

SCOPING

ENVIRONMENTAL ASSESSMENT WORKSHEET

Note to reviewers: The Scoping Environmental Assessment Worksheet (SEAW) provides information about a project that may have the potential for significant environmental effects. This SEAW was prepared by the Minnesota Pollution Control Agency (MPCA), acting as the Responsible Governmental Unit (RGU), to determine whether an Environmental Impact Statement (EIS) should be prepared. The project proposer supplied reasonably accessible data for, but did not complete the final worksheet. Comments on the SEAW must be submitted to the MPCA during the 30-day comment period, which begins with notice of the availability of the SEAW in the *Minnesota Environmental Quality Board (EQB) Monitor*. Comments on the SEAW should address the accuracy and completeness of information, potential impacts that are reasonably expected to occur that warrant further investigation, and the need for an EIS. A copy of the SEAW may be obtained from the MPCA by calling (651) 296-7398. An electronic version of the completed SEAW is available at the MPCA Web site <http://www.pca.state.mn.us/news/eaw/index.html#open-eaw>.

1. Project Title: Elk River Landfill South Municipal Solid Waste Development

<p>2. Proposer: <u>Elk River Landfill, Inc.</u></p> <p>Contact Person <u>Debra Walters</u></p> <p>and Title <u>Landfill Manager</u></p> <p>Address <u>22460 Highway 169 Northwest</u></p> <p><u>Elk River, Minnesota 55330</u></p> <p>Phone <u>(763) 441-2464</u></p> <p>Fax <u>(763) 441-2025</u></p>	<p>3. RGU: <u>Minnesota Pollution Control Agency</u></p> <p>Contact Person <u>Debra Moynihan</u></p> <p>and Title <u>Project Manager</u></p> <p>Address <u>520 Lafayette Road North</u></p> <p><u>St. Paul, Minnesota 55155</u></p> <p>Phone <u>(651) 296-8420</u></p> <p>Fax <u>(651) 296-7782</u></p>
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4. Reason for SEAW Preparation:

EIS	Mandatory	Citizen	RGU	Proposer
Scoping <u>X</u>	SEAW _____	Petition _____	Discretion _____	Volunteered _____

If SEAW or EIS is mandatory give EQB rule category subpart number and name: 4410.4400, subpart 13 Solid Waste

5. Project Location: County Sherburne City/Twp Elk River, MN

Project is located in parts of two sections in Township 33N, Range 26W.

	1/4	SW	1/4	Section	3	Township	33N	Range	26W
	1/4	SE	1/4	Section	4	Township	33N	Range	26W

Tables, Figures, and Appendices attached to the SSEAW:

Figures

- Figure 1: Map of Sherburne County showing project location
- Figure 2: U.S. Geological Survey Map of project location
- Figure 3: Existing Conditions at project location
- Figure 4: Phase Development Overview
- Figure 5: Surface Water Plan
- Figure 6: Landfill Gas System
- Figure 7: Cross-Section A
- Figure 8: Cross-Section B
- Figure 9: Cross-Section C
- Figure 10: City of Elk River - Zoning Map
- Figure 11: Map showing residences in the vicinity of the project site
- Figure 12: Minnesota Department of Natural Resources protected waters and wetlands map
- Figure 13: National Wetlands Inventory Map
- Figure 14: City of Elk River – Minnesota Department of Transportation Traffic Volume Map
- Figure 15: City of Elk River Gravel Mining District Boundary

Appendices

- Appendix A – Minnesota Department of Natural Resources Natural Heritage Database Letter
- Appendix B – Letter from Minnesota Historical Society
- Appendix C – Wells Located Within One Mile of the Elk River Landfill
- Appendix D – Revised Work Plan: Southern MSW Area Development
- Appendix E – Highway 101/169 Corridor Management Plan

6. Description:

- a. Provide a project summary of 50 words or less to be published in the *EQB Monitor*.

Elk River Landfill (ERL) proposes to expand operations at its existing mixed municipal solid waste (MSW) disposal facility by developing 73.7 acres currently used by a gravel mining operation located immediately south of the existing Landfill property. The proposed landfill project, known as the Southern Development Area (SDA), will follow mining operations by the current property owner, the Tiller Corporation. The proposed project will provide approximately 15,000,000 cubic yards of additional MSW disposal capacity.

- b. Give a complete description of the proposed project and related new construction. Attach additional sheets as necessary. Emphasize construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes. Include modifications to existing equipment or industrial processes and significant demolition, removal or remodeling of existing structures. Indicate the timing and duration of construction activities.

General Information and Location

ERL is a MSW disposal landfill permitted by the MPCA under Solid Waste Permit SW-74. ERL is also licensed and permitted by both Sherburne County and the city of Elk River (City). It is located 5 miles north of the City, along U.S. Highway 169 on 270 acres of land located in the NW ¼ of Section 3, T33N, R26W, and the SW ¼ of Section 34, T34N, R26W, Sherburne County, Minnesota. ERL is permitted to accept MSW, demolition and construction debris, yard waste for composting, industrial waste in accordance with an MPCA-approved Industrial Solid Waste Management Plan, and processing facility rejects from the Elk River Refuse Derived Fuel (RDF) facility. The project location is shown on Figures 1 and 2. An Existing Conditions Map is provided as Figure 3, which illustrates the location of the Landfill and surrounding areas.

The proposed project is for the continuation of landfill operations immediately south, adjacent to and as a contiguous part, of the existing MSW Landfill operation. An overview of the proposed phased development to the south is depicted on Figure 4.

Gravel Mining District EIS

The property identified for the expansion of the MSW Landfill is within the northern portion of the Elk River Gravel Mining District for which an EIS was completed in 1994 (Gravel Mining District EIS - "Final Environmental Impact Statement" including response to comments, Maier Stewart & Associates, Inc., May 1994) and will be mined by the current property owner (Tiller Corporation) under existing permits from the City prior to landfill development. The Gravel Mining District EIS addressed land use, surface water, ground water, noise, air quality and sociological and economic issues pertaining to gravel mining. The Gravel Mining District EIS also identified the likelihood that the Landfill would someday expand to the south into the Gravel Mining District (onto the Property) after gravel was mined from the Property, indicating that an environmental review would be required for Landfill expansion with the MPCA as the RGU. The Property refers to the portion of the 109-acre parcel of property on which the proposed landfill project will be located and is contiguous to the existing Landfill property.

The Gravel Mining District EIS briefly addressed potential effects of gravel mining and ground-water withdrawal (for gravel washing and/or mining below the water table), with respect to the landfill. Ground-water pumping will affect localized ground-water flow in the immediate vicinity of a pumping well or sump. The City evaluated the need to include monitoring requirements when issuing the Conditional Use Permit for mining operations. For the area where mining will be conducted prior to the construction of the landfill, no monitoring requirements were necessary for the mining operation's Conditional Use Permit.

Landfill Permitting, Investigations and History

The ERL was originally issued Solid Waste Permit SW-74 in 1972. Permit SW-74 has been reissued periodically in accordance with MPCA Solid Waste Rules. As part of the MPCA landfill permitting process, the hydrogeologic conditions of the ERL site have been investigated and characterized. As such the hydrogeologic conditions are well documented and a detailed conceptual model of those conditions exists and has been reviewed by the MPCA. To augment the previously completed investigations, additional work is being completed specifically for the proposed project area, concurrent with the preparation of this SEAW. Information from the current investigation will be used in the development of the base grades and monitoring systems for the proposed facility. The findings of the investigations completed since 1992 have been documented in the reports listed below.

- Phase I Corrective Action Field Procedures Report (Donohue and Associates, 1992).
- Elk River Landfill Corrective Action Investigation Report (Camp Dresser & McKee, Inc. 1994).
- Metal Analyses in Ground Water and Surface Water (technical memorandum, Camp Dresser & McKee 1997).
- Lysimeter/Secondary Containment System Verification Resampling Documentation (technical memorandum – USA Waste, 1997).
- Phase III Water Monitoring System Report (Geomatrix Consultants, Inc., 1998a).
- Ground-water Quality Investigation Report (Geomatrix Consultants, Inc., 1998b).
- P-17C Area Follow-up Ground-water Investigation Report (Geomatrix Consultants, Inc., 1999).

- Environmental Survey Report, North Area Development, Elk River Landfill (Geomatrix Consultants, Inc., 2003).
- Revised Work Plan: Southern MSW Area Development (letter - Geomatrix Consultants, Inc., May 16, 2003).
- Annual Operating and Water Quality Monitoring Reports (various).
- Southern Development Area Hydrogeologic Evaluation Report (Geomatrix Consultants, Inc., March 2004).

The ERL includes engineered controls to manage leachate, landfill gas, and stormwater as part of its design, construction and operation. These controls are designed to mitigate potential environmental impacts to the air, surface water and ground water and are identified in Landfill permitting documents submitted to the MPCA for review prior to phased construction. During construction, surveying and material testing is completed, and as-built information is subsequently documented in construction certification reports that are submitted to the MPCA. These Landfill documents are also provided to the City and Sherburne County for technical review and comment.

The original permit was issued in 1972 to previous Landfill owners and granted the ERL 18,000,000 cubic yards of airspace. In 1985, plans were submitted for the development of the original 40 acre MSW disposal area (Cells 1 through 11), Cells 1 through 5, and 7 through 9 (there is no Cell 8) are unlined and the remaining cells (6, 10, and 11) are lined. Changes in Minnesota Solid Waste Rules in November 1988 required that the Landfill be redesigned and the permitted capacity be revised. In 1994, plans were submitted for the development of an adjacent 52.1 acre lined MSW disposal area (Cells 12 through 18). The permit was reissued in May 1997 and divided the original permitted capacity of 18,000,000 cubic yards into 13,073,800 cubic yards of “currently approved design capacity” and 4,926,200 cubic yards of “reserve capacity” on a 140-acre site. The reserve capacity is available as disposal capacity pending a change in the physical constraints for the 92.1-acre site or a more efficient design. In 1998, plans were submitted for the development of a lined 24-acre demolition/construction debris disposal area. This area (Cells DC-1 and DC-2) was built on the north end of the site with 18 of the 24 acres placed on top of the original unlined MSW fill area allocating 906,000 cubic yards of the reserve capacity for this development.

The ERL permit was modified and reissued in October 2001 to authorize a revision of the phase development plans to reconfigure and improve the MSW Landfill design, and to allow the construction of a third demolition debris cell (DC-3) which, like the first two demolition cells, overlays existing closed MSW cells. The improved design was not based on an increase in final elevation or landfill footprint, however, it provided for a more efficient and simpler configuration allowing better use of airspace, increased surface-water management efficiency, improved access, efficient landfill gas collection and management, and improved leachate management. The design incorporated a slope of 3H:1V (which is the ratio of three horizontal to one vertical) final cover grades rather than the previously permitted 5H:1V. The modification of the final cover grades allowed for an increase in airspace with no increase in landfill footprint. This resulted in a permitted design capacity of 1,526,300 cubic yards for demolition debris and 13,931,200 cubic yards for MSW disposal – a total of 15,457,500 cubic yards with 2,522,500 cubic yards of remaining reserve capacity. The ERL permit was further modified on September 13, 2002, to allow for the operation of a leachate recirculation pilot study with no change in permitted capacity or phase development. Due to an error during the construction of Cell 16, the permit was modified in January 2003 to increase the permitted MSW disposal capacity to 13,951,200 cubic yards. In March 2003, the permit was further modified to clarify the ambient monitoring requirements for the leachate recirculation pilot study.

The ERL permit was further modified and reissued on October 8, 2003, for the expansion of the demolition debris disposal area onto a new 75 acre Landfill footprint on property to the north of the existing fill area. This area will be developed into Phases DC-4A through DC-9A for a total permitted demolition debris capacity of 11,343,800 cubic yards and a potential future ultimate design capacity of 19,447,700 cubic yards. The total site acreage increased to 269.5 acres.

The proposed landfill project on the SDA is designed with a total proposed airspace capacity of 17,534,979 cubic yards. This includes cover requirements and allows for approximately 15,000,000 cubic yards of MSW capacity.

Existing MSW Landfill Design

The existing MSW Landfill design features a composite base liner for each phase comprised of a two-foot compacted clay layer overlain by a 60-mil High Density Polyethylene (HDPE) flexible membrane liner (FML), and a one-foot sand drainage layer. This is the liner design required by the MPCA Solid Waste Rules. Leachate is collected from all lined portions of the Facility and is conveyed from lined areas by pumping or gravity drainage to leachate storage tanks. A special discharge permit with the MCES allows for disposal and treatment of Landfill leachate through the Metropolitan Disposal System.

Landfill gas generated is managed through a series of landfill gas extraction wells and lateral piping. The wells and lateral piping are connected by a main header pipe that draws landfill gas to an on-site landfill gas-to-energy facility. The landfill gas-to-energy facility houses the generators and associated electrical equipment and controls. An enclosed flare is located adjacent to the gas-to-energy facility and serves as means of flaring excess landfill gas that is not utilized by the gas-to-energy facility. The required landfill gas destruction efficiency of 98 percent is achieved at both the generators and enclosed flare.

SDA

The proposed SDA project will consist of approximately 73.7-acres of additional lined MSW Landfill area adjacent to, and integrated with, the currently permitted liner system at the ERL. The proposed SDA would include approximately 8.6 acres on the southern-most portion of the existing Landfill property and 65.1 acres extending onto property located immediately to the south of the existing Landfill. Development of the SDA would be integrated into the contours, general design and operation of the existing permitted Landfill. For the proposed project, an application for modification and reissuance of the solid waste permit has been submitted to the MPCA for approval after completion of environmental review. The additional capacity provided with this proposed Landfill project requires the preparation of an EIS. This SEAW is being prepared as a scoping document for the EIS.

The proposed SDA will provide approximately 15,000,000 cubic yards of additional MSW capacity over and above what was approved in the October 8, 2003, permit. Depending on waste flow quantities, this additional capacity would extend the operational life of the Landfill roughly 16 to 20 years, and provide long-term landfill capacity for the City, Sherburne County, and the surrounding area. The need for additional landfill space to serve the public needs is further discussed in Item 6.C.

Landfill construction is conducted in accordance with an MPCA-approved Construction Quality Assurance program that is included with the application for permit modification and reissuance. The program includes material testing, surveying, and documentation of construction procedures to verify that construction is completed in accordance with the Construction Quality Assurance program. This documentation is submitted to the MPCA for review and approval prior to bringing any new cell on line for waste disposal.

Various soils and materials are required during construction and development of the proposed SDA. The materials must meet the requirements and be placed according to approved technical specifications. The soils and aggregates required for construction and development are as follows:

Controlled fill – for embankment, subgrade, and berm construction.

Clay barrier layer – for composite liner system.

Drainage layer – for base and cover drainage.

Coarse aggregate – for leachate pipe bedding and leachate collection sump.

Cover soils – between the final cover drainage layer and topsoil layer.

Topsoil – for top six inches of final cover, berms, embankments, and sedimentation ponds.

Class 5 aggregate – for roadway surfaces.

A discussion of the major elements of the design and operations as proposed in the application for permit modification and reissuance is presented below.

Base Liner Design

The basegrades for all cells incorporate a typical herringbone pattern. The slope of the basegrades is such that any leachate collected will flow across the base liner from the edge of the cell to the center.

The leachate collection line is less than or equal to 100-foot for a 2-foot contour interval (i.e., a slope of 2 percent or greater). The slope of the central leachate collection line is designed at 0.5 percent.

