Waste Management, Inc.

Air Dispersion Modeling Report in Support of Air Permit No. 4953-011-0014-V-02-1

Chambers R&B Landfill
Homer, Banks County, Georgia

September 2011
Revised February 2012

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SECTION 1
GENERAL MODELING DISCUSSION

Waste Management, Inc. (WMI) owns and operates the Chambers R&B Landfill located at 610 Bennett Road in Homer, Banks County, Georgia, further referenced in this document as R&B. R&B receives, manages, and disposes of solid waste, including, but not limited to, municipal solid waste (MSW), commercial waste, and industrial waste. The site's primary activity is supported by a variety of other activities such as operation and maintenance of mobile equipment, non-mobile equipment powered by internal combustion engines, leachate handling, and open flares. Emissions from the facility are currently authorized under Permit No. 4953-001-0014-V-02-0.

The site is currently not a major source for Prevention of Signification Deterioration (PSD) since the site wide Potential to Emit (PTE) for all criteria pollutants is less than 250 tpy. However, the proposed facility modifications will result in the site being reclassified as a major source for PSD, and PSD review is triggered for numerous criteria pollutants, as described in Section 1.2 below and in the permit application previously submitted to GAEPD.

1.1 Project Overview

The anaerobic decomposition of organic wastes in landfills results in the generation of biogas, commonly referred to as landfill gas, or "LFG". The LFG is primarily methane and carbon dioxide. Small amounts of Non-methane Organic Compounds (NMOC's), Hazardous Air Pollutants (HAPs), and other non-criteria pollutants are also generated. R&B has an existing gas collection and control system (GCCS) that operates throughout the landfill. A blower is used to extract and supply the LFG from the landfill to the three existing open flares for combustion.

WMI seeks authorization for a new LFG-to-energy (LFGTE) facility with six (6) internal combustion (IC) engines that will use the LFG generated from R&B as fuel.

As a result of combustion, methane, Volatile Organic Compounds (VOCs) and organic HAPs in the LFG will be reduced. However, nitrogen oxides (NO_X), carbon monoxide (CO), sulfur dioxide (SO_2), and hydrogen chloride (HCl) emissions will be created. It is conservatively assumed that all the sulfur-containing compounds are reduced to SO_2 and chlorinated compounds are reduced to HCl in the engines. Emissions of particulate matter less than 2.5 and 10 microns ($PM_{2.5}$/PM_{10}) from the engines are the result of combustion as well as particulate matter contained within the LFG stream.

In addition, WMI seeks authorization for an alternative operating scenario, incorporating the use of a leachate concentrator. This alternative process ties into the exhaust from three of the six proposed engines, and uses the heat content of the exhaust to evaporate some of the water in the leachate. The process changes the characteristics of the engine exhaust, and therefore this application includes information regarding the leachate concentrate exhaust gas characteristics. The leachate concentrator may not operate at all times that the engines operate. Therefore, R&B

needs the flexibility to operate the engines either with or without the leachate concentrator in operation.

A more detailed process description for the LFGTE project and the leachate concentrator are provided in the permit application previously submitted to GAEPD.

1.2 Modeling Applicability and Pollutants to be Evaluated

Banks County, where the proposed LFGTE facility will be located, is designated attainment or unclassifiable for all criteria pollutants and is a Class II PSD area as defined by U.S. EPA.[1] The proposed project was evaluated to determine whether it triggers certain applicable requirements of the Clean Air Act (CAA), including the Prevention of Significant Deterioration (PSD) requirements of 40 CFR Part 52.21. A PSD permitting applicability review was conducted for the proposed emission rate increases of CO, SO_2, NO_x, VOC, PM_{10}, and $PM_{2.5}$. The emission calculations provided in the air permit application demonstrate that the proposed project is subject to PSD permitting requirements for CO, NO_x, PM_{10}, and $PM_{2.5}$ but not for SO_2 and VOC.

Additional state-level modeling was required for air toxic emissions, including HAPs. GAEPD Toxic Impact Assessment was completed in May 2011 and submitted to GAEPD under separate cover.

WMI contracted with Sage Environmental Consulting, L.P. (Sage) to prepare the pre-modeling protocol, conduct modeling, and to prepare the PSD modeling report for the R&B. This PSD modeling was conducted to evaluate potential impacts of the applicable criteria pollutant emissions associated with the LFGTE project on the ambient air. The PSD modeling was conducted according to the requirements of the U.S. EPA and GAEPD modeling guidelines and manuals[2,3,4,5]. State modeling for toxics was submitted to the GAEPD under a separate cover in May 2011 and, therefore, toxics modeling is not further addressed in this report.

A pre-modeling protocol was submitted to GAEPD in January 2011 as an appendix to the permit application. GAEPD provided comments to the pre-modeling protocol in a letter dated February 24, 2011 and signed by Mr. Peter S. Courtney, P.E., Environmental Specialist. Items 1 through 10 from the comments letter are referenced in multiple places in this report and the letter response is further referred to as “protocol comments.”

1.2.1 General PSD Modeling Approach

The guidance for performing PSD air quality analyses is set forth in Chapter C of U.S. EPA’s New Source Review Workshop Manual, Draft - October 1990, and in U.S. EPA's "Guideline on Air Quality Models”, 40 CFR Part 51 Appendix W (referred to as the GAQM). These PSD modeling guidance documents address modeling for 1-hour and 8-hour CO; annual NO_2; and 24-hour and annual PM_{10} averaging periods.

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[1] 40 CFR §52.21(e)(3)

[2] U.S. EPA, *Guideline on Air Quality Models (Revised). Appendix W of 40 CFR. Part 51.* EPA-450/2-78-027R, November 2005.

[3] U.S. EPA, *Draft New Source Review Workshop Manual. Prevention of Significant Deterioration and Nonattainment Area Permitting.* U.S. EPA, Office of Air Quality, October 1990.

[4] GAEPD, *Georgia Air Dispersion Modeling Guidance.* Data and Modeling Unit, December 1, 2006.

[5] Georgia DNR, *Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions.* June 1998.

Numerous changes in EPA requirements for PSD air quality analyses were promulgated in 2010 and 2011. These changes include:

- Updated $PM_{2.5}$ modeling guidances[6,7] issued on February 26 and March 23, 2010;
- Finalized Significant Impact Levels (SILs) and Significant Monitoring Concentration (SMC) for $PM_{2.5}$ which became effective on December 20, 2010;
- Finalized PSD Increments for $PM_{2.5}$ which become effective on October 20, 2011;
- A new 1-hour NO_2 National Ambient Quality Standard (NAAQS)[8] which became effective on April 12, 2010;
- 1-hour NO_2 modeling guidelines[9,10] released on June 29, 2010 and March 1, 2011; and
- AERMOD User's Guide Addendum, March 2011.

The previous PM_{10} annual average NAAQS has been revoked, and the $PM_{2.5}$ PSD increments do not become effective until October 20, 2011. Therefore, these standards were not evaluated.

In summary, WMI is required to address compliance with the standards listed in Table 1-1.

Table 1-1
Summary of Applicable PSD SILs and Standards

Pollutant	Averaging Period	Class II SIL (µg/m^3)	Significant Monitoring Concentrations (µg/m^3)	National Ambient Standards (NAAQS) (µg/m^3)	Class II PSD Increment (µg/m^3)	Class I SIL (µg/m^3)	Class I PSD Increment (µg/m^3)
NO_2	1-Hour	7.5*	--	188	--	--	--
	Annual	1	14	100	25	0.1	2.5
PM_{10}	24-Hour	5	10	150	30	0.3	8
	Annual	1	--	--	17	0.2	4
$PM_{2.5}$	24-Hour	1.2	4.0	35	(9*)	0.07	(2*)
	Annual	0.3	--	15	(4*)	0.06	(1*)
CO	1-Hour	2,000	--	40,000	--	--	--
	8-Hour	500	575	10,000	--	--	--

*Notes: The 1-hour Class II NO_2.SIL is an interim value published by EPA on June 29, 2010. The SILs and SMC for $PM_{2.5}$ became effective on December 20, 2010. The $PM_{2.5}$ increments will become effective October 20, 2011 but EPA has not yet published specific guidance on how to evaluate them; therefore, $PM_{2.5}$ increments were not evaluated.

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[6] U.S. EPA, *Review of Modeling Procedures for Demonstrating Compliance with $PM_{2.5}$ NAAQS*. EPA's SCRAM Web page
[7] U.S. EPA, *Modeling Procedures for Demonstrating Compliance with $PM_{2.5}$ NAAQS*. Memorandum, March 23, 2010.
[8] U.S. EPA, *Primary National Ambient Air Quality Standards for NO_2*. Federal Register V. 75 N. 26, February 9, 2010.
[9] U.S. EPA, *Guidance Concerning Implementation of the 1-hour NO2 NAAQS for the Prevention of Significant Deterioration Program,* Memorandum, EPA's New Source Review Policy & Guidance Web page, June 29, 2010.
[10] U.S. EPA, *Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 NAAQS,* Memorandum, EPA's New Source Review Policy & Guidance Web page, March 1, 2011.

The following subsections describe the general approach discussed in U.S. EPA's *New Source Review Workshop Manual*, Draft - October 1990, with the changes recommended in the 2010 and 2011 EPA guidance documents.

1.2.2 Class I and II Area Significant Impact Analyses

Significant Impact Determination (SID) analyses estimate the ambient impacts from the proposed project alone (and contemporaneous emissions increases and decreases, if applicable), for those pollutants with net actual emission increases above the Significant Impact Levels (SILs). The results of the SID analysis determine whether a cumulative impact analysis (including emissions from other nearby sources) must be performed. If the ambient impacts from the proposed project are less than the SIL for a particular pollutant and averaging period, then no additional modeling needs to be performed to meet Federal New Source Review (NSR) permitting requirements.

SILs for the PSD pollutants are presented above in Table 1-1. The 1-hour NO_2 SIL has not yet been finalized by EPA, therefore the EPA recommended interim NO_2 SIL equal to 4% of the NAAQS was used in the modeling demonstrations.

1.2.3 Class I and II Area Cumulative Impact Analyses

Cumulative impact analyses are performed to assess compliance with the applicable standard for any pollutant/averaging period for which the project results in significant impacts. These analyses include NAAQS and PSD Increment for Class II areas. PSD Increment analyses for Class I areas were not required (see Section 11.5).

1.3 Model Design Concentrations

EPA has defined the dispersion model outputs or "design concentrations" that are compared to the SILs, NAAQS, and PSD Increments. EPA also recommends in GAQM Section 8.3.1.2 that the air quality modeling analyses should evaluate either 5 years of National Weather Service meteorological data or at least 1 year of site-specific meteorological data. No site-specific meteorological data is available. Therefore, the analyses were conducted using five (5) years of meteorological data provided by GAEPD (see Section 9 for details). Consequently, the modeled design concentrations are based on GAQM Section 7.2 recommendations and the recent EPA $PM_{2.5}$ and 1-hr NO_2 modeling guidance memos, as discussed below.

1.3.1 Significant Impact Analyses

For the Class II Area SID analyses, the modeled concentrations that are compared to the SILs are the highest concentrations over the proposed 5-year meteorological period, except for the pollutants with probabilistic NAAQS ($PM_{2.5}$ and 1-hour NO_2). For the $PM_{2.5}$ SID analyses, the modeled concentrations that were compared to the $PM_{2.5}$ SILs are the 5-year average of the maximum 24-hr concentrations and the 5-year average of the annual concentrations (averaged on a receptor-by-receptor basis). For the 1-hour NO_2 analysis, the 1-hour modeled concentration that was compared to the interim SIL is the 5-year average of the maximum 1-hour concentrations (averaged on a receptor-by-receptor basis).

For the Class I Area SID analyses, maximum AERMOD predictions at a distance of 50 km from the modeled sources in the direction of the Class I Area(s) were compared to the Class I Area

SILs. This type of screening analysis was used to determine whether CalPUFF modeling is necessary for the Class I PSD Increment analysis, consistent with Item 6 in the protocol comments.

1.3.2 Cumulative NAAQS Analyses

The modeled design concentrations for the cumulative impact analyses are described below:

- For CO NAAQS, the 1-hour and 8-hour design concentration is the highest, second-highest concentration from each of the individual years that are modeled;

- For NO_2, the annual NAAQS design concentration is the highest of the annual averages calculated from each of the individual years. The 1-hour NO_2 NAAQS design concentration is the highest 98th percentile of the annual distribution of daily maximum 1-hour concentrations, averaged on a receptor-by-receptor basis across the number of years modeled. Alternatively, the highest, 8th-high (H8H) value may be used initially, since it is more conservative than the 98^{th} percentile of daily max 1-hour concentrations and requires no post-processing of the AERMOD output files;

- For PM_{10}, the 24-hour NAAQS design concentration is the "n+1" highest concentration over the "n" year modeling period (high 6^{th} highest for the five year meteorological data set). The 24-hour PSD Increment design concentration is the highest, second-highest concentration calculated from each of the individual years that are modeled. The PSD annual increment design concentration is the highest of the individual annual averages; and

- For $PM_{2.5}$, the 24-hour and annual design concentrations were based on the latest EPA guidance memorandum titled "*Modeling Procedures for Demonstrating Compliance with $PM_{2.5}$ NAAQS*", Steven Page, EPA OAQPS, March 23, 2010. For the 24-hour NAAQS design concentration, the highest 24-hour $PM_{2.5}$ concentration was determined for each of the 5 years modeled, the five values were averaged on a receptor-by-receptor basis, and the highest 5-year average was selected as the design concentration. For the annual average NAAQS design concentration, the annual $PM_{2.5}$ concentration was determined for each year modeled, the five values were averaged on a receptor-by-receptor basis, and the highest 5-year average value was selected as the annual design concentration.

1.3.3 PSD Increment Analyses

The Class II PSD Increments for PM_{10} are maximum allowable increases in concentrations that may be exceeded once per year at each site, except for the annual increment which may not be exceeded at all. Therefore, for short-term averages the highest, second-highest short term average concentration for any year is the design concentration, and for annual averages the design concentration is the highest modeled annual average. For the Class I area PSD Increment analysis, the highest short term and annual concentration for any year would be used (if required) as the design concentration for comparison with the Class I increments.

The Class I and Class II PSD Increments for $PM_{2.5}$ become effective on October 20, 2011. However, EPA has not yet published specific guidance on how to evaluate them. Therefore, a $PM_{2.5}$ PSD Increment analysis was not conducted.

A summary of the applicable Class I and II SILs, PSD Increments, and NAAQS is provided in Table 1-1.

1.4 Proposed Modeling Procedures for Individual Pollutants

The following Subsections 1.4.1 through 1.4.4 discuss the general modeling approach for each pollutant evaluated. No start-up, shut-down, or malfunction scenarios were modeled for any pollutant per Item 2 in the protocol comments. The U.S. EPA released a new version of AERMOD software (ver. 11103) in March 2011, after Sage received the protocol comments. Some modeling steps and techniques proposed in the pre-modeling protocol and approved in the protocol comments Item 4 became unnecessary, as the new modeling software design incorporated techniques developed by the U.S. EPA.

1.4.1 NO_2 1-hour and Annual Modeling

The standard approach discussed in the U.S. EPA NSR Workshop Manual was used for the annual NO_2 modeling.

For the 1-hour NO_2 analysis, the interim SIL proposed by the U.S. EPA is 4 ppb (approximately 7.5 µg/m^3). A multi-step approach for NO_2 1-hour average modeling was conducted consistent with Item 4 in the protocol comments.

Step 1 (SID Modeling). In the first step, all project-related sources were modeled at their respective maximum allowable NO_x emission rates. The modeling was conducted on a receptor grid described in Section 8, using five years of meteorological data and two meteorological data sets discussed in Section 9. NO_x emission rates were modeled. The design NO_2 concentrations were estimated from the model-predicted NO_x concentrations using the default U.S. EPA NO_2 to NO_x ratios (i.e., the 0.8 ratio for 1-hour concentrations and 0.75 ratio for annual concentrations). In this step, the design concentration described in Section 1.3.1 was compared to the SIL of 7.5 µg/m^3 for the 1-hour average and 1.0 µg/m^3 for annual average. Since the design concentrations exceeded the SIL for both averaging periods, a receptor grid extending from the R&B sources to the distance of the Radius of Significant Impact (ROI) of the averaging period resulting in the largest ROI was established. Additional discussion of the receptor grids used in cumulative impact analyses is provided in Section 8.

Step 2 (Cumulative Impact Modeling). In this step, existing on-site and off-site sources of NO_x were added to the modeling. The default NO_2 to NO_x ratios were applied to the model predictions for NO_x to estimate the design NO_2 concentrations. A discussion regarding the development of the inventory of off-site sources is provided in Section 5.3. The highest, 8th-high (H8H) values was modeled as a conservative surrogate for 98th percentile design values.

The monitored NO_2 background concentration described in Section 5.4 were added to the design values predicted from the Step 2 modeling. The results from Step 2 modeling plus the background concentration were less than the NAAQS for all receptors, and the demonstration was assumed complete, as further discussed in Section 11.1.

1.4.2 CO 1-hour and 8-hour Average Modeling

The standard approach discussed in the U.S. EPA's *NSR Workshop Manual* (1990) was used for the CO modeling. As discussed in Section 11.2, the model predictions were below the SILs for both averaging periods; therefore, cumulative Full Impact analyses were not required for this pollutant.

1.4.3 PM_{10} 24-hour and Annual Average Modeling

For PM_{10} 24-hour NAAQS and increment analyses, the modeling was conducted in agreement with the modeling procedures provided in the U.S. EPA's *NSR Workshop Manual* (1990). The highest, first-high model impacts from the project sources were used in SID modeling. As discussed in Section 11.3, the model predictions were below the SILs for both averaging periods; therefore, cumulative Full Impact and Increments analyses were not required for this pollutant.

1.4.4 $PM_{2.5}$ 24-hour and Annual Average Modeling

Issues related to implementing the NSR program for $PM_{2.5}$ were addressed in a memorandum dated March 23, ~~2009~~2010, *Modeling Procedures for Demonstrating Compliance with $PM_{2.5}$ NAAQS*. The main issue was related to elimination of the "PM_{10} as a surrogate" policy in favor of an explicit $PM_{2.5}$ analysis. The steps discussed in Section 1.4.1 (regarding 1-hour NO_2 modeling) were also utilized for the $PM_{2.5}$ modeling, with the following modifications:

- In Step 1, the modeling results were compared to the SILs established by the U.S. EPA on September 29, 2010 (i.e., 1.2 $\mu g/m^3$ for 24-hour average and 0.3 $\mu g/m^3$ for annual average);
- The inventory of off-site $PM_{2.5}$ sources within the ROI + 50 km distance from R&B was developed as discussed in Section 5.3;
- $PM_{2.5}$ emissions were conservatively assumed equal to PM_{10} emissions from all modeled sources except fugitive emissions from the R&B Landfill;
- The design values for $PM_{2.5}$ described in Sections 1.3.1 and 1.3.2 were utilized;
- The $PM_{2.5}$ background concentrations described in Section 5.4 were used in the NAAQS analyses.

SECTION 2
MODEL SELECTION

The latest code (version 11103) of the U.S. EPA approved AERMOD model was used to predict pollutant concentrations. A commercial version of the model (BEEST for Windows by Bee-Line Software); was used as the modeling interface. In this analysis, modeling with AERMOD was performed using the regulatory default options, which includes stack heights adjusted for stack-tip downwash, buoyancy-induced dispersion, and final plume rise. Ground-level concentrations occurring during "calm" wind conditions are calculated by the model using the calm processing feature. Regulatory default values for wind profile exponents and vertical potential temperature gradients were used since no representative on-site meteorological data are available.

As discussed in Section 1, the new NO_2 and $PM_{2.5}$ standards are probabilistic, which requires post-processing of initial modeling results to demonstrate compliance with the standards. The new AERMOD version fully incorporated in BEEST for Windows software includes processors to calculate the required statistical probabilities of NO_2 and $PM_{2.5}$ concentrations as prescribed in the U.S. EPA's guidance[11,12]. More details regarding the post-processing procedures are provided in Section 10.

[11] U.S. EPA, *Notice Regarding Modeling for New Hourly NO2 NAAQS.* February 25, 2010 (Updated).
[12] U.S. EPA, *Modeling Procedures for Demonstrating Compliance with PM2.5 NAAQS.* March 23, 2010.

SECTION 3
SITE LOCATION

A drawing showing R&B property boundaries overlaid on an aerial photo is shown in Figure 3-1. The areal image shows predominant geographical features such as highways, roads, and streams, as well as significant landmarks such as buildings.

An image showing the relative location of R&B to the nearby Class I areas is depicted in Figure 3-2. The Class I areas nearest to the facility are the Great Smoky Mountain National Park (120- kilometers), the Cohutta Wilderness Area (117 km), the Joyce-Kilmer Slickrock Wilderness area (120 km), and the Shining Rock Wilderness Area (120 km).

An image showing the relative location of R&B to Linville Gorge Wilderness Area is depicted in Figure 3-3. The southern receptors in this area are located more than 213 km from the proposed emission sources.

