility alternative" is a reasonable alternative.

6.3 ACTION AT A DIFFERENT SITE

An alternative to the proposed action would be construction and operation of a hazardous and industrial non-hazardous waste landfill at a location other than the existing Model City Facility, either at another WMI owned facility or at some other location.

The Model City Facility is the location of eleven hazardous and industrial non-hazardous waste landfills (ten closed landfills and the currently active RMU-1). The Model City Facility has invested millions of dollars in the infrastructure that is necessary to support and maintain a state-of-the-art hazardous waste TSDF. That infrastructure includes a fully integrated wastewater treatment plant that is used to treat, among other things, the leachate from the active and closed landfills; a stabilization facility necessary to treat hazardous waste to LDR standards prior to land disposal; extensive groundwater, surface water, and air monitoring systems with a well developed database; an exhaustive hydrogeologic study of the site; a comprehensive on-site analytical laboratory; well established utilities; and security systems. In addition, the Model City Facility has in place a well qualified management team and well trained employees familiar with the operation of the facility.

Any alternative site would require the duplication of the infrastructure systems, support and monitoring systems, and the management and operating personnel, which likely would be cost prohibitive. Thus, locating the proposed unit at a new location elsewhere in New York State or within the region of Model City, but outside the boundaries of the existing CWM facility, has several disadvantages: overall costs would be increased and the current land use of another area would need to be modified, adding to the potential for the environmental impacts associated with a land disposal facility. The time required for permitting the facility would be lengthy, causing an increased deficit in regional hazardous waste disposal capacity.

In New York State, 26 counties out of a total of 62 counties produce approximately 95 percent of the waste destined for secure land burial. Niagara and Erie Counties account for nearly one-third of the total tonnage of these wastes. In addition, prior permit and siting certificate applications at the Model City Facility have demonstrated that the facility's hydrogeologic characteristics are well suited for a hazardous and industrial non-hazardous waste landfill facility, and previous siting boards have concluded that the siting criteria are well satisfied at this location.

CWM does not own or have under option any other property in New York State. Although WMI, CWM's parent company, does own other property in New York State, none of these properties are currently permitted or equipped for hazardous waste disposal, and historically NYSDEC has been opposed to permitting hazardous waste disposal units at an existing solid waste disposal site. Also, CWM is not aware of any other company currently pursuing the development of a commercial TSDF within New York State. For the above reasons, CWM does not believe that the "action at a different site alternative" is a reasonable alternative.

6.4 DIFFERENT TECHNOLOGICAL APPROACHES

Landfilling is used as a method of final disposal for a wide variety of waste streams. The concept of landfilling is relatively old and has been utilized for the disposal of wastes from municipal, commercial and industrial sources in a number of physical forms including solids, liquids, sludges and bulk wastes. Currently, landfilling is restricted to solids and sludges containing no free liquid, and to wastes satisfying all prerequisite conditions in USEPA's LDRs, as well as the Model City Facility's specific permit restrictions.

As specified in the NYSDEC's waste management hierarchy, alternatives to land disposal for the management of hazardous waste (in preferential order) include reduction at the source (waste minimization); recovery, recycling or reuse of wastes that continue to be generated; and detoxification, treatment or destruction of wastes that cannot be recycled or reused. CWM, WMI and all waste generators utilize these alternate technologies where possible. Their use serves to reduce the volumes of hazardous waste or reduce the concentration or mobility of hazardous constituents in the waste. However, each of the technologies produce waste streams and residues that require additional management, including land disposal. After using the alternative technologies to the extent practical, land disposal of remaining wastes and residuals will always be necessary under current technological limitations.

6.5 ALTERNATIVE LAND DISPOSAL TECHNOLOGY

Apart from typical landfill design, the area method of land disposal is commonly used in waste disposal because of liner and leachate collection system design requirements. In the area method, waste is placed in pre-constructed cells and covered with soil obtained from another part of the site or from an off-site source. The primary difference between this method and the

typical landfill method is the cover procurement procedures. Consequently, equipment selection varies based upon requirements for hauling cover materials.

The area method has several advantages. Utilization of suitable local topographic features in the design of this type of landfill can result in minimal pre-construction requirements. Regions that have a sloping topography may find this method most appropriate. Filling natural depressions, such as ravines, valleys, and quarries at a location with rugged terrain, is a common application of the area method.

The area landfill method is common in hazardous waste disposal facilities because liner systems, especially synthetic liners, are easily installed and cell construction is simplified. Leachate collection systems are also easily designed and installed under this method of landfilling.

The major disadvantages of the area method include that, in general, this method is not readily suitable for disposal of drums. There are increased requirements, equipment and transportation associated with the larger quantities of required cover materials. In addition, this method typically results in much larger open areas and subsequent increases in leachate generation and treatment needs.