A composite base liner will be incorporated into the design for all lined areas constructed on undisturbed or compacted soils. The liner will consist of a two-foot compacted clay layer, which will be overlain by a 60-mil HDPE, FML and a 1-foot drainage layer as required by the Minnesota Rules. The FML will consist of pre-manufactured HDPE panels, which are seamed together at the site. The manufacture and installation of the FML is completed by pre-qualified installation contractors. A one-foot thick sand drainage layer is placed over the FML to convey leachate to the collection system.

Groundwater elevations at the site average 955 feet above Mean Sea Level (MSL) and the separation of the base liner system (HDPE and 2 feet of clay) to the ground water will be approximately 1 foot.

Leachate Collection

Precipitation or other water that filters through or otherwise comes into contact with the waste is considered leachate. The liner and leachate collection system are designed to prohibit the travel of leachate from the waste fill to the underlying soil and ground water. The leachate collection system consists of the collection and pumping system inside the landfill cell, the piping and manholes outside the landfill cell which convey the leachate to the leachate storage tank, existing underground leachate storage tanks and the 225,000-gallon above ground storage tank and the leachate loadout system.

The leachate collection system within the landfill cell is designed to convey leachate by gravity to a sump area for removal from the cell. Leachate is removed from the collection sump with a submersible pump. The liner is not penetrated at the low end of the cell in this leachate collection system design. A leak detection system will be installed beneath the low point of each cell to monitor the effectiveness of the base liner. The leak detection system consists of a lysimeter placed beneath the clay barrier of the leachate collection sump. Ground-water infiltration into the lysimeters will be minimized by the placement of a geosynthetic clay layer at the edges of the lysimeter as shown on the permit application drawings. The design is similar to previous designs at the facility that are currently monitored in accordance with the currently approved Phase IV Monitoring Plan.

The leachate is pumped from the sump into an external piping system connected to a lift station, where it is pumped to the leachate storage tank. All piping that carries leachate outside of the lined cell area is double walled for leak protection.

The proposed SDA includes plans for one additional 150,000-gallon leachate above ground storage tank (AST) to be constructed on the east side of the SDA site, to the west of the southern access gate. The design of the AST is such that it will meet all AST storage requirements for environmental protection, secondary containment, and required storage capacity. Both the proposed 150,000-gallon and the existing 225,000-gallon ASTs are designed so that additional capacity may be added if necessary.

Leachate will enter the proposed AST via the double contained gravity transfer pipe. Leachate will be transferred from the AST for removal at the proposed loadout station, located adjacent to the proposed AST. The system will be constructed such that if the AST is full, a signal will be sent to the side slope riser pumps to stop operation so the AST does not overflow.

A pump house which shelters the load-out pump and controls for the AST will be located adjacent to the AST. The load-out pump will have the ability to transfer leachate from the AST to the proposed loadout station, which will serve as the primary loadout station for the proposed SDA.

Leachate is loaded into vehicles for transport to the point of treatment, which is currently the Metropolitan Disposal System site located at Third and Commercial in St. Paul, Minnesota. The transport vehicle is positioned on a loadout pad, which is bounded by a curb and sloped to drain to a central point. Leachate spillage during the loadout process is contained within the pad and drains back to the leachate tank via a four-inch double-walled pipe.

The ERL currently utilizes leachate recirculation as a leachate management option in existing Landfill Cells 12 and 13. ERL has obtained approval from the MPCA to conduct leachate recirculation at the Landfill as part of a pilot project. During recirculation, leachate is put back into the Landfill through pipes embedded in coarse material filled trenches buried within the waste mass. Leachate is allowed to flow through the waste mass and is consumed as the leachate increases the moisture content of the waste to ultimately optimal levels (i.e. field capacity). Increasing the moisture content of the waste in turn leads to an increase in the rate of waste degradation and an increase in the amount of Landfill gas generated. Leachate that is not consumed in the physical and biological reactions in the Landfill is collected in the leachate collection system. Leachate treatment and disposal is further discussed in Item 18.

Final Cover Design

The final contours of the proposed waste deposit provide for 33 percent (3H:1V) side slopes and 3 percent top slopes. Benches are built into the side slope design at intervals of 40 vertical feet or 120 feet flow distance. The benches are 12 feet wide and are designed for use as access roads with surface-water control on the inboard side. Benching provides for a buttressing effect at the toe for each 40 vertical feet of slope. This buttressing effect contributes greatly to the stability of the veneered cover system. Each bench will also service as an anchor for the geosynthetic materials. Benching also allows for better drainage control, better access, and better maintainability of the vegetated slopes and environmental monitoring equipment.

The final cover closure design includes a barrier layer constructed with textured 40-mil linear low-density polyethylene panels. This FML is placed on a six-inch thick buffer layer that is graded and compacted to form a firm surface free of sharp or protruding objects. A geonet (with geotextile) drainage layer is constructed on top of the FML. The remainder of the cap profile consists of an 18-inch rooting zone layer and a 6-inch topsoil layer. The final cover design also includes design features for surface-water control and management. The surface-water management plan for the SDA is depicted on Figure 5. To minimize the head build-up in the final cover system, ERL may place drainage tubing running north and south throughout the cover system. The drainage tubing will outlet to the east and west to the proposed downslope structures. Alternatively, ERL may place geonet or other high transmissivity technology applicable at the time as the drainage media on the top slope of the SDA.

Cross-sections detailing the above design items (i.e., base liner, leachate collection, final cover) are provided as Figures 7, 8, and 9.

Environmental Monitoring System

The Environmental Monitoring System (EMS) for the proposed SDA has been designed to target the uppermost, saturated, permeable outwash unit to allow for the earliest possible detection of a release from the facility. Ground-water monitoring efforts will be focused at compliance boundary locations downgradient of the facility. Upgradient and sidegradient monitoring locations will be included in the EMS to provide data for ground water comparison purposes and hydraulic head monitoring. A hydrogeologic study for the SDA has been conducted and is under review by the MPCA.

Landfill Gas Management

The Landfill continues to be proactive in landfill gas management. The proposed SDA project will involve the installation of additional landfill gas wells that will be integrated into the existing Landfill gas-to-energy recovery system. Refer to Figure 6 illustrating the Landfill Gas Management Plan for the SDA. The existing Landfill operation, including the gas to energy recovery system, is currently operated under a Title V permit which was issued on March 29, 2004. The Title V permit will be subsequently amended to incorporate the proposed expansion.

Waste Delivery and Placement

The waste proposed to be deposited in the SDA consists of mixed municipal and approved industrial solid waste consistent with what is currently accepted in the existing Landfill. The quantity of waste received at the existing facility varies with market conditions, and, for the proposed SDA, the quantity of waste to be delivered is anticipated to remain consistent with current operations. Consequently, traffic associated with the continued operation of the Landfill for the proposed SDA will not significantly differ from existing Landfill traffic.

Landfill traffic entering the facility passes through a locking gate and proceeds to the office and scale. Haulers are identified, and waste quantities and types are recorded. The attendant at the office then directs the hauler to the working face where the Landfill operator observes the deposition and the composition of the waste. The operator then spreads and compacts the waste and covers it daily with soil or an approved alternative daily cover.

- c. Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

The purpose of the project is to provide continued MSW disposal capacity for area residents and businesses. The proposed project will provide approximately 15,000,000 cubic yards of disposal capacity and an estimated 16 to 20 years of additional operational life to the Landfill (depending on waste flow quantities). In addition, the landfill gas generated from the waste mass will continue to be collected by the Landfill and used to fuel engines for generation of electricity that is distributed by the local electrical utility.

The need for additional landfill space for the expanding greater metropolitan area has been documented by the Minnesota Office of Environmental Assistance (OEA). The OEA identifies waste management practices and places importance on waste reduction, reuse and recycling. Despite the successes in Minnesota at reduction, reuse and recycling, the quantity of waste generated has substantially increased over the past decade and with it, a corresponding need for additional landfill space or alternatives to landfilling.

d. Are future stages of this development including development on any outlots planned or likely to happen?
 Yes No
 If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

No future stages for MSW or demolition/construction debris development are planned after this proposed expansion is complete.

e. Is this project a subsequent stage of an earlier project? Yes No
 If yes, briefly describe the past development, timeline and any past environmental review.

As described in Item 6.b. above, the proposed project is the continuation of the existing MSW Landfill operation with the development of additional lined MSW disposal cells immediately south and contiguous with the existing facility. This proposed project is, therefore, a continuation of the MSW disposal facility currently permitted by the MPCA; the current permit having been originally issued in 1972 and most recently re-issued on October 8, 2003. The proposed project area lies within the northern portion of the City Gravel Mining District for which an EIS was completed in May 1994. As noted above, the EIS recognized the potential of Landfill expansion to the south, which would require environmental review. The current property owner, Tiller Corporation, is mining aggregate from the Property and the proposed SDA project will follow mining activities. Mining activities will take place approximately the distance of two landfill cells ahead of the landfill development, which is generally three to four years before the capacity of the particular area is needed.

The development of additional lined demolition debris landfill cells north of the existing MSW disposal area was the subject of an EAW prepared by Sherburne County in March 2003. At the conclusion of that EAW process it was determined that no further environmental review was needed for the demolition debris project. The proposed demolition debris cells are specific to demolition waste, and have not been proposed to be used for MSW waste disposal. The MPCA granted a permit for the lined construction and demolition debris Landfill expansion on October 8, 2003.

7. Project Magnitude Data			
Total Project Area (acres)	117.6	or Length (miles)	NA
Number of Residential Units:	Unattached 0	Attached 0	maximum units per building 0
Commercial/Industrial/Institutional Building Area (gross floor space):	total square feet 0		
Indicate area of specific uses (in square feet):			
Office	Approximately 2000 square feet	Manufacturing	NA
Retail	NA	Other Industrial	NA
Warehouse	NA	Institutional	NA
Light Industrial	NA	Agricultural	NA
Other Commercial (scale house)	Approximately 250 square feet		
Building height	NA	If over 2 stories, compare to heights of nearby buildings	

The project entails the continuation of the existing MSW disposal facility. The proposed SDA is for 73.7 acres of lined landfill area that includes approximately 8.6 acres on existing Landfill property, and 65.1 acres of a 109-acre parcel located immediately south of the existing Landfill property. The proposed SDA will follow mining of the area by the current property owner.

There is no increase in the final cover elevation for the proposed SDA. The proposed maximum final cover elevation is 1,120 feet above MSL, which is the same as the existing permitted final cover elevation.

No building construction is planned for commercial, industrial, or institutional uses for the project, with the exception of a possible additional leachate storage tank and loadout pad and the relocation of the existing office and scales to more efficiently control traffic and stormwater on the east side of the site.

8. Permits and approvals required. List all known local, state and federal permits, approvals and financial assistance for the project. Include modifications of any existing permits, governmental review of plans, and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure.

Unit of Government	Type of Application	Status
MPCA	Solid Waste Disposal Facility, SW-74, major modification and reissuance of permit.	Pending, application for major modification to existing permit submitted.
MPCA	Pollutant Discharge Elimination System (NPDES) General Stormwater Permit for Construction Activity.	To be submitted.
MPCA	NPDES General Stormwater Permit for Industrial Activity, modification of permit.	To be submitted.
MPCA	Title V Air Permit, amendment of permit.	To be submitted.
Minnesota Office of Environmental Assistance (OEA)	Certificate of Need.	To be submitted.
MCES	Industrial Discharge Permit #2050, modification of permit for quantity limitations.	To be submitted.
Sherburne County	Solid Waste License, modification required.	To be submitted.
City	Solid Waste License, new license required.	To be submitted.
City	Conditional Use Permit; new modified Conditional Use Permit (CUP) required.	To be submitted.
City	Rezoning from Agricultural to Solid Waste Overlay District.	To be submitted.

It should be noted that mining activities on the proposed 109-acre SDA expansion area would continue to be operated under a Conditional Use Permit (CCU 02-30) issued by the City.

- 9. Land use.** Describe current and recent past land use and development on the site and on adjacent lands. Discuss project compatibility with adjacent and nearby land uses. Indicate whether any potential conflicts involve environmental matters. Identify any potential environmental hazards due to past site uses, such as soil contamination or abandoned storage tanks, or proximity to nearby hazardous liquid or gas pipelines.

The location of the proposed project is illustrated on Figures 1 and 2. The land proposed for the SDA is currently zoned agricultural with a Gravel Mining Overlay District by the City. A current City zoning map for the landfill area is provided as Figure 10. Currently, gravel is being mined on the Property and as noted in Item 6.e., the proposed project will follow mining. The scenario whereby expansion of the Landfill onto the Property would follow mining was noted in the Gravel Mining District EIS.

The proposed development of the Landfill onto the mining Property is generally compatible with adjacent land uses. Surrounding land use to the south consists of gravel mining and an asphalt plant. Immediately east of the SDA Property lies Trunk Highway 169 (TH 169) beyond which is primarily agricultural land and a portion of the Gravel Mining District. The existing ERL is immediately north of the proposed SDA and the proposed landfill design will be contiguous with and a part of the existing facility. West of the proposed SDA is agricultural land and the southern portion of the Rice Lake wetland complex. Farmsteads and other single-family residences are scattered throughout the area, west, south and east of the project site. Based on the review of the most recent aerial photograph (2002) available and a site drive through in June 2004, there are approximately 148 residences located within a one-mile radius of the landfill property boundary. An aerial map showing the approximate location of the residences in the vicinity of the SDA project site is presented as Figure 11.

The current comprehensive plan for the City identifies surrounding land zoning to consist of A1 (Agricultural Conservation) with a Solid Waste Overlay District to the north. As part of this project, a request to expand the existing Solid Waste Overlay District to include the proposed project will be required. This request will be submitted to the City along with the application for a CUP and Solid Waste Facility License. A Solid Waste License will also be required from Sherburne County. In general, the proposed project is compatible with and similar to land uses of adjacent areas. As stated above, the SDA property is currently being mined and the proposed project will follow the completion of mining.

There are no known existing environmental hazards associated with current or past land use. The 1991 aerial photograph and the USGS topographic maps for the area (Elk River Quadrangle 1993, and Lake Fremont Quadrangle 1980) both indicate that the SDA Property has primarily been covered with brushland/woodland, with an open field in the southwestern portion of the SDA Property.

The proposed expansion of the Landfill onto the mining Property is generally compatible with adjacent land uses (primarily mining and landfill), and is subject to City Conditional Use Permitting, Solid Waste Licensing, and incorporation into the Solid Waste Overlay District.

Further discussion regarding the project's compatibility with local plans and land use regulation is found in Item 27.

10. Cover Types. Estimate the acreage of the site with each of the following cover types before and after development:

	Before ⁽¹⁾	After ⁽²⁾		Before ⁽¹⁾	After ⁽²⁾
Types 1-8 wetlands	3.5	3.5	Lawn/landscaping	0	20.0
Wooded/forest	15.5	15.5	Impervious Surfaces	0	2.0
Brush/grassland	0	0	Other (mined area)	90	0
Cropland	0	0	(Landfill)	0	65.1
			(sedimentation ponds)	0	2.9
			TOTAL	109	109

- (1) Assumes that the “before” condition is after mining is completed in accordance with the existing CUP issued by the City.
- (2) Assumes that the “after” condition is at the completion of landfill development.

As previously noted, the total project area includes approximately 8.6 acres of current Landfill property in addition to the 109-acre parcel located to the south. Landfill development will follow gravel mining and will not extend beyond the limits of mining, which is generally allowed to occur within 50 feet of the property boundary. MSW is not allowed to be placed any closer than 200 feet from the property boundary by local ordinance and state solid waste rules. Currently, mining operations have been initiated on roughly one-half of the southern property. Acreage estimates noted above as “before” reflect the condition of the Property after gravel mining has been completed, as that would be the starting point for the landfill operations.