Figure 3-1
Site Location on Aerial Photo

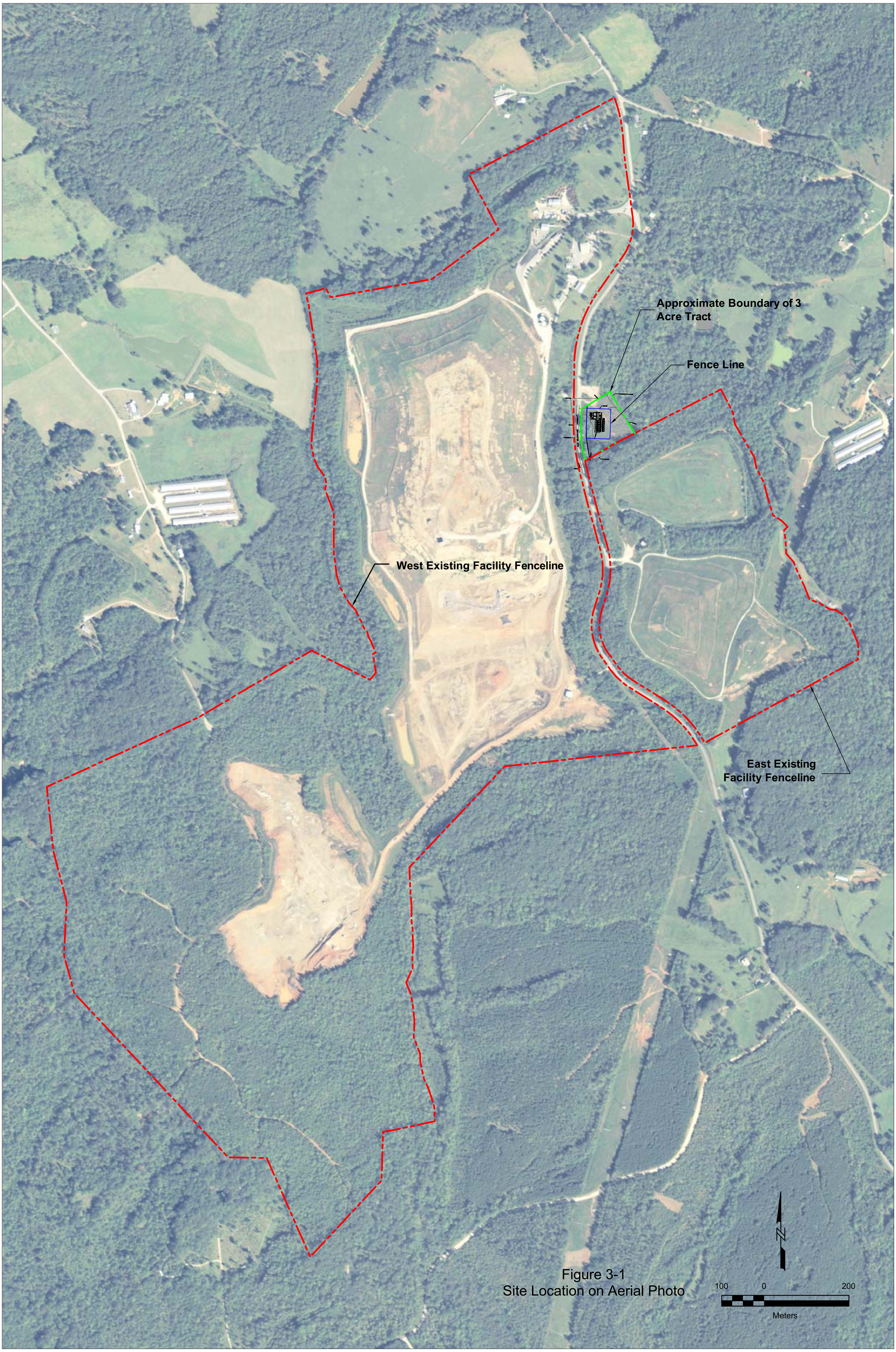


Figure 3-1
Site Location on Aerial Photo

Figure 3-2
Chambers R&B Landfill Distances to the Nearest Federal Class I Areas

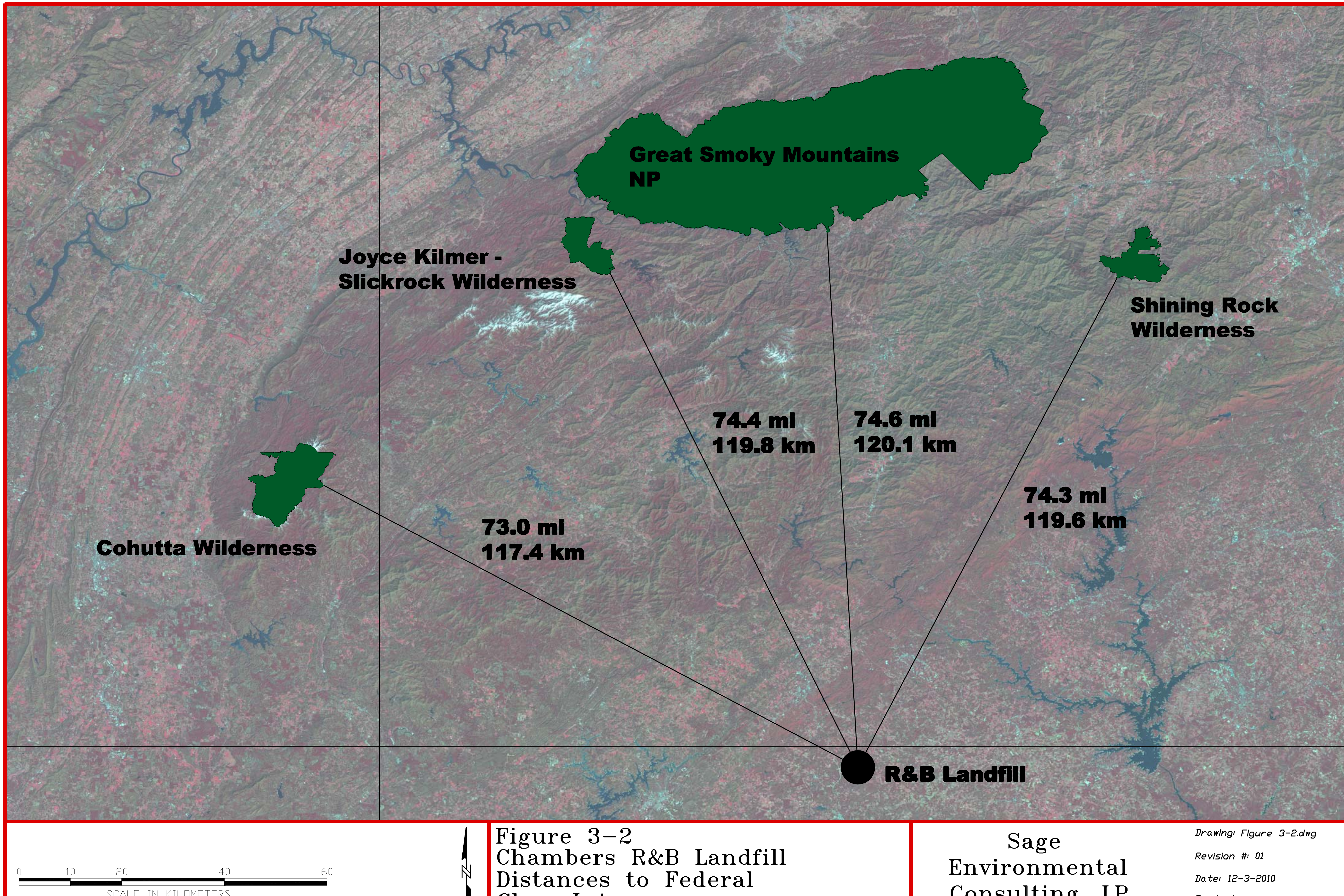


Figure 3-2
Chambers R&B Landfill
Distances to Federal
Class I Areas

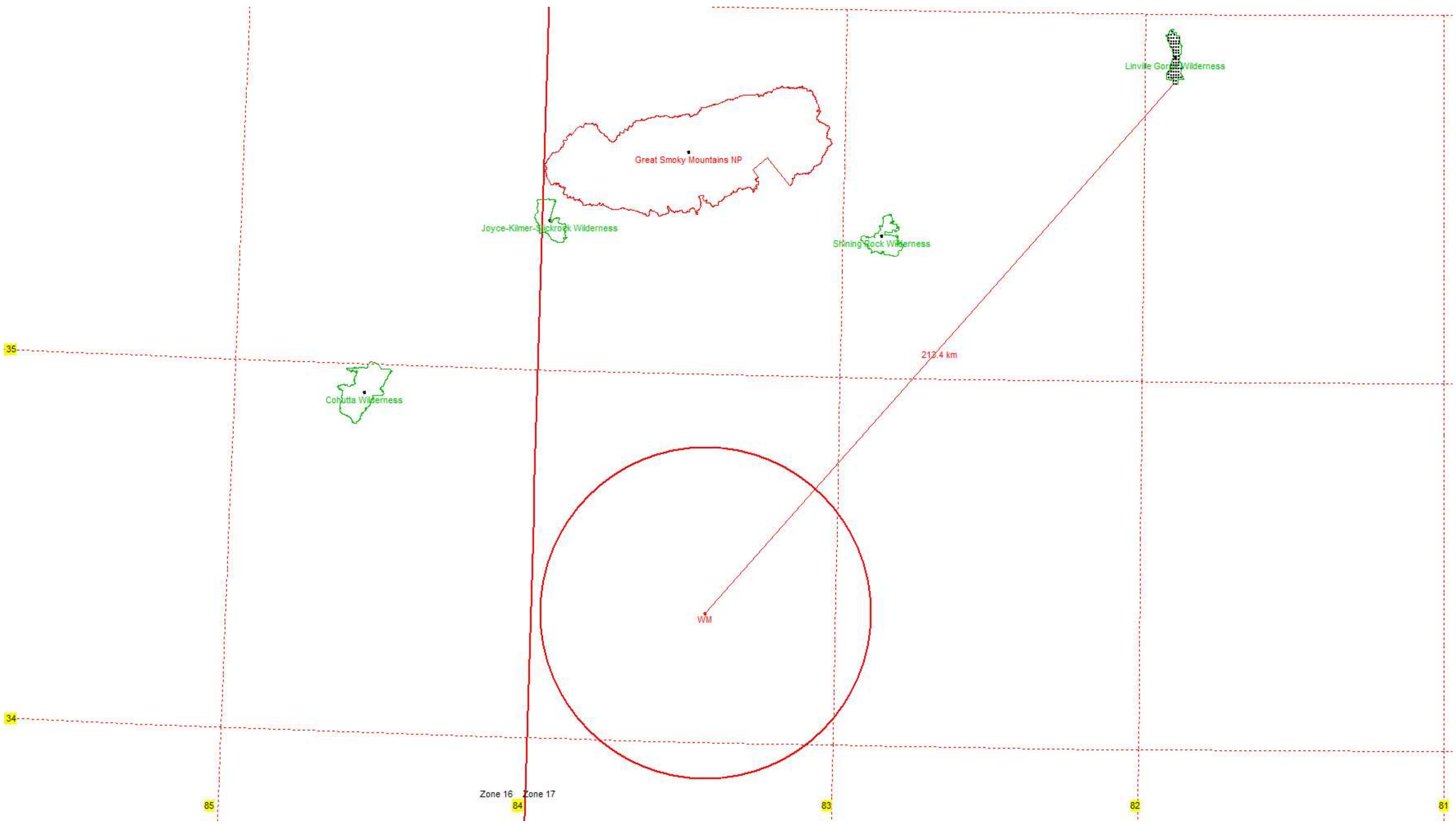
Sage
Environmental
Consulting. LP

Drawing: Figure 3-2.dwg
Revision #: 01
Date: 12-3-2010
Project: 510.6.1

Figure 3-3

Relative Location of Chambers R&B Landfill and Linville Gorge Wilderness Area

Figure 3-3
Relative Location of Chambers R&B Landfill and Linville Gorge Wilderness Area



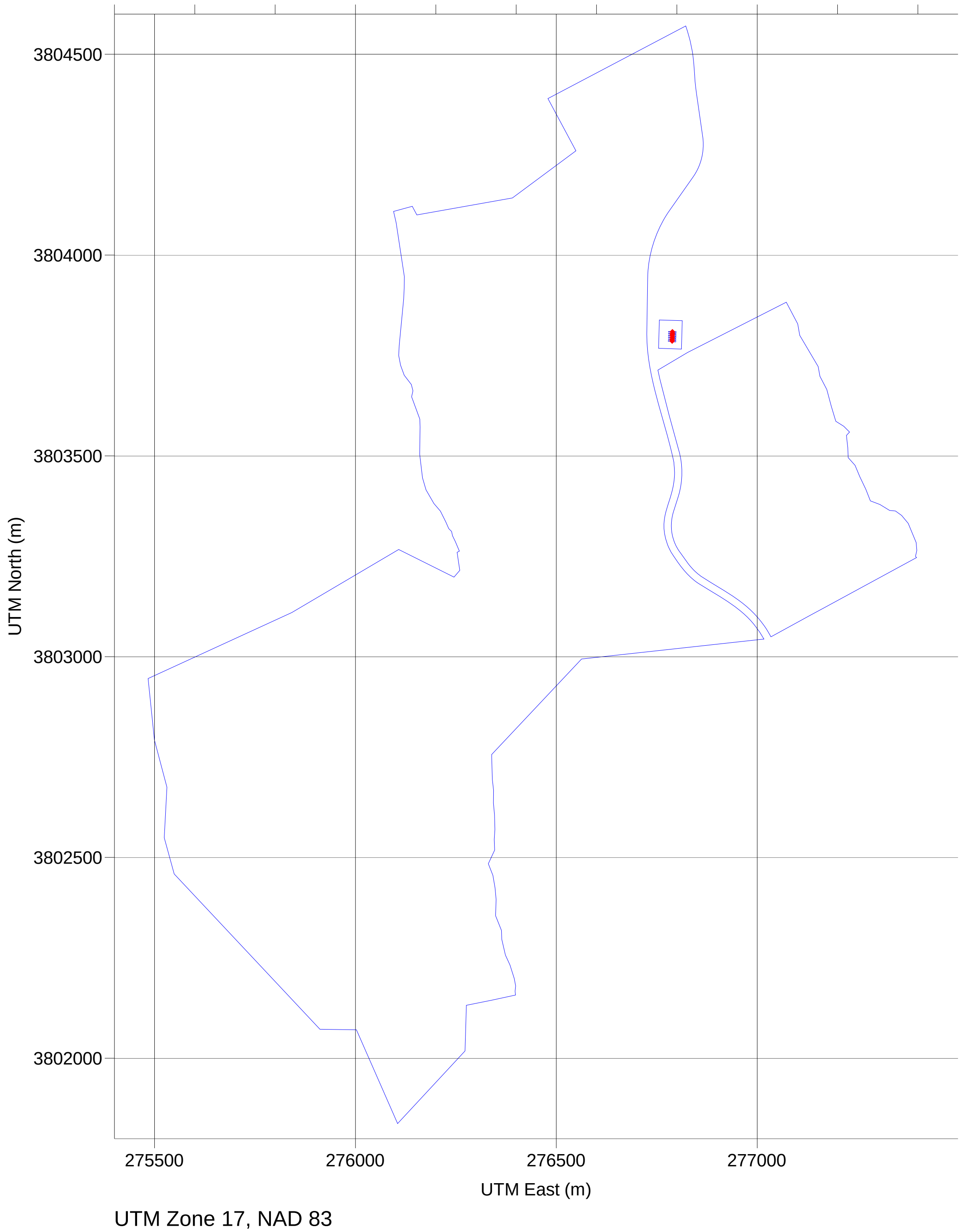
SECTION 4
PLOT PLAN

The equipment affected by this project is located at the existing Chambers R&B Landfill near Homer, Banks County, Georgia. The location of the project emission sources relative to the WMI property lines are shown in Figure 4-1. Figure 4-2 provides a detailed plot plan of the lot where the engines and leachate concentrator will be located.

Figure 4-1 and 4-2 contain the UTM coordinates grid overlaying the property and are included to provide a generalized image of the facility layout. In all modeling input and output data files, the location of emission sources, structures, and receptors are represented in the Universal Transverse Mercator (UTM) coordinate system. All UTM coordinates used in the modeling are based on the North American Datum of 1983 (NAD83). Figure 4-1 and 4-2 show location and ID of each IC engine and leachate concentrator stack relative to the NAD83 UTM coordinate system.

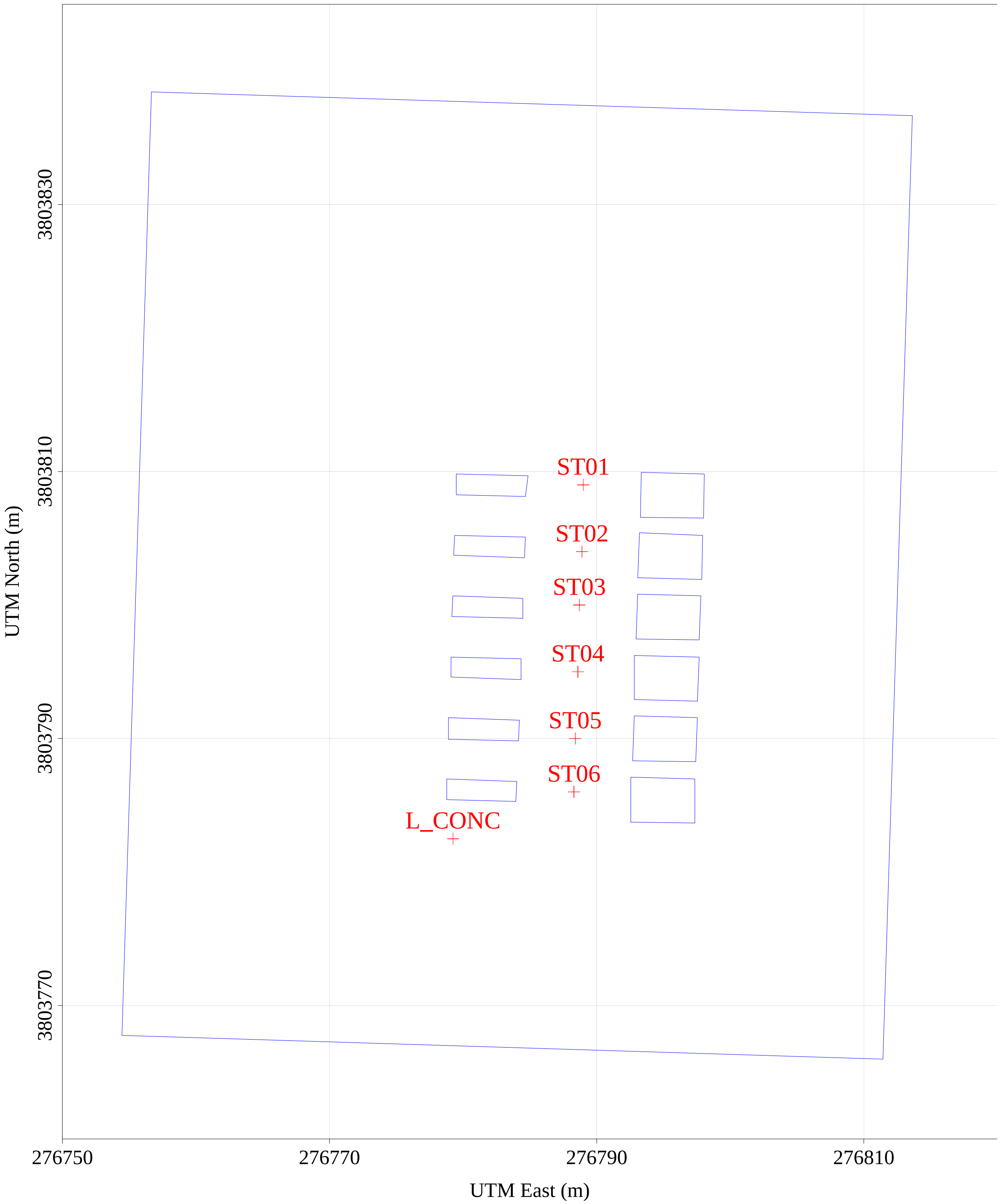
All emission units, buildings, structures, and property boundary locations digitized from plot plans and/or land surveys were converted to equivalent UTM coordinates. The R&B's rectangular buildings and structures and their corresponding UTM coordinates are presented in Table A-3 included in Appendix A.

Figure 4-1
Location of the IC Engines Relative to the Fence Lines



Note: The fence lines of the WMI are shown in blue color. The IC engines are shown in red color.

Figure 4-2
Detailed Plot Plan of the IC Engine Area



Note: The fence line and significant downwash structures are shown in blue color. The IC engines and leachate concentrator stack are shown in red color.

SECTION 5
MODELING EMISSIONS INVENTORY

WMI evaluated and quantified hourly and annual emissions for all applicable pollutants associated with the IC engine operations at R&B. Detailed emission calculations are provided in the permit application package. In our analyses, all of the engines were included in the modeling at the maximum permitted rate. As an alternative scenario, the leachate concentrator was modeled simultaneously with the engines, assuming it receives exhaust gases from "two and a half" of the engines.

Emission sources included in the modeling input files were specific to each type of modeling (i.e., SID or Cumulative Impact, as applicable). The source selection is addressed in the following subsections, which provide a brief description of the modeling setup for the emission sources and the source groupings. Onsite emission sources included in the modeling input files were the same for all modeling steps discussed in Sections 1.4.1 through 1.4.4.

5.1 SID Modeling Sources

Significant Impact Determination (SID) Modeling was conducted to determine the Radius of Significant Impact (ROI) and establish the receptors to evaluate compliance with NAAQS. The SID analyses were completed for NO_2, CO, $PM_{2.5}$, and PM_{10}.

To determine whether Cumulative Impact Modeling, PSD Increment modeling, and/or pre-construction and post construction ambient air monitoring for NO_2, CO or PM_{10} are required, modeling of emissions from the IC engines and leachate concentrator was conducted to determine if the predicted concentrations equal or exceed the SIL or significant monitoring concentration values listed in Table 1-1 for each respective pollutant and averaging period.

Two operating scenarios were modeled consistent with Item 1 in the protocol comments. One scenario (modeled as Source Group: SCENAR1) included the six IC Engines and the other scenario (modeled as Source Group: SCENAR2) included three engines operating at the maximum design capacity, one engine operating at one-half of the capacity, and the remaining gases used as fuel in the leachate concentrator.

If a SIL was exceeded for a particular pollutant-averaging period-operating scenario combination, a significant impact area (SIA) was defined as a circular or rectangular region centered on the modeled on-site sources with a radius or distance extending at least to the farthest receptor that equals or exceeds the SIL for that averaging period and pollutant. The number of receptors within each SIA was reduced to the receptors that exceeded the SIL (see Section 8 for details).

For determination of the impact area, the U.S. EPA guidance[13] requires modeling of "contemporaneous emissions increases and decreases" (i.e., the difference between the

[13] *New Source Review Workshop Manual. Prevention of Significant Deterioration and Nonattainment Area Permitting,* Section C.IV.B. U.S. EPA, Office of Air Quality Planning and Standards. October 1990.

post-project emissions and pre-project emissions). Although in reality the operation of the IC engines will result in reduced operation of the open flares at the site, to maximize operational flexibility, WMI is electing to not take credit for these reductions.

Individual point sources representing the six IC engines and the leachate concentrator at R&B were included in the criteria pollutant SID modeling analyses.

Tables A-1 and A-2 showing the project source information are included in Appendix A. These tables include UTM coordinates, emissions rates, and release parameters for each modeled pollutant and emission source.

5.2 Cumulative Impact Modeling - On-site Sources

NAAQS Cumulative Impact Modeling analyses were conducted for the pollutants with significant impacts from the project sources (NO_2 and $PM_{2.5}$). All on-site point sources were included in this step of the modeling analyses at maximum permitted emission levels.

Source Group: SCENAR2 used in the SID discussed in Section 5.1 above resulted in higher predicted concentrations than Source Group: SCENAR1 for all pollutants and averaging periods. Therefore, only the project sources from Source Group: SCENAR2 were included in the cumulative modeling. The single worst-case modeling scenario for NO_2 consistent with Item 1 in the protocol comments includes all landfill flares operating at their respective design capacities added to the Source Group: SCENAR2 discussed in Section 5.1. This scenario is conservative rather than representative, as the entire available LFG is assumed to flow to both types of sources. In order to maximize operational flexibility, this extremely conservative worst-case scenario was modeled in lieu of more reasonable scenarios where the LFG flow is split between the two types of sources and between the proposed engines and leachate concentrator.

In the $PM_{2.5}$ modeling, emissions from the existing flares and fugitives from paved and unpaved roads, material handling, and earth-disturbing activities were included as on-site emission sources in the Cumulative Modeling scenarios per Item 2 in the protocol comments. The fugitive emissions were quantified based on maximum activity levels and the most recent equations in Sections 13.2.1.3, 13.2.2.2, and 13.2.4 of AP-42. The emission calculations are provided electronically with this report. The paved road emissions were modeled as adjacent volume sources. The unpaved road emissions and material handling emissions were modeled as area sources.

Tables B-1, E-1, E-2, and E-3 in Appendices B and E provide the source locations, parameters, and emission rates for the modeled on-site sources.

5.3 Cumulative Impact Modeling - Off-property Sources and Parameters

The inventory of off-site sources was based on a review of all sources located within 50 kilometers of the center point of the project sources plus the ROI, determined as described in Section 5.1 above. As a conservative technique, the increment modeling inventory is identical to the NAAQS inventory, even though not all of the NAAQS inventory sources consume increment.

The off-site inventory data was collected by conducting a search of GAEPD permit files and records found on the GAEPD website. The inventory from a recent modeling analysis submitted by Huber Engineered Woods, LLC was also reviewed for inclusion in the off-site inventory.

The inventory was reduced to a manageable number of sources using the "20D Rule", consistent with and using the guidelines provided in Item 5 in the protocol comments. To satisfy the protocol comments regarding clusters of sources located within 2 km from each other, the rule was applied to permitted facilities and not individual sources. All facilities with emissions of less than 20 times the distance to the proposed IC engines location were removed from the off-site inventory. The screening was conducted using both a short-term "d" and a long-term "D" per the GAEPD methodology. No sources within the pollutant- and direction-specific largest ROI were screened out of the cumulative inventory.

The site is located approximately 35 km from the State of South Carolina, 73 km from the State of Tennessee, and 183 km from the State of Alabama. The ROI plus 50 km exceeds the distance to South Carolina; therefore, off-site source retrieval from this state was processed for inclusion in the cumulative impact modeling for $PM_{2.5}$ and NO_x. A spreadsheet documenting off-site source selection is provided to GAEPD in electronic format. Tables B-1 and E-1 in Appendices B and E summarize the source locations, parameters, and emission rates used in the modeling.

5.4 Background Concentrations

Background concentrations for the NAAQS analyses were selected based on recommendations provided by Mr. Peter Courtney of GAEPD and supplemented in Item 5 in the protocol comments. A summary of the background monitored values used in the analyses corrected per Item 5 in the protocol comments is provided in Table 5-1. A drawing depicting the location of the monitoring stations relative to the project location and provided as Figure 5-1 in the modeling protocol is not replicated in this report.

Table 5-1
Background Concentrations Used in Modeling

Pollutant	Monitoring Station	County	Station ID	Avg. Period	Background Conc. (µg/m^3)	Basis
NO_2	Yorkville	Paulding	132230003	1-hour	65.8	Highest Conc., 2007 – 2009, provided by GAEPD on 2/24/11
				Annual	5.7	Avg. Conc., 2005 - 2009
$PM_{2.5}$	Athens	Clarke	N/A	24-hour	27.3	3 Year Avg. of 98th Percentile, 2007-2009, provided by GAEPD on 2/24/11
				Annual	12.1	3-Year Avg., 2007-2009, provided by GAEPD on 2/24/11

Note: The background concentrations for CO and PM_{10} were established during the discussion of the modeling protocol; these values are not listed in Table 5-1 because cumulative impact modeling was not required for these pollutants.

5.5 Cumulative Impact Modeling – Source Groups

Three Source Groups were included in NAAQS Cumulative Impact Modeling analyses for NO_2 and $PM_{2.5}$. All on-site sources (including the project sources and all other existing on-site sources) were included in Source Group: ONSITE. All off-site sources were included in Source Group: OFFSITE. Finally, all on-site and off-site sources were included in Source Group: ALL. Only Source Group: ALL results are summarized in Section 11 discussion and in the summary tables in Appendices B and E. Modeled concentrations for the other two groups can be found in the model output LST files submitted to GAEPD on a CD accompanying this report.

An additional Source Group: PROJECT was created in the 24-hour cumulative impact modeling file for $PM_{2.5}$ to complete a contribution analysis discussed in Section 11.4. This Source Group: PROJECT is identical to Source Group SCENAR2 used in the SID modeling analyses and discussed in Section 5.1.

SECTION 6
LAND USE AND TERRAIN

The land use within a 3-kilometer (km) radius of R&B was evaluated using current aerial photo images and general knowledge of the area. Rural land use clearly prevails in the area; therefore, the AERMOD-default rural dispersion option was used in the air quality analyses covered by this report.

The terrain option was used in the modeling to account for the elevation of the on-site and off-site sources, receptors, and downwash structures consistent with Item 7 in the protocol comments. Base elevations of the facility emission sources, buildings, and all receptors were obtained from a National Elevation Dataset (NED) file as described below.

