

APPENDIX F

NORTH MIRAMAR LANDFILL RECLAMATION STUDY

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INTRODUCTION

Bryan A. Stirrat & Associates (BAS) was retained to assess the potential for reclamation of the inactive North Miramar Landfill. The *Reclamation Options Study Report for the North Miramar Landfill*, prepared July 2008 as part of the LRMOSP process included a review of site specific data; reclamation-related technologies and projects, programs being implemented by other municipalities and agencies, as well as the goals and programs being implemented by ESD.

PURPOSE

The feasibility of a reclamation project at the North Miramar Landfill will depend on the types and volumes of waste that were landfilled at the site, the risk involved in achieving the reclamation process goals, and the degree of difficulty in obtaining regulatory approvals for both a pilot and full-scale project. The scope of the reclamation options study was as follows:

1. Provide a general site description;
2. Characterize the quantity and type of the waste to be reclaimed based on available data;
3. Summarize existing and emerging technologies or methods for landfill reclamation;
4. Narrow the list of options using established criteria that is general and specific to the North Miramar site and ESD goals;
5. Provide options to ESD for a future pilot project;
6. Provide recommendations for the location on the landfill for pilot project(s); and
7. Provide draft performance criteria for the pilot projects to be used in determining feasibility.

The report was completed as a component of Phase I of the City's LRMOSP process. Depending on the City's evaluation of the reclamation options study and pilot testing, a more in-depth economic and technical feasibility analysis of landfill reclamation at

the North Miramar Landfill would be developed during Phase II of the LRMO Strategic Plan.

GOALS OF RECLAMATION PROJECT

The goals of the reclamation project for the North Miramar Landfill include, but are not limited, to the following:

1. Recover materials (cover soils, ferrous metals, other recyclables, etc.) and sell marketable materials or convert to energy;
2. Reclaim valuable land for re-use as a potential new landfill, in portions or in its entirety, by excavating the bottom of the existing landfill to gain valuable cover soil and additional capacity and line the landfill for renewed refuse disposal.

In addition to reclaiming the North Miramar Landfill for purposes of providing additional landfill airspace for the City's future solid waste management needs, evaluating potential energy sources at the site is consistent with the City pursuing energy independence, and becoming a model City using renewable energy resources and energy conservation. This study, therefore, considers an integrated system approach to reclaiming the North Miramar Landfill that includes recyclables and soil recovery, energy generation potential, and additional landfill capacity reclamation.

RECOMMENDATIONS FOR IMPLEMENTATION

Based on a review of options that are potentially feasible for reclamation of the North Miramar Landfill, an integrated implementation approach is recommended to determine the feasibility of the project, particularly with the short timeframe of 4 to 6 years to implement a full-scale project. This approach involves implementation of a pilot test for excavation, sorting, and recovery of an initial area of the North Miramar Landfill concurrent with pursuing a pilot test program for a conversion technology and evaluating a waste-to-energy project for the site that could handle the excavated residual waste that cannot be recycled. Although a conversion technology or waste-to-energy technology are options for handling the residuals recovered from the landfill, they are not a necessary part of reclaiming the landfill for future re-disposal.

Another option is to integrate the project with a Resource Recovery Center/Transfer Facility proposed for Miramar adjacent to the Metro Bio-solids Center.

A discussion of pilot testing recommendations for waste excavation, sorting, and recycling, as well as a conversion technology, are included in the North Miramar Landfill Reclamation Options Study report. Since waste-to-energy is a proven technology, a pilot test is not required. It is anticipated that the permitting and approval process for a waste-to-energy project would be lengthy so it is recommended that it be pursued concurrent with the pilot tests. In order to pursue a waste-to-energy project for the site, coordination is needed between the City, Navy, Fortistar, appropriate regulatory agencies (i.e., Air Pollution Control District) and other stakeholders to determine restrictions and/or potential for sharing in funding the project and potential sharing in gas generation revenues. This will be important in addressing the cost/benefit of this option.

One reason for reclaiming the North Miramar Landfill is to potentially provide an engineered landfill cell that can be used for landfilling after the West Miramar Landfill closes. In addition, if a conversion technology can be implemented alongside the reclamation, this will further contribute to landfill capacity in the region.