11. Fish, Wildlife, and Ecologically Sensitive Resources.

- a. Identify fish and wildlife resources and habitats on or near the site and describe how they would be affected by the project. Describe any measures to be taken to minimize or avoid impacts.

Nearby fish and wildlife resources and habitats include the Rice Lake wetland complex, located approximately 1,200-feet west-northwest, and Tibbits Brook, which flows through Rice Lake. The Rice Lake wetland complex and Tibbits Brook are physically separated from the site by the abandoned railroad bed that forms the western boundary of the existing Landfill and proposed project site. These water resources are also discussed in Item 12 below.

The proposed project will not affect any wetlands that would require mitigation in accordance with the Wetland Conservation Act. There is one small (0.5 to 1-acre) wetland located in the southwest portion of the SDA site. One of the three sedimentation basins, used for storage of stormwater runoff will discharge to this wetland. Small depressions identified as drainage depressions exist in the central and south central portions of the proposed project area. However, due to the grading and excavation associated with the mining activities to be conducted prior to development of the SDA, these drainage depressions will no longer be present at the time of development of the SDA.

Minimization of impacts to wildlife and ecological resources are provided by the overall layout, construction design, and operation of the proposed SDA, as described in Item 6.b. The design includes managed side slopes for minimization of erosion, and end uses that are intended to enhance wildlife habitat in the area. Buffer areas around the facility will provide for both surface-water management and screening vegetation.

The proposed SDA will follow gravel mining operations and be designed in accordance with state and local regulations involving required setbacks, buffer areas, screening vegetation, surface water and erosion controls. The phased manner in which the SDA will be developed will also minimize potential impacts by limiting the operational area. Areas not yet mined will remain in their general current state, while final cover with native vegetation will be placed over completed landfill cells.

The EIS will evaluate the potential for the proposed SDA project to impact ground-water quality to the Rice Lake wetland complex and Tibbits Brook. The EIS will identify the routes of stormwater runoff to the Rice Lake wetland complex and Tibbits Brook and the ability of these waters to handle the potential change in hydraulic and sediment loading during a 25-year and 100-year storm event. The EIS will discuss any potential physical impacts from hydraulic loading and any potential changes in sediment loading to the small wetland located in the southwest corner of the SDA site due to stormwater discharge. This discussion will include consideration of both a 25-year and 100-year storm event during initial construction of the SDA and upon ongoing operation and development of the SDA.

- b. Are any state (endangered or threatened) species, rare plant communities or other sensitive ecological resources such as native prairie habitat, colonial waterbird nesting colonies or regionally rare plant communities on or near the site? Yes No
- If yes, describe the resource and how it would be affected by the project. Indicate if a site survey of the resources has been conducted and describe the results. If the DNR Natural Heritage and Nongame Research program has been contacted give the correspondence reference number. ERBD 20020658
- Describe measures to minimize or avoid adverse impacts.

The proposed project is situated within the City's Gravel Mining Overlay District (see Figure 10). As discussed previously, the Property will be mined prior to construction of the proposed landfill such that virtually all landfill associated construction will occur within the footprint of the mining area. Consequently, these resources should not be affected by development of the proposed SDA.

The National Heritage and Non-Game Research Program of the Minnesota Department of Natural Resources (DNR) was contacted to determine if any rare plant or animal species or other significant natural features are known to occur within an approximately one-mile radius of the project area. Their response (Ref # ERBD 20020658) is provided as Appendix A. The proposed SDA is located on a site (County Biological Survey (CBS) Site #194) that has been previously identified as an Oak Woodland-Brushland Natural Community (last observed in 1973). To protect this community, the DNR recommended that this community type be preserved as much as possible. It should be noted that the recent aerial photographs and field verification indicate that much of the "Oak Woodland-Brushland" community that was located on the proposed SDA site has already been cleared and/or has been lost to succession, and that gravel mining is underway for much of the Property. It is also noted that the Gravel Mining District EIS included some discussion regarding plant communities and concluded that to the extent practicable, wooded areas would be designated as buffer zones by the mining CUP.

The approved mining operations will include a majority of the proposed SDA site, with the exception of a perimeter setback (approximately 50-feet) from Property boundaries and right-of-ways and the CUP requirement that gravel mining operations preserve the Oak Woodland-Brushland areas within 200 feet of the proposed corridor trail on the former railroad right-of-way on the west side of the Property. Since mining will be completed prior to construction of the proposed SDA, and all of the proposed SDA will be within mined areas, the proposed project will not affect any of the Oak Woodland-Brushland community remaining at the completion of mining activities. Figure 15 illustrates the area of the proposed project relative to the extent of the approved gravel mining operations.

The DNR's National Heritage and Non-Game Research Program also identified four records of rare plant species within a one-mile radius of the proposed project. These rare plant communities include CBS Sites, #192, #217, #221 and #222. CBS Sites #192 and #221 are identified as Maple-Basswood and Oak Forest and are located to the west/northwest of Tibbits Brook over a mile from the proposed project area. CBS Site # 217 is identified as Oak Forest and is located to the northeast on the east side of TH 169 approximately two miles from the proposed project. CBS #222 is identified as Tamarack Swamp Minerotrophic and is located approximately two miles southeast of the proposed project. As indicated in the DNR correspondence, these four additional rare plant communities are unlikely to be affected by the Landfill expansion due to distance and isolation from the proposed SDA by the physical features mentioned.

Other areas identified by the DNR letter are not at risk from impacts from the landfill operations, and it is reiterated that the proposed SDA will follow mining activities completed in accordance with a CUP, as described in Item 6.b. Consequently, there will be little, if any, disturbance to plant and animal species directly resulting from the proposed expansion.

This issue will not be carried forward for further discussion in the EIS.

- 12. Physical Impacts on Water Resources.** Will the project involve the physical or hydrologic alteration (dredging, filling, stream diversion, outfall structure, diking, and impoundment) of any surface waters such as a lake, pond, wetland, stream or drainage ditch? Yes No
If yes, identify water resource affected. Describe alternatives considered and proposed mitigation measures to minimize impacts. Give the DNR Protected Waters Inventory (PWI) number(s) if the water resources affected are on the PWI.

A review of the National Wetland Inventory (NWI) map of the area indicates that there is one small wetland area (approximately 0.5 to 1-acre in size) located in the southwestern corner of the SDA site adjacent to the abandoned railroad bed. The Minnesota Department of Natural Resources Protected Waters Inventory (PWI) map for Sherburne County indicates that there are no protected waters on the site. The PWI and NWI maps are provided as Figures 12 and 13. The nearest protected water is the Rice Lake wetland complex listed as protected water 71-15 P (pond) located northwest of the project area. Landfill design and construction includes the control of surface-water runoff with designed grading plans, silt fences, rip-rap drainageways, vegetative buffers, and sedimentation ponds.

The EIS will evaluate the potential for the proposed SDA project to impact ground-water quality to the Rice Lake wetland complex and Tibbits Brook. The EIS will identify the routes of stormwater runoff to the Rice Lake wetland complex and Tibbits Brook and the ability of these waters to handle the potential change in hydraulic and sediment loading during a 25-year and 100-year storm event. The EIS will discuss any potential physical impacts from hydraulic loading and any potential changes in sediment loading to the small wetland located in the southwest corner of the SDA site due to stormwater discharge. This discussion will include consideration of both a 25-year and 100-year storm event during initial construction of the SDA and upon ongoing operation and development of the SDA.

- 13. Water Use.** Will the project involve installation or abandonment of any water wells, connection to or changes in any public water supply or appropriation of any ground or surface water (including dewatering)? Yes No

If yes, as applicable, give location and purpose of any new wells; public supply affected, changes to be made, and water quantities to be used; the source, duration, quantity and purpose of any appropriations; and unique well numbers and DNR appropriation permit numbers, if known. Identify any existing and new wells on the site map. If there are no wells known on site, explain methodology used to determine.

Public water supply, water supply wells, or appropriation of surface or ground water are not associated with the proposed project. However, there is currently one supply well on the property used by the commercial asphalt office to provide water for dust control.

As discussed in Item 6.b., there are ground-water monitoring wells associated with the existing Landfill that will require sealing, and new monitoring wells will be installed on the SDA in accordance with the MPCA approved work plan. The monitoring wells that will require sealing are those located on the southern boundary of the current Landfill property (Landfill well designations 209 OWA, P-213A, and 213 OWA). Five new ground-water monitoring wells have been installed at the proposed SDA in accordance with the "Revised Work Plan: Southern Development Area" prepared by Geomatrix, May 16, 2003, which is provided as Appendix D. Initial monitoring of the new wells has focused on verifying the position of the water table for design purposes. Background ground-water quality monitoring will be conducted in 2004. Subsequently, other wells will be installed as necessary to effectively fulfill long-term ground-water monitoring requirements associated with MPCA Solid Waste Rules and the phased construction of the lined landfill cells.

See Item 19.b., under the heading "Site Specific Investigation" for further discussion concerning water supply wells and high capacity well inventory.

Site operations may require small amounts of collected stormwater/surface water to be intermittently pumped from the site sedimentation pond for dust control purposes, or to relieve surface-water drainage accumulations. Use of water in excess of 10,000 gallons per day or 1,000,000 gallons per year requires a Water Appropriations Permit from the DNR whether it is ground water or surface water. Such a permit is not anticipated at this time for this facility.

This issue will not be carried forward for further discussion in the EIS.

- 14. Water-related land use management districts.** Does any part of the project involve a shoreland zoning district, a delineated 100-year flood plain, or a state or federally designated wild or scenic river land use district? Yes No

If yes, identify the district and discuss project compatibility with district land use restrictions.

The Rice Lake/Tibbits Brook wetland complex, designated as Protected Water 71-15P on the DNR PWI, is located west and adjacent to the site and is designated as a Natural Environment Lake in both the Sherburne County and City Shoreland Ordinances. The Shoreland District for a Natural Environment Lake is 1,000 feet from the ordinary high water mark (OHM) of the lake. The DNR established the OHM for Rice Lake at an elevation of 939.7 feet during the May 17, 2002, field survey.

Based on information provided by the City, industrial uses are not allowed within the Shoreland District of a Natural Environmental Lake under Minn. R. 6120.3200. It should be noted that Sherburne County zoning requires landfills to be located in industrial zones. However, unlike Sherburne County, the City does not require landfills to be located in industrial zones.

Under Minn. Stat. § 462, the Minnesota State Legislature has delegated responsibility to the local governments of the State to regulate the subdivision, use and development of the Shoreland public waters. The City previously zoned the Landfill's property to Solid Waste Facility Overlay Zoning District, in which landfills are a conditional use. In addition, Section 904.06 (2) (B) of the City's Shoreland Management Ordinance states: "*All permitted, conditional and prohibited uses as specified by the applicable underlying Zoning District shall apply.*"

The Shoreland Management Ordinance does not so much dictate what land uses go where, but rather how land uses affect the public water. The publication A Technical Report on Managing Nonconformities in the Shoreland Management District states: "*Zoning controls regulate the location of underlying land uses. The shoreland standards focus primarily on the manner of use (i.e. dimensional standards) to reduce the potentially harmful effects on the public water of overcrowding and poorly planned development of shoreland areas, to maintain property values, and to preserve the natural characteristics of the shoreland and adjacent water areas.*"

Landfills are an interim use, similar to mining activities, which are allowed in the Shoreland District of a Natural Environmental Lake. If done appropriately, in the long term the Landfill will be a grassy slope with no negative affect on Rice Lake. In addition to the normal seven standards for reviewing a Conditional Use Permit found in Section 900.42 of the City Code of Ordinances, the City needs to apply "Evaluation Criteria" for conditional uses found in 904.08 (7) of the City's Shoreland Management Ordinance, to ensure the protection of Rice Lake.

The City has interpreted that the City does have the authority to determine the type of land uses in a Shoreland District and that a landfill can be considered. The DNR agreed with this interpretation. It should be noted that the City's above interpretation only applies to approximately 0.75 acres of the SDA which lies within the 1,000 foot setback of the OHM. Therefore, the proposed SDA project would be a contiguous part of the existing Landfill and is compatible with the City Shoreland Management Ordinance.

Finally, a review of Environmental Data Resources, Inc. (EDR's) National Environmental Policy Act Check Report, PWI and DNR Natural Heritage information indicates that the SDA site is not located within a delineated 100-year floodplain, or a state or federally designated wild or scenic river land use district.

This issue will not be carried forward for further discussion in the EIS.

15. Water Surface Use. Will the project change the number or type of watercraft on any water body?

Yes No

If yes, indicate the current and projected watercraft usage and discuss any potential overcrowding or conflicts with other uses.

16. Erosion and Sedimentation. Give the acreage to be graded or excavated and the cubic yards of soil to be moved: Approximately 100 acres; See discussion below cubic yards. Describe any steep slopes or highly erodible soils and identify them on the site map. Describe any erosion and sedimentation control measures to be used during and after project construction.

As described in Item 6.b., the proposed SDA will follow the phased mining of the Property. Grading and excavation work associated directly with the SDA will be limited to that which is necessary to establish the base grades with selected soils, compacted to specified criteria, for individual cell construction. The phased manner of mining and subsequent phased reclamation by the SDA will limit the amount of area under development at any one time. Areas not yet mined will generally remain in their current state, while final cover will be placed in completed landfill cells. Runoff from the landfilled portions of the site will be treated in sedimentation ponds located on-site.

Mining activities will typically involve up to 1:1 slopes to provide access to the sand and gravel deposits and all stormwater is directed to the pit floor. These slopes will be rebuilt to no greater than 3:1 prior to SDA development, in accordance with the mining CUP. The erosion control features for the proposed SDA, including benches, diversion berms, grassed and geotechnically reinforced swales, sedimentation ponds, and native vegetation will be incorporated into the design as required by MPCA Solid Waste Rules and NPDES Stormwater Permit requirements. Figures 5 through 9 illustrate the slopes and erosion/surface-water control features that will be implemented for the initial, interim, and final phases of the proposed SDA project. Calculations and layout of the erosion/stormwater controls have been designed for a 25-year, 24-hour storm event, in accordance with the U.S. Environmental Protection Agency (EPA) Subtitle D Regulations, to allow sediment to settle out of suspension prior to discharge. The maximum slope of the SDA will be 3:1 and designed in accordance with MPCA Slope Guidance Document dated May 28, 2002. A safety factor of 1.5 will be incorporated into the design criteria for slope stability. Final elevations and contours will tie into those of the existing Landfill to the north.

All of the sedimentation basins will be conservatively oversized to take into account storm events and the loss of capacity due to any sediment deposition in the basins. Final surface-water discharge from the SDA site is directed to two areas; one area is a natural depression area (P-3) which is located along the railroad bed at about the middle of the west side of the SDA, the second area is the wetland in the southwest corner of the site. P-3 has been designed as an infiltration basin and has no outlet, while discharge to the wetland in the southwest corner of the site comes from sedimentation basin P-1.

Erosion control berming and vegetation will be established on areas of intermediate cover as well as final covered areas. Revised Universal Soil Loss Equation Calculations have been completed and for the vegetated condition, the soil loss is 2.25 tons per acre per year. However, in the several days following cover soils grading with no vegetation established, the universal soil loss equation indicates a potential for a soil loss of 13.3 tons per acre per year. This case is only relevant for several days following cover grading before vegetation will be established on intermediate cover areas as well as final covered areas. Consistent with typical landfill operating procedures, erosion control measures such as temporary berming and erosion control matting will be installed to control interim surface-water runoff and reduce erosion. Sediment accumulations in the sedimentation ponds during the active life of the facility will be handled as part of the routine operations of the landfill. Sedimentation basin and ditch cleaning will be performed as required.