An NED file contains a seamless dataset with the best available raster elevation data of the contiguous United States, Alaska, Hawaii, and territorial islands. Each NED dataset consists of a sampled array of elevations for ground positions that are spaced at resolutions of 30 meters. An NED file can span multiple Digital Elevation Model (DEM) file quadrants.

An NED file was obtained from the United States Geological Survey (USGS) website[14]. The NED file is a NAD83 elevation file with heights measured in meters. The NED file was used to calculate elevations for all modeled objects (sources, structures, and receptors). A copy of the file is provided to GAEPD with this modeling report on a computer compact disc (CD).

The terrain elevations were imported into the AERMOD input file using the BEEST for Windows built-in processor that utilizes the latest version of EPA's AERMAP (ver. 11103) terrain preprocessing program.

[14]http://seamless.usgs.gov/index.php

SECTION 7
BUILDING WAKE EFFECTS (DOWNWASH)

Direction-specific building dimensions and the dominant downwash structure parameters used as input to the AERMOD model were determined using GEP/BPIPPRM (Good Engineering Practice/Building Profile Input Program for PRIME) program, version 04274.

Data input for each structure at R&B was used by the BPIPPRM program to calculate the direction-specific downwash parameters. The BPIPPRM program generates the height, width and three additional downwash parameters for thirty-six compass directions for each structure with reference to each point source of emissions. BPIPPRM also takes into account the difference in the base elevation of the point source and the structure to determine the good engineering practice (GEP) stack height or the height at which the stack will not be affected by downwash from the structure.

The output from the BPIPPRM contains a summary of the dominant structures for each emission unit (considering all wind directions) and the actual building heights, projected widths, and three additional parameters for 36 wind directions. This information was then incorporated into the input files for the AERMOD model using the BEEST for Windows Suite's built-in functions. The BPIPPRM input and output files are provided on a CD accompanying this modeling report.

SECTION 8
RECEPTOR GRIDS

The following sections discuss the receptor grids that were used in the modeling analyses. All receptor coordinates have a datum of NAD83. The receptor elevations for all grids were evaluated using the BEEST for Windows software's built-in processor that utilizes the AERMAP program Version 11103, which processed the NED file covering the modeling domain.

8.1 Receptors for Class I Impact Modeling Analyses

A polar grid consistent with the discussion in Item 6 in the protocol comments was used to conduct the Class I NO_2, PM_{10}, and $PM_{2.5}$ SID analyses. A set of polar receptors arranged in an arc in the direction of each Class 1 areas; with 1 degree spacing; at a distance of 50 kilometers was set up. The location of the receptors is depicted on Figure 8-1. All project source and receptor elevations were changed to have the same elevation as the simulated Class I area receptors (flat-plane scenario), per Item 6 in the protocol comments.

8.2 Receptors for Class II Preliminary Modeling Analyses

For the Class II Area SID modeling, the receptor grids consist of receptor points with tight spacing close to the project sources and coarser spacing as distance from the project sources increases. The "property line grid" is a discrete receptor grid with the receptors spaced at 100-meter intervals along the fence lines encompassing the WMI properties including the engine project area and two adjacent landfill areas separated by a public road. The "fine grid" consists of a rectangular grid with receptors spaced 100 meters apart and extending at least 2,000 meters from the sides and corner points of the fence line surrounding the location of the IC engines and landfills. A second rectangular grid with the receptors spaced 250 meters apart extends 3,500-4,000 meters from the fence line surrounding the location of the IC engines. The "medium grid" consists of receptors spaced 500 meters apart and extends at least 8,500 meters from the fence line surrounding the location of the IC engines. The coarse grid has the receptors spaced 1,000 meters apart and extending up to 12.5 km from the fence lines. Diagrams of the receptors in the entire grid and nearby the R&B fence lines are provided on Figures 8-2 and 8-3.

Item 8 in the protocol comments required to resolve all design concentrations to the nearest 100 meters. GAEPD also required that "the SID receptors should have at least one 100-m spaced receptor located farther from the project than the farthest receptor showing a concentration [equal to or greater than] the respective SIL." During the initial modeling, these requirements were met for all pollutants and averaging periods except for NO_2 1-hour concentrations modeling (in other words, all exceedances of SIL for $PM_{2.5}$ 24-hour and annual concentrations and NO_2 annual concentrations fall within the initial 100-meter spaced receptors, with at least one receptor with the predicted concentration below the SIL located farther from the project sources for all receptors with the predicted concentrations exceeding the SIL).

For NO_2 1-hour SID modeling, the initial coarse grid was first expanded up to 25 km, as shown on Figure 8-4, based on initial modeling results that showed one exceedance of the 1-hour SIL at the edge of the 12.5 km receptor grid. The requirements in Item 8 of the protocol comments were then met by adding 100-m spaced receptors surrounding all receptors with the NO_2 1-hour concentrations exceeding the SIL. This refined model run demonstrated that the refined grids shown on Figure 8-5 plot satisfies the GAEPD criteria.

In conclusion, the size and design of the grids discussed above was sufficient in all SID modeling analyses to establish the ROI and identify all 100-meter spaced receptors where the project sources may create impacts exceeding the SIL for each pollutant and averaging period.

8.3 Receptors for Class II Cumulative Impact Modeling Analyses

In the latest guidance[15], the U.S. EPA provided and accepted the following revised approach to selecting receptors for cumulative modeling analyses:

> *While not common practice in the past, given the more complex analysis procedures associated with the form of the 1-hour NO_2 NAAQS, we deem it appropriate and acceptable in most cases to limit the cumulative impact analysis to only those receptors that have been shown to have significant impacts from a proposed new source based on the initial SIL analysis, assuming that the design of the original receptor grid was adequate to determine all areas of ambient air where the source could contribute significantly to modeled violations. This may especially be appropriate for the 1-hour NO_2 standard since the initial modeling of the project emissions without other background emission sources may have a tendency to overestimate ambient NO_2 concentrations, even under Tier 3 applications, by understating the potential ozone limiting influence of the background NO_x emissions.*

~~Based on the new U.S. EPA guidance, the 100-meter spaced receptor grids for the pollutants and averaging periods subject to cumulative modeling were reduced to eliminate receptors with impacts below the corresponding SILs. Note that for NO_2 annual modeling, the significant receptors identified in any of the five modeled years were consolidated in the cumulative modeling grid. Plots showing the cumulative modeling receptors for each applicable pollutant and averaging period are included in Appendices B through E.~~

Based on the new U.S. EPA guidance, the 100-meter spaced receptor grids for the NO_2 1-hour concentrations were reduced in the cumulative modeling to eliminate receptors with impacts below the SIL. For all other pollutants and averaging periods subject to cumulative modeling (i.e., $PM_{2.5}$ 24-hour and annual modeling and NO_2 annual modeling), 100-meter spaced Cartesian receptors were placed to cover the entire circular area extending up to the Radius of Significant Impact (1.1 km, as shown on Tables 11-2 and 11-3 in Section 11) plus 100 meters from the facility sources. To avoid uncertainties, the receptors were placed within a circular area extending 1.3 km from Source ST04. A plot showing the cumulative modeling receptors for $PM_{2.5}$ 24-hour and annual modeling and NO_2 annual modeling is presented in Figure 8-6.

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[15] U.S. EPA, *Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 NAAQS,* Memorandum, EPA's New Source Review Policy & Guidance Web page, March 1, 2011.

Figure 8-1
Receptor Grid for Class I Area Modeling

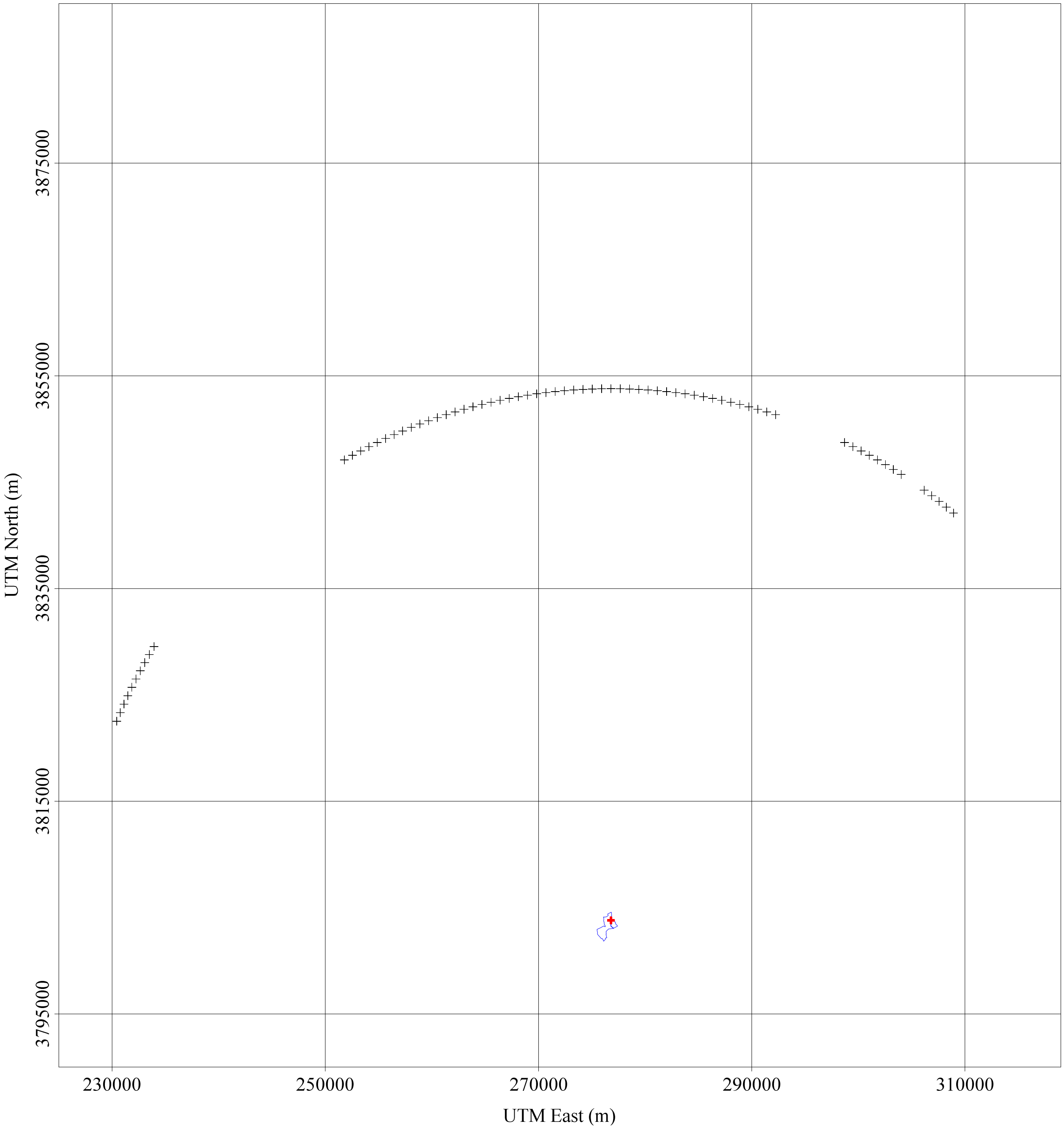


Figure 8-2
Initial Receptor Grids for Class II Area Modeling
(All Receptors)

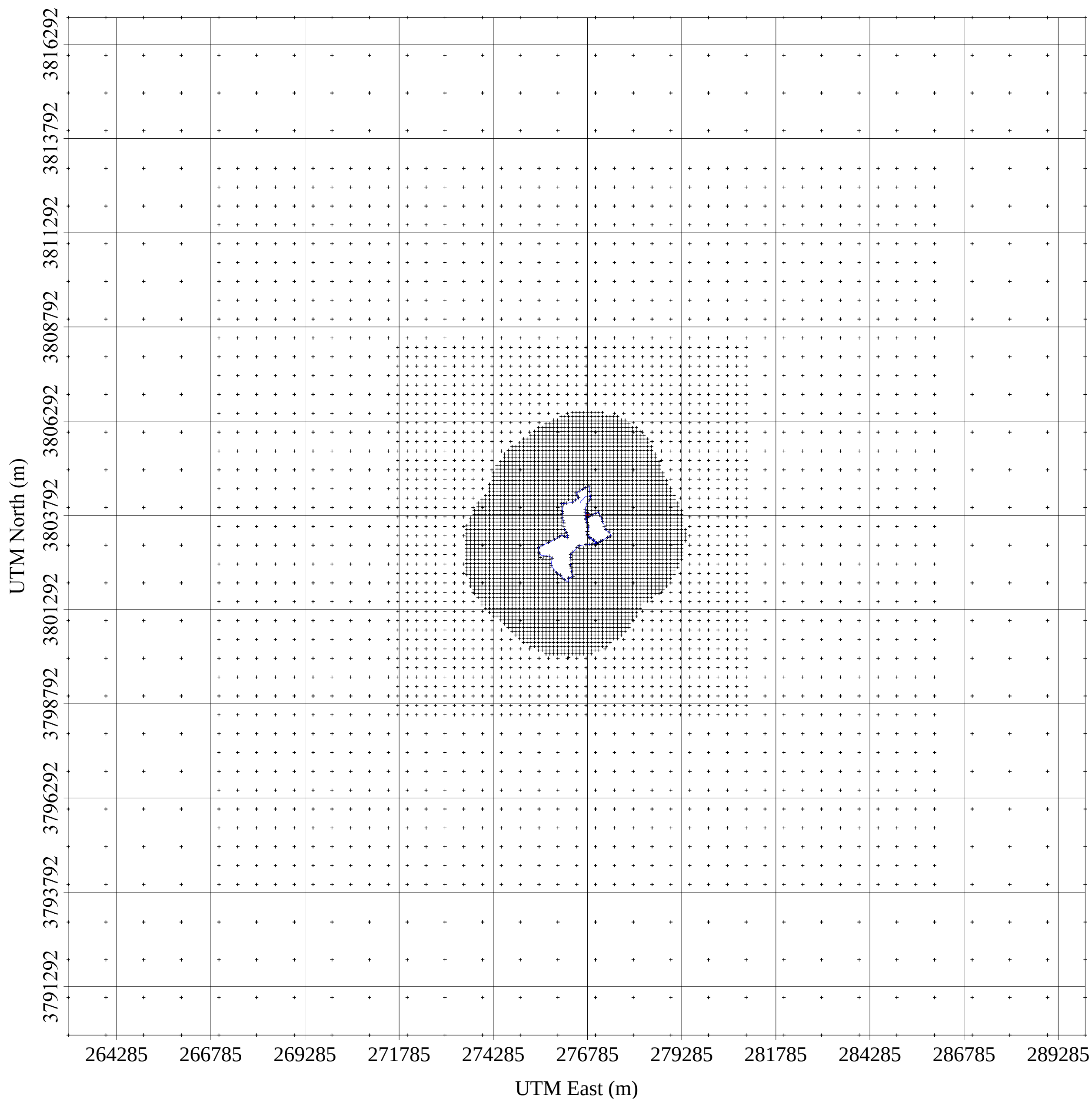


Figure 8-3
Initial Receptor Grids for Class II Area Modeling
(Receptors in the Vicinity of the Fence Lines)

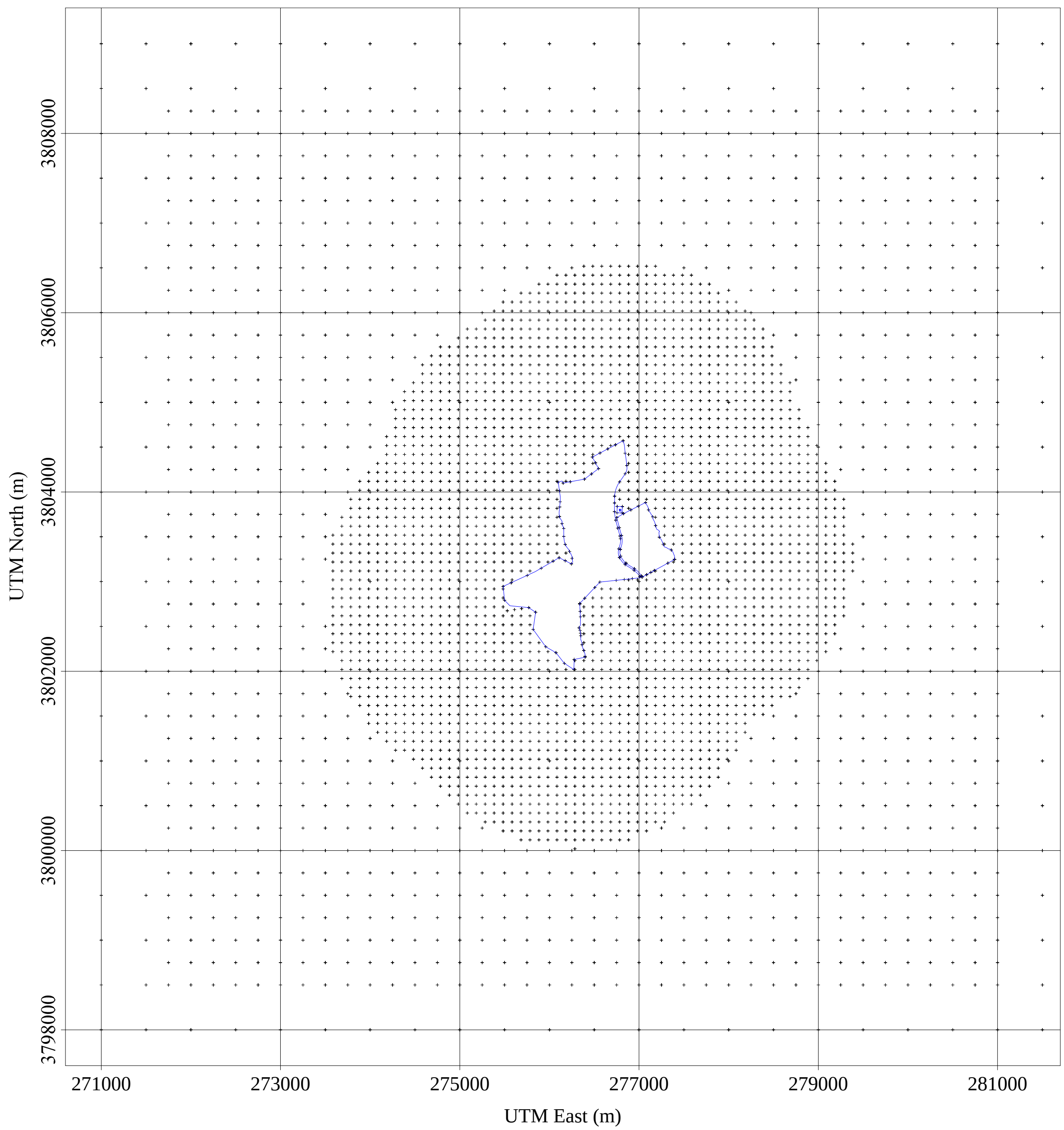


Figure 8-4
Initial Receptor Grids for Class II Area Modeling for NO_2

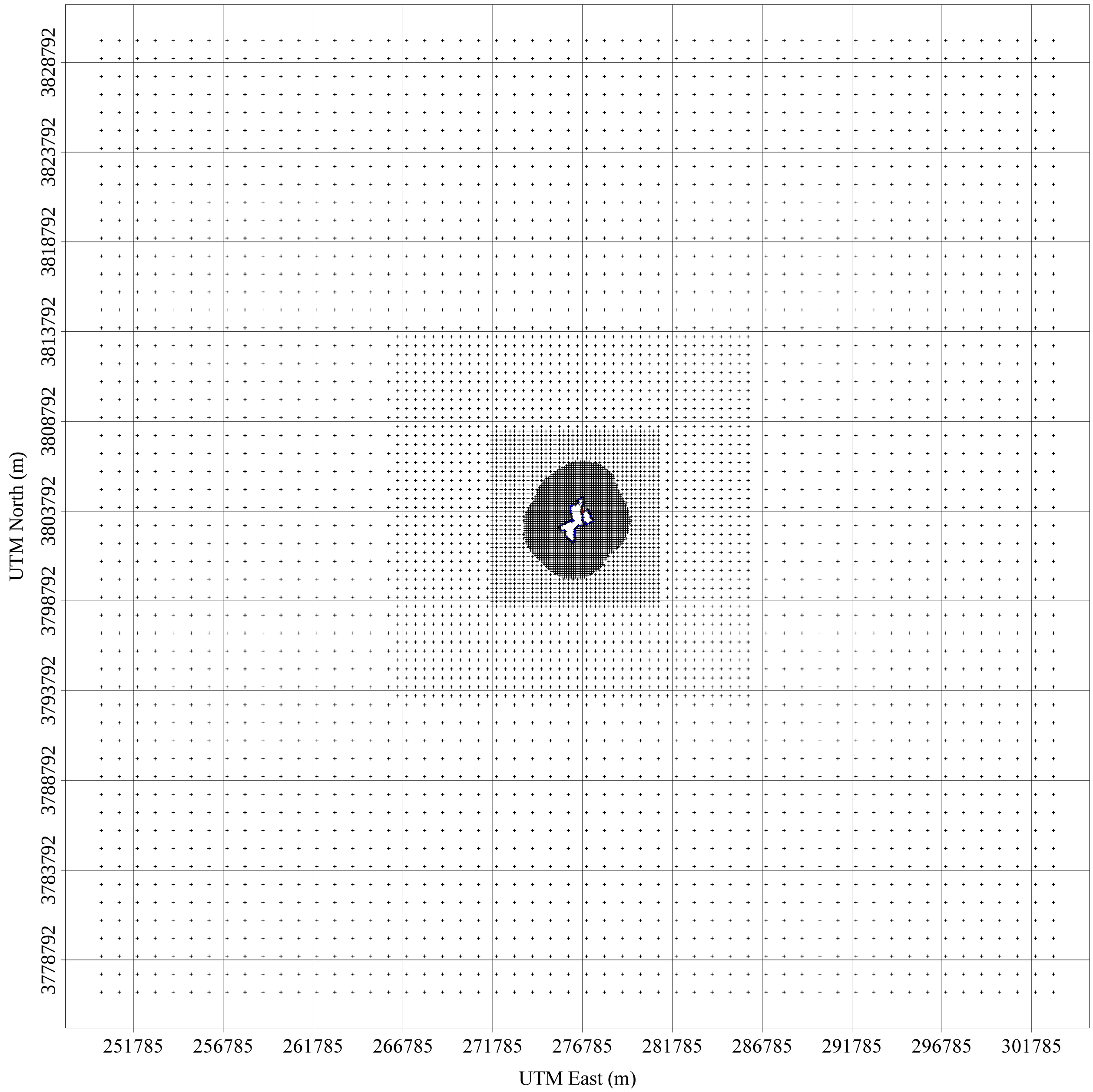


Figure 8-5
Refined Receptor Grids for Class II Area Modeling for NO_2 1-hour Analyses