The area method is most applicable in areas where excavation is inappropriate due to a high water table or shallow bedrock. Due to the relatively flat terrain, low water table and deep bedrock at the Model City Facility, the area method is not considered appropriate at CWM.

6.6 DIFFERENT LANDFILL DESIGN

Designs different than the proposed RMU-2 could include changes in materials, construction techniques or operations.

The liner/cover systems as currently proposed for RMU-2 exceed the NYSDEC's requirements for the design of hazardous waste landfill liner systems and include HDPE geosynthetic membranes. HDPE is widely accepted as the currently preferred geomembrane material at the Model City Facility and other landfills throughout the United States due to its physical properties and proven chemical resistance. If new materials are developed in the future which would potentially have increased resistance to chemical attack compatible with expected leachate characteristics and/or could have improved handling capacities, the use of the new material as a

substitute for existing liner materials in final design plans and specifications for future landfill sections would be evaluated. Future technological advances in any of the materials specified for RMU-2 would be evaluated and incorporated into a design modification as appropriate.

The depth of excavation proposed for RMU-2 effectively optimizes landfill airspace, yet utilizes good engineering practice and minimizes environmental risks. The proposed excavation depth provides a substantial portion of the borrow material needed to construct the unit. The availability of on-site material greatly reduces the costs and traffic impacts associated with using material transported from off-site borrow sources. In addition, the depth of excavation has been limited to ensure that hydrostatic uplift of the unit excavation will not occur, and that the subbase materials will have sufficient geotechnical stability. The proposed excavation depth does not present environmental concerns because the proposed double-liner design of RMU-2 provides redundant leachate collection systems that effectively protect the groundwater table and the surrounding environment.

Changes in proposed operations could include the number of cells, construction of the landfill in stages, different waste streams or waste placement procedures. The proposed number of cells is based on the anticipated waste disposal area needed at any given time and the economies of construction. The chief advantage of the proposed construction of RMU-2 in stages is to allow greater flexibility of the land disposal unit's design to react to changing conditions and a reduction of leachate generation at any given time. In general, operating parameters proposed for RMU-2 are consistent with those which have been proven to be effectively utilized in RMU-1 since its initial operation in 1994.

7.0 PROJECT SPONSOR AND INVOLVED AGENCIES

As defined in 6NYCRR 617.2, the project sponsor is the “applicant or agency primarily responsible for undertaking an action”. For the RMU-2 project, the project sponsor is:

CWM Chemical Services, LLC
1550 Balmer Road
Model City, New York 14107
Contact: Richard Sturges, District Manager

As defined in 6NYCRR 617.2, the SEQR Lead Agency is “an involved agency principally responsible for undertaking, funding or approving an action, and therefore responsible for determining whether an environmental impact statement is required in connection with the action, and for the preparation and filing of the statement if one is required”. For the RMU-2 project, the SEQR Lead Agency has been designated as follows:

New York State Department of Environmental Conservation
Region 9 – Division of Environmental Permits
270 Michigan Avenue
Buffalo, New York 14203-2999
Contact: Steven Doleski, Regional Permit Administrator, or
Jeffrey Dietz, Environmental Analyst I

As defined in 6NYCRR 617.2, an involved agency is a state or local “agency that has jurisdiction by law to fund, approve or directly undertake an action” or “ultimately make a discretionary decision to fund, approve or undertake an action”. For the RMU-2 project, the anticipated potential involved agencies are:

Town of Porter
3265 Creek Road
P.O. Box 189
Youngstown, New York 14174
Contact: Merton Wiepert, Town Supervisor

A New York Industrial Hazardous Waste Facility Siting Board. The Hazardous Waste Facility Siting Board will be constituted by the Governor once the RMU-2 Part 373 Permit Application is deemed complete and will consist of four private citizens appointed by the Governor, as well as designated representatives from the New York State Departments of Economic Development, Environmental Conservation, Health, State and Transportation. The Board will be chaired by the NYSDEC Commissioner and NYSDEC staff will support the work of the Board.

Other local, state and federal agencies may be considered “interested agencies” for the proposed RMU-2 project.

8.0 PRELIMINARY DEIS OUTLINE

A preliminary outline of issues to be included in the Draft Environmental Impact Statement (DEIS), is presented below in the form of a DEIS Table of Contents. This outline will be modified as necessary based on input received during the scoping process by involved parties and interested individuals.

Section 1. Introduction

- 1.1 Brief Description of the Proposed Action
- 1.2 Environmental Impacts of the Proposed Action
- 1.3 Proposed Mitigation Measures
- 1.4 Alternatives Considered
- 1.5 Regulatory Requirements

Section 2. Description of Proposed Action

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FIGURES

ATTACHMENTS

ATTACHMENT 1

October 12, 2005, NYSDEC Positive Declaration

ATTACHMENT 2

SEQR Flow Chart

ATTACHMENT 3

Aerial Photograph of the CWM Model City Facility

ATTACHMENT 4

General Facility Layout Showing Vicinity Properties