In addition, ERL will also minimize the potential for erosion of the newly graded intermediate or final covered areas by scheduling cover construction projects late in the construction season, as generally, large rain events are not as frequent later in the year. In previous phases of construction, the ERL has had success with the use of dormant seeding paired with a companion crop of winter wheat and oats. The addition of the companion crop allows for late fall growth, which establishes vegetation prior to the snowmelt and rain events the following spring.

Sedimentation and erosion control will be implemented during construction and operation in accordance with current local and state regulatory requirements. Details of erosion control practices to be employed for the phased construction of the landfill cells and following closure of the facility will be reviewed by regulatory bodies, including the City, Sherburne County and the MPCA.

Regular inspection and maintenance of the erosion/surface-water control features will be performed as part of the routine operation of the facility (both open and closed areas), and in accordance with the conditions in the MPCA Solid Waste and NPDES Stormwater Permits, so that repair or maintenance can be performed as necessary in a timely manner. The facility will also operate in accordance with a site specific Stormwater Pollution Prevention Plan (SWPPP), which contains Best Management Practices (BMP) for the control of sedimentation and erosion at the facility.

The EIS will describe the stormwater management practices to be employed at the proposed SDA site and compare the quantity, quality, and velocity of surface runoff waters from the site before development of the SDA, during initial construction of the SDA, during ongoing operation and development of the SDA, and after final closure of the SDA. This comparison will use a 25-year, 24-hour storm event as well as a 100-year storm scenario, and will include a comparison of the potential changes in quantity of sediment loading from surface runoff waters routed to different watersheds as a result of the project.

The EIS will identify the routes of stormwater runoff to the Rice Lake wetland complex and Tibbits Brook, and the ability of these waters to handle the potential change in hydraulic and sediment loading during a 25-year and 100-year storm event.

The EIS will discuss any potential physical impacts from hydraulic loading and any potential changes in sediment loading to the small wetland located in the southwest corner of the SDA site due to stormwater discharge. This discussion will include consideration of both a 25-year and 100-year storm event during initial construction of the SDA and upon ongoing operation and development of the SDA.

17. Water Quality – Surface-water Runoff.

- a. Compare the quantity and quality of site runoff before and after the project. Describe permanent controls to manage or treat runoff. Describe any stormwater pollution prevention plans.

Surface-water runoff and proposed controls for the SDA have been discussed in Item 16 above. The state of the proposed site prior to the construction of the SDA landfill cells will include open pits and side-slope areas exposing sand and gravel deposits. The design features for the proposed SDA will provide control of erosion, treatment of surface-water runoff, and a vegetated cover.

Stormwater generated from the proposed SDA will be controlled on-site. Stormwater is routed from the landfill final cover to one of three sedimentation ponds by a series of drainage terraces, gabion-lined down slope structures, and turf-reinforced ditches to the sedimentation ponds. HydroCAD-Stormwater Modeling Program using the Soil Conservation Service (SCS) Curve Number method was used to calculate runoff hydrographs for the proposed landfill configuration. The proposed SDA was divided into subwatersheds depending on the contributing drainage areas of the landfill configuration. Peak flows from the subwatersheds were calculated for a 25-year, 24-hour storm event of 4.7 inches and runoff curve numbers of 77, 80, 100 were used for the landfill top, sides and ponded water in the sedimentation basins, respectively. Times of concentration were computed using hydraulic distance and flow velocity according to Natural Resources Conservation Service (NRCS, formerly the SCS) Hydrology Guide to Minnesota and input directly into the HydroCAD model.

Drainage Terraces

Drainage terraces are placed periodically to minimize erosion and direct the surface water to the appropriate down slope structure. The drainage terraces were designed to handle the flow for each subarea and are spaced 40 feet vertically around the perimeter of the landfill. Based on the terrace geometry, a bed slope of 3 percent, and a Manning's "n" of 0.035, for flow rates ranging from 4.5 cubic feet per second (cfs) to 41 cfs, the velocity ranges from 2.8 feet per second (fps) to 4.9 fps. The peak flow depths will not exceed the depth of the terrace and the velocities will not exceed five fps. Therefore, the drainage terrace design is stable and erosion will be controlled with vegetation establishment.

Down Slope Structures

There are eight gabion-lined down slope structures at various locations around the perimeter of the final cover. Each segment of each down slope structure was designed to handle each subwatershed's flow from the contributing drainage terraces. Based on expected velocities calculated from channel geometry, a bed slope of 33 percent, and a Manning's "n" value of 0.035, each down slope structure will be lined with rock gabion mats. Energy will be dissipated upstream of access road crossings with a line of gabions perpendicular to flow and at the toe of the slope. Flow will be forced over the gabions and dissipate on gabion splash pads. Flow depths do not exceed the down slope channel depth and the gabion mats have been sized for the peak flows.

Sedimentation Basins

Stormwater runoff for the design storm event (25-year, 24-hour event) was routed through the three sedimentation basins. Each basin design incorporates storage for the accumulation of sediment that may be carried in the runoff entering the basins. The routing calculations indicate that each of the basins can effectively manage the storm event with a minimum of one foot of freeboard. In fact, the sedimentation basins have enough capacity to maintain a minimum of one foot of freeboard when modeled using a 100-year, 24-hour storm event. Sedimentation basin P-2 discharges to P-1. Sedimentation basin P-1 discharges to a wetland located in the southwest corner of the property. Sedimentation basin P-3 has no discharge outlet and has been designed as an infiltration basin, with a minimum infiltration rate of 0.7 in/hr. Basin P-1 will settle out all particles larger than fine silt (particles size 0.00024 mm and larger). Basin P-1 has been designed to settle out over 70 percent of the total suspended solids prior to discharge using the design storm outlet flow and surface area of the pond at the peak elevation. Basin P-3 is designed in accordance with permit requirements for infiltration basins.

The location of the surface-water control features for the proposed SDA is shown on Figure 5.

Runoff from open cells will be collected by the landfill liner system. All other runoff will be routed to avoid contact with waste materials using control structures such as berming and ditching. Prior to discharge from the site, all surface water will be collected in sedimentation ponds designed and approved by the MPCA during the landfill permitting process. In addition, a SWPPP will be prepared as required under terms of the NPDES stormwater permit and will include BMP associated with the construction and operation of the SDA, including erosion and sedimentation control, routine inspections and corrective actions.

The EIS will identify and briefly describe the stormwater regulations applicable to the project.

The EIS will describe the stormwater management practices to be employed at the proposed SDA site and compare the quantity, quality, and velocity of surface runoff waters from the site before development of the SDA, during initial construction of the SDA, during ongoing operation and development of the SDA, and after final closure of the SDA. This comparison will use a 25-year, 24-hour storm event as well as a 100-year storm scenario.

The EIS will identify potential changes in sediment loading to the small wetland located in the southwest corner of the SDA site due to stormwater discharge. This discussion will include consideration of both a 25-year and 100-year storm event during initial construction of the SDA and upon ongoing operation and development of the SDA.

- b. Identify routes and receiving water bodies for runoff from the site; include major downstream water bodies as well as the immediate receiving waters. Estimate impact runoff on the quality of receiving waters.

The predominant sand and gravel soils in the vicinity of the proposed project are porous, having relatively rapid infiltration rates. Consequently, any surface-water runoff leaving the existing Property infiltrates within the existing ditches along the perimeter of the Landfill and surrounding road/railroad bed. Similar conditions are anticipated for the proposed SDA, however the majority of runoff from the SDA will be routed to on-site stormwater detention basins prior to leaving the site. For the location of the proposed stormwater drainage features, refer to Figure 5.

The proposed project area is generally oriented longitudinally along a divide, which separates the Elk River Watershed and the Rum River Watershed. Based on the location of the divide, the western two-thirds of the proposed project area is within the Elk River Watershed, and the eastern east one-third of the proposed project area is within the Rum River Watershed. Drainage to the west of the watershed divide would be expected to flow toward the nearby Rice Lake wetland complex. However, due to the location of the railroad along the western site boundary, surface-water runoff is not expected to flow directly into the complex. Surface-water runoff flowing east from the divide would have to travel a considerable distance outside of the proposed project area to enter the (intermittent) streams and drainage ditches that feed to the Rum River.

The EIS will identify the routes of stormwater runoff to the Rice Lake wetland complex and Tibbits Brook, and the ability of these waters to handle the potential change in hydraulic and sediment loading during a 25-year and 100-year storm event.

The EIS will include a comparison of the potential changes in quantity of sediment loading from surface runoff waters routed to different watersheds as a result of the project, using the 25-year and 100-year storm events. The EIS will compare the quantity, quality, and velocity of surface runoff waters from the site before development of the SDA, during initial construction of the SDA, during ongoing operation and development of the SDA, and after final closure of the SDA.

The EIS will identify and briefly describe the water quality standards and regulations that apply to the Rice Lake/Tibbits Brook wetland complex and the small wetland located in the southwest corner of the SDA site with respect to stormwater discharges from the project site.

18. Water Quality – Wastewater.

- a. Describe sources, composition and quantities of all sanitary, municipal and industrial wastewater produced or treated at the site.

Wastewater generated by the operation of the proposed SDA will be limited to leachate and minimal quantities of sanitary waste from Landfill employees. Sanitary facilities will be those provided by the existing Landfill, Individual Sewage Treatment System (ISTS) (septic system and drain field), and portable toilets, which will be serviced on a regular basis in accordance with applicable county rules and ordinances.

Landfill leachate is generated as precipitation filters down through waste deposits. Leachate is composed primarily of water but can include small concentrations of volatile organic compounds, metals and other constituents that are “leached” from the waste materials. The landfill composite liner system will collect leachate and be constructed in accordance with MPCA Solid Waste and EPA Subtitle D Landfill construction standards and will include a 60-mil HDPE geosynthetic liner underlain by 2 feet of compacted clay having a permeability of less than 1×10^{-7} centimeters per second (cm/sec). Lysimeters will be provided beneath the lowest point of each landfill cell to document that the composite liner system is intact. All leachate will be collected from the landfill cells through sideslope riser pipes and stored in a proposed 150,000-gallon AST within secondary containment until it is either transported to the Metropolitan Disposal System for disposal or recirculated into Cells 12 and 13 in accordance with the pilot study authorized by MPCA permit SW-74.

The quantity of the leachate that is generated is expected to vary depending on seasonal climatic conditions, landfill design, and operation. It can be minimized by keeping the size and number of open landfill cells to a minimum. Based on historical leachate generation rates for the landfill, average annual leachate generation rates are projected at 40,000 to 100,000 gallons per acre of open or active landfill. The leachate generation rates will vary with the development and the open acreages contributing to generation volumes. When full, the individual landfill cells will be covered, and the quantity of precipitation entering the landfill cell will be greatly reduced. Leachate generation after final cover construction is estimated at less than 14 gallons per acre per year.

Leachate quality is routinely monitored and reported according to MPCA and MCES permit requirements. Existing leachate quality data is available for review. Generally, the leachate generated at the ERL is typical of leachate generated by MSW landfills elsewhere in the state.

This issue will not be carried forward for further discussion in the EIS.

- b. Describe waste treatment methods or pollution prevention efforts and give estimates of composition after treatment. Identify receiving waters, including major downstream water bodies, and estimate the discharge impact on the quality of receiving waters. If the project involves on-site sewage systems, discuss the suitability of site conditions for such systems.

There will be no wastewater treatment conducted as part of this project, other than that which occurs in (septic) ISTS. Any existing or replacement ISTS required at by facility will be constructed and operated in accordance with MPCA rules and local ordinances. The on-site soils are generally suitable for application of conventional drainfield technology.

Leachate will be collected and pumped via a force main to a proposed 150,000-gallon AST with secondary containment for temporary storage. All leachate transmission piping that is not within the landfill liner will be dual-walled to minimize the potential for a release to the environment. Intermittently, and as needed, the stored leachate will be transported by truck to the Metropolitan Disposal System in St. Paul for treatment and disposal. The transport trucks will be parked over a concrete loading pad during loadout. The loading pad drains to a double-walled leachate storage tank that pumps back to the AST through a dual-wall force main.

The existing Landfill currently uses leachate recirculation, on a pilot study basis in existing Cell 12 and 13, as an alternative leachate management option. During recirculation, leachate is returned to the landfill through pipes embedded in gravel filled trenches buried in the waste mass. The biological processes that occur during waste decomposition consume the organic portion of the leachate. The inorganic leachate constituents form moderately insoluble precipitates that bind to the waste and soil in the fill. Recirculation is conducted in accordance with the conditions established in MPCA Solid Waste Permit for the leachate recirculation pilot study for SW-74. The Permit includes monitoring and reporting requirements to track the amount and location of leachate production, changes in leachate quality, landfill gas production and quality of emissions, the magnitude of settlement of the waste fill, and magnitude of decomposition of the waste.

This issue will not be carried forward for further discussion in the EIS.

- c. If wastes will be discharged into a publicly owned treatment facility, identify the facility, describe any pretreatment provisions and discuss the facility's ability to handle the volume and composition of wastes, identifying any improvements necessary.

The MCES has approved the disposal of leachate from the ERL into the Metropolitan Disposal System. The MCES currently accepts leachate from other landfills and no improvements to the MCES system will be necessary in order to treat leachate from the proposed SDA. The special discharge permit issued to the Landfill by the MCES requires routine sampling, testing and reporting when leachate is disposed into the MCES system. ERL will keep MCES informed of the proposed expansion and any expected leachate volumes increase.

It should be noted that any expansion of leachate recirculation activities at the site would result in a significant portion of leachate generated being recirculated back into the landfill. The disposal of leachate via the MCES system would be greatly reduced over the duration of the leachate recirculation pilot project.

This issue will not be carried forward for further discussion in the EIS.

- d. If the project requires disposal of liquid animal manure, describe disposal technique and location and discuss capacity to handle the volume and composition of manure. Identify any improvements necessary. Describe any required setbacks for land disposal systems.

Not applicable.

19. Geologic hazards and soil conditions.

- a. Approximate depth (in feet) to Ground water: 5 minimum; ~ 50 average.
 Bedrock: 135 minimum; ~ 200 average.

Describe any of the following geologic site hazards to ground water and also identify them on the site map: sinkholes, shallow limestone formations or karst conditions. Describe measures to avoid or minimize environmental problems due to any of these hazards.

There are no sinkholes, shallow limestone features, or karst conditions known to exist in the area of the proposed SDA. The hydrogeologic conditions in the vicinity of the site are further discussed below.

The depths to ground water and bedrock indicated above reflect current conditions prior to mining. Following mining, the depths for a majority of the site will generally be near the minimum depths identified above. Additional detailed information pertaining to geologic and hydrogeologic conditions will be obtained for the project site in accordance with the approved Revised [Hydrogeologic] Work Plan (Geomatrix, May 16, 2003).

Using existing data collected from hydrogeologic investigations of the proposed SDA, the EIS will provide a description of the hydrogeologic conditions in the vicinity of the proposed SDA site.

- b. Describe the soils on the site, giving SCS classifications, if known. Discuss soil granularity and potential for groundwater contamination from wastes or chemicals spread or spilled onto the soils. Discuss any mitigation measures to prevent such contamination.