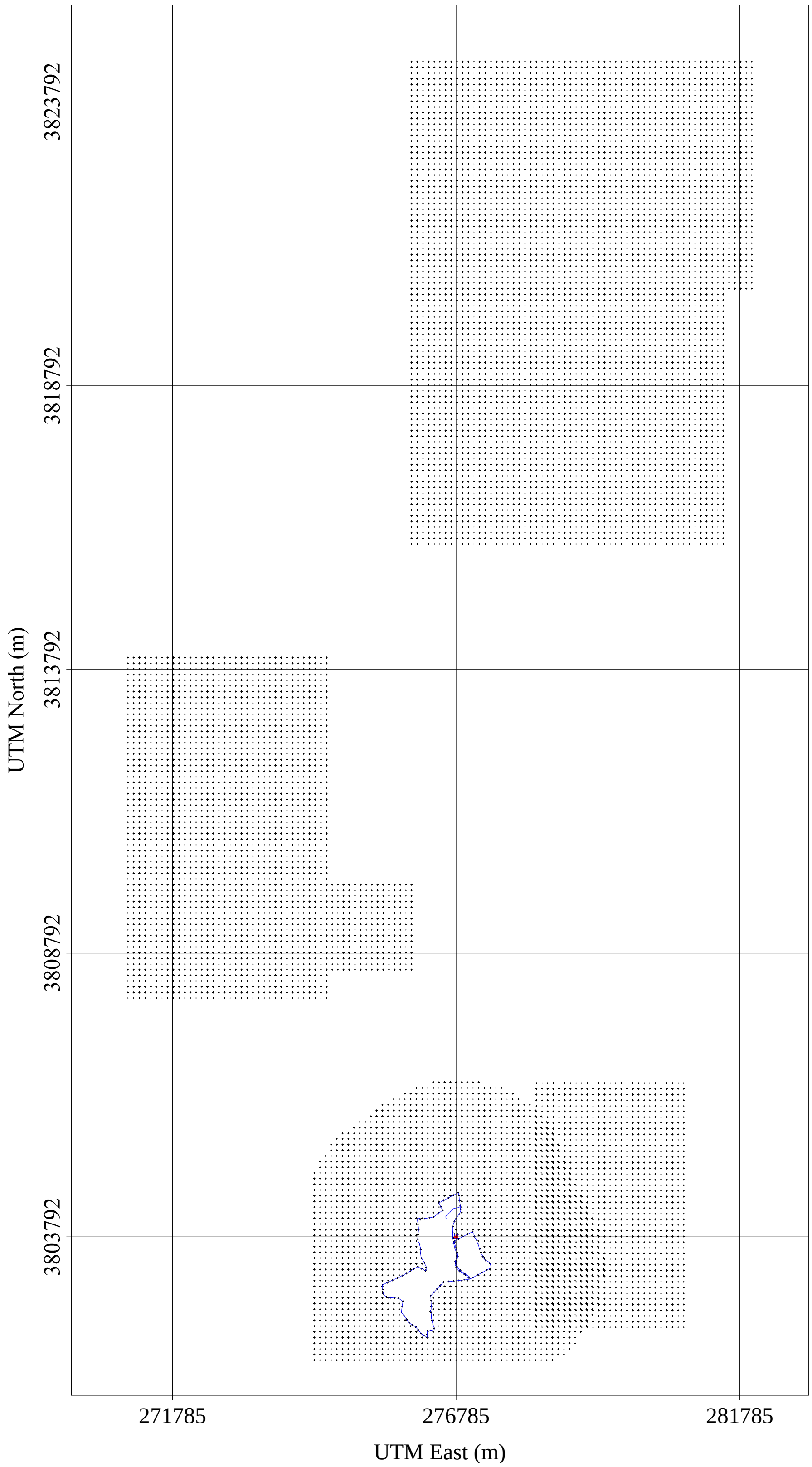
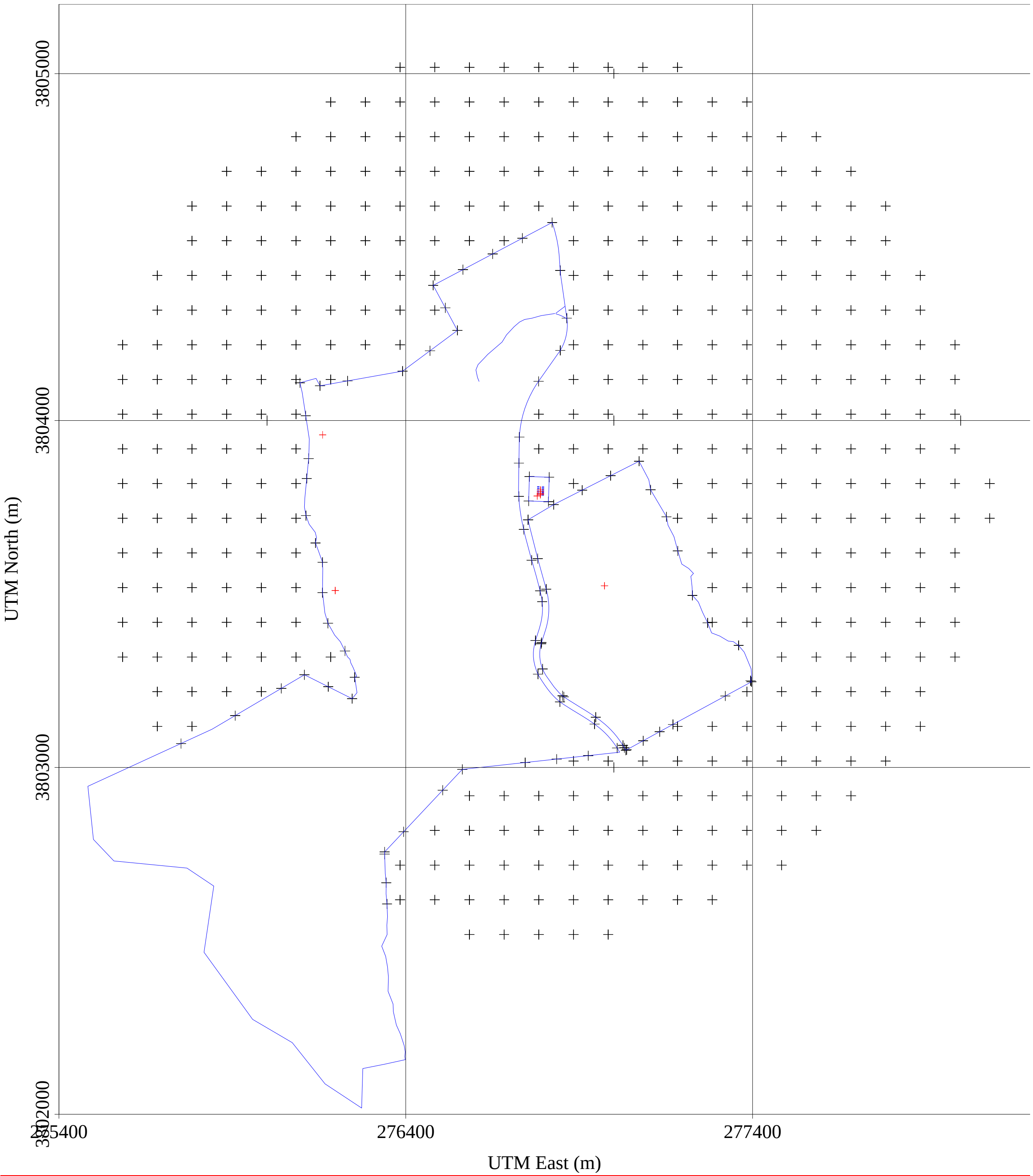


Figure 8-6
Refined Receptor Grids for Class II Area Modeling for NO_2 Annual and $PM_{2.5}$ Analyses



SECTION 9
METEOROLOGICAL DATA

The station closest to the proposed location of the IC engines is located at the Athens, Georgia airport. Two sets of meteorological data files were developed per the request of GAEPD. The AERMOD model runs were conducted using five years (1989-1993) of meteorological data (SFC and PLF files) that are based on surface data from Athens, GA (NWS Station No. 13873) (Set 1) and the proposed location of IC engines (Set 2) and the and upper air data from Athens, GA (NWS Station No. 13873). The profile base elevation used in the AERMOD setup for the Athens, GA station is 244 meters and profile base elevation for the proposed location of the IC engines is approximately 273 meters the above sea level. Both sets of processed meteorological files were verified and approved by Mr. Peter (Pete) Courtney of the GAEPD. Copies of the meteorological data files used in the modeling are provided on a CD accompanying this modeling report.

The meteorological data sets were initially developed for five individual years. Individual model runs for each year in each meteorological data set were completed for PM_{10} and NO_2 annual concentrations, consistent with the requirements identified in several items in the protocol comments. Names of the input and output files for the multiple year runs submitted on the CD accompanying this report start with the string "SIL2_".

Five-year concatenated files for each met data set were used for modeling of all other pollutants and averaging periods. Names of the input and output files for the multiple year runs submitted on the CD accompanying this report start with the string "SIL1_".

Consistent with Item 2 in the modeling protocol comments and follow-up discussion, all model runs for all types of modeling, pollutants and averaging periods were completed using both sets of meteorological data. The Class I, SID, and cumulative impact modeling result summary tables in Appendices B through F clearly identify combinations of the Source Group and meteorological data set resulting in the highest predicted concentrations. The results of model runs for all meteorological conditions are summarized in spreadsheet tables included in Appendices B through F; however, only the worst-case met data set results are included in printouts of the AERMOD output files and on the concentration plots in the referenced appendices. The modeling files representing both meteorological sets are provided on the CD accompanying this report.

SECTION 10
MODEL REFINEMENTS AND POST-PROCESSING

While the new 1-hour NAAQS is defined relative to ambient concentrations of NO_2, the majority of nitrogen oxides (NO_x) emissions for stationary and mobile sources are in the form of nitric oxide (NO) rather than NO_2. In addition, the new standard for NO_2 is attained when the 3-year average of the 98th-percentile of the annual distribution of daily maximum 1-hour concentrations does not exceed the threshold value of 100 parts-per-billion. As a result, special techniques discussed below were used to demonstrate compliance of the R&B operations with the new standards.

10.1 NO_2 Modeling Options

The U.S. EPA's NO_2 modeling memorandum[16] and clarification[17] provide four main options for 1-hour averaging period modeling for NO_2:

- Tier 1 – Regulatory default modeling assuming full conversion of NO to NO_2;
- Tier 2 (Ambient Ratio Method, aka ARM) – Regulatory default modeling with Tier I results multiplied by empirically-derived NO_2/NO_x annual national default ratio of 0.75. The March 1, 2011 EPA guidance authorized using the 1-hour NO_2/NO_x default ratio of 0.8.
- Tier 3A (Ozone Limiting Method, aka OLM) – non regulatory default beta option;
- Tier 3B (Plume Volumetric Molar Ratio Method, aka RVMRM) – non regulatory default beta option.

Tier 2 option was used in the 1-hour and annual NO_2 modeling. Note that the chemical name used for NO_x in both SID and cumulative modeling analyses was "NO2". This name convention was selected because this is the chemical ID used by the new AERMOD software (ver. 11103) to complete special treatment of the model predictions (e.g., average the modeling results over five-year period on a receptor-by-receptor basis). However, the modeled emission rates were for NO_x; therefore, the Tier 2 adjustments were applied to the model-calculated values.

10.2 Post-processing of NO_2 and $PM_{2.5}$ Results

As stated in Section 1.3.2, the modeler requested an approval to use highest, 8th-high (H8H) values as a conservative unbiased substitute of the 98th percentile design concentration in the NO_2 1-hour modeling. This approach is also consistent with the March 1, 2011 modeling memorandum.

[16] U.S. EPA, *Applicability of Appendix W Modeling Guidance for the 1-hour NO_2 NAAQS,* Memorandum, Office of Air Quality Planning and Standards, June 28, 2010.
[17] U.S. EPA, *Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 NAAQS,* Memorandum, EPA's New Source Review Policy & Guidance Web page, March 1, 2011.

AERMOD (version 11103) directly calculates 1-hour NO_2 and 24-hour and annual $PM_{2.5}$ NAAQS design concentrations according to the latest EPA guidance. The H8H values for NO_2 averaged over five years on a receptor-by-receptor basis were directly compared to the new NAAQS. Since the results successfully demonstrated that the proposed project will not cause or contribute to any violations of the NAAQS, no post-processing (e.g., finding the highest of the 98^{th} percentile values for NO_2 of the maximum daily one-hour concentrations) was required for NO_2 cumulative modeling results.

AERMOD also calculated the highest $PM_{2.5}$ values for the maximum 24-hour and annual concentrations, averaged over the number of years modeled. The design concentrations were estimated for the highest maximum 5-year average of 1st-High predicted values consistent with the U.S. EPA guidance.

SECTION 11
MODELING RESULTS AND SUBMITTALS

The modeling results for each pollutant and averaging period are summarized in the following subsections of this section. ~~Tables~~ and in Table 11-1 at the end of this section. Additional tables comparing the design concentrations for each averaging period for each pollutant to the applicable significance level, PSD Increment, and NAAQS are included in this section or in Appendices B through F, as referenced. Also included in Appendices B through E are figures showing concentration plots or isopleths of the predicted concentration of each pollutant over the receptor grid area.

A compact disc (CD) accompanying this report contains all model input and output files, as well as meteorological data electronic files pertinent to the modeling analyses, terrain files, downwash files, and supporting information files.

11.1 Modeling Results for NO_2

Two sets of meteorological data discussed in Section 9 and containing the hourly observations of each of the five years were used in the NO_2 modeling with all alternative scenarios modeled as individual source groups. The Tier 2 (ARM) approach discussed in Section 10.1 was used.

Printouts of the output files generated by AERMOD and SID modeling result summary tables are presented in Appendix B. The SID modeling indicated exceedances of the SIL levels for both 1-hour and annual averaging periods. Therefore, NAAQS cumulative impact modeling was conducted for both averaging periods. The Radius of Significant Impact is 21 km for 1-hour concentrations and 1.1 km for annual concentrations (see Tables 11-2 and 11-3 at the end of this section). The SID modeling annual predictions were below the Pre-construction Monitoring level of 14 µg/m^3; therefore, NO_2 pre-construction monitoring is not required.

Printouts of the output files generated by AERMOD and concentration plots are also presented in Appendix B. The concentration plots were constructed as follows. First, the model-predicted values were adjusted using the U.S. EPA-default ARM scalars discussed in Section 10.1. The background concentration value for each averaging period from Table 5-1 was added to the adjusted concentrations, and the resulting values were plotted.

The highest adjusted plus background 1-hour ambient air concentration for NO_2 is 113.1 µg/m^3, or approximately 60% of the NAAQS (188 µg/m^3). Since no PSD Increment standard has been established for this averaging period, the demonstration is complete.

The highest adjusted plus background annual ambient air concentration for NO_2 (Year 1993) is 7.8 µg/m^3, or approximately 8% of the NAAQS (100 µg/m^3). The highest adjusted predicted concentration for Source Group: ALL (without the background concentration) is 2.1 µg/m^3, or approximately 8.4% of the PSD Increment standard (25 µg/m^3). Since all sources were modeled with the Potential-to-Emit rates, no additional demonstration is required to document that the PSD Increment will not be violated.

11.2 Modeling Results for CO

Only SID modeling was required for CO to demonstrate that the project will not have a significant impact on the ambient air. The pre-2008 EPA guidance was used to evaluate the ambient air impacts. Two concatenated files of meteorological data discussed in Section 9 and containing the hourly observations of all five years were used in the CO modeling per Item 2 in the protocol comments.

The highest predicted 1-hour ambient air concentration from the project emissions for CO is 348.8 µg/m^3, or approximately 17% of the SIL (2,000 µg/m^3). Since the project concentrations are less than the SIL, the demonstration is complete.

The highest predicted 8-hour ambient air concentration from the project emissions for CO is 169.4 µg/m^3, or approximately 34% of the SIL (500 µg/m^3~~).~~) and approximately 29.5% of the pre-construction monitoring level (575 µg/m^3). Since the project concentrations are less than the SIL, the demonstration is complete. CO pre-construction monitoring is not required.

Printouts of the output files generated by AERMOD and SID modeling result summary tables are presented in Appendix C.

11.3 Modeling Results for PM_{10}

The PM_{10} emissions were modeled in a manner similar to CO, as discussed in Section 11.2. The 24-hr NAAQS design concentration was modeled using a five-year concatenated file of hourly meteorological observations. Highest-1st-High 24-hour concentrations of PM_{10} were estimated for each five-year set of meteorological data. The annual SIDs for both alternative scenarios were modeled on a year-to-year basis.

The highest predicted 24-hour ambient air concentration from the project emissions for PM_{10} is 3.96 µg/m^3, or approximately 79% of the SIL (5 µg/m^3~~).~~) and approximately 39.6% of the pre-construction monitoring level (10 µg/m^3).. Since the project concentrations are less than the SIL, the demonstration is complete. PM_{10} pre-construction monitoring is not required.

The highest predicted annual ambient air concentration from the project emissions for PM_{10} is 0.54 µg/m^3, or approximately 54% of the SIL (1 µg/m^3). Since the project concentrations are less than the SIL, the demonstration is complete.

Printouts of the output files generated by AERMOD and SID modeling result summary tables are presented in Appendix D.

11.4 Modeling Results for $PM_{2.5}$

The 24-hr NAAQS design concentrations were modeled using the five-year concatenated files of hourly meteorological observations. Highest-1st-High 24-hour and highest annual concentrations of PM_{10} averaged over the five-year period on a receptor-by-receptor basis were estimated for each five-year set of meteorological data. The averaging was completed by the AERMOD software.

Printouts of the output files generated by AERMOD and SID modeling result summary tables are presented in Appendix E. The SID modeling indicated exceedances of the SIL levels for both 24-hour and annual averaging periods. Therefore, NAAQS cumulative impact modeling was conducted for both averaging periods. The Radius of Significant Impact is 1.1 km (see Tables 11-2 and 11-3 at the end of this section). However, as shown in Table 11-1, the SID modeling 24-hour predictions were below the Pre-construction Monitoring level of 4 µg/m^3; therefore, $PM_{2.5}$ pre-construction monitoring is not required.

Printouts of the output files generated by AERMOD and concentration plots for the cumulative impact modeling are also presented in Appendix E. The background concentration value for each averaging period from Table 5-1 was added to the model-predicted concentrations, and the resulting values are shown on the concentration plots included in the appendix.

The highest predicted plus background 24-hour ambient air concentration for $PM_{2.5}$ from the modeling which used Banks met data set is ~~32.7~~33.02 µg/m^3, or approximately ~~93~~94.35% of the NAAQS (35 µg/m^3). At the same time, the highest predicted plus background 24-hour ambient air concentration for $PM_{2.5}$ from the modeling which used Athens met data set shown in Table E-5 in Appendix E is 35.~~12~~74 µg/m^3, or ~~100.3~~102.11% of the NAAQS.

An additional analysis was therefore completed using the Athens met data set to estimate maximum contribution from the project sources to the predicted exceedances of the standard. The contribution was estimated using the MAXDCONT option included in version 11103 of the AERMOD software. Both the summary of the modeling results and MAXDCONT file printout presented on Table E-6 in Appendix E indicate ~~two~~five receptors with a potential standard exceedance. As shown on the referenced table, the maximum project sources contribution to the maximum predicted concentration for all on-site and offsite sources is 0.~~54~~5375 µg/m^3, or 45% of the SIL. Therefore, the project sources are not expected to cause or contribute to potential exceedances of the NAAQS. Since the $PM_{2.5}$ PSD Increment for the 24-hour averaging period does not become effective until October 20, 2011 and EPA has not yet published guidance on how to evaluate the new Increment, the demonstration is complete.

The highest predicted plus background annual ambient air concentration for $PM_{2.5}$ is 13.~~5~~99 µg/m^3, or approximately ~~90~~93.20% of the NAAQS (15 µg/m^3). Since the $PM_{2.5}$ PSD Increment for the annual averaging period does not become effective until October 20, 2011 and EPA has not yet published guidance on how to evaluate the new Increment, the demonstration is complete.

11.5 Modeling Results for Class I Area SID

For the Class I Area SID modeling, the maximum PM_{10} and NO_2 modeled impacts at 50-km distance from the project sources were compared to the respective SILs. The $PM_{2.5}$ SILs were assessed using maximum impacts averaged over the meteorological period of record on a receptor-specific basis as it was done with Class II modeling. The AERMOD assessment of Class I SILs was included as a separate receptor group in each Significance model consistent with the recommendation provided in Item 6 in the protocol comments.

The highest annual NO_2 concentration (the model-predicted NOx concentration adjusted using the 0.75 scalar) at the distance of 50 km from the project sources is 0.~~006~~0108 µg/m^3, or approximately 5.8.06% of the Class I SIL (0.1 µg/m^3). Since the concentration at 50 km from the project sources is less than the SIL, the modeling indicated that the project will not create any threat to the PSD Increment standard at the Class I areas.

The highest predicted 24-hour PM_{10} concentration at the distance of 50 km from the project sources is 0.073 µg/m^3, or less than 25% of the Class I SIL (0.3 µg/m^3). Since the concentration at 50 km from the project sources is less than the SIL, the modeling indicated that the project will not create any threat to the PSD Increment standard at the Class I areas.

The highest predicted annual PM_{10} concentration at the distance of 50 km from the project sources is 0.00180025 µg/m^3, or less than 1.23% of the Class I SIL (0.2 µg/m^3). Since the concentration at 50 km from the project sources is less than the SIL, the modeling indicated that the project will not create any threat to the PSD Increment standard at the Class I areas.

The predicted 5-year average 24-hour $PM_{2.5}$ concentration at the distance of 50 km from the project sources is 0.058063 µg/m^3, or approximately 8389% the Class I SIL (0.07 µg/m^3). Note that the average value is not receptor-based but a simple average of the highest predicted concentrations for all modeled receptors. Since the concentration at 50 km from the project sources is less than the SIL, no further demonstration is required.

The predicted 5-year average annual $PM_{2.5}$ concentration at the distance of 50 km from the project sources is 0.00160021 µg/m^3, which is less than 3.54% the Class I SIL (0.06 µg/m^3). Note that the average value is not receptor-based but a simple average of the highest predicted concentrations for all modeled receptors. Since the concentration at 50 km from the project sources is less than the SIL, no further demonstration is required.

Table 11-1
Master Summary Table for Class II Modeling Results

Table 11-1

Table 11-1 Master Summary Table for Class II Modeling Results

Criteria Pollutant	Averaging Period	Significance Level	SIDM Modeling MGLC	CIM Required?	Preconstr. Monitoring Level	Preconstr. Monitoring Required?	Class II NAAQS	CIM Modeling MGLC	Background Conc.	Total Conc.	Demonstration Compelete?	Class II PSD Increment	CIM Modeling MGLC	Demonstration Compelete?
		(μg/m^3)	(μg/m^3)		(μg/m^3)		(μg/m^3)	(μg/m^3)	(μg/m^3)	(μg/m^3)		(μg/m^3)	(μg/m^3)	
CO	1-Hr	2000	348.836	No	---	---	---	---	---	---	---	---	---	---
	8-Hr	500	169.445	No	575	No	---	---	---	---	---	---	---	---
NO_2	1-hour	7.52	38.530	Yes	---	---	188.0	47.26	65.8	113.1	Yes	---	---	---
	Annual	1.0	1.766	Yes	14.0	No	100.0	2.09	5.7	7.8	Yes	25.0	2.09	Yes
$PM_{2.5}$	24-Hr	1.2	3.577	Yes	4.0	No	35.0	8.44	27.3	35.7	Yes See Note 3	9.0	8.44	Yes
	Annual	0.3	0.468	Yes	---	---	15.0	1.89	12.1	14.0	Yes	4.0	1.89	Yes
PM_{10}	24-Hr	5.0	3.959	No	10.0	No	---	---	---	---	---	30.0	---	---
	Annual	1.0	0.540	No	---	---	---	---	---	---	---	17.0	---	---

Abbreviations: MGLC = Maximum Ground-Level Concentration
SIDM = Significant Impact Determination Modeling
CIM = Cumulative Impact Modeling

Notes:
1. For NO_2, the model predictions represented in this table are adjusted using the U.S. EPA's default NO_2/NO_X ambient air ratio values.
2. Two source groups and two met data sets were modeled. This table only shows the worst-case results
3. Additional contribution analyses were conducted for $PM_{2.5}$ project sources to demonstrate that the project emissions will not contribute to the predicted 24-hour average exceedance of the NAAQS. See Section 11.4 for details.

Table 11-2
Radii of Significant Impact for the Model Runs with Athens Met Data

Table 11-2
Radii of Significant Impact for the Model Runs with Athens Met Data

Criteria Pollutant	Averaging Period	Significance Level (µg/m³)	Maximum Projected Concentration (µg/m³)	Receptors UTM Zone 17 Meter East	Receptors UTM Zone 17 Meter North	Model Met Data Period (yymmddhh)	Radius of SIA km	Receptors UTM Zone 17 Meter East	Receptors UTM Zone 17 Meter North
NO_2	1-hr	7.50	48.165	274,884	3,805,118	1989-1993	21.2	281,500	3,824,500
NO_2	Annual - 1989	1.00	1.146	276,225	3,803,336	1989	0.9	276,108	3,803,267
	Annual - 1990	1.00	1.207	276,225	3,803,336	1990	0.9	276,108	3,803,267
	Annual - 1991	1.00	1.549	276,176	3,803,416	1991	1.1	275,908	3,803,149
	Annual - 1992	1.00	1.366	276,225	3,803,336	1992	1	275,984	3,803,218
	Annual - 1993	1.00	1.207	276,225	3,803,336	1993	0.9	276,108	3,803,267
$PM_{2.5}$	24-hr	1.20	1.922	276,225	3,803,336	1989-1993	1.1	275,908	3,803,149
$PM_{2.5}$	Annual	0.30	0.295	276,225	3,803,336	1989-1993	NA	276,225	3,803,336

Table 11-3
Radii of Significant Impact for the Model Runs with Banks Met Data

Table 11-3
Radii of Significant Impact for the Model Runs with Banks Met Data

Criteria Pollutant	Averaging Period	Significance Level (µg/m^3)	Maximum Projected Concentration (µg/m^3)	Receptors UTM Zone 17 Meter East	Receptors UTM Zone 17 Meter North	Model Met Data Period (yymmddhh)	Radius of SIA km	Receptors UTM Zone 17 Meter East	Receptors UTM Zone 17 Meter North
NO_2	1-hr	7.50	43.759	276,730	3,803,974	1989-1993	3.3	280,000	3,803,250
NO_2	Annual - 1989	1.00	2.299	276,984	3,803,918	1989	0.9	276,108	3,803,267
	Annual - 1990	1.00	1.954	276,984	3,803,918	1990	0.9	276,108	3,803,267
	Annual - 1991	1.00	1.767	277,106	3,803,800	1991	1.1	275,908	3,803,149
	Annual - 1992	1.00	2.166	276,991	3,803,841	1992	1	275,984	3,803,218
	Annual - 1993	1.00	2.354	276,991	3,803,841	1993	0.9	276,108	3,803,267
$PM_{2.5}$	24-hr	1.20	3.577	276,728	3,803,952	1989-1993	1.1	275,908	3,803,149
$PM_{2.5}$	Annual	0.30	0.468	276,991	3,803,841	1989-1993	0.60	277,384	3,803,718

SECTION 12
ADDITIONAL IMPACTS ANALYSES

PSD rules require special analyses related to protection of the environment.

12.1 Visibility, Soils, and Vegetation

Additional impact analyses are required for PSD permit applications. The three types of additional impacts analyses are growth, soils and vegetation, and visibility.

12.1.1 Growth Analysis

Per the U.S. EPA Guidelines[18], a growth analysis is required only "if the project would result in a significant shift of population and associated activity into an area – that is, a population increase on the order of thousands of people." Temporary increase in the local population may occur only during the construction period of LFGTE project; however, the project will not result in a significant population shift or increase. The number of net new jobs in the community will be relatively small. Therefore, a growth analysis was not required.