Soil Classifications

The Soil Survey of Sherburne County describes surficial soils at the site as being comprised predominantly of the Stonelake–Sanburn and Stonelake–Nebish complexes. The Stonelake series is profiled generally as a very deep (more than 60-inches), excessively drained, glacial outwash with slopes ranging from 1 to 40 percent. The glacial outwash consists mainly of a gravelly loam to coarse sand. These soils are reported in the soil survey to have a rapid to very rapid infiltration rate. These soil types are characteristic of a relatively large area including the project site and extending to the south, and which comprises the Elk River Sand and Gravel Mining District. As previously described, the granular soils associated with the site will largely be removed prior to the proposed SDA project.

Regional Hydrogeologic Information

Hydrogeologic conditions in the vicinity of the proposed facility were determined by reviewing the Minnesota Geological Survey Publication “Regional Hydrogeologic Assessment Anoka Sand Plain,” dated 1993 (the Hydrogeologic Assessment) as well as Landfill hydrogeologic reports. The Anoka Sand Plain includes large portions of Anoka, Chisago, Isanti and Sherburne Counties. Regionally, the quaternary geology of the area is characterized by approximately a 100 to 200-foot thick sequence of unconsolidated glacial and glaciofluvial deposits (sand and gravel with silt and till). Hobbs and Goebel (1982) indicate that these materials are associated with north-south trending eskers that extend from north of the proposed project site southward through the Elk River Gravel Mining District.

The Eau Claire Formation represents the uppermost bedrock in the area of the site. It is up to 130 feet thick, and is considered a regional confining unit. Below the Eau Claire Formation is the Mount Simon/Hinckley aquifer. The Mount Simon/Hinckley aquifer is estimated to be approximately 150 feet thick and serves as an important water supply aquifer for the area. Regional ground-water flow direction near the site in both the unconsolidated and deeper bedrock formations is reportedly to the west and south towards the Elk and Mississippi Rivers.

The Hydrogeologic Assessment also characterizes the potential sensitivity of the uppermost aquifer to pollution based on geologic conditions of the region. Sensitivity is based on the “estimated travel time for water-borne contaminants at the land surface to reach the uppermost aquifer.” The majority of the Anoka Sand Plain region (including most of Anoka, Isanti and Sherburne Counties) is characterized as having a “very high” sensitivity. For the area of the proposed facility, the sensitivity is identified as being primarily “high,” and therefore slightly less sensitive than a majority of the region. The Hydrogeologic Assessment notes that high sensitivity does not indicate that ground-water quality has or will be degraded, or that low sensitivity means that ground water will remain pristine.

The design of the proposed facility includes lined landfill cells with leachate collection as described in Item 6.b. These design features provide a physical barrier between the waste and the underlying unconsolidated deposits and ground water.

Site Specific Investigation

The Revised [Hydrogeologic] Work Plan (Geomatrix, May 16, 2003) included the verification and updating of the water supply well and high capacity well inventory. A similar inventory was completed during previous Landfill permitting and an evaluation and inventory of water supply and high capacity wells was also completed as part of the Elk River Gravel Mining District EIS (1994).

The updated well inventory information from the above sources and from the Sherburne County Well Index, and DNR records (for water appropriations for high capacity wells), is provided in Appendix C. It is noted that some residential wells in the vicinity are routinely monitored as part of the current Landfill monitoring program. The well inventory information indicates that nearby wells are located primarily west and east of the proposed SDA site. Wells that supply wash plants also exist to the south of the existing Landfill in the Elk River Gravel Mining District. The nearest high-capacity well for which an appropriation permit (Permit #773267) has been issued is located roughly one-half mile west of site in the SW ¼ of Section 4. The well is reportedly 300 feet deep and used for irrigation up to 500 gallons per minute. A pumping test was previously conducted on this well (Thompson Irrigation) to evaluate potential interactions or interconnection with ground-water monitored at the existing facility. The results of this testing did not indicate any interconnection. The high capacity wells are typically constructed in the deeper bedrock aquifers, which are hydraulically isolated from the surficial glacial units monitored at the facility. The above outlined information concerning site hydrogeologic conditions and the results of the Thompson Irrigation well pump test indicate that no significant effect on ground-water flow conditions at the SDA from ground-water pumping in the surrounding area is likely.

The findings of the Hydrogeologic Evaluation will be reported separately in accordance with Minn. R. 7035.2815. The documentation report will provide recommendations for a proposed ground-water monitoring network including existing and planned long-term monitoring locations. As reported in the 2004 Annual Water Quality Monitoring Report, background ground-water quality monitoring will be conducted at existing wells in the SDA during 2004 in accordance with the Phase IV Water Quality Monitoring Work Plan. In accordance with Minnesota State Rules, an Annual Water Quality Monitoring Report is prepared each year to provide a comprehensive evaluation of site ground-water conditions and the effectiveness of the site's environmental monitoring network. The Phase IV Water Quality Monitoring Work Plan is a site specific document that provides a summary of the environmental (ground-water, surface-water, etc.) monitoring systems and details the environmental monitoring protocols used at the site.

Design features and operating procedures of the proposed SDA will help mitigate potential impacts to ground-water resources. Protective measures include installation of a liner and leachate collection system; installation and monitoring of leak detection lysimeters; installation and operation of a ground-water monitoring system; BMP; and compliance with local, state, and federal regulations. These regulations include NPDES stormwater permits, and SWPPP, and spill response plans that provide for control and spill response associated with potential releases. Controlled access to the facility will prevent problems such as vandalism or illegal dumping.

Remediation

The expansion area is located over 1,800 feet from the nearest point of the unlined portion of the existing facility in a sidegradient/upgradient orientation with respect to ground-water flow (see ground-water flow map in 2004 Annual Water Quality Monitoring Report). As a result, the ground-water contamination, which is associated with the old, unlined portion of the facility, is not anticipated to migrate to the expansion area nor impair the ability to conduct remedial actions.

The EIS will identify and briefly describe the ground-water regulations and ground-water quality standards applicable to the project.

The analysis of the potential for ground-water impacts in the EIS will be based on geotechnical information utilizing existing data collected from hydrogeologic investigations of the SDA and the engineered environmental control systems inherent in the design, as well as the associated environmental performance monitoring programs of the proposed project site. This information will be used to address the following: 1) a description of the soils and geologic conditions at the proposed SDA site, 2) a description of the hydrogeologic conditions in the vicinity of the proposed SDA site, 3) a description of the proposed ground-water monitoring program for the SDA site, and 4) a discussion of the potential for the expansion to impact ground-water quality to the Rice Lake wetland complex and Tibbits Brook.

20. Solid Wastes, Hazardous Wastes, Storage Tanks.

- a. Describe types, amounts and compositions of solid or hazardous wastes, including solid animal manure, sludge and ash, produced during construction and operation. Identify method and location of disposal. For projects generating municipal solid waste, indicate if there is a source separation plan; describe how the project will be modified for recycling. If hazardous waste is generated, indicate if there is a hazardous waste minimization plan and routine hazardous waste reduction assessments.

In and of itself, the proposed project will produce little waste materials. The proposed project will receive the same types of wastes that have previously been received at the existing Landfill. These wastes include commercial, industrial, municipal and residential wastes. Applicable rules and the Landfill's Industrial Solid Waste Management Plan (ISWMP) prohibit acceptance of certain wastes at the facility, including, but not limited to: hazardous wastes, radioactive wastes, infectious wastes (unless approved by the MPCA), free liquids or wastes containing free liquids, and sewage sludge/septic tank pumpings. The composite base liner and leachate collection system is engineered to contain and collect leachate generated by the landfilled waste.

Operation of the facility will include waste screening to identify unacceptable waste materials that may be brought to the facility. Unacceptable wastes will be segregated, and either temporarily stored in roll-off containers, or immediately redirected to the appropriate disposal facility. ERL implements an ISWMP to help prevent hazardous wastes from being improperly disposed. Also, Sherburne County implements a hazardous waste education and collection program aimed at households and contractors to help minimize the volume of hazardous wastes from entering the waste stream. Landfill employees are also trained to identify and remove wastes that could potentially be associated with hazardous materials. Inspections by local government are conducted to assess site activities and compliance.

Some materials, such as steel, iron, concrete and aluminum, may be pulled from incoming waste loads for recycling. These materials will be segregated, temporarily stockpiled, and subsequently recycled.

The few wastes that will be generated by the continued operation of the facility at the SDA will include that from the small number of on-site workers, and from maintenance and repair of on-site equipment. Equipment maintenance will generate small quantities of used oil, lubricants, and fluids and this maintenance will be conducted at existing facilities located at the adjacent existing Landfill. Used oils, cleaning fluids, and other such wastes generated by the Landfill are managed by licensed waste haulers.

This issue will not be carried forward for further discussion in the EIS.

- b. Identify any toxic or hazardous materials to be used or present at the site and identify measures to be used to prevent them from contaminating groundwater. If the use of toxic or hazardous materials will lead to a regulated waste, discharge or emission, discuss any alternatives considered to minimize or eliminate the waste, discharge or emission.

Toxic or hazardous materials used during the continued operation of the Landfill at the SDA site include fuels and lubricants for equipment that are used to operate the facility. Herbicides may also be used occasionally for weed control. These materials are stored in appropriate containers or smaller tanks at the shop building located at the existing Landfill location. As required by state and federal regulations, the Landfill implements a Spill Control and Countermeasure (SPCC) Plan and a Stormwater Pollution Prevention Plan (SWPPP). These plans help the facility manage on-site, toxic or hazardous materials, greatly reducing the potential for waters of the state to be adversely affected. These plans are required to be regularly reviewed and evaluated to ensure proper implementation of the plans.

The mixed municipal solid waste delivered to the proposed SDA may contain small quantities of household hazardous waste typical of municipal solid waste. The composite base liner, that includes a synthetic membrane and a leachate collection system, is engineered to contain and collect any toxic materials that may be leached from the deposited waste. In addition, the Landfill employees are trained to identify and remove wastes which could potentially be associated with hazardous materials, e.g., paint cans, oil cans, herbicide containers, liquids, barrels, batteries, etc.

The proposed SDA will also operate under an ISWMP in accordance with Minn. R. 7035.2535. Any waste which is characterized as potentially hazardous or which has not been evaluated through this program is automatically rejected. Adherence to the processes established in the plan will allow for close control over wastes with potential for containing toxic or hazardous materials and prevent them from being disposed of at the Landfill.

This issue will not be carried forward for further discussion in the EIS.

- c. Indicate the number, location, size and use of any above or below ground tanks to store petroleum products or other materials, except water. Describe any emergency response containment plans.

At the initiation of landfilling in the SDA, leachate will be pumped to a proposed 150,000-gallon aboveground storage tank. The tank will be provided with secondary containment and contain an in-situ alarm/leak detection system to monitor for leakage and which would contain any releases that occur. Other materials such as fuels and lubricants are also stored at the existing adjacent Landfill. Management and emergency response planning for these materials were noted in Item 20.b. above.

In addition to the proposed tank for the expansion, there is an existing 225,000 above ground leachate storage tank along with three underground double-walled leachate storage tanks at the Landfill.

Other storage tanks containing petroleum products in support of operations are also located at the existing Landfill facility and maintained and managed in accordance with the Facility's Spill Prevention Control and Countermeasure Plan in accordance with Title 40, Code of Federal Regulations, Part 112. These consist of the following:

ABOVE GROUND STORAGE TANK INVENTORY
(For Tanks containing Oil, Used Oil, Diesel Fuel, Gasoline, or Anti-freeze)

	TANK NO. 1	TANK NO. 2	TANK NO. 3	TANK NO. 4	TANK NO. 5	TANK NO. 6
Location	Outside	Inside Maintenance Building	Inside Maintenance Building	Inside Maintenance Building	Outside	Inside Maintenance Building
Capacity – Gallons	6,000	285	285	285	250	250
Capacity – Cu. Feet (Gallons – 7.5)	800	38	38	38	33.33	38
Contents	Diesel Fuel	Engine Oil	Hydraulic Oil	Transmission Fluid	Gasoline	Used Oil
Tank Material (Steel, Fiberglass, etc.)	Steel (Double-Wall)	Steel (Single wall)	Steel (Single Wall)	Steel (Single Wall)	Steel (Double Wall)	Steel
Inventory Control Method	Meter and Site Gauge	Site Gauge	Site Gauge	Manual Tank Dip	Meter and site Gauge	Site Gauge
Year Tank was Constructed	1995	1993	1993	1993	1999	1993
Secondary Containment	Yes	Yes	Yes	Yes	Yes	Yes
Type – (i.e. Earthen Dike, Concrete Curb, etc.)	Steel Double Walled Tank	Concrete Blocks/Floor Drain	Concrete Blocks/Floor Drain	Concrete Blocks/Floor Drain	Steel Double-Wall Tank	Floor Drain
Capacity – Gallons		1,500*	1,500*	1,500*		1,500*

* There is a shop drain within the maintenance building, which is directed to the 1,500-gallon tank.

At this time it is anticipated that these materials will continue to be stored in their current location. However, at some point in the future, these types of materials may be relocated to be in closer proximity to the proposed SDA.

The SDA will be designed and operated to minimize the potential for adverse effects from the handling of solid wastes at the site. Solid wastes are disposed of in a controlled manner with appropriately designed controls, hazardous wastes are excluded from the waste stream, and those relatively small quantities of potentially hazardous materials (such as fuels) are stored and managed in accordance with applicable state and federal requirements.

This issue will not be carried forward for further discussion in the EIS.

21. Traffic. Parking spaces added: 0 Existing spaces (if project involves expansion): 0
Estimated total average daily traffic generated: 200-400 (same as existing) Estimated maximum peak hour traffic
generated (if known) and its timing: See discussion Provide an estimate of the impact on traffic
congestion affected roads and describe any traffic improvements necessary. If the project is within the
Twin Cities metropolitan area, discuss its impact on the regional transportation system.

The proposed SDA project will allow for continued MSW disposal once the existing MSW disposal cells reach capacity. No additional traffic is anticipated to be associated with the project. Sufficient parking is currently available at the existing Landfill for employees and visitors.

The existing Landfill is open during the hours of 7:00 a.m. to 5:00 p.m., Monday through Friday and 7:00 a.m. to 1:00 p.m. Saturday. Operation of the proposed SDA will be within these time-frames. Peak traffic to and from the existing Landfill is from 10:00 a.m. to 2:00 p.m. and is therefore not during normal commuter rush hour. The traffic peak for the proposed facility is not anticipated to change from the operation of the existing MSW Landfill. All vehicle traffic associated with the SDA will continue to access the site using TH 169 and the entrance of the existing Landfill. No new construction, re-routing of traffic, or upgrade to existing roads or entrances is necessary or planned by the Minnesota Department of Transportation (MnDOT), the City, or the facility at this time to accommodate proposed site use and operations. MnDOT has plans for the eventual construction of a conventional diamond interchange for rural areas at the intersection of TH 169 and 221st Avenue. The plans for the proposed SDA project will accommodate construction of this future interchange.

Based on current Landfill records, average daily traffic to the existing Landfill is 200 to 400 vehicles per day. Of this volume, approximately 64 percent (based on an average from 1999-2002) of this volume is for disposal of MSW and industrial waste. The volume of traffic associated with the MSW Landfill is expected to remain similar to current volumes. Based on experience of the existing Landfill, there is a sufficient space and roadway area to accommodate the volume of waste hauling vehicles. During inclement weather conditions the site may be closed as a precautionary traffic control preventive measure.

Entrance to the Landfill is from TH 169, which is a four lane divided interstate highway with a grassed median. A merging lane exists on the southbound portion as vehicles exit the facility. The most recent (2000) MnDOT survey shows that average vehicle volume for the portion of TH 169 from 219th Avenue to 237th Avenue (immediately north and south of the site) is approximately 29,000 vehicles per day. The ERL has already installed an additional scale at the facility that has eliminated stacking/queuing of vehicles on TH 169. Since there is no additional traffic anticipated as a result of the project, the impact on traffic volume from the proposed site activity traffic is expected to be minimal.