12.1.2 Soils and Vegetation Analysis

The LFGTE project will not result in any off-property concentrations of criteria pollutants in excess of state NAAQS or PSD Increment standards, as documented in Section 11 of this modeling report. Additional analyses are not required per the U.S. EPA guidelines because the predicted concentration levels will not have appreciable detrimental effect on soils and vegetation.

12.1.3 Visibility Analysis

Visibility analyses evaluate impacts of the proposed projects on any Class II areas within the ROI and on any Class I areas within 100 km of the proposed site. No such areas have been established within the specified distances from the facility. As discussed in Sections 6.2 and 6.3 of the air permit application, all sources affected by the project will comply with the visibility and opacity requirements in Georgia regulations 391-3-1-.02(2)(b) and 391-3-1-.02(2)(uu). Therefore, additional modeling for visibility impairment analysis was not required.

12.2 Class I Area AQRV and Increment Consumption

A Class I PSD Area is defined as either:

- International park
- National wilderness area greater than 5,000 acres
- National memorial park greater than 5,000 acres
- National park greater than 6,000 acres

[18] U.S. EPA, *Draft New Source Review Workshop Manual. Prevention of Significant Deterioration and Nonattainment Area Permitting,* U.S. EPA, Office of Air Quality, October 1990. *Chapter D, Additional Impact Analyses.*

Figure 3-2 is a map of the PSD Class I areas nearest to R&B. The nearest Class I area is the Cohutta Wilderness Area, which is 117 kilometers from the proposed location of the project sources.

Based on the justification provided to GAEPD with the modeling protocol, Class I Air Quality Related Values (AQRV) impact analyses were not required (see Item 6 in the protocol comments) according to the 2010 Federal Land Managers' Air Quality Related Values Workgroup (FLAG) guidance. However, U.S. EPA requires an analysis of Class I PM_{10}, $PM_{2.5}$, and NO_2 Increment consumption by the project. Class I SID modeling was conducted to demonstrate that Class I Increment will not be jeopardized. The modeling results for Class I SID modeling are summarized in Section 11.5.

APPENDIX A
GENERAL SUPPORTING INFORMATION

The following attachments are included in this appendix in the following order:

- Table A-1: Stack Location and Parameters for Project Source
- Table A-2: Stack Emission Rates for Project Source
- Table A-3: Rectangular Downwash Structure Information

Table A-1
Waste Management, Inc. Chambers R&B Landfill
Class I and II SID and Cumulative Impact Modeling
Stack Location and Parameters for Project Sources

EPN	Model ID	Description	UTM-E NAD27	UTM-N NAD27	Base Elevation		Stack Height		Exit Temp.		Exit Velocity		Stack Diameter	
			(meters)	(meters)	(feet)	(meters)	(feet)	(meters)	(°F)	(°K)	(ft/sec)	(m/sec)	(feet)	(meters)
ST01	ST01	Generator Engine No. 1 SN01	276,789	3,803,809	896.85	273.4	80.0	24.4	897.998	754.26	152.7297	46.552	1.330	0.405
ST02	ST02	Generator Engine No. 2 SN02	276,789	3,803,804	897.74	273.6	80.0	24.4	897.998	754.26	152.7297	46.552	1.330	0.405
ST03_SC1	ST03_SC1	Generator Engine No. 3 SN03 Scenario 1	276,789	3,803,800	898.10	273.7	80.0	24.4	897.998	754.26	152.7297	46.552	1.330	0.405
ST03_SC2	ST03_SC2	Generator Engine No. 3 SN03 Scenario 2	276,789	3,803,800	898.10	273.7	80.0	24.4	897.998	754.26	152.7297	46.552	1.330	0.405
ST04	ST04	Generator Engine No. 4 SN04	276,789	3,803,795	898.26	273.8	80.0	24.4	897.998	754.26	152.7297	46.552	1.330	0.405
ST05	ST05	Generator Engine No. 5 SN05	276,788	3,803,790	898.36	273.8	80.0	24.4	897.998	754.26	152.7297	46.552	1.330	0.405
ST06	ST06	Generator Engine No. 6 SN06	276,788	3,803,786	898.49	273.9	80.0	24.4	897.998	754.26	152.7297	46.552	1.330	0.405
ST07	ST07	Leachate Concentrator LC01	276,779	3,803,782	896.69	273.3	80.0	24.4	154.994	341.48	96.3825	29.377	2.500	0.762

Table A-2
Waste Management, Inc. Chambers R&B Landfill
Class I and II SID and Cumulative Impact Modeling
Point Source Emission Rates

EPN	Model ID	SID Source Group	Description	PM25			PM10			NO2			CO	
				(lb/hr)	(g/s)	(tpy)	(lb/hr)	(g/s)	(tpy)	(lb/hr)	(g/s)	(tpy)	(lb/hr)	(g/s)
ST01	ST01	SCENAR1	Generator Engine No. 1 SN01	0.85	0.11	3.71	0.85	0.11	3.71	3.70	0.47	16.21	21.71	2.74
ST02	ST02	SCENAR1	Generator Engine No. 2 SN02	0.85	0.11	3.71	0.85	0.11	3.71	3.70	0.47	16.21	21.71	2.74
ST03_SC1	ST03_SC1	SCENAR1	Generator Engine No. 3 SN03 Scenario 1	0.85	0.11	3.71	0.85	0.11	3.71	3.70	0.47	16.21	21.71	2.74
ST03_SC2	ST03_SC2	SCENAR2	Generator Engine No. 3 SN03 Scenario 2	0.42	0.05	1.86	0.42	0.05	1.86	1.85	0.23	8.10	10.86	1.37
ST04	ST04	SCENAR1, SCENAR2	Generator Engine No. 4 SN04	0.85	0.11	3.71	0.85	0.11	3.71	3.70	0.47	16.21	21.71	2.74
ST05	ST05	SCENAR1, SCENAR2	Generator Engine No. 5 SN05	0.85	0.11	3.71	0.85	0.11	3.71	3.70	0.47	16.21	21.71	2.74
ST06	ST06	SCENAR1, SCENAR2	Generator Engine No. 6 SN06	0.85	0.11	3.71	0.85	0.11	3.71	3.70	0.47	16.21	21.71	2.74
ST07	ST07	SCENAR2	Leachate Concentrator LC01	2.12	0.27	9.29	2.12	0.27	9.29	9.25	1.17	40.51	54.28	6.84

Table A-3
Waste Management, Inc. Chambers R&B Landfill
Class I and II SID and Cumulative Impact Modeling
Rectangular Downwash Structure Information

Structure Name	No. of Tiers	Tier No.	Tier Height		Base Elevation		No. of Corners	Corner 1 East (X)	Corner 1 North (Y)	Corner 2 East (X)	Corner 2 North (Y)	Corner 3 East (X)	Corner 3 North (Y)	Corner 4 East (X)	Corner 4 North (Y)
			(feet)	(meter)	(ft)	(m)		(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
RAD1	1	1	13	3.96	897.7	273.6	4	276,793	3,803,807	276,798	3,803,807	276,798	3,803,810	276,793	3,803,810
RAD2	1	1	13	3.96	898.7	273.9	4	276,793	3,803,802	276,798	3,803,802	276,798	3,803,805	276,793	3,803,805
RAD3	1	1	13	3.96	898.8	274.0	4	276,793	3,803,797	276,798	3,803,797	276,798	3,803,801	276,793	3,803,801
RAD4	1	1	13	3.96	899.0	274.0	4	276,793	3,803,793	276,798	3,803,793	276,798	3,803,796	276,793	3,803,796
RAD5	1	1	13	3.96	899.2	274.1	4	276,793	3,803,788	276,797	3,803,788	276,798	3,803,792	276,793	3,803,792
RAD6	1	1	13	3.96	899.3	274.1	4	276,793	3,803,784	276,797	3,803,784	276,797	3,803,787	276,793	3,803,787
ENG1	1	1	24	7.32	895.6	273.0	4	276,779	3,803,808	276,785	3,803,808	276,785	3,803,810	276,779	3,803,810
ENG2	1	1	24	7.32	896.2	273.2	4	276,779	3,803,804	276,785	3,803,804	276,785	3,803,805	276,779	3,803,805
ENG3	1	1	24	7.32	896.4	273.2	4	276,779	3,803,799	276,784	3,803,799	276,784	3,803,800	276,779	3,803,801
ENG4	1	1	24	7.32	896.5	273.2	4	276,779	3,803,795	276,784	3,803,794	276,784	3,803,796	276,779	3,803,796
ENG5	1	1	24	7.32	896.5	273.3	4	276,779	3,803,790	276,784	3,803,790	276,784	3,803,791	276,779	3,803,792
ENG6	1	1	24	7.32	896.6	273.3	4	276,779	3,803,785	276,784	3,803,785	276,784	3,803,787	276,779	3,803,787

APPENDIX B
CLASS II MODELING INFORMATION AND RESULTS FOR NO_2

The following attachments are included in this appendix in the following order:

General Information:

- Table B-1: Point Source Locations, Parameters, and Emission Rates for Sources Used in Cumulative Impact Modeling

1-hour Average Concentrations Modeling:

- Printout of the SID Modeling Output File for Athens Met Data
- Table B-2: Summary of Predicted SID Modeling Concentrations for Nitrogen Dioxide, SID Modeling
- Figure B-1: Location of the Maximum Predicted NO_2 Design Value Concentrations for SID Modeling
  Note: Only the area nearby the project sources is shown to indicate the location of the GLCmax. All receptors with the concentrations exceeding the SIL are shown on Figure B-2. The plotted results are for Source Group: SCENAR2, Athens met data.
- Figure B-2: Location of All Receptors Used in Cumulative Modeling Analysis
  Note: This plot shows the location of all receptors for which the SID modeling predicted an exceedance of the SIL.
- Printout of the Cumulative Modeling Output File for Athens Met Data
- Table B-3: Summary of Predicted 1-hour Concentrations for Nitrogen Dioxide, Cumulative Impact Modeling
- Figure B-3: Cumulative Impact Modeling - Predicted Concentrations for Source Group ALL, Significant Receptors, Athens Met Data

Listing Continues on the Next Page

The following attachments are included in this appendix in the following order (continued from the previous page):

Annual Average Concentrations Modeling:

- Printouts of the SID Modeling Output Files for Banks Met Data (five printouts)
- Table B-4: Predicted Annual Concentrations for Nitrogen Dioxide, SID Modeling
- ~~Figure B-4: Location of the Receptors Used in Cumulative Impact Modeling Note: Only the receptors with the SID modeling concentrations exceeding the SIL are shown on the plot. The plotted results are for Source Group: SCENAR2, Banks Met Data~~
- Printouts of the Cumulative Modeling Output File for Banks Met Data (five printouts)
- Table B-5: Predicted Annual Concentrations for Nitrogen Dioxide, Cumulative Impact Modeling
- Figure B-5: Cumulative Impact Modeling - Predicted Concentrations for Year 1993, Source Group: ALL, Significant Receptors, Banks Met Data

Table B-1
Waste Management, Inc. Chambers R&B Landfill
Cumulative Impact Modeling for NO_2
Point Source Locations, Parameters, and Emission Rates

EPN	Model ID	Description	UTM-E NAD83	UTM-N NAD83	Base Elevation		Stack Height		Exit Temp.		Exit Velocity		Stack Diameter		Emission Rate NO_x		
			(meters)	(meters)	(feet)	(meters)	(feet)	(meters)	(^oF)	(^oK)	(ft/sec)	(m/sec)	(feet)	(meters)	(lb/hr)	(tpy)	(g/s)
FL1	FL1	Flare 1	276,973	3,803,524	850.10	259.1	21.0	6.4	1831.73	1273	65.6168	20.000	3.467	1.057	1.69	7.40	0.21
FL2	FL2	Flare 2	276,160	3,803,959	825.79	251.7	35.0	10.7	1831.73	1273	65.6168	20.000	5.683	1.732	4.43	19.40	0.56
FL3	FL3	Flare 3	276,197	3,803,510	814.86	248.4	42.0	12.8	1831.73	1273	65.6168	20.000	6.127	1.868	5.16	22.60	0.65
ST03	ST03	Generator Engine No. 3 SN03 Scenario 2	276,789	3,803,800	898.10	273.7	80.0	24.4	897.998	754.26	152.7297	46.552	1.330	0.405	1.85	8.10	0.23
ST04	ST04	Generator Engine No. 4 SN04	276,789	3,803,795	898.26	273.8	80.0	24.4	897.998	754.26	152.7297	46.552	1.330	0.405	3.70	16.21	0.47
ST05	ST05	Generator Engine No. 5 SN05	276,788	3,803,790	898.36	273.8	80.0	24.4	897.998	754.26	152.7297	46.552	1.330	0.405	3.70	16.21	0.47
ST06	ST06	Generator Engine No. 6 SN06	276,788	3,803,786	898.49	273.9	80.0	24.4	897.998	754.26	152.7297	46.552	1.330	0.405	3.70	16.21	0.47
ST07	ST07	Leachate Concentrator LC01	276,779	3,803,782	896.69	273.3	80.0	24.4	154.994	341.48	96.3825	29.377	2.500	0.762	9.25	40.51	1.17
TGS22	TGS22	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	24.5	7.5	813.992	707.59	53.8255	16.406	1.083	0.330	3.26	14.30	0.41
TGS23	TGS23	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	24.5	7.5	813.992	707.59	53.8255	16.406	1.083	0.330	3.26	14.30	0.41
TGS19	TGS19	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	16.0	4.9	883.004	745.93	83.7008	25.512	0.689	0.210	11.42	50.04	1.44
TGS20	TGS20	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	16.0	4.9	883.004	745.93	83.7008	25.512	0.689	0.210	11.42	50.04	1.44
TGS21	TGS21	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	16.0	4.9	883.004	745.93	83.7008	25.512	0.689	0.210	11.42	50.04	1.44
TGS01	TGS01	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	22.0	6.7	798.008	698.71	90.8793	27.700	2.001	0.610	62.83	275.21	7.92
TGS02	TGS02	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	22.0	6.7	798.008	698.71	90.8793	27.700	2.001	0.610	62.83	275.21	7.92
TGS03	TGS03	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	22.0	6.7	798.008	698.71	90.8793	27.700	2.001	0.610	62.83	275.21	7.92
TGS04	TGS04	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	22.0	6.7	798.008	698.71	90.8793	27.700	2.001	0.610	62.83	275.21	7.92
TGS05	TGS05	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	22.0	6.7	798.008	698.71	90.8793	27.700	2.001	0.610	62.83	275.21	7.92
TGS06	TGS06	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	22.0	6.7	798.008	698.71	90.8793	27.700	2.001	0.610	62.83	275.21	7.92
TGS07	TGS07	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	22.0	6.7	798.008	698.71	90.8793	27.700	2.001	0.610	62.83	275.21	7.92
TGS08	TGS08	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	22.0	6.7	876.002	742.04	90.4101	27.557	2.001	0.610	66.91	293.08	8.43
TGS09	TGS09	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	22.0	6.7	876.002	742.04	90.4101	27.557	2.001	0.610	66.91	293.08	8.43
TGS10	TGS10	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	25.0	7.6	820.004	710.93	82.2310	25.064	2.001	0.610	59.98	262.70	7.56
TGS11	TGS11	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	25.0	7.6	820.004	710.93	82.2310	25.064	2.001	0.610	59.98	262.70	7.56
TGS12	TGS12	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	25.0	7.6	820.004	710.93	82.2310	25.064	2.001	0.610	59.98	262.70	7.56
TGS13	TGS13	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	25.0	7.6	820.004	710.93	82.2310	25.064	2.001	0.610	59.98	262.70	7.56
TGS14	TGS14	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	31.3	9.5	741.002	667.04	94.3504	28.758	2.493	0.760	111.80	489.66	14.09
TGS15	TGS15	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	31.3	9.5	741.002	667.04	94.3504	28.758	2.493	0.760	111.80	489.66	14.09
TGS16	TGS16	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	49.5	15.1	636.998	609.26	65.4396	19.946	4.003	1.220	153.82	673.73	19.38
TGS17	TGS17	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	32.5	9.9	872.006	739.82	137.0210	41.764	3.314	1.010	4.09	17.91	0.52
TGS18	TGS18	Transcontinental Pipeline	303,062	3,780,788	680.81	207.5	35.0	10.7	870.008	738.71	52.7887	16.090	7.513	2.290	12.00	52.56	1.51
SRTO	SRTO	Huber - Commerce	275,827	3,782,649	881.56	268.7	85.0	25.9	287.33	415	94.8425	28.908	5.958	1.816	90.87	398.03	11.45
HRTO	HRTO	Huber - Commerce	275,805	3,782,662	883.89	269.4	85.0	25.9	292.73	418	45.0820	13.741	6.667	2.032	51.65	226.23	6.51
DRTO	DRTO	Huber - Commerce	275,766	3,782,783	900.07	274.3	100.0	30.5	285.53	414	49.6457	15.132	7.001	2.134	22.87	100.15	2.88
PRTO	PRTO	Huber - Commerce	275,828	3,782,630	879.69	268.1	85.0	25.9	276.53	409	55.0427	16.777	6.650	2.027	0.00	0.00	0.00
SC45	SC45	Huber - Commerce	275,763	3,782,666	884.15	269.5	27.0	8.2	80.33	300	16.9685	5.172	4.091	1.247	0.00	0.00	0.00
SC09	SC09	Huber - Commerce	275,575	3,782,784	875.56	266.9	27.0	8.2	80.33	300	17.8675	5.446	4.213	1.284	0.00	0.00	0.00
SC67	SC67	Huber - Commerce	275,568	3,782,801	873.29	266.2	27.0	8.2	80.33	300	13.2841	4.049	4.213	1.284	0.00	0.00	0.00
SC08	SC08	Huber - Commerce	275,770	3,782,666	884.38	269.6	27.0	8.2	80.33	300	24.2979	7.406	4.091	1.247	0.00	0.00	0.00
FP01	FP01	Huber - Commerce	275,847	3,782,873	907.74	276.7	25.0	7.6	839.93	722	67.0374	20.433	0.666	0.203	1.94	8.48	0.24
EG01	EG01	Huber - Commerce	275,774	3,782,637	880.45	268.4	25.0	7.6	951.53	784	111.6896	34.043	0.833	0.254	9.29	40.67	1.17
DRY1	DRY1	Huber - Commerce	276,059	3,782,183	858.01	261.5	110.0	33.5	144.734	335.78	85.1500	25.954	3.500	1.067	3.94	17.26	0.50

Table B-1
Waste Management, Inc. Chambers R&B Landfill
Cumulative Impact Modeling for NO_2
Point Source Locations, Parameters, and Emission Rates

EPN	Model ID	Description	UTM-E NAD83	UTM-N NAD83	Base Elevation		Stack Height		Exit Temp.		Exit Velocity		Stack Diameter		Emission Rate NO_x		
			(meters)	(meters)	(feet)	(meters)	(feet)	(meters)	(°F)	(°K)	(ft/sec)	(m/sec)	(feet)	(meters)	(lb/hr)	(tpy)	(g/s)
DRY2	DRY2	Huber - Commerce	276,059	3,782,183	858.01	261.5	110.0	33.5	148.73	338	74.5300	22.717	3.500	1.067	3.94	17.26	0.50
DRY3	DRY3	Huber - Commerce	276,059	3,782,183	858.01	261.5	110.0	33.5	149.738	338.56	87.7100	26.734	3.500	1.067	3.94	17.26	0.50
S08	S08	Huber - Commerce	276,059	3,782,183	858.01	261.5	111.0	33.8	101.732	311.89	52.3000	15.941	4.000	1.219	0.00	0.00	0.00
S09	S09	Huber - Commerce	276,059	3,782,183	858.01	261.5	111.0	33.8	102.236	312.17	54.8400	16.715	4.000	1.219	0.00	0.00	0.00
S10	S10	Huber - Commerce	276,059	3,782,183	858.01	261.5	111.0	33.8	99.23	310.5	51.6200	15.734	4.000	1.219	0.00	0.00	0.00
PCB	PCB	Plant Carl	285,709	3,806,324	796.62	242.8	85.0	25.9	399.992	477.59	56.3700	17.182	8.000	2.438	56.85	249.00	7.16
T01A	T01A	Santee Cooper - Rainey	336,574	3,802,074	608.79	185.6	155.0	47.2	177.728	354.11	58.5000	17.831	18.500	5.639	94.75	415.01	11.94
T01B	T01B	Santee Cooper - Rainey	336,574	3,802,031	600.66	183.1	155.0	47.2	177.728	354.11	58.5000	17.831	18.500	5.639	94.75	415.01	11.94
T02A	T02A	Santee Cooper - Rainey	336,620	3,801,886	553.41	168.7	115.0	35.1	1124.726	880.22	145.2000	44.257	18.500	5.639	94.75	415.01	11.94
T02B	T02B	Santee Cooper - Rainey	336,620	3,801,847	556.82	169.7	115.0	35.1	1124.726	880.22	145.2000	44.257	18.500	5.639	94.75	415.01	11.94
T003	T003	Santee Cooper - Rainey	336,766	3,802,149	636.29	193.9	75.0	22.9	972.734	795.78	147.6400	45.001	15.000	4.572	36.00	157.68	4.54
T004	T004	Santee Cooper - Rainey	336,733	3,802,149	639.83	195.0	75.0	22.9	972.734	795.78	147.6400	45.001	15.000	4.572	36.00	157.68	4.54
T005	T005	Santee Cooper - Rainey	336,700	3,802,149	640.58	195.3	75.0	22.9	972.734	795.78	147.6400	45.001	15.000	4.572	36.00	157.68	4.54
LPRTO1N	LPRTO1N	Louisiana-Pacific Corporation	277,869	3,769,293	782.97	238.7	125.0	38.1	265.73	403	66.5945	20.298	7.087	2.160	12.00	52.56	1.51
LPRTO2N	LPRTO2N	Louisiana-Pacific Corporation	277,880	3,769,262	781.43	238.2	125.0	38.1	271.13	406	66.5945	20.298	7.087	2.160	12.00	52.56	1.51
LPRTO3N	LPRTO3N	Louisiana-Pacific Corporation	278,018	3,769,177	774.80	236.2	125.0	38.1	244.13	391	62.6378	19.092	7.087	2.160	12.00	52.56	1.51

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM 1ST-HIGHEST MAX DAILY 1-HR RESULTS AVERAGED OVER 5 YEARS *****

**** CONC OF NO2 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC		RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**44.67035**	**AT (**	**274783.70,**	**3805018.20,**	**322.14,**	**329.41,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	40.81081	AT (	274883.70,	3805118.20,	318.10,	329.40,	0.00)	DC	
	3RD HIGHEST VALUE IS	40.37124	AT (	274683.70,	3805018.20,	318.01,	329.41,	0.00)	DC	
	4TH HIGHEST VALUE IS	33.72317	AT (	276783.70,	3804018.20,	271.83,	303.92,	0.00)	DC	
	5TH HIGHEST VALUE IS	33.43905	AT (	276727.60,	3803952.20,	272.82,	304.65,	0.00)	DC	
	6TH HIGHEST VALUE IS	32.68777	AT (	276783.00,	3804112.90,	279.01,	279.01,	0.00)	DC	
	7TH HIGHEST VALUE IS	31.75938	AT (	276780.60,	3803601.90,	266.98,	304.10,	0.00)	DC	
	8TH HIGHEST VALUE IS	31.27681	AT (	276762.90,	3803597.20,	266.86,	304.10,	0.00)	DC	
	9TH HIGHEST VALUE IS	30.13758	AT (	276883.70,	3804018.20,	272.07,	272.07,	0.00)	DC	
	10TH HIGHEST VALUE IS	30.07485	AT (	276787.40,	3803509.10,	267.06,	302.91,	0.00)	DC	
SCENAR2	**1ST HIGHEST VALUE IS**	**48.16526**	**AT (**	**274883.70,**	**3805118.20,**	**318.10,**	**329.40,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	44.87374	AT (	274683.70,	3805018.20,	318.01,	329.41,	0.00)	DC	
	3RD HIGHEST VALUE IS	44.13598	AT (	274783.70,	3805018.20,	322.14,	329.41,	0.00)	DC	
	4TH HIGHEST VALUE IS	35.96065	AT (	276783.70,	3804018.20,	271.83,	303.92,	0.00)	DC	
	5TH HIGHEST VALUE IS	35.57088	AT (	276727.60,	3803952.20,	272.82,	304.65,	0.00)	DC	
	6TH HIGHEST VALUE IS	34.85488	AT (	274783.70,	3805118.20,	316.37,	329.41,	0.00)	DC	
	7TH HIGHEST VALUE IS	34.77485	AT (	276783.00,	3804112.90,	279.01,	279.01,	0.00)	DC	
	8TH HIGHEST VALUE IS	33.83142	AT (	276780.60,	3803601.90,	266.98,	304.10,	0.00)	DC	
	9TH HIGHEST VALUE IS	32.98737	AT (	276762.90,	3803597.20,	266.86,	304.10,	0.00)	DC	
	10TH HIGHEST VALUE IS	32.95531	AT (	276787.40,	3803509.10,	267.06,	302.91,	0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

Table B-2
Waste Management, Inc. Chambers R&B Landfill
Significant Impact Determination Modeling
Summary of Predicted 1-hour Concentrations for Nitrogen Dioxide