Entrance to the existing mining operation is from a pit entrance on 221st Avenue, approximately 1,800 feet south of the Landfill entrance. Due to the distance between the separate accesses, the traffic flows do not conflict, however, when the mining operations have been completed, the volume of traffic will be reduced to the current volume of traffic using the Landfill.

MnDOT recently completed a Corridor Management Plan (April 2002) for the Highway 101/TH 169 corridor. The plan addressed existing and forecasted traffic volumes, safety, congestion, and corridor management alternatives for various segments of the corridor that extends from I-94 at Rogers to TH 18 in Garrison. Traffic volumes are forecasted to double or more by 2025. In consideration of the forecasted traffic volume, the Corridor Management Plan recommends extending the four-lane freeway expansion from Rogers through Elk River and continuing to Princeton. The recommendations include interchange access to TH 169 at County State Aid Highway (CSAH) 33, which is currently under construction; at 221st Avenue on the south Property line of the proposed SDA; and at Sherburne County Road 45 north of the proposed project (see MnDOT correspondence and figures from Corridor Management Plan in Appendix E).

MnDOT does not anticipate that the interchange at 221st Avenue will be constructed until after the proposed SDA has reached capacity. However, the plans for the proposed SDA project will accommodate construction of this future interchange.

Since the overall operation of the proposed project is not anticipated to include significant increases in waste flow over the current operation, effects on traffic congestion would be expected to be minimal. In addition, the above referenced Corridor Management Plan indicates that increased regional traffic through the area is being accounted for in planning future roadway projects. Therefore, the issue of impact on traffic congestion will not be carried forward for further discussion in the EIS.

The EIS will confirm the current or updated MnDOT plans for the TH 169 corridor and evaluate the potential for the expansion to impact the proposed MnDOT interchange and overpass improvements to be constructed at the intersection of TH 169 and 221st Avenue.

- 22. Vehicle-related Air Emissions.** Estimate the effect of the project's traffic generation on air quality, including carbon monoxide levels. Discuss the effect of traffic improvements or other mitigation measures on air quality impacts. Note: If the project involves 500 or more parking spaces, consult *SEAW Guidelines* about whether a detailed air quality analysis is needed.

Vehicle-related air emissions will be intermittent and include that from a relatively small number of trucks, bulldozers, loaders, and similar earth moving equipment. Such equipment is designed and engineered in compliance with applicable pollution control requirements and will be maintained in accordance with manufacturer recommendations. As there is no increase in projected traffic to the Landfill due to the expansion, the proposed project is not anticipated to increase traffic congestion or vehicle-related air emissions beyond their current levels.

This issue will not be carried forward for further discussion in the EIS.

- 23. Stationary Source Air Emissions.** Describe the type, sources, quantities and compositions of any emissions from stationary sources of air emissions such as boilers, exhaust stacks or fugitive dust sources. Include any hazardous air pollutants (consult *SEAW Guidelines* for a listing), any greenhouse gases (such as carbon dioxide, methane, and nitrous oxides), and ozone-depleting chemicals (chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons or sulfur hexafluoride). Also describe any proposed pollution prevention techniques and proposed air pollution control devices. Describe the impacts on air quality.

Air emission sources at the both the existing Landfill and proposed SDA include landfill gas generation, secondary combustion emissions, and fugitive dust. Landfill gas is produced as refuse decomposes in a landfill. Typical landfill gas is composed of approximately 47.5 percent methane, 47 percent carbon dioxide, and 5.5 percent nitrogen and other trace compounds including non-methane organic compounds (NMOCs). Both methane and carbon dioxide are greenhouse gases. Landfill gas methane and NMOC emissions are controlled at ERL through the installation of the landfill gas collection and control system, which consists of internal combustion engines and an enclosed flare. Secondary combustion emissions are generated when landfill gas is combusted in the engines and facility flare. Fugitive dust is generated from unpaved roadways and the handling of dirt used for the landfill daily, intermediate, and final cover.

The existing facility's air emissions are regulated under ERL's current Title V air permit issued on March 29, 2004. In addition, the EPA New Source Performance Standards (NSPS) apply to the existing Landfill and proposed SDA. The NSPS requires that ERL's collection and control system be state of the art (or Best Demonstrated Technology).

Under the NSPS for municipal solid waste landfills and corresponding MPCA regulations, landfills with design capacities greater than 2.5 million megagrams (Mg) (approximately 2.76 million tons) and the potential to emit greater than 50 Mg of NMOCs per year are required to obtain air permits and operate active gas collection and control systems. Both the existing Landfill and proposed SDA have design capacities greater than 2.5 million Mg and a calculated potential to emit greater than 50 Mg/year of NMOC, requiring the gas collection and control system that is currently in place.

The maximum landfill gas generation rate for the existing Landfill projected in the facility's Title V application was 4045 cubic feet per minute (cfm). This generation rate is expected to occur shortly after closure of the Landfill. With the addition of the proposed SDA, the maximum landfill gas generation rate may exceed 7,000 cfm, shortly after closure. The gas generation rates are taken into consideration in designing gas management system for the Landfill. The current active gas extraction system consists of 29 extraction wells operating continuously to extract the landfill gas for destruction in the three internal combustion engines generating electricity for the community, or in an enclosed flare. The facility's collection and control equipment will be modified as needed to handle the additional landfill gas from the additional area. The NSPS regulations require 98 percent control of collected NMOCs.

Currently, the 3 internal combustion engines at the gas-to-energy plant operate at approximately 300-350 cfm each, for a total of 900-1,050 cfm. The actual cubic feet per minute the engines are able to combust varies with the quality of gas delivered to the plant. The existing enclosed flare at the facility has the capacity to combust 2,000 cfm of landfill gas. The enclosed flare can be modified to increase the capacity to 3,000 cfm.

The current landfill gas collection systems required under the NSPS regulations are extremely efficient. New studies indicate that closed landfills with a synthetic cover achieve 99 percent collection ("Theoretical Modeling of Surface Methane Emission Attenuation, Analyzing the Impact of Various Cover Designs at Municipal Solid Waste Landfills," K. Spokas, March 1998). In addition, placement of waste at the ERL ensures that landfill gas generated from the municipal solid waste is controlled, as opposed to Landfilling at a smaller landfill with no landfill gas collection and control system.

Secondary combustion emissions occur with any fuel combustion. ERL's gas-to-energy plant offsets fossil fuel use elsewhere, providing an environmental benefit and a reduction in greenhouse gas emissions. Secondary combustion emissions can result from controlling landfill gas at both the existing Landfill and the proposed SDA. Carbon monoxide and organic compounds can be emitted as a result of incomplete combustion. Nitrogen oxides are formed during any combustion process when nitrogen from both the landfill gas and excess air needed for landfill gas control reacts with the oxygen at high temperatures. Sulfur dioxides are formed when sulfur contained in landfill gas reacts with oxygen at high temperatures. Combustion of sulfur compounds provides odor control.

ERL will continue to implement control of landfill gas generated at the facility. ERL will continually look for beneficial uses for the gas generated at the facility. One potential option would include expanding the existing gas-to-energy plant currently in place at the facility. The ERL may also install an additional flare. The ERL will also pursue other options for the beneficial use of the landfill gas generated at the facility, which may include piping the gas to a nearby facility for beneficial use or other future technologies that might become available.

The existing gas-to-energy plant was designed and constructed such that an additional engine could be added in the future. If an additional engine or engines were added to the existing gas-to-energy plant, the facility will be required to go through the environmental review process for the additional engine. The facility would also need to submit a major modification to their current Title V Permit prior to installing an additional engine. A major modification to the facility's Title V Permit will be necessary for any major modifications to the existing Landfill gas control system.

Fugitive landfill gas occurs primarily at active waste disposal areas which do not yet have final cover and gas wells installed. The size of the active disposal areas is not expected to change with the continued operation of the facility. Therefore, current fugitive landfill gas emissions are expected to remain level with the proposed SDA. Daily waste acceptance rates will not change as a result of the expansion. Roadway and cover material handling activities are expected to remain at current levels through the life of the landfill. The facility's Fugitive Emissions Control Plan will be revised to include the proposed SDA following receipt of the Title V permit modification for the proposed SDA.

Monitoring of potential landfill gas migration is currently being completed using a network of fifteen gas-monitoring probes. These probes have consistently shown a methane concentration of zero percent. Surface monitoring for methane will also continue in accordance with NSPS requirements. The proposed SDA will require expansion of the collection, combustion, and landfill gas monitoring systems and modification of the Title V air permit.

This issue will not be carried forward for further discussion in the EIS.

24. Odors, noise and dust. Will the project generate odors, noise or dust during construction or during operation? Yes No

If yes, describe sources, characteristics, duration, quantities or intensity and any proposed measures to mitigate adverse impacts. Also identify locations of nearby sensitive receptors and estimate impacts on them. Discuss potential impacts on human health or quality of life. (Note: fugitive dust generated by operations may be discussed at item 23 instead of here.)

Dust

Landfill construction and operation will generate varying amounts of dust at the site. Windblown dust will be mitigated by the use of appropriate dust control measures, including the application of water or other dust suppressants in accordance with the facility's Fugitive Emissions Control Plan. Dust generation and wind erosion will also be minimized by limiting the size of the exposed operating area, seeding exposed soil stockpiles, and establishing vegetative cover of reclaimed areas and buffer zones around the perimeter of the proposed SDA as soon as practical. Paving of the entrance road to the site and keeping vehicle speeds at a minimum will also reduce overall dust generation and migration at the site.

This issue will not be carried forward for further discussion in the EIS.

Odors

Odors from the Landfill could result from incoming waste, the decomposition of exposed waste, and from landfill gases. Odors from the waste will be controlled by minimizing the size of the active disposal area and by properly covering the waste daily. The incorporation of the gas collection system with the gas extraction/incineration/power generation system for the proposed SDA is expected to mitigate the potential for future odor problems due to landfill gases.

The ERL acknowledges that odors are a concern as part of operations of a solid waste facility, and therefore conducts operations in a manner that minimizes the potential for odor. Facility employees are continually inspecting and adjusting the Landfill's active gas collection system to make it more efficient in gas collection, which assists in odor control. The ERL also monitors the amount of cover soils used, and maintains the cover system as a measure of odor control.

The ERL currently has an Odor Control Plan in place to deal with any odor issues that may result as part of operation of the facility. The ERL has set up an odor hotline, for area residents to call if an odor issue does arise. Area residents have been made aware of this number, and are encouraged to call the Landfill staff to discuss any odor issues or concerns when they arise. Upon receipt of a call regarding odors, a local regulator is called to inspect the site to evaluate the odor concern.

Minor odors from vehicle exhaust can also occur. Exhaust is limited to the few on-site pieces of equipment and hauling trucks. The limited vehicle exhaust will dissipate quickly and not create any adverse impacts.

This issue will not be carried forward for further discussion in the EIS.

Noise

Heavy equipment will be operated during landfill construction and operation resulting in the generation of noise from engines and backup warning devices. The sound levels produced by various pieces of landfill equipment were excerpted from the *Guidance Manual for Transit Noise and Vibration Impact Assessment* prepared for the Federal Transit Administration in April 1995 (Document No. DOT-T-95-16). The listing of the equipment and their sound levels, from highest to lowest, is provided below:

Equipment	Sound Level at 50 feet, dBA
Truck	88
Dozer	85
Compactor	82
Backhoe	80

It is important to note that the above levels are at a 50 foot distance and noise levels will decrease with increasing distance, atmospheric effects and other natural factors.

The Minnesota Rules pertaining to community noise are contained in Minn. R. 7030 and are administered by the MPCA. The most stringent noise limits are the nighttime limits (10:00 p.m. to 7:00 a.m.). The ERL operating hours are 7:00 a.m. to 5:00 p.m. Monday through Friday and 7:00 a.m. to 1:00 p.m. on Saturday. Therefore, the Landfill would fall under the less stringent daytime noise standards.

No violations of noise standards have been measured at the current Landfill facility, and operations at the proposed SDA will be similar to those at the current facility. All equipment and vehicles utilized at the SDA site will be periodically inspected and maintained with adequate muffler systems to minimize noise. The earthen berms south and east of the facility and the tree line on the west will aid in the attenuation of noise.

It is also important to note that a noise analysis was completed during the May 1994 EIS for the Gravel Mining District. The ambient sound monitoring revealed that at the time, TH 169 was the dominant source of noise in this area.

This issue will not be carried forward for further discussion in the EIS.

Litter

Cover placed on the waste daily will minimize any litter problems. Litter that is dropped by the trucks or blown out of the landfill area will be collected by Landfill employees. The ERL employs a full time litter picker and has stated willingness to respond promptly to calls concerning the need to pick up litter blown off the site or lost from trucks delivering waste.

Overall, the potential effects of landfill operation with generating odor, noise, dust and litter, as discussed above can largely be mitigated through proper design and operations. The use of screening berms and vegetated buffer areas that provide mitigation to odors, noise, dust and litter, is also discussed in Item 26 below with regard to visual impacts.

This issue will not be carried forward for further discussion in the EIS.

25. Nearby resources. Are any of the following resources on or in proximity to the site?

- a. Archaeological, historical, or architectural resources? Yes No
- b. Prime or unique farmlands or land within an agricultural preserve? Yes No
- c. Designated parks, recreation areas, or trails? Yes No
- d. Scenic views and vistas? Yes No
- e. Other unique resources? Yes No

If yes, describe the resource and identify any project-related impacts on the resources. Describe any measures to minimize or avoid adverse impacts.

The Minnesota State Historic Preservation Office (SHPO) was consulted to determine if any historic places would be affected by the proposed project. Based on its review of its records and the project information provided, SHPO concluded that no properties are listed on the National or State Registers of Historic Places within the proposed project area and that no known or suspected archeological properties in the area will be affected by the project. A copy of the letter from the SHPO is included in Appendix B. As stated previously, the ERL is currently working with the City to develop a conceptual End Use Plan for the overall facility that will incorporate a desirable mix of park and recreational uses.

There is a designated trail, located along the abandoned Burlington Northern Railroad Bed, along the western edge of the property. The southern end of the Rice Lake wetland complex is located to the west of the walking trail. The existing trees along the western edge naturally buffer the site. End uses for the completed landfill site will be coordinated with Sherburne County and the City and may include recreational trails and wildlife viewing areas that overlook the Rice Lake wetland complex.

As stated in Item 12 of this SEAW, the EIS will discuss the potential for the proposed project to impact the Rice Lake wetland complex and Tibbits Brook through ground-water quality and through stormwater runoff.

The EIS will illustrate visual impacts of the SDA at two sites on the designated hiking trail. Further discussion of the visual impacts is provided in Item 26 below.

- 26. Visual impacts.** Will the project create adverse visual impacts during construction or operation? Such as glare from intense lights, lights visible in wilderness areas and large visible plumes from cooling towers or exhaust stacks? Yes No
If yes, explain.

The proposed SDA will create visual impacts during construction and operation. The existing Landfill exhibits a visual impact to some and construction and operation of the proposed SDA project will also be visible to surrounding residents and vehicular traffic as the Property is first mined by the current owner to an elevation of approximately 960 feet above MSL and is then filled with MSW to a final elevation reaching 1,120 feet above MSL at the Landfill's highest point. The proposed SDA will be screened from view to the north by the existing Landfill. The proposed SDA will be screened to the west by the existing trees along the former railroad corridor that will be maintained as a 200-foot setback/buffer area, as required by the City. Vegetated berms will be constructed on the south and east of the proposed SDA to provide screening during the development years. In addition, it is important to note that both the landfill and gravel mining operation are interim uses and when complete, the proposed SDA will result in a grassy man-made hill open for recreational use that ties in with the completed elevations of the existing Landfill.

The proposed SDA is a continuation of the existing Landfill and no increase in final height is being proposed for the existing Landfill or the expanded landfill area.

Both the City and Sherburne County have required ERL to implement a screening plan for the existing Landfill to ensure long-term buffering between the Landfill and adjacent properties and TH 169. The plan includes maintenance of existing vegetation within the perimeter setback areas and the planting of a mixture of shrubs, conifers, and deciduous trees. A berm will be constructed along the eastern edge of the property to screen the proposed SDA from TH 169. With the construction of the berm, the proposed SDA will have an approximate 300-foot setback along the eastern property boundary. Engineering plans prepared for the expansion also reflect MnDOT's intent to construct a diamond interchange at the intersection of TH 169 and 221st Avenue NW. No waste will be placed any closer than 200 feet from the property boundaries as required by Minnesota Rules.

The proposed SDA will be buffered on the west by the existing trees along the former railroad right-of-way. There are no physical structures planned for this western buffer area, other than those that may be required for surface-water management. The proposed design is intended to preserve, to the extent possible, all trees around the property upon completion of mining activities.

The proposed screening plan and End Use Plan will be subject to review by both the City and Sherburne County.

The EIS will illustrate potential visual impacts of the proposed SDA using photographs from eight specific key locations with images of the landfill superimposed onto them. Sites with the greatest sensitivity to visual impacts have been selected as part of the study, along with the "no build" alternative. Potential mitigation opportunities and costs shall be provided through computerized renderings and shall include screening of receptors with the use of berms, fences, vegetation, and mitigation landscaping and screening of the proposed SDA.

- 27. Compatibility with plans and land use regulations.** Is the project subject to an adopted local comprehensive plan, land use plan or regulation, or other applicable land use, water, or resource management plan of a local, regional, state or federal agency? Yes No
If yes, describe the plan, discuss its compatibility with the project and explain how any conflicts will be resolved. If no, explain.

Both the City and Sherburne County will require that license applications be submitted and approved for the construction and operation of the proposed SDA. In addition, the local land use plan and City and Sherburne County ordinances designate landfills as conditional uses in an agricultural district, requiring the facility to obtain CUP from both the City and Sherburne County. The local land use plan will also require that the existing Solid Waste Overlay District to the north be expanded to include the proposed SDA.

As described in Item 9, the land proposed for the SDA is currently zoned agricultural with a Gravel Mining Overlay District by the City. Currently, gravel is being mined on the Property and as noted in Item 6.e., the proposed SDA will follow mining. The scenario whereby continued development of the Landfill onto the Property would follow mining was noted in the Gravel Mining District EIS.

The proposed SDA is generally compatible with adjacent land uses. Surrounding land use to the south consists of gravel mining and an asphalt plant. TH 169 is located immediately east of the site. The area east of TH 169 consists primarily of agricultural land and a portion of the Gravel Mining District. The existing ERL is immediately north of the proposed project and the proposed landfill design will be contiguous with and a part of the existing facility. West of the site is agricultural land and the southern portion of the Rice Lake wetland complex, as illustrated on Figure 2. Farmsteads and other single-family residences are scattered throughout the area, west, south and east of the project site. There are approximately 148 residences located within a one-mile radius of the Landfill property boundaries.

The current comprehensive plan for the City identifies surrounding land zoning to consist of A1 (Agricultural Conservation) with a Solid Waste Overlay District to the north. As part of this project, ERL will need to submit a request to expand the existing Solid Waste Overlay District to include the proposed project. This request will be submitted to the City along with the application for a CUP and Solid Waste Facility License. In general, the proposed project is compatible with and similar to land use of adjacent areas. As stated above, the Property is currently being mined and the proposed project will follow the completion of mining.

The ERL will be required to obtain the required permits and zoning modifications in conjunction with its application to the MPCA for modification and reissuance of the solid waste permit. The ERL is currently working with the City to develop a conceptual End Use Plan for the existing facility that will incorporate a desirable mix of park and recreational uses, including habitat for wildlife. The conceptual end use plan will be expanded to incorporate the proposed project in its scope.

Finally, in accordance with Minn. Stat. § 115A.46, Sherburne County is required to prepare a Solid Waste Management Plan. The Sherburne County Solid Waste Management Plan was last prepared in 1999, however, the Plan is currently being updated.

The EIS will identify and briefly summarize local, regional, state, and federal land use plans and regulations that affect the project. The compatibility of the expansion with current and future, known long-term surrounding land uses will be identified, including potential conflicts with surrounding recreational, commercial, and residential uses located within one-quarter of a mile from the boundaries of the SDA.

The EIS will confirm the current or updated MnDOT plans for the TH 169 corridor and evaluate the potential for the expansion to impact the proposed MnDOT interchange and overpass improvements to be constructed at the intersection of TH 169 and 221st Avenue.

- 28. Impact on infrastructure and public services.** Will new or expanded utilities, roads, other infrastructure or public services be required to serve the project? Yes No
If yes, describe the new or additional infrastructure or services needed. (Note: any infrastructure that is a connected action with respect to the project must be assessed in the SEAW; see *SEAW Guidelines* for details.)

No new or expanded public services or utilities are anticipated to be required for the proposed project.

The proposed plans for the SDA acknowledge MnDOT's Corridor Management plan by incorporating space for a future interchange and overpass to be constructed at the intersection of TH 169 and 221st Avenue.

ERL constructed a landfill-gas-to-energy electrical power production facility at the existing Landfill, and began power production in November 2002. This gas-to-energy facility provides a beneficial use for the landfill gas generated on site. The annual output from the current Landfill's power plant is estimated to be approximately 20 million kilowatt-hours, or enough electricity for approximately 15 percent of the City's electrical needs. This gas-to-energy facility will continue operating and will likely be expanded to manage gas generated by the proposed Landfill expansion.

As stated in Item 21, the EIS will confirm the current or updated MnDOT plans for the TH 169 corridor and evaluate the potential for the expansion to impact the proposed MnDOT interchange and overpass improvements to be constructed at the intersection of TH 169 and 221st Avenue.

There will be no further discussion in the EIS concerning other infrastructure or public services related to the project.

- 29. Cumulative impacts.** Minn. R. 4410.1700, subp. 7, item B requires that the RGU consider the "cumulative potential effects of related or anticipated future projects" when determining the need for an environmental impact statement. Identify any past, present or reasonably foreseeable future projects that may interact with the project described in this SEAW in such a way as to cause cumulative impacts. Describe the nature of the cumulative impacts and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to cumulative impacts (or discuss each cumulative impact under appropriate item(s) elsewhere on this form).

The proposed SDA involves the continued operation of an existing landfill site that was originally permitted in 1972. The proposed SDA will provide additional disposal capacity to serve area disposal needs by constructing new MSW cells onto property located immediately south of the existing Landfill. The proposed design allows for surface continuity between the existing Landfill and proposed southern expansion while optimizing disposal capacity with the continuous design. Development of the southern expansion will be integrated into the contours, general design, and operation of the existing permitted Landfill.

The current facility is operating under the design most-recently approved by the October 8, 2003, Solid Waste Permit issued by MPCA, and the proposed SDA is projected to extend the MSW operating life of the existing facility by approximately 16 to 20 years, based upon the existing waste flow volumes to the Landfill. Operation and management of the proposed facility will generally be in the same manner and at the same level as the current operation. No additional traffic or waste volume is projected for the project.

ERL also operates a contiguous, but separate, disposal area on the north side of the existing MSW Landfill for the disposal of demolition debris and has been issued a revised permit from the MPCA dated October 8, 2003, to expand and continue this demolition debris disposal operation. A proposer-volunteered EAW was prepared for that project to provide assurances to the local government units that the project would be developed in an environmentally responsible manner. The EAW prepared for the demolition debris facility acknowledged that ERL was considering a request for the expansion and continued operation of their existing MSW operation and identified that additional environmental review would likely be required for that project, as prescribed in Minn. R. 4410.

Significant cumulative potential effects from the continued MSW operation are generally limited to those issues directly tied to the volume of waste disposed in the landfill or the length of time that disposal occurs; namely landfill gas and leachate generation, traffic, visual impacts, noise, litter and odor impacts that occur only when the facility is open, and the increased potential for ground-water and surface-water impacts due to there being a larger area of land occupied by waste materials and an extended number of years of operation, respectively. The potential for most of these cumulative effects to impact the environment will largely be mitigated by the landfill's design and the specific operating requirements, as identified in state and local permits, licenses, rules and ordinance, and as discussed within this document. Therefore, this issue will not be carried forward for further discussion in the EIS.

The issue of cumulative potential effects of related or anticipated future projects will not be carried forward to the EIS.

30. Other Potential Environmental Impacts. If the project may cause any adverse environmental impacts not addressed by items 1 to 28, identify and discuss them here, along with any proposed mitigation.

Not applicable.

31. Summary of issues. List any impacts and issues identified above that may require further investigation before the project is begun. Discuss any alternatives or mitigative measures that have been or may be considered for these impacts and issues, including those that have been or may be ordered as permit conditions.

Refer to the accompanying Draft Scoping Decision Document. All relevant impacts and issues identified in the Final Scoping Decision Document will be discussed in the EIS.

The following provides a brief summary of the alternatives to the proposed project.

Alternative Sites

The proposed SDA site is the only available location that would be contiguous to the existing Landfill. Immediately east of the existing Landfill lies TH 169. West of the existing Landfill is the Rice Lake/Tibbits Brook wetland complex. Available land north of the existing MSW Landfill was used for the development of lined demolition debris landfill cells.

It has been acknowledged by local government that the existing ERL could potentially expand onto the proposed SDA site. The City completed an EIS for the expansion of the Gravel Mining District in May 1994, and the EIS recognized the potential for the Landfill to expand, following the mining activities to the south.

Any other alternative location for the expansion would need to be sited as a separate, noncontiguous landfill. The project proposer is certain that there are no other sites in the vicinity of the existing Landfill that would be available for purchase for this purpose.

There appears to be no environmental benefit to seeking an alternative, noncontiguous site. The proposed SDA site would utilize an area that will have been greatly disturbed by mining activities. A separate, noncontiguous site would cause a greater visual impact by creating a new mound in place of one continuous facility. It is socially more acceptable to develop additional disposal capacity at an existing landfill site than to site a new landfill in a completely new location.

A noncontiguous expansion, located east of TH 169 for example, would require extensive hydrogeologic and other environmental studies. The proposed SDA site, located just south of the existing Landfill, has been extensively studied and is well understood. The proposed SDA site has the advantages of having the infrastructure of the existing Landfill, such as the existing gates and scales, leachate storage tanks, gas piping, the appropriate lanes on TH 169 for controlling truck traffic, and the existing gas-to-energy recovery facility.

The proposed site of the expansion, located immediately south of the existing Landfill, appears to be the most cost-effective, environmentally and socially acceptable. Therefore, the evaluation of alternative sites will not be carried forward for further discussion in the EIS.

Alternative Technologies

Waste processing, including composting, RDF, and mass burn (incineration), are viable alternative technologies to direct landfilling of MSW. Composting consists of biological decomposition of the organic matter to create a product that can be beneficially reused. A mass burn facility takes unprocessed waste and burns it to produce steam, hot water, and/or electricity, while a RDF facility involves processing the solid waste by sorting and shredding to achieve a more homogeneous, highly combustible material. While still requiring the use of a landfill for processing rejects and ash disposal, the benefit of these alternatives is that they can substantially reduce the volume and weight of wastes that need to be landfilled.

Typically, these types of facilities are either publicly owned or supported, and only manage waste generated within a particular county or group of counties under existing service agreements. The capacities of these facilities were established to allow for their full use and generate maximum financial return. Therefore, they do not typically compete in an open market for waste outside their local jurisdiction.

The two existing alternatives operating in the service area of the ERL consist of a mass burn facility known as the Hennepin Energy Resource Facility, and the NRG-Elk River RDF facility. Both of these facilities are reported to be operating at full capacity and do not need additional waste. Therefore, in order to create alternatives to landfilling, these existing facilities would either need to be expanded, or a new mass burn, RDF, or composting facility would have to be built. Currently, the ERL facility interfaces with the NRG-Elk River RDF facility by taking their processing facility rejects for disposal by landfill. The ERL facility also acts as a back-up whenever the RDF facility needs to go off-line.

These alternative technologies are reviewed every five years by the counties as part of a Solid Waste Management Plan as required by Minnesota Solid Waste Rules. As a major regional landfill, the ERL is a significant part of this planning process, as each county determines the least expensive, most practical way to balance the list of options to landfilling. In the meantime, there is a limited amount of processing capacity from viable alternatives and a surplus of regional MSW, requiring the need for additional landfill space. Therefore, further evaluation of alternative technologies will not be carried forward in the EIS.

Alternative Designs or Layouts

The design for a landfill must meet specific federal, state, and local design requirements to minimize environmental impacts. Much of the rationale for the design chosen is provided throughout the Draft SEAW and in the Solid Waste Permit application. The primary considerations and limitations of the design were based on the following:

- Requirements for management of surface-water runoff.
- Setback requirements.
- Maintaining height limitations set by the City.
- Outside berm heights in relation to landfill volume and visual screening.
- Ground-water elevation and separation from the base liner system.

Surface-water Management

Both the 25-year and 100-year storm events were evaluated and designed for during the planning and design phase. The slide slopes of the landfill were designed at the 3H:1V slope to minimize contact water and provide a more efficient routing to the surface-water control features. Slopes less than 3H:1V were evaluated during the design phase, and it was determined that the potential benefit of reduced maintenance did not justify the loss in capacity. In addition, slopes less than 3H:1V do not provide additional environmental benefit due to the fact that the base grade footprint for the landfill would remain the same.

The design of the surface-water management system is also limited by the fact that the final elevations and contours of the expansion must tie into the existing Landfill.

Horizontal/Vertical Requirements

The expansion must be designed to maximize capacity while meeting Sherburne County and City setback requirements and vertical height limitations. Vertical development is restricted by height limitations imposed by the City and the need for the expansion to tie into the existing Landfill. Horizontal development was set to the maximum feasible extent given the setback requirements.

To further minimize visual impacts, the design includes screening berms and vegetation to enhance the setbacks. The height of each berm was chosen to provide additional screening from operations below the berm. Reducing the height of the berms would not result in additional screening; it only reduces the capacity of the landfill.

Ground-water Elevation and Separation from the Base Liner System

The elevations of the liner and leachate collection system were evaluated during the design phase to minimize potential impacts. Since the mining grades were set by City ordinance, the elevation of the liner system was selected to minimize fill requirements (i.e. reduced use of natural resources in the form of aggregate fill) and to reduce environmental risk to the ground-water. Each additional foot of base grade elevation would use about 90,000 cubic yards of natural aggregate fill material to build up the base grades of the landfill without any real increase in environmental benefit. The liner grades selected provide the recommended level of protection for compliance with state and federal regulations while minimizing the need for natural aggregate fill material.

In summary, the proposed design must provide surface continuity between the existing Landfill and proposed southern expansion while optimizing disposal capacity with the continuous design. Due to the constraints imposed by specific design specifications that are required by federal, state, and local regulations, coupled with the need to fit the SDA onto the mined property and tie this expansion area into the existing Landfill, further discussion of alternative designs will not be carried forward to the EIS.