Pollutant	Year Modeled	Met Data Set	Highest Scenario Source Group	Averaging Period	Average 5-year Modeled Conc. (μg/m^3)	NO_2/NO_X Adjustment Factor	Modeled Design Conc. (μg/m^3)	Class II SIL (μg/m^3)	Modeled Conc. to SIL Ratio
NO_2	1989 - 1993	ahnahn89-93	SCENAR2	1-hour	48.17	**0.80**	**38.53**	**7.52**	**5.12**
NO_2	1989 - 1993	banks89-93	SCENAR2	1-hour	43.76	0.80	35.01	7.52	4.66

Notes:

1. The Highest-1st-High concentrations were modeled for 1-hour averaging period.

2. The design concentrations are the five-year average receptor-based concentrations.

3. A 0.8 conversion factor was used to convert NO_x concentrations to NO_2 concentrations.

Figure B-1
Waste Management, Inc. Chambers R&B Landfill
Class II SIL Modeling Analyses
Location of the Maximum Predicted 1-hour NO2 Design Value
Concentrations Relative to the Project Sources

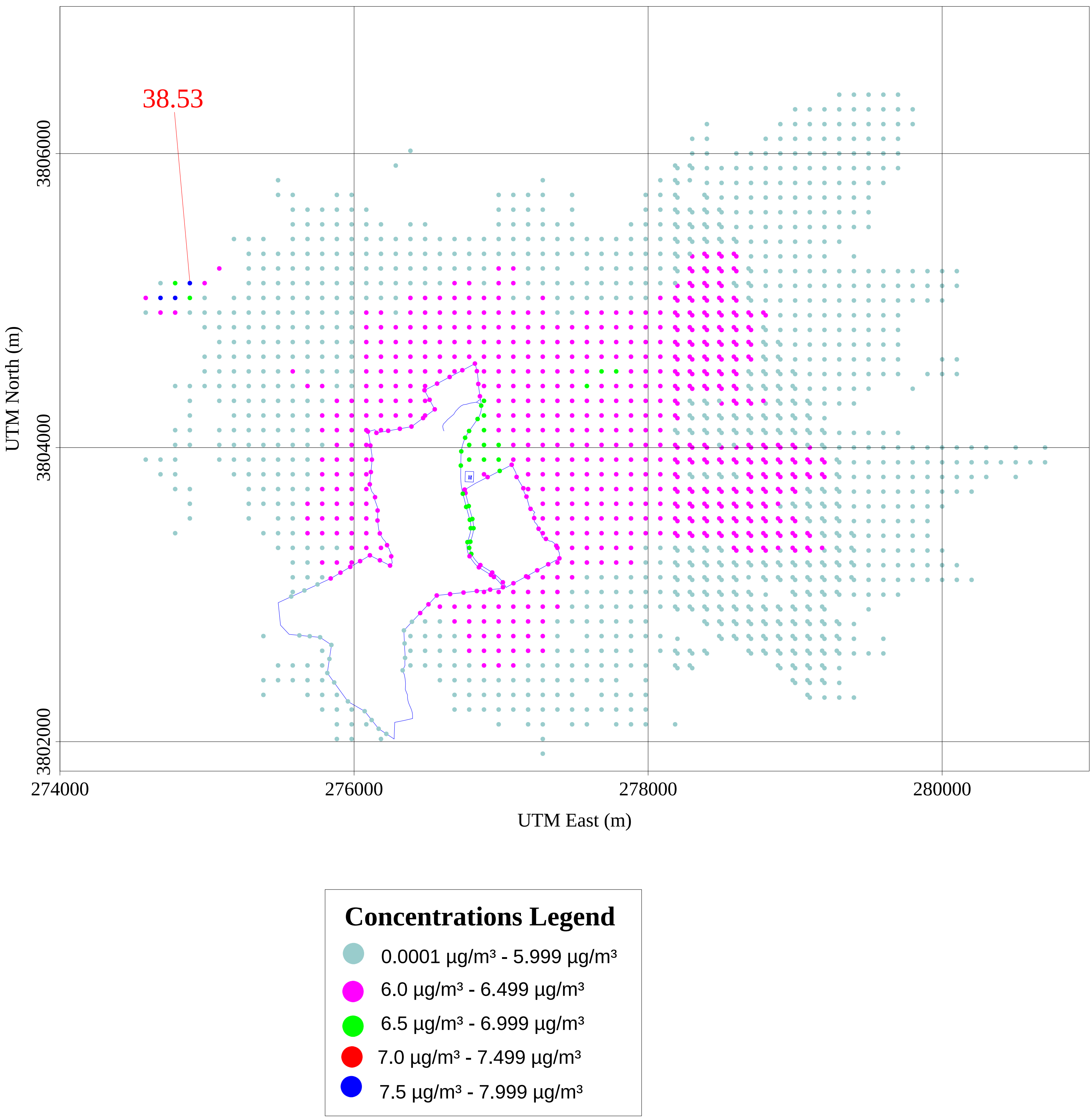
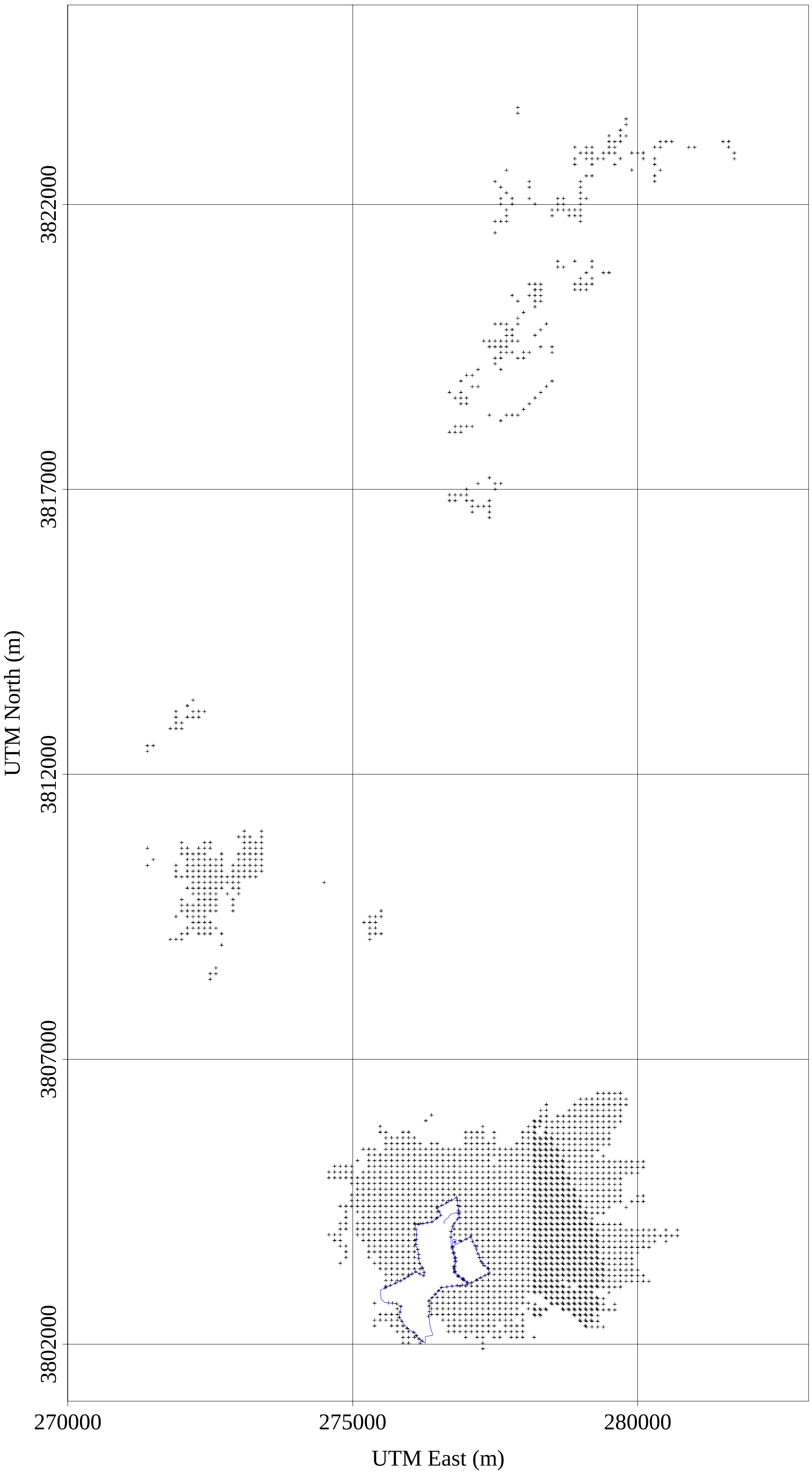


Figure B-2
Waste Management, Inc. Chambers R&B Landfill
Class II Cumulative Modeling Analysis
Location of the Modeled Receptors for NO2
1-hour Concentrations Relative to the Project Sources



**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM 8TH-HIGHEST MAX DAILY 1-HR RESULTS AVERAGED OVER 5 YEARS *****

**** CONC OF NO2 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
ONSITE	**1ST HIGHEST VALUE IS**	**33.03538**	**AT (276729.50, 3803973.70, 273.53, 304.65, 0.00)**	**DC**	
	2ND HIGHEST VALUE IS	32.18120	AT (276756.00, 3804066.40, 276.53, 280.74, 0.00)	DC	
	3RD HIGHEST VALUE IS	31.07968	AT (276783.70, 3804018.20, 271.83, 303.92, 0.00)	DC	
	4TH HIGHEST VALUE IS	29.86765	AT (276762.90, 3803597.20, 266.86, 304.10, 0.00)	DC	
	5TH HIGHEST VALUE IS	29.73134	AT (276780.60, 3803601.90, 266.98, 304.10, 0.00)	DC	
	6TH HIGHEST VALUE IS	29.65018	AT (276783.00, 3804112.90, 279.01, 279.01, 0.00)	DC	
	7TH HIGHEST VALUE IS	28.22898	AT (276883.70, 3804018.20, 272.07, 272.07, 0.00)	DC	
	8TH HIGHEST VALUE IS	26.48959	AT (276787.40, 3803509.10, 267.06, 302.91, 0.00)	DC	
	9TH HIGHEST VALUE IS	25.95925	AT (276805.00, 3803514.00, 266.55, 302.91, 0.00)	DC	
	10TH HIGHEST VALUE IS	25.39678	AT (277583.70, 3804418.20, 304.47, 304.47, 0.00)	DC	
OFFSITE	**1ST HIGHEST VALUE IS**	**59.07380**	**AT (279700.00, 3806400.00, 236.50, 259.60, 0.00)**	**DC**	
	2ND HIGHEST VALUE IS	58.41055	AT (279800.00, 3806300.00, 241.40, 259.60, 0.00)	DC	
	3RD HIGHEST VALUE IS	58.00806	AT (279600.00, 3806400.00, 235.20, 259.60, 0.00)	DC	
	4TH HIGHEST VALUE IS	56.57928	AT (279600.00, 3804100.00, 238.80, 274.10, 0.00)	DC	
	5TH HIGHEST VALUE IS	56.57036	AT (279700.00, 3804100.00, 235.20, 276.20, 0.00)	DC	
	6TH HIGHEST VALUE IS	56.53118	AT (279800.00, 3806200.00, 247.30, 252.20, 0.00)	DC	
	7TH HIGHEST VALUE IS	55.86478	AT (279700.00, 3806300.00, 247.90, 259.60, 0.00)	DC	
	8TH HIGHEST VALUE IS	55.71924	AT (279900.00, 3804000.00, 244.00, 269.40, 0.00)	DC	
	9TH HIGHEST VALUE IS	55.69729	AT (279800.00, 3804000.00, 251.80, 268.80, 0.00)	DC	
	10TH HIGHEST VALUE IS	55.57799	AT (280200.00, 3803700.00, 261.20, 267.30, 0.00)	DC	
ALL	**1ST HIGHEST VALUE IS**	**59.07811**	**AT (279700.00, 3806400.00, 236.50, 259.60, 0.00)**	**DC**	
	2ND HIGHEST VALUE IS	58.41492	AT (279800.00, 3806300.00, 241.40, 259.60, 0.00)	DC	
	3RD HIGHEST VALUE IS	58.01261	AT (279600.00, 3806400.00, 235.20, 259.60, 0.00)	DC	
	4TH HIGHEST VALUE IS	56.59257	AT (279600.00, 3804100.00, 238.80, 274.10, 0.00)	DC	
	5TH HIGHEST VALUE IS	56.58396	AT (279700.00, 3804100.00, 235.20, 276.20, 0.00)	DC	
	6TH HIGHEST VALUE IS	56.53422	AT (279800.00, 3806200.00, 247.30, 252.20, 0.00)	DC	
	7TH HIGHEST VALUE IS	55.86852	AT (279700.00, 3806300.00, 247.90, 259.60, 0.00)	DC	
	8TH HIGHEST VALUE IS	55.73246	AT (279900.00, 3804000.00, 244.00, 269.40, 0.00)	DC	
	9TH HIGHEST VALUE IS	55.71056	AT (279800.00, 3804000.00, 251.80, 268.80, 0.00)	DC	
	10TH HIGHEST VALUE IS	55.58385	AT (280200.00, 3803700.00, 261.20, 267.30, 0.00)	DC	

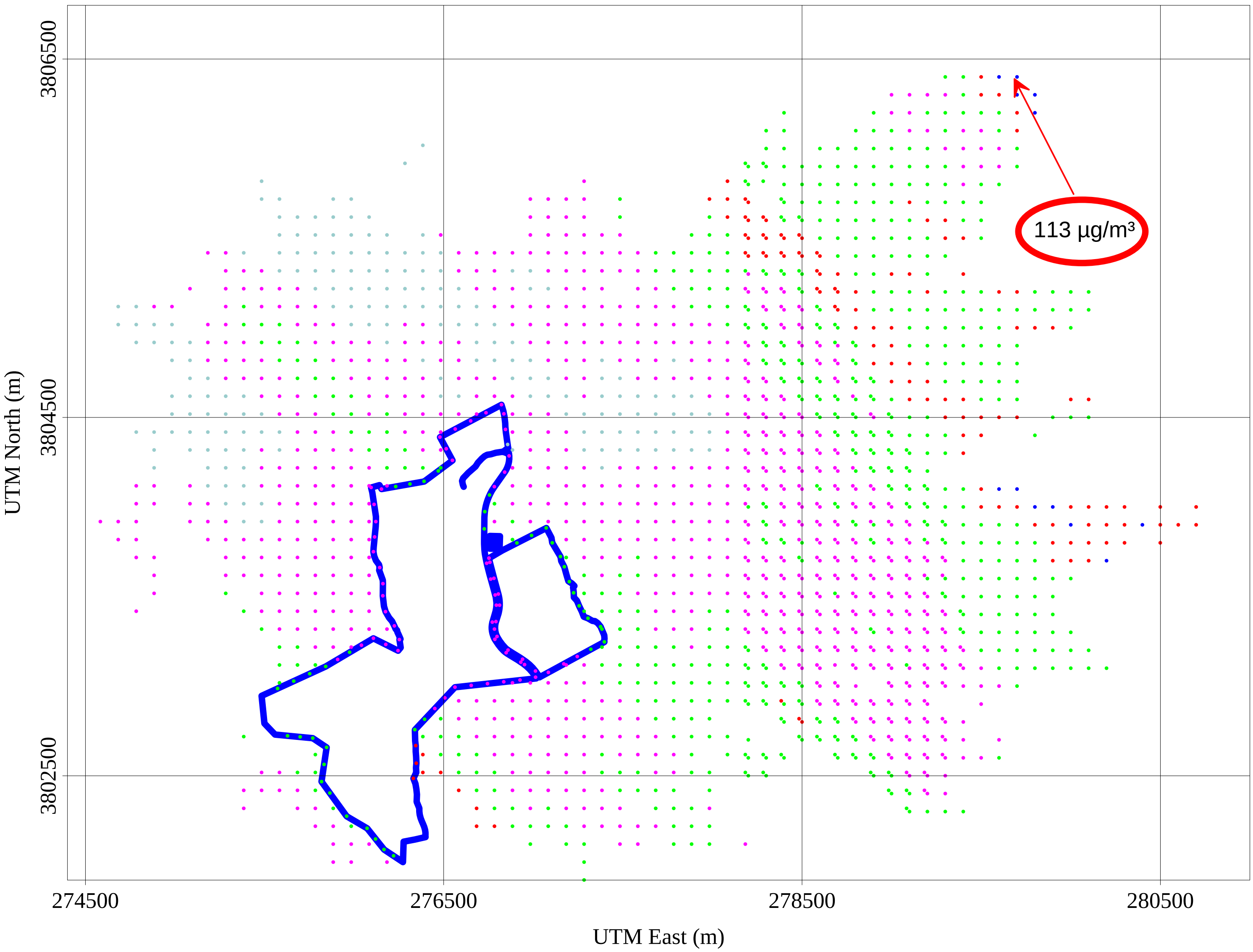
*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

Table B-3
Waste Management, Inc. Chambers R&B Landfill
Cumulative Impact Modeling
Summary of Predicted 1-hour Concentrations for Nitrogen Dioxide

Pollutant	Year Modeled	Met Data Set	Source Group	Averaging Period	Average 5-year Modeled Conc. (μg/m³)	NO_2/NO_X Adjustment Factor	Modeled Design Conc. (μg/m³)	Background Conc. (μg/m³)	Total Conc. (μg/m³)	Class II NAAQS (μg/m³)	Total Conc. as % of NAAQS
NO_2	1989 - 1993	ahnahn89-93	ALL	1-hour	59.07811	**0.80**	**47.3**	**65.8**	**113.1**	**188**	**60.14**
NO_2	1989 - 1993	banks89-93	ALL	1-hour	43.11784	0.80	34.5	65.8	100.3	188	53.35

Notes:
1. The Highest-8th-High concentrations were modeled for 1-hour averaging period.
2. The design concentrations are the five-year average receptor-based concentrations.
3. A 0.8 conversion factor was used to convert NO_x concentrations to NO_2 concentrations.

Figure B-3
Waste Management, Inc. Chambers R&B Landfill
NAAQS Full Impact Modeling for NO2 1-hour Standard (113 µg/m³)
Predicted Concentrations for Source Group ALL for Significant Receptors
Background Concentration of 65.8 µg/m³ is added to the Model Predictions



Note: The adjusted plus background concentrations for all receptors not shown on this plot do not exceed 91 µg/m³.

Concentrations Legend

- 91 µg/m³ - 94.999 µg/m³
- 95.0 µg/m³ - 99.999 µg/m³
- 100.0 µg/m³ - 104.999 µg/m³
- 105.0 µg/m³ - 109.999 µg/m³
- 110.0 µg/m³ - 115.0 µg/m³

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS *****

**** CONC OF NO2 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR,	YR,	ZELEV,	ZHILL,	ZFLAG)	NETWORK OF TYPE GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**2.07299 AT (**	**276983.70,**	**3803918.20,**	**259.77,**	**271.22,**	**0.00)**	**DC**
	2ND HIGHEST VALUE IS	1.97400 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC
	3RD HIGHEST VALUE IS	1.96324 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC
	4TH HIGHEST VALUE IS	1.87361 AT (	276990.60,	3803841.00,	261.20,	283.82,	0.00)	DC
	5TH HIGHEST VALUE IS	1.80939 AT (	277083.70,	3804018.20,	261.60,	261.60,	0.00)	DC
	6TH HIGHEST VALUE IS	1.79434 AT (	277000.00,	3804000.00,	259.18,	272.70,	0.00)	DC
	7TH HIGHEST VALUE IS	1.77898 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC
	8TH HIGHEST VALUE IS	1.70163 AT (	276983.70,	3804018.20,	262.49,	271.12,	0.00)	DC
	9TH HIGHEST VALUE IS	1.68724 AT (	277183.70,	3803918.20,	256.49,	265.15,	0.00)	DC
	10TH HIGHEST VALUE IS	1.67775 AT (	277183.70,	3804018.20,	262.64,	266.48,	0.00)	DC
SCENAR2	**1ST HIGHEST VALUE IS**	**2.29884 AT (**	**276983.70,**	**3803918.20,**	**259.77,**	**271.22,**	**0.00)**	**DC**
	2ND HIGHEST VALUE IS	2.15882 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC
	3RD HIGHEST VALUE IS	2.15657 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC
	4TH HIGHEST VALUE IS	2.14349 AT (	276990.60,	3803841.00,	261.20,	283.82,	0.00)	DC
	5TH HIGHEST VALUE IS	1.95471 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC
	6TH HIGHEST VALUE IS	1.94875 AT (	277083.70,	3804018.20,	261.60,	261.60,	0.00)	DC
	7TH HIGHEST VALUE IS	1.93830 AT (	277000.00,	3804000.00,	259.18,	272.70,	0.00)	DC
	8TH HIGHEST VALUE IS	1.89796 AT (	276783.70,	3804018.20,	271.83,	303.92,	0.00)	DC
	9TH HIGHEST VALUE IS	1.84156 AT (	276983.70,	3804018.20,	262.49,	271.12,	0.00)	DC
	10TH HIGHEST VALUE IS	1.84108 AT (	277183.70,	3803918.20,	256.49,	265.15,	0.00)	DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS *****

**** CONC OF NO2 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE					NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**1.76265 AT (**	**276983.70,**	**3803918.20,**	**259.77,**	**271.22,**	**0.00)**	**DC**
	2ND HIGHEST VALUE IS	1.70114 AT (	276783.70,	3804018.20,	271.83,	303.92,	0.00)	DC
	3RD HIGHEST VALUE IS	1.62750 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC
	4TH HIGHEST VALUE IS	1.61158 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC
	5TH HIGHEST VALUE IS	1.59994 AT (	277000.00,	3804000.00,	259.18,	272.70,	0.00)	DC
	6TH HIGHEST VALUE IS	1.59150 AT (	276990.60,	3803841.00,	261.20,	283.82,	0.00)	DC
	7TH HIGHEST VALUE IS	1.57010 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC
	8TH HIGHEST VALUE IS	1.55862 AT (	276983.70,	3804018.20,	262.49,	271.12,	0.00)	DC
	9TH HIGHEST VALUE IS	1.55621 AT (	276883.70,	3804018.20,	272.07,	272.07,	0.00)	DC
	10TH HIGHEST VALUE IS	1.52038 AT (	277083.70,	3804018.20,	261.60,	261.60,	0.00)	DC
SCENAR2	**1ST HIGHEST VALUE IS**	**1.95436 AT (**	**276983.70,**	**3803918.20,**	**259.77,**	**271.22,**	**0.00)**	**DC**
	2ND HIGHEST VALUE IS	1.91287 AT (	276783.70,	3804018.20,	271.83,	303.92,	0.00)	DC
	3RD HIGHEST VALUE IS	1.82190 AT (	276990.60,	3803841.00,	261.20,	283.82,	0.00)	DC
	4TH HIGHEST VALUE IS	1.78188 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC
	5TH HIGHEST VALUE IS	1.75566 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC
	6TH HIGHEST VALUE IS	1.73986 AT (	276883.70,	3804018.20,	272.07,	272.07,	0.00)	DC
	7TH HIGHEST VALUE IS	1.72253 AT (	277000.00,	3804000.00,	259.18,	272.70,	0.00)	DC
	8TH HIGHEST VALUE IS	1.72036 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC
	9TH HIGHEST VALUE IS	1.67823 AT (	276983.70,	3804018.20,	262.49,	271.12,	0.00)	DC
	10TH HIGHEST VALUE IS	1.63350 AT (	277083.70,	3804018.20,	261.60,	261.60,	0.00)	DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS *****

**** CONC OF NO2 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**1.62543 AT (**	**277105.80,**	**3803800.20,**	**251.50,**	**283.82,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	1.55519 AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC	
	3RD HIGHEST VALUE IS	1.52175 AT (	276990.60,	3803841.00,	261.20,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	1.50933 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	5TH HIGHEST VALUE IS	1.49910 AT (	277183.70,	3803718.20,	251.01,	292.23,	0.00)	DC	
	6TH HIGHEST VALUE IS	1.48088 AT (	276983.70,	3803918.20,	259.77,	271.22,	0.00)	DC	
	7TH HIGHEST VALUE IS	1.45273 AT (	276175.60,	3803415.60,	246.19,	304.88,	0.00)	DC	
	8TH HIGHEST VALUE IS	1.45003 AT (	277183.70,	3803818.20,	254.33,	283.82,	0.00)	DC	
	9TH HIGHEST VALUE IS	1.44416 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	10TH HIGHEST VALUE IS	1.43557 AT (	276160.00,	3803503.80,	247.34,	304.88,	0.00)	DC	
SCENAR2	**1ST HIGHEST VALUE IS**	**1.76657 AT (**	**277105.80,**	**3803800.20,**	**251.50,**	**283.82,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	1.71806 AT (	276990.60,	3803841.00,	261.20,	283.82,	0.00)	DC	
	3RD HIGHEST VALUE IS	1.70405 AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC	
	4TH HIGHEST VALUE IS	1.65606 AT (	276983.70,	3803918.20,	259.77,	271.22,	0.00)	DC	
	5TH HIGHEST VALUE IS	1.64381 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	6TH HIGHEST VALUE IS	1.63948 AT (	277183.70,	3803718.20,	251.01,	292.23,	0.00)	DC	
	7TH HIGHEST VALUE IS	1.60025 AT (	276783.70,	3804018.20,	271.83,	303.92,	0.00)	DC	
	8TH HIGHEST VALUE IS	1.58145 AT (	276883.70,	3804018.20,	272.07,	272.07,	0.00)	DC	
	9TH HIGHEST VALUE IS	1.57838 AT (	276175.60,	3803415.60,	246.19,	304.88,	0.00)	DC	
	10TH HIGHEST VALUE IS	1.57135 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	

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**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS *****

**** CONC OF NO2 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR,	YR,	ZELEV,	ZHILL,	ZFLAG)	OF TYPE	NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**1.92253 AT (**	**276990.60,**	**3803841.00,**	**261.20,**	**283.82,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	1.91169 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	3RD HIGHEST VALUE IS	1.90980 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	1.81613 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	5TH HIGHEST VALUE IS	1.75184 AT (	276983.70,	3803918.20,	259.77,	271.22,	0.00)	DC	
	6TH HIGHEST VALUE IS	1.73365 AT (	277183.70,	3803818.20,	254.33,	283.82,	0.00)	DC	
	7TH HIGHEST VALUE IS	1.62423 AT (	277183.70,	3803918.20,	256.49,	265.15,	0.00)	DC	
	8TH HIGHEST VALUE IS	1.60409 AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC	
	9TH HIGHEST VALUE IS	1.54959 AT (	277183.70,	3803718.20,	251.01,	292.23,	0.00)	DC	
	10TH HIGHEST VALUE IS	1.54393 AT (	277283.70,	3803818.20,	261.79,	267.14,	0.00)	DC	
SCENAR2	**1ST HIGHEST VALUE IS**	**2.16625 AT (**	**276990.60,**	**3803841.00,**	**261.20,**	**283.82,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	2.08684 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	3RD HIGHEST VALUE IS	2.07570 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	1.96535 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	5TH HIGHEST VALUE IS	1.93537 AT (	276983.70,	3803918.20,	259.77,	271.22,	0.00)	DC	
	6TH HIGHEST VALUE IS	1.87615 AT (	277183.70,	3803818.20,	254.33,	283.82,	0.00)	DC	
	7TH HIGHEST VALUE IS	1.78008 AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC	
	8TH HIGHEST VALUE IS	1.75310 AT (	277183.70,	3803918.20,	256.49,	265.15,	0.00)	DC	
	9TH HIGHEST VALUE IS	1.71436 AT (	277183.70,	3803718.20,	251.01,	292.23,	0.00)	DC	
	10TH HIGHEST VALUE IS	1.66225 AT (	277283.70,	3803818.20,	261.79,	267.14,	0.00)	DC	

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***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS *****

**** CONC OF NO2 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR,	YR,	ZELEV,	ZHILL,	ZFLAG)	NETWORK OF TYPE GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**2.13776 AT (**	**276990.60,**	**3803841.00,**	**261.20,**	**283.82,**	**0.00)**	**DC**
	2ND HIGHEST VALUE IS	2.07147 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC
	3RD HIGHEST VALUE IS	2.00036 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC
	4TH HIGHEST VALUE IS	1.87476 AT (	276983.70,	3803918.20,	259.77,	271.22,	0.00)	DC
	5TH HIGHEST VALUE IS	1.86812 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC
	6TH HIGHEST VALUE IS	1.84908 AT (	277183.70,	3803818.20,	254.33,	283.82,	0.00)	DC
	7TH HIGHEST VALUE IS	1.70427 AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC
	8TH HIGHEST VALUE IS	1.66185 AT (	277183.70,	3803918.20,	256.49,	265.15,	0.00)	DC
	9TH HIGHEST VALUE IS	1.64072 AT (	277183.70,	3803718.20,	251.01,	292.23,	0.00)	DC
	10TH HIGHEST VALUE IS	1.62785 AT (	277283.70,	3803818.20,	261.79,	267.14,	0.00)	DC
SCENAR2	**1ST HIGHEST VALUE IS**	**2.35417 AT (**	**276990.60,**	**3803841.00,**	**261.20,**	**283.82,**	**0.00)**	**DC**
	2ND HIGHEST VALUE IS	2.24554 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC
	3RD HIGHEST VALUE IS	2.14513 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC
	4TH HIGHEST VALUE IS	2.06416 AT (	276983.70,	3803918.20,	259.77,	271.22,	0.00)	DC
	5TH HIGHEST VALUE IS	2.00455 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC
	6TH HIGHEST VALUE IS	1.98328 AT (	277183.70,	3803818.20,	254.33,	283.82,	0.00)	DC
	7TH HIGHEST VALUE IS	1.89104 AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC
	8TH HIGHEST VALUE IS	1.81438 AT (	277183.70,	3803718.20,	251.01,	292.23,	0.00)	DC
	9TH HIGHEST VALUE IS	1.77116 AT (	277183.70,	3803918.20,	256.49,	265.15,	0.00)	DC
	10TH HIGHEST VALUE IS	1.75936 AT (	276883.70,	3804018.20,	272.07,	272.07,	0.00)	DC

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Table B-4
Waste Management, Inc. Chambers R&B Landfill
Significant Impact Determination Modeling
Summary of Predicted Annual Concentrations for Nitrogen Dioxide

Pollutant	Year Modeled	Met Data Set	Highest Scenario Source Group	Averaging Period	NO_X Max Modeled Conc. (µg/m^3)	Highest Annual Modeled Conc. (µg/m^3)	NO_2/NO_X Adjustment Factor	NO_2 Modeled Design Conc. (µg/m^3)	Class II SIL (µg/m^3)	Modeled Conc. to SIL Ratio
NO_2	1989	ahnahn89	SCENAR2	Annual	1.14568	1.55	0.75	1.16	1.00	1.16
NO_2	1990	ahnahn90	SCENAR2	Annual	1.20704					
NO_2	1991	ahnahn91	SCENAR2	Annual	1.54892					
NO_2	1992	ahnahn92	SCENAR2	Annual	1.36550					
NO_2	1993	ahnahn93	SCENAR2	Annual	1.20711					
NO_2	1989	banks89	SCENAR2	Annual	2.29884	**2.35**	**0.75**	**1.77**	**1.00**	**1.77**
NO_2	1990	banks90	SCENAR2	Annual	1.95436					
NO_2	1991	banks91	SCENAR2	Annual	1.76657					
NO_2	1992	banks92	SCENAR2	Annual	2.16625					
NO_2	1993	banks93	SCENAR2	Annual	2.35417					

Notes:
1. The design concentrations are the maximum of the five yearly modeled concentrations.
2. A 0.75 conversion factor was used to convert NO_x concentrations to NO_2 concentrations.

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS *****

**** CONC OF NO2 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR,	YR,	ZELEV,	ZHILL,	ZFLAG)	OF TYPE	NETWORK GRID-ID
ONSITE	**1ST HIGHEST VALUE IS**	**2.46559 AT (**	**276983.70,**	**3803918.20,**	**259.77,**	**271.22,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	2.32053 AT (	276990.60,	3803841.00,	261.20,	283.82,	0.00)	DC	
	3RD HIGHEST VALUE IS	2.31210 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	2.30893 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	5TH HIGHEST VALUE IS	2.11550 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	6TH HIGHEST VALUE IS	2.08957 AT (	277000.00,	3804000.00,	259.18,	272.70,	0.00)	DC	
	7TH HIGHEST VALUE IS	2.08568 AT (	277083.70,	3804018.20,	261.60,	261.60,	0.00)	DC	
	8TH HIGHEST VALUE IS	2.05912 AT (	276783.70,	3804018.20,	271.83,	303.92,	0.00)	DC	
	9TH HIGHEST VALUE IS	1.98962 AT (	276983.70,	3804018.20,	262.49,	271.12,	0.00)	DC	
	10TH HIGHEST VALUE IS	1.97949 AT (	277183.70,	3803918.20,	256.49,	265.15,	0.00)	DC	
OFFSITE	**1ST HIGHEST VALUE IS**	**0.28903 AT (**	**277184.20,**	**3803624.10,**	**248.54,**	**294.20,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	0.28700 AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC	
	3RD HIGHEST VALUE IS	0.28637 AT (	277183.70,	3803718.20,	251.01,	292.23,	0.00)	DC	
	4TH HIGHEST VALUE IS	0.28411 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	5TH HIGHEST VALUE IS	0.28399 AT (	277283.70,	3803618.20,	261.99,	264.71,	0.00)	DC	
	6TH HIGHEST VALUE IS	0.28368 AT (	277283.70,	3803718.20,	259.10,	268.06,	0.00)	DC	
	7TH HIGHEST VALUE IS	0.28332 AT (	277183.70,	3803818.20,	254.33,	283.82,	0.00)	DC	
	8TH HIGHEST VALUE IS	0.28245 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	9TH HIGHEST VALUE IS	0.28149 AT (	277383.70,	3803718.20,	266.65,	266.65,	0.00)	DC	
	10TH HIGHEST VALUE IS	0.28108 AT (	277283.70,	3803818.20,	261.79,	267.14,	0.00)	DC	
ALL	**1ST HIGHEST VALUE IS**	**2.74299 AT (**	**276983.70,**	**3803918.20,**	**259.77,**	**271.22,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	2.59836 AT (	276990.60,	3803841.00,	261.20,	283.82,	0.00)	DC	
	3RD HIGHEST VALUE IS	2.59455 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	2.58961 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	5TH HIGHEST VALUE IS	2.39961 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	6TH HIGHEST VALUE IS	2.36629 AT (	277000.00,	3804000.00,	259.18,	272.70,	0.00)	DC	
	7TH HIGHEST VALUE IS	2.36210 AT (	277083.70,	3804018.20,	261.60,	261.60,	0.00)	DC	
	8TH HIGHEST VALUE IS	2.32744 AT (	276783.70,	3804018.20,	271.83,	303.92,	0.00)	DC	
	9TH HIGHEST VALUE IS	2.26459 AT (	276983.70,	3804018.20,	262.49,	271.12,	0.00)	DC	
	10TH HIGHEST VALUE IS	2.26051 AT (	277183.70,	3803918.20,	256.49,	265.15,	0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
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DP = DISCPOLR

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS *****

**** CONC OF NO2 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
ONSITE	**1ST HIGHEST VALUE IS**	**2.11149 AT (**	**276983.70,**	**3803918.20,**	**259.77,**	**271.22,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	2.06111 AT (	276783.70,	3804018.20,	271.83,	303.92,	0.00)	DC	
	3RD HIGHEST VALUE IS	1.99482 AT (	276990.60,	3803841.00,	261.20,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	1.92754 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	5TH HIGHEST VALUE IS	1.89415 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	6TH HIGHEST VALUE IS	1.88215 AT (	276883.70,	3804018.20,	272.07,	272.07,	0.00)	DC	
	7TH HIGHEST VALUE IS	1.87425 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	8TH HIGHEST VALUE IS	1.86168 AT (	277000.00,	3804000.00,	259.18,	272.70,	0.00)	DC	
	9TH HIGHEST VALUE IS	1.81426 AT (	276983.70,	3804018.20,	262.49,	271.12,	0.00)	DC	
	10TH HIGHEST VALUE IS	1.78771 AT (	276727.60,	3803952.20,	272.82,	304.65,	0.00)	DC	
OFFSITE	**1ST HIGHEST VALUE IS**	**0.28763 AT (**	**276224.80,**	**3803335.70,**	**246.42,**	**304.88,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	0.28692 AT (	277184.20,	3803624.10,	248.54,	294.20,	0.00)	DC	
	3RD HIGHEST VALUE IS	0.28635 AT (	276175.60,	3803415.60,	246.19,	304.88,	0.00)	DC	
	4TH HIGHEST VALUE IS	0.28546 AT (	276183.70,	3803318.20,	253.04,	303.61,	0.00)	DC	
	5TH HIGHEST VALUE IS	0.28474 AT (	276160.00,	3803503.80,	247.34,	304.88,	0.00)	DC	
	6TH HIGHEST VALUE IS	0.28462 AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC	
	7TH HIGHEST VALUE IS	0.28409 AT (	277183.70,	3803718.20,	251.01,	292.23,	0.00)	DC	
	8TH HIGHEST VALUE IS	0.28357 AT (	276160.20,	3803591.40,	247.38,	304.88,	0.00)	DC	
	9TH HIGHEST VALUE IS	0.28332 AT (	277283.70,	3803618.20,	261.99,	264.71,	0.00)	DC	
	10TH HIGHEST VALUE IS	0.28309 AT (	276107.80,	3803267.10,	262.40,	262.40,	0.00)	DC	
ALL	**1ST HIGHEST VALUE IS**	**2.38850 AT (**	**276983.70,**	**3803918.20,**	**259.77,**	**271.22,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	2.33203 AT (	276783.70,	3804018.20,	271.83,	303.92,	0.00)	DC	
	3RD HIGHEST VALUE IS	2.27306 AT (	276990.60,	3803841.00,	261.20,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	2.20766 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	5TH HIGHEST VALUE IS	2.17264 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	6TH HIGHEST VALUE IS	2.15630 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	7TH HIGHEST VALUE IS	2.15323 AT (	276883.70,	3804018.20,	272.07,	272.07,	0.00)	DC	
	8TH HIGHEST VALUE IS	2.13708 AT (	277000.00,	3804000.00,	259.18,	272.70,	0.00)	DC	
	9TH HIGHEST VALUE IS	2.08842 AT (	276983.70,	3804018.20,	262.49,	271.12,	0.00)	DC	
	10TH HIGHEST VALUE IS	2.05949 AT (	276727.60,	3803952.20,	272.82,	304.65,	0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
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**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS *****

**** CONC OF NO2 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
ONSITE	**1ST HIGHEST VALUE IS**	**1.90491 AT (**	**277105.80,**	**3803800.20,**	**251.50,**	**283.82,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	1.86950 AT (	276990.60,	3803841.00,	261.20,	283.82,	0.00)	DC	
	3RD HIGHEST VALUE IS	1.85087 AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC	
	4TH HIGHEST VALUE IS	1.79298 AT (	276983.70,	3803918.20,	259.77,	271.22,	0.00)	DC	
	5TH HIGHEST VALUE IS	1.78536 AT (	277183.70,	3803718.20,	251.01,	292.23,	0.00)	DC	
	6TH HIGHEST VALUE IS	1.77389 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	7TH HIGHEST VALUE IS	1.72521 AT (	276783.70,	3804018.20,	271.83,	303.92,	0.00)	DC	
	8TH HIGHEST VALUE IS	1.70474 AT (	277184.20,	3803624.10,	248.54,	294.20,	0.00)	DC	
	9TH HIGHEST VALUE IS	1.70157 AT (	276883.70,	3804018.20,	272.07,	272.07,	0.00)	DC	
	10TH HIGHEST VALUE IS	1.69475 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
OFFSITE	**1ST HIGHEST VALUE IS**	**0.28330 AT (**	**276224.80,**	**3803335.70,**	**246.42,**	**304.88,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	0.28091 AT (	276175.60,	3803415.60,	246.19,	304.88,	0.00)	DC	
	3RD HIGHEST VALUE IS	0.28034 AT (	276183.70,	3803318.20,	253.04,	303.61,	0.00)	DC	
	4TH HIGHEST VALUE IS	0.27937 AT (	277184.20,	3803624.10,	248.54,	294.20,	0.00)	DC	
	5TH HIGHEST VALUE IS	0.27783 AT (	276160.00,	3803503.80,	247.34,	304.88,	0.00)	DC	
	6TH HIGHEST VALUE IS	0.27712 AT (	276107.80,	3803267.10,	262.40,	262.40,	0.00)	DC	
	7TH HIGHEST VALUE IS	0.27580 AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC	
	8TH HIGHEST VALUE IS	0.27538 AT (	276160.20,	3803591.40,	247.38,	304.88,	0.00)	DC	
	9TH HIGHEST VALUE IS	0.27537 AT (	276083.70,	3803318.20,	263.18,	263.18,	0.00)	DC	
	10TH HIGHEST VALUE IS	0.27524 AT (	277183.70,	3803718.20,	251.01,	292.23,	0.00)	DC	
ALL	**1ST HIGHEST VALUE IS**	**2.17683 AT (**	**277105.80,**	**3803800.20,**	**251.50,**	**283.82,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	2.13571 AT (	276990.60,	3803841.00,	261.20,	283.82,	0.00)	DC	
	3RD HIGHEST VALUE IS	2.12667 AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC	
	4TH HIGHEST VALUE IS	2.06060 AT (	277183.70,	3803718.20,	251.01,	292.23,	0.00)	DC	
	5TH HIGHEST VALUE IS	2.05725 AT (	276983.70,	3803918.20,	259.77,	271.22,	0.00)	DC	
	6TH HIGHEST VALUE IS	2.04287 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	7TH HIGHEST VALUE IS	1.98411 AT (	277184.20,	3803624.10,	248.54,	294.20,	0.00)	DC	
	8TH HIGHEST VALUE IS	1.98080 AT (	276783.70,	3804018.20,	271.83,	303.92,	0.00)	DC	
	9TH HIGHEST VALUE IS	1.96419 AT (	277183.70,	3803818.20,	254.33,	283.82,	0.00)	DC	
	10TH HIGHEST VALUE IS	1.96153 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS *****

**** CONC OF NO2 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE	NETWORK GRID-ID
ONSITE	**1ST HIGHEST VALUE IS**	**2.32000**	**AT (276990.60, 3803841.00, 261.20, 283.82, 0.00) DC**	
	2ND HIGHEST VALUE IS	2.23063	AT (277105.80, 3803800.20, 251.50, 283.82, 0.00) DC	
	3RD HIGHEST VALUE IS	2.21282	AT (277072.60, 3803882.70, 251.86, 283.82, 0.00) DC	
	4TH HIGHEST VALUE IS	2.09669	AT (277083.70, 3803918.20, 254.69, 283.82, 0.00) DC	
	5TH HIGHEST VALUE IS	2.07963	AT (276983.70, 3803918.20, 259.77, 271.22, 0.00) DC	
	6TH HIGHEST VALUE IS	2.01426	AT (277183.70, 3803818.20, 254.33, 283.82, 0.00) DC	
	7TH HIGHEST VALUE IS	1.93840	AT (277151.80, 3803722.40, 249.01, 294.20, 0.00) DC	
	8TH HIGHEST VALUE IS	1.87679	AT (277183.70, 3803718.20, 251.01, 292.23, 0.00) DC	
	9TH HIGHEST VALUE IS	1.87621	AT (277183.70, 3803918.20, 256.49, 265.15, 0.00) DC	
	10TH HIGHEST VALUE IS	1.79718	AT (277283.70, 3803818.20, 261.79, 267.14, 0.00) DC	
OFFSITE	**1ST HIGHEST VALUE IS**	**0.27826**	**AT (277184.20, 3803624.10, 248.54, 294.20, 0.00) DC**	
	2ND HIGHEST VALUE IS	0.27693	AT (277151.80, 3803722.40, 249.01, 294.20, 0.00) DC	
	3RD HIGHEST VALUE IS	0.27673	AT (277183.70, 3803718.20, 251.01, 292.23, 0.00) DC	
	4TH HIGHEST VALUE IS	0.27566	AT (277283.70, 3803718.20, 259.10, 268.06, 0.00) DC	
	5TH HIGHEST VALUE IS	0.27543	AT (277283.70, 3803618.20, 261.99, 264.71, 0.00) DC	
	6TH HIGHEST VALUE IS	0.27489	AT (277383.70, 3803718.20, 266.65, 266.65, 0.00) DC	
	7TH HIGHEST VALUE IS	0.27483	AT (277183.70, 3803818.20, 254.33, 283.82, 0.00) DC	
	8TH HIGHEST VALUE IS	0.27469	AT (277105.80, 3803800.20, 251.50, 283.82, 0.00) DC	
	9TH HIGHEST VALUE IS	0.27405	AT (277283.70, 3803818.20, 261.79, 267.14, 0.00) DC	
	10TH HIGHEST VALUE IS	0.27396	AT (277283.70, 3803918.20, 258.90, 272.08, 0.00) DC	
ALL	**1ST HIGHEST VALUE IS**	**2.58939**	**AT (276990.60, 3803841.00, 261.20, 283.82, 0.00) DC**	
	2ND HIGHEST VALUE IS	2.50532	AT (277105.80, 3803800.20, 251.50, 283.82, 0.00) DC	
	3RD HIGHEST VALUE IS	2.48625	AT (277072.60, 3803882.70, 251.86, 283.82, 0.00) DC	
	4TH HIGHEST VALUE IS	2.36904	AT (277083.70, 3803918.20, 254.69, 283.82, 0.00) DC	
	5TH HIGHEST VALUE IS	2.34885	AT (276983.70, 3803918.20, 259.77, 271.22, 0.00) DC	
	6TH HIGHEST VALUE IS	2.28909	AT (277183.70, 3803818.20, 254.33, 283.82, 0.00) DC	
	7TH HIGHEST VALUE IS	2.21533	AT (277151.80, 3803722.40, 249.01, 294.20, 0.00) DC	
	8TH HIGHEST VALUE IS	2.15352	AT (277183.70, 3803718.20, 251.01, 292.23, 0.00) DC	
	9TH HIGHEST VALUE IS	2.14949	AT (277183.70, 3803918.20, 256.49, 265.15, 0.00) DC	
	10TH HIGHEST VALUE IS	2.07123	AT (277283.70, 3803818.20, 261.79, 267.14, 0.00) DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS *****

**** CONC OF NO2 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC		RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
ONSITE	**1ST HIGHEST VALUE IS**	**2.54371**	**AT (**	**276990.60,**	**3803841.00,**	**261.20,**	**283.82,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	2.42640	AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	3RD HIGHEST VALUE IS	2.31427	AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	2.23939	AT (	276983.70,	3803918.20,	259.77,	271.22,	0.00)	DC	
	5TH HIGHEST VALUE IS	2.16607	AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	6TH HIGHEST VALUE IS	2.15336	AT (	277183.70,	3803818.20,	254.33,	283.82,	0.00)	DC	
	7TH HIGHEST VALUE IS	2.08657	AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC	
	8TH HIGHEST VALUE IS	2.01087	AT (	277183.70,	3803718.20,	251.01,	292.23,	0.00)	DC	
	9TH HIGHEST VALUE IS	1.92198	AT (	277183.70,	3803918.20,	256.49,	265.15,	0.00)	DC	
	10TH HIGHEST VALUE IS	1.92191	AT (	276883.70,	3804018.20,	272.07,	272.07,	0.00)	DC	
OFFSITE	**1ST HIGHEST VALUE IS**	**0.26010**	**AT (**	**277184.20,**	**3803624.10,**	**248.54,**	**294.20,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	0.25849	AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC	
	3RD HIGHEST VALUE IS	0.25811	AT (	277183.70,	3803718.20,	251.01,	292.23,	0.00)	DC	
	4TH HIGHEST VALUE IS	0.25638	AT (	277283.70,	3803718.20,	259.10,	268.06,	0.00)	DC	
	5TH HIGHEST VALUE IS	0.25628	AT (	277283.70,	3803618.20,	261.99,	264.71,	0.00)	DC	
	6TH HIGHEST VALUE IS	0.25604	AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	7TH HIGHEST VALUE IS	0.25584	AT (	277183.70,	3803818.20,	254.33,	283.82,	0.00)	DC	
	8TH HIGHEST VALUE IS	0.25531	AT (	277383.70,	3803718.20,	266.65,	266.65,	0.00)	DC	
	9TH HIGHEST VALUE IS	0.25473	AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	10TH HIGHEST VALUE IS	0.25462	AT (	277283.70,	3803918.20,	258.90,	272.08,	0.00)	DC	
ALL	**1ST HIGHEST VALUE IS**	**2.79404**	**AT (**	**276990.60,**	**3803841.00,**	**261.20,**	**283.82,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	2.68244	AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	3RD HIGHEST VALUE IS	2.56900	AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	2.48958	AT (	276983.70,	3803918.20,	259.77,	271.22,	0.00)	DC	
	5TH HIGHEST VALUE IS	2.41952	AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	6TH HIGHEST VALUE IS	2.40920	AT (	277183.70,	3803818.20,	254.33,	283.82,	0.00)	DC	
	7TH HIGHEST VALUE IS	2.34505	AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC	
	8TH HIGHEST VALUE IS	2.26897	AT (	277183.70,	3803718.20,	251.01,	292.23,	0.00)	DC	
	9TH HIGHEST VALUE IS	2.17615	AT (	277183.70,	3803918.20,	256.49,	265.15,	0.00)	DC	
	10TH HIGHEST VALUE IS	2.16552	AT (	276883.70,	3804018.20,	272.07,	272.07,	0.00)	DC	