Alternative Size or Scale

Landfill facilities are sized to reach optimal capacity in order to maximize the life of the facility and reduce the need to build additional landfills. The capacity of the proposed SDA site is limited because it is basically landlocked by both natural and man-made barriers. In addition, as discussed previously, the design and capacity of the SDA is constrained due to set back requirements, height limitations, and the depth limitations previously set by the City for the gravel mining operations. Finally, as discussed above, the expansion must be designed to tie into the contours and final elevations of the existing Landfill.

Since the proposed design has been evaluated to meet optimal design capacity and efficiency, the discussion of alternative size will not be brought forward for further discussion in the EIS.

No Build (No Action) Alternative

The EIS will include a discussion on the “no build” alternative.

The “no build” analysis for the Elk River South MSW Development EIS will utilize any relevant information and data that was developed for the “no build” alternative analysis during the Burnsville Sanitary Landfill Expansion EIS Project, scheduled to be completed by April 2005.

RGU CERTIFICATION.

I hereby certify that:

- The information contained in this document is accurate and complete to the best of my knowledge.
- The SEAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minn. R. 4410.0200, subps. 9b and 60, respectively.
- Copies of this SEAW are being sent to the entire EQB distribution list.

Name and Title of Signer:

**Beth Lockwood, Supervisor, Environmental Review Unit
Environmental Review and Operations Section
Regional Division**

Date:

The format of the Environmental Assessment Worksheet was prepared by the staff of the Environmental Quality Board at Minnesota Planning. For additional information, worksheets or for *SEAW Guidelines*, contact: Environmental Quality Board, 658 Cedar St., St. Paul, MN 55155, 651-296-8253, or at their Web site <http://www.mnplan.state.mn.us>.

**STATE OF MINNESOTA
MINNESOTA POLLUTION CONTROL AGENCY**

**DRAFT SCOPING DECISION DOCUMENT
ELK RIVER LANDFILL SOUTH MIXED MUNICIPAL SOLID WASTE DEVELOPMENT
ENVIRONMENTAL IMPACT STATEMENT**

INTRODUCTION

An Environmental Impact Statement (EIS) is being prepared by the Minnesota Pollution Control Agency (MPCA) on a proposal by Elk River Landfill, Inc. (ERL) to expand operations of the existing Elk River Landfill (Landfill) in the city of Elk River (City), Sherburne County. This EIS is being prepared as a mandatory EIS under the requirements of Minn. R. 4410.4400, subp.13 (E) for expansion by 25 percent or more of a previous capacity of a mixed municipal solid waste (MSW) disposal facility for 100,000 cubic yards or more of waste fill per year. The MPCA is the responsible governmental unit (RGU) for this EIS.

The expansion project will consist of developing 73.7 acres currently used by an active gravel mining operation located immediately south of the existing Elk River Landfill facility. The expansion will provide approximately 15,000,000 cubic yards of MSW disposal capacity in addition to the current permitted MSW disposal capacity and provide continued Landfill operations for 16 to 20 years, depending upon incoming waste volumes. The proposed landfill expansion project will follow mining by the current property owner, the Tiller Corporation.

The expansion area is referred to as the Southern Development Area (SDA). The SDA will be bounded on the north by the existing Landfill, on the east by U.S. Trunk Highway 169, on the west by a former railroad grade and a designated trail, and on the south by gravel mining and an asphalt plant. Beyond Trunk Highway 169 to the east are scattered farmsteads, residential dwellings, and businesses with predominant land use consisting of agricultural land. Beyond the western side of the railroad grade are scattered residences and the southern portion of the Rice Lake wetland complex.

PREVIOUS ENVIRONMENTAL REVIEW

An EAW was prepared by Sherburne County in March 2003 to address the development of additional lined demolition debris landfill cells north of the existing MSW disposal area. The County issued a decision for a negative declaration on the need for an EIS on May 6, 2003.

The City prepared an EIS on the Elk River Gravel Mining District in 1993. The final EIS was published in May 1994 and a final determination of adequacy was made in June 1994.

SCOPING PROCESS AND PURPOSE

Minn. R. 4410.2100 provides that an EIS scoping process be implemented for any EIS. The purpose of the scoping process is to: reduce the scope and bulk of the EIS; identify only those potentially significant issues relevant to the proposed project; define the form to be used; determine the level of detail needed; define the content of the document; examine reasonable alternatives to the proposed project; establish the timetable for preparation and the preparers of the EIS; and determine the permits for which information would be developed concurrently with the EIS.

The purpose of the EIS is to evaluate and disclose information about the significant environmental effects of a proposed action. The EIS is not intended to justify either a positive or negative decision on a project, but may be utilized by governmental units as a guide in issuing or denying permits or approvals for the project and in identifying measures necessary to avoid or mitigate adverse environmental effects.

SCHEDULE

An EIS Preparation Notice for the project is expected to be published in the EQB Monitor in May 2005. Within 280 days after the publication of the notice, the final EIS is expected to be prepared and distributed for public review. The MPCA must make a determination of the adequacy of the final EIS.

A tentative schedule for development and review of a draft and final EIS for the Elk River Landfill South MSW Development is provided below. The schedule is contingent upon the anticipated dates for the Scoping Decision and Preparation Notice Publication.

Tentative EIS Schedule Elk River Landfill South MSW Development

January 25, 2005	MPCA Citizens' Board Approval of EIS Scope
May 2005	Publish Notice of EIS Preparation
September 2005	Distribution of Draft EIS
January 2006	Determination of Adequacy

RECORD OF DECISION

Among the objectives for Minnesota's environmental review process are the provision of useable information about the primary environmental effects of a proposed project and the encouragement of accountability in public and private decision making. A "Record of Decision" documents how EIS information was considered in making the decision. For the proposed Elk River Landfill South MSW Development EIS, a Record of Decision shall be maintained for the modified Solid Waste Facility permit issued by the MPCA.

PROPOSED CONTENT OF THE EIS

This section of the scoping document outlines the items to be contained in the Elk River Landfill South MSW Development EIS. In accordance with Minn. R 4410.2300, the EIS will include:

Cover Sheet

The cover sheet will include: the name of RGU; the title of the proposed project and project location; name, address, and telephone number of the contact person at the RGU and of the proposer's representative; a designation of the statement as a draft, final, or supplement; a one paragraph abstract of the EIS; the date of the public meeting on the draft EIS and the date following the meeting by which comments on the draft EIS must be received by the RGU.

Summary

The summary shall stress the major findings, areas of controversy, and the issues to be resolved, including the project as proposed.

The summary will include a project description, environmental and mitigation measures; alternatives; a list of governmental approvals; and economic impacts. Direct, indirect, and adverse or beneficial impacts will be identified.

Preparers

The EIS will be prepared by the staff of the MPCA with the assistance of one or more hired consultants. The consultant will be responsible for reviewing the adequacy of available data and reports, including those received from the proposer; preparing technical information on expected impacts of the project; participating in the public meeting for the draft and final EIS; assisting the MPCA in responding to public comments on the draft EIS; and preparing the draft and final EIS.

Project Description

EQB rules explicitly direct that a proposed project be described only in sufficient detail to identify its purpose, size, scope, environmental setting, location, and anticipated phases of development.

Permits and Approvals

The EIS will identify the known governmental permits and/or approvals required for the expansion along with the unit of government responsible for each decision.

While the EIS will provide a variety of information useful for permitting and approval decisions, it is not intended to provide all data and information required for these actions. All required permit applications and information for the project will be developed and submitted independent of the EIS.

Environmental Impacts and Mitigation

Ground Water

The EIS will identify and briefly describe the ground-water regulations applicable to the project.

The EIS will identify and briefly describe the ground-water quality standards applicable to the project.

The analysis of the potential for ground-water impacts will be based on geotechnical information utilizing existing data collected from hydrogeologic investigations of the proposed SDA and the engineered environmental control systems inherent in the design as well as the associated environmental performance monitoring programs. The list of ground-water references to be used in the EIS is found in Attachment 1. No additional test data or ground-water modeling is anticipated. This information will be used to address the following issues.

1. The EIS will provide a description of the soils and geologic conditions at the proposed SDA site.
2. The EIS will contain a description of the hydrogeologic conditions, in the vicinity of the proposed SDA site.
3. The EIS will describe the proposed ground-water monitoring program for the SDA site.
4. The EIS will include a discussion of the potential for the expansion to impact ground water quality to the Rice Lake wetland complex and Tibbits Brook.

Surface Runoff Waters

The EIS will identify and briefly describe the stormwater regulations applicable to the project.

The EIS will describe the stormwater management practices to be employed at the proposed SDA site and compare the quantity, quality, and velocity of surface runoff waters from the site before development of the SDA, during initial construction of the SDA, during ongoing operation and development of the SDA, and after final closure of the SDA. This comparison will use a 25-year, 24-hour storm event as well as a 100-year storm scenario, and will include a comparison of the potential changes in quantity of sediment loading from surface runoff waters routed to different watersheds as a result of the project.

The EIS will identify the routes of stormwater runoff to the Rice Lake wetland complex and Tibbits Brook, and the ability of these waters to handle the potential change in hydraulic and sediment loading during a 25-year and 100-year storm event.

The EIS will discuss any potential physical impacts from hydraulic loading and any potential changes in sediment loading to the small wetland located in the southwest corner of the SDA site due to stormwater discharge. This discussion will include consideration of both a 25-year and 100-year storm event during initial construction of the SDA and upon ongoing operation and development of the SDA.

This section of the EIS will identify and briefly describe the water quality standards and regulations that apply to these three surface waters with respect to stormwater discharges from the project site.

The EIS consultant will use the stormwater management calculations and modeling assumptions developed by ERL, and the stormwater references listed in Attachment 1 for the comparison analyses identified above.

Visual Impacts

The EIS will illustrate potential visual impacts of the proposed SDA using photographs from eight specific key locations with images of the landfill superimposed onto them. The study will illustrate two phases of development: 75 percent final height and post closure. Sites with the greatest sensitivity to visual impacts were selected as part of the study, as identified in Attachment 1. In addition to the key locations selected, the illustrations will include the “no build” alternative.

Potential mitigation opportunities and costs shall be provided through computerized renderings and shall include screening of receptors with the use of berms, fences, vegetation, and mitigation landscaping and screening of the proposed SDA.

Compatibility with Land Use

The EIS will identify and briefly summarize the local, regional, state, and federal land use plans and regulations that affect the project. The compatibility of the project with current and proposed, known long-term surrounding land uses will be identified, including potential conflicts with surrounding recreational, commercial, and residential uses located within one-quarter of a mile from the boundaries of the SDA.

The EIS will confirm current or updated plans for the Trunk Highway 169 (TH 169) corridor and evaluate the potential for the landfill expansion to impact the proposed Minnesota Department of Transportation interchange and overpass improvements to be constructed at the intersection of TH 169 and 221st Avenue.

Alternatives

The EQB rules require that an EIS include at least one alternative of each of the following types, or provide an explanation of why no alternative is included in the EIS: alternative sites, no action/no build, alternative technologies, modified designs or layouts, modified scale or magnitude, and alternatives incorporating reasonable mitigation measures identified through comments received during the EIS scoping and draft EIS comment periods.

For any alternative analyzed in the EIS, the analysis will include a succinct discussion of potentially significant direct or indirect, adverse, or beneficial effects associated with that major alternative.

No Build

The EIS will assess the consequences of a “no build” decision for the proposed project using information compiled by the Minnesota Office of Environmental Assistance (MOEA). MOEA staff conducted an inventory of “available” solid waste management facilities that take MSW, MSW ash, and Refuse Derived Fuel ash in Minnesota, Wisconsin, North Dakota, and Iowa. The inventory of available facilities, as provided by MOEA is found in Attachment 1. The list of available facilities is limited to those facilities that are most likely to accept solid waste diverted from the ERL, if that landfill were not available. The following types of facilities were inventoried:

- solid waste composting,
- refuse-derived fuel,
- mass burn facilities,
- private MSW landfills, and
- private industrial waste landfills.

The following information will be provided for each identified facility:

- distance to/from the proposed project site;
- current available MSW processing and/or disposal capacity;
- expansion plans for each facility within the next ten years (if available);
- current fill rates;
- name of current owner; and
- current tipping fees.

The “no build” analysis for the Elk River South MSW Development EIS will utilize any relevant information that was developed for the “no build” alternative analysis during the Burnsville Sanitary Landfill Expansion EIS Project, scheduled to be completed by April 2005.

Modified Designs or Layouts

The alternatives considered during the design phase of the proposed project are summarized in Item 31, *Summary of Issues*, on page 39 of the Scoping EAW. The issue of facility design alternatives will not be further discussed in the EIS because the proposed expansion must meet specific design specifications that are required by federal, state, and local regulations. The permits that will ensure that all required design and operations specifications will be met by the proposed project are listed in the Scoping EAW in Item 8, *Permits and approvals required*, on page 10.

Location Alternatives

The issue of alternative locations or sites is discussed in Item 31, *Summary of Issues*, on page 37 of the Scoping EAW. The proposed site of the expansion, located immediately south of the existing Landfill, appears to be the most cost-effective, environmentally and socially acceptable alternative. Therefore, this alternative discussion will not be carried forward to the EIS.

Alternative Technologies

The issue of alternative technologies is discussed in detail in Item 31, *Summary of Issues*, on page 38 of the Scoping EAW. Therefore, this alternative discussion will not be carried forward to the EIS.

Modified Size or Scale

The issue of modified size or scale for the proposed project is discussed in Item 31, *Summary of Issues*, on page 40 of the Scoping EAW. Landfill facilities are sized to reach optimal capacity in order to maximize the life of the facility and reduce the need to build additional landfills in the service area. Since the proposed design has been evaluated to meet optimal design capacity and efficiency, the discussion of alternative size will not be carried forward to the EIS.

Alternatives Incorporating Reasonable Mitigation Measures

The EQB rules require consideration of alternatives incorporating reasonable mitigation measures identified through comments on the scope or draft EIS.

Economic and Social Impacts

The EIS will discuss the potential for the project and major alternatives to directly and indirectly affect the local economic and sociological impacts. The facilities impact on cost to the user of the facility and general public will be identified. The effect of the proposed facility on regional and county solid waste system costs and public economic risks will be evaluated. This assessment will include a discussion of the effects resulting from early closure of the facility and will compare predicted costs with present disposal costs and cost for the “no build” alternative.

Inventories will be completed of any nearby existing and planned recreational resources. Any potential impacts resulting from the expansion will be described.

Historical and archeological resources do not appear to exist at or near the site, and there will be no analyses of these issues in the EIS.

Mitigation Measures

For those instances where the impact analyses have identified the potential for adverse effects, the EIS will identify reasonably available measures that could lessen or eliminate the adverse effect. The types of measures that may result in significant mitigation of impacts range from facility-specific modifications in design and/or operation or broader policy-based action at all governmental levels. Mitigation measures that could reasonably be applied to eliminate or minimize adverse environmental effects will be identified in the EIS in both the section describing environmental effects, and in a separate section for permitting reference.

APPENDICES

Appendices may be included in the EIS, when applicable: a) material prepared in connection with the EIS, as distinct from material which is so prepared and which is incorporated by reference; b) material that substantiates any analysis fundamental to the EIS; and c) permit information that was developed and gathered concurrently with the preparation of the EIS.

MATERIAL INCORPORATED BY REFERENCE

Materials may be incorporated by reference to reduce the bulk of the EIS. Such materials will be cited in the EIS, and its content will be briefly described. Generally, these materials will not be distributed for public review, but will be available for inspection at the MPCA office in St. Paul.