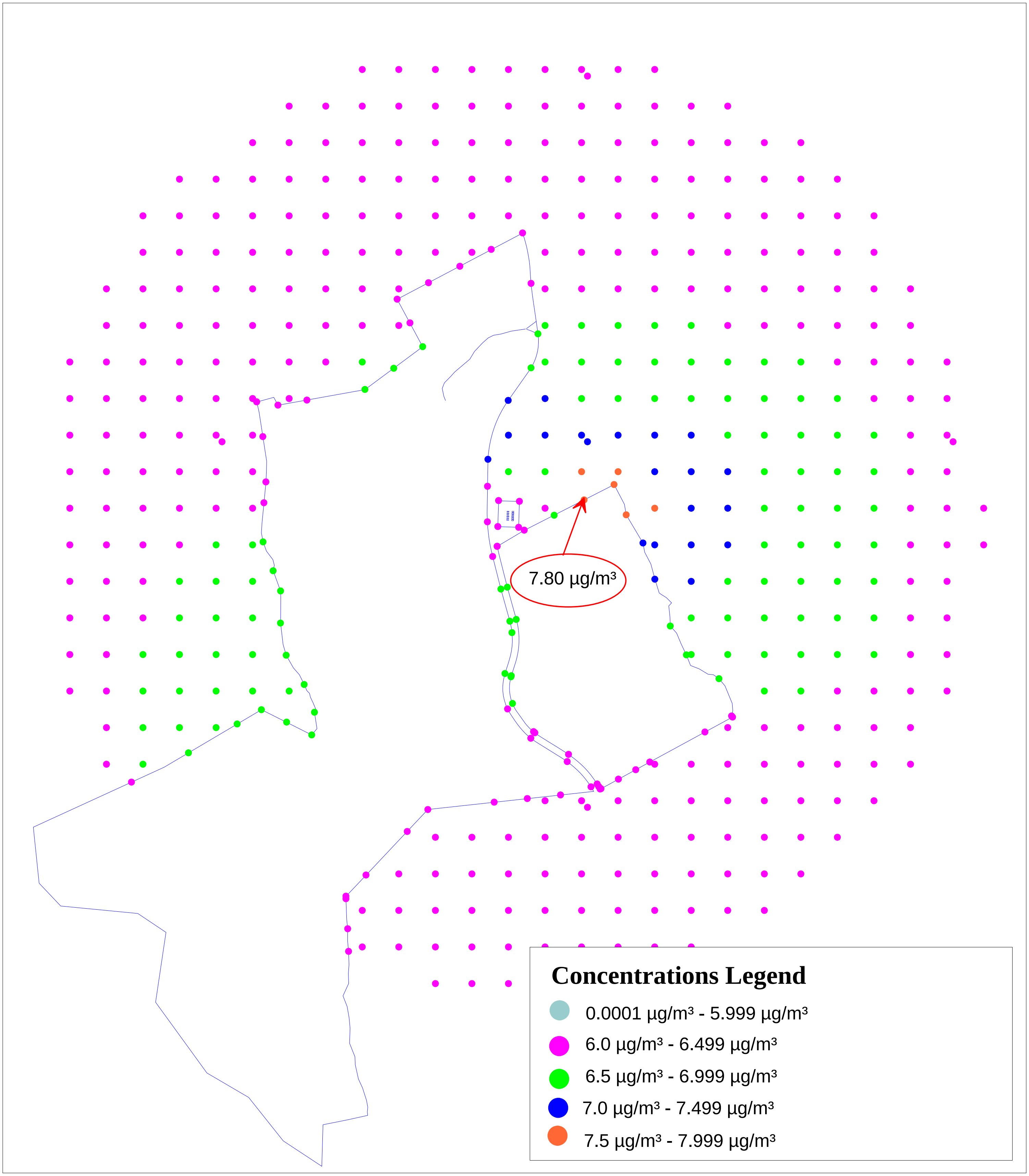
*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

Table B-5
Waste Management, Inc. Chambers R&B Landfill
Cumulative Impact Modeling
Summary of Predicted Annual Concentrations for Nitrogen Dioxide

Pollutant	Year Modeled	Met Data Set	Source Group	Averaging Period	NO_X Max Modeled Conc. (µg/m^3)	Highest Annual Modeled Conc. (µg/m^3)	NO_2/NO_X Adjustment Factor	NO_2 Modeled Design Conc. (µg/m^3)	Background Conc. (µg/m^3)	Total Conc. (µg/m^3)	Class II NAAQS (µg/m^3)	Total Conc. as % of NAAQS
NO_2	1989	ahnahn89	ALL	Annual	1.70989	2.08	0.75	1.56	5.7	7.26	100.0	7.26
NO_2	1990	ahnahn90	ALL	Annual	1.80341							
NO_2	1991	ahnahn91	ALL	Annual	2.08388							
NO_2	1992	ahnahn92	ALL	Annual	1.86208							
NO_2	1993	ahnahn93	ALL	Annual	1.74826							
NO_2	1989	banks89	ALL	Annual	2.74299	**2.79**	**0.75**	**2.10**	**5.7**	**7.80**	**100.0**	**7.80**
NO_2	1990	banks90	ALL	Annual	2.38850							
NO_2	1991	banks91	ALL	Annual	2.17683							
NO_2	1992	banks92	ALL	Annual	2.58939							
NO_2	1993	banks93	ALL	Annual	2.79404							

Notes:
1. The design concentrations are the maximum of the five yearly modeled concentrations.
2. A 0.75 conversion factor was used to convert NO_x concentrations to NO_2 concentrations.

Figure B-5
Waste Management, Inc. Chambers R&B Landfill
NAAQS Cumulative Impact Modeling for NO2 Annual Standard (100 µg/m³)
Predicted 1993 Concentrations for Source Group ALL for Receptors within the ROI
Background Concentration of 5.7 µg/m³ is added to the Model Predictions



APPENDIX C
CLASS II MODELING INFORMATION AND RESULTS FOR CO

The following attachments are included in this appendix in the following order:

1-hour Average Concentrations Modeling:

- Printout of the SID Modeling Output File for Athens Met Data
- Table C-1: Summary of Predicted 1-hour Concentrations for Carbon Monoxide
- Figure C-1: Isocontour Plot for 1-hour Average Carbon Monoxide Concentrations The plotted results are for Source Group: SCENAR2, Athens met data.

8-hour Average Concentrations Modeling:

- Printout of the SID Modeling Output File for Banks Met Data
- Table C-2: Summary of Predicted 8-hour Concentrations for Carbon Monoxide
- Figure C-2: Isocontour Plot for 8-hour Average Carbon Monoxide Concentrations The plotted results are for Source Group: SCENAR2, Banks met data.

***** THE SUMMARY OF HIGHEST 1-HR RESULTS *****

**** CONC OF CO IN MICROGRAMS/M**3****

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
SCENAR1	**HIGH**	**1ST HIGH VALUE IS**	**322.86854**	**ON 91020222: AT (**	**274783.70,**	**3805018.20,**	**322.14,**	**329.41,**	**0.00)**	**DC**	
SCENAR2	**HIGH**	**1ST HIGH VALUE IS**	**348.83570**	**ON 91120521: AT (**	**274883.70,**	**3805118.20,**	**318.10,**	**329.40,**	**0.00)**	**DC**	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

Table C-1
Waste Management, Inc. Chambers R&B Landfill
Significant Impact Determination Modeling
Summary of Predicted 1-hour Concentrations for Carbon Monoxide

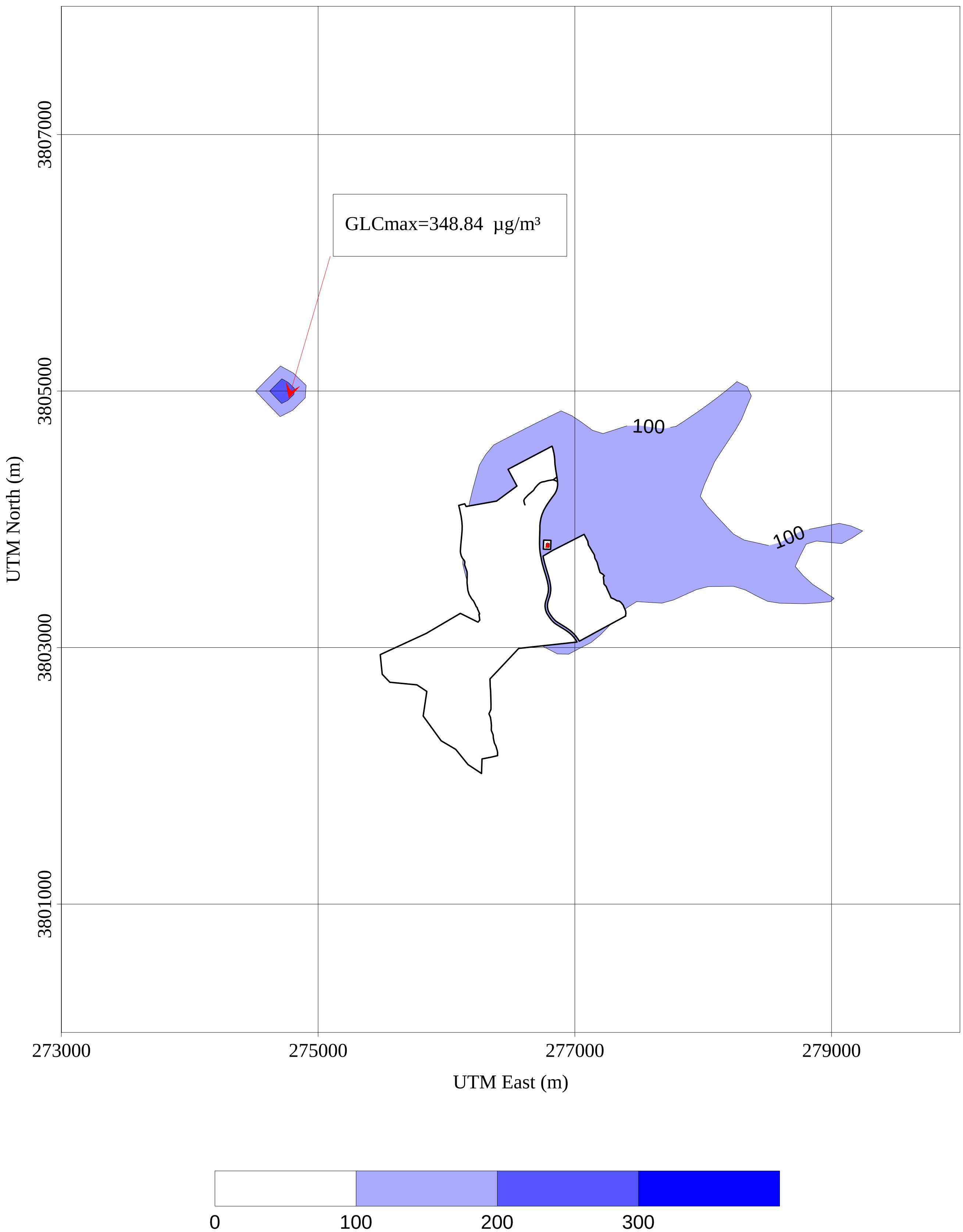
Pollutant	Year Modeled	Met Data Set	Highest Scenario Source Group	Averaging Period	Max Modeled Conc . (μg/m^3)	Modeled Design Conc. (μg/m^3)	Class II SIL (μg/m^3)	Modeled Conc. as % of SIL
CO	1989 - 1993	ahnahn89-93	SCENAR2	1-hour	348.83570	**348.8**	**2,000**	**17.4**
CO	1989 - 1993	banks89-93	SCENAR2	1-hour	253.82285	253.8	2,000	12.7

Notes:

1. The Highest-1st-High concentrations were modeled for 1-hour averaging period.

2. The design concentrations are the maximum of the five yearly modeled concentrations.

Figure C-1
Waste Management, Inc. Chambers R&B Landfill
Class II SID Modeling Analyses
Isocontour Plot for 1-hour Average Carbon Monoxide Concentrations
GLCmax = 348.82 μg/m³, SIL = 2,000 μg/m³



**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF HIGHEST 8-HR RESULTS *****

**** CONC OF CO IN MICROGRAMS/M**3****

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
SCENAR1	**HIGH**	**1ST HIGH VALUE IS**	**160.10491**	**ON 89031508: AT**	**(276883.70, 3804018.20, 272.07, 272.07, 0.00)**	**DC**	
SCENAR2	**HIGH**	**1ST HIGH VALUE IS**	**169.44526**	**ON 89031508: AT**	**(276883.70, 3804018.20, 272.07, 272.07, 0.00)**	**DC**	

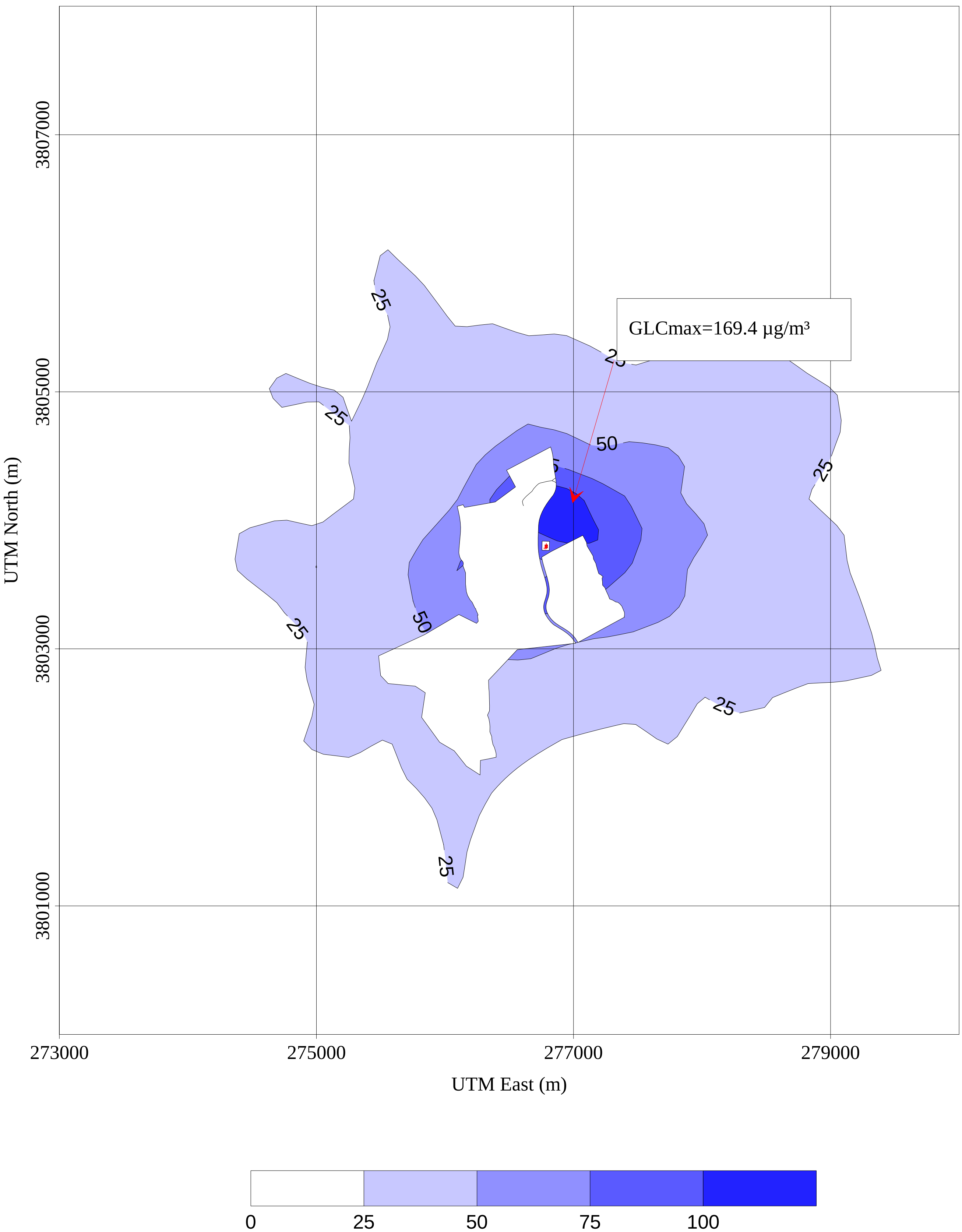
*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

Table C-2
Waste Management, Inc. Chambers R&B Landfill
Significant Impact Determination Modeling
Summary of Predicted 8-hour Concentrations for Carbon Monoxide

Pollutant	Year Modeled	Met Data Set	Highest Scenario Source Group	Averaging Period	Max Modeled Conc . (μg/m^3)	Modeled Design conc. (μg/m^3)	Class II SIL (μg/m^3)	Modeled Conc. as % of SIL
CO	1989 - 1993	ahnahn89-93	SCENAR2	8-hour	127.48737	127.5	500	25.5
CO	1989 - 1993	banks89-93	SCENAR2	8-hour	169.44526	**169.4**	**500**	**33.9**

Notes:
1. The Highest-1st-High concentrations were modeled for 1-hour averaging period.
2. The design concentrations are the maximum of the five yearly modeled concentrations.

Figure C-2
Waste Management, Inc. Chambers R&B Landfill
Class II SID Modeling Analyses
Isocontour Plot for 8-hour Average Carbon Monoxide Concentrations
GLCmax= 169.44 µg/m³, SIL = 500 µg/m³



APPENDIX D
CLASS II MODELING INFORMATION AND RESULTS FOR PM_{10}

The following attachments are included in this appendix in the following order:

24-hour Average Concentrations Modeling:

- Printout of the SID Modeling Output File for Banks Met Data
- Table D-1: Summary of Predicted 1-hour Concentrations for PM_{10}
- Figure D-1: Isocontour Plot for 1-hour Average PM_{10} Concentrations
  The plotted results are for Source Group: SCENAR2, Banks met data.

Annual Average Concentrations Modeling:

- Printouts of the SID Modeling Output File for Banks Met Data (five printouts)
- Table D-2: Summary of Predicted Annual Concentrations for PM_{10}
- Figure D-2: Isocontour Plot for Annual Average PM_{10} Concentrations
  The plotted results are for Source Group: SCENAR2, Banks met data.

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF HIGHEST 24-HR RESULTS *****

**** CONC OF PM10 IN MICROGRAMS/M**3****

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
SCENAR1	**HIGH**	**1ST HIGH VALUE IS**	**3.72725**	**ON 91120124: AT (**	**276883.70,**	**3804118.20,**	**272.37,**	**276.74,**	**0.00)**	**DC**	
SCENAR2	**HIGH**	**1ST HIGH VALUE IS**	**3.95937c**	**ON 89060824: AT (**	**276727.60,**	**3803952.20,**	**272.82,**	**304.65,**	**0.00)**	**DC**	

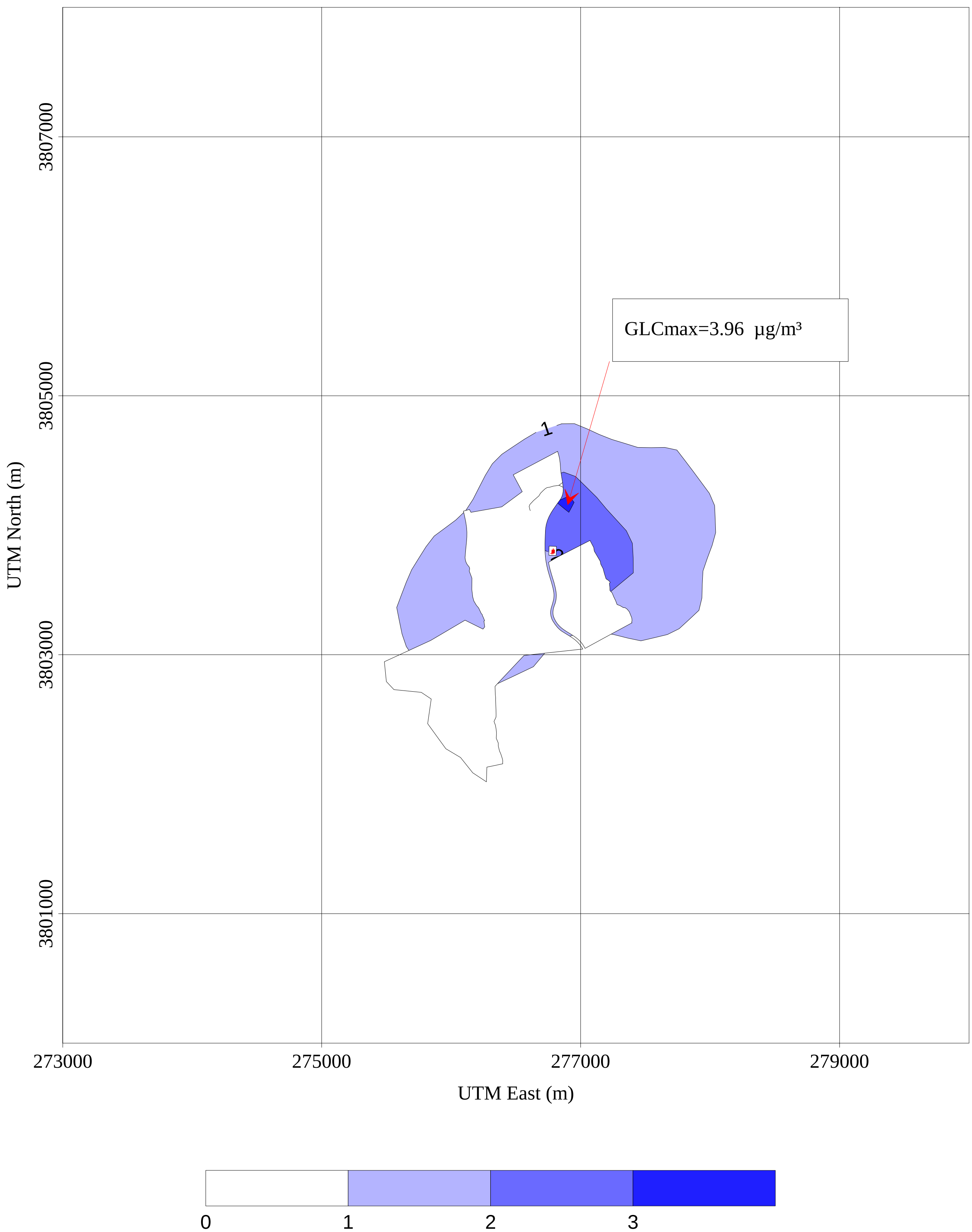
*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

Table D-1
Waste Management, Inc. Chambers R&B Landfill
Significant Impact Determination Modeling
Summary of Predicted 24-hour Concentrations for PM_{10}

Pollutant	Year Modeled	Met Data Set	Highest Scenario Source Group	Averaging Period	Max Modeled Conc . ($\mu g/m^3$)	Modeled Design Conc. ($\mu g/m^3$)	Class II SIL ($\mu g/m^3$)	Modeled Conc. as % of SIL
PM_{10}	1989 - 1993	ahnahn89-93	SCENAR2	24-hour	2.26206	2.26	5.00	45.24
PM_{10}	1989 - 1993	banks89-93	SCENAR2	24-hour	3.95937	**3.96**	**5.00**	**79.19**

Notes:
1. The Highest-1st-High concentrations were modeled for 24-hour averaging period.
2. The design concentrations are the maximum of the five yearly modeled concentrations.

Figure D-1
Waste Management, Inc. Chambers R&B Landfill
Class II SID Modeling Analyses
Isocontour Plot for 24-hour Average PM10 Concentrations
GLCmax = 3.96 µg/m³, SIL = 5.0 µg/m³



**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS *****

**** CONC OF PM10 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR,	YR,	ZELEV,	ZHILL,	ZFLAG)	OF TYPE	NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**0.47511 AT (**	**276983.70,**	**3803918.20,**	**259.77,**	**271.22,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	0.45242 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	3RD HIGHEST VALUE IS	0.44995 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	0.42941 AT (	276990.60,	3803841.00,	261.20,	283.82,	0.00)	DC	
	5TH HIGHEST VALUE IS	0.41469 AT (	277083.70,	3804018.20,	261.60,	261.60,	0.00)	DC	
	6TH HIGHEST VALUE IS	0.41124 AT (	277000.00,	3804000.00,	259.18,	272.70,	0.00)	DC	
	7TH HIGHEST VALUE IS	0.40772 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	8TH HIGHEST VALUE IS	0.39000 AT (	276983.70,	3804018.20,	262.49,	271.12,	0.00)	DC	
	9TH HIGHEST VALUE IS	0.38670 AT (	277183.70,	3803918.20,	256.49,	265.15,	0.00)	DC	
	10TH HIGHEST VALUE IS	0.38452 AT (	277183.70,	3804018.20,	262.64,	266.48,	0.00)	DC	
SCENAR2	**1ST HIGHEST VALUE IS**	**0.52687 AT (**	**276983.70,**	**3803918.20,**	**259.77,**	**271.22,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	0.49478 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	3RD HIGHEST VALUE IS	0.49426 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	0.49126 AT (	276990.60,	3803841.00,	261.20,	283.82,	0.00)	DC	
	5TH HIGHEST VALUE IS	0.44800 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	6TH HIGHEST VALUE IS	0.44663 AT (	277083.70,	3804018.20,	261.60,	261.60,	0.00)	DC	
	7TH HIGHEST VALUE IS	0.44424 AT (	277000.00,	3804000.00,	259.18,	272.70,	0.00)	DC	
	8TH HIGHEST VALUE IS	0.43499 AT (	276783.70,	3804018.20,	271.83,	303.92,	0.00)	DC	
	9TH HIGHEST VALUE IS	0.42206 AT (	276983.70,	3804018.20,	262.49,	271.12,	0.00)	DC	
	10TH HIGHEST VALUE IS	0.42196 AT (	277183.70,	3803918.20,	256.49,	265.15,	0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS *****

**** CONC OF PM10 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC		RECEPTOR (XR,	YR,	ZELEV,	ZHILL,	ZFLAG)	OF TYPE	NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**0.40398**	**AT (**	**276983.70,**	**3803918.20,**	**259.77,**	**271.22,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	0.38988	AT (	276783.70,	3804018.20,	271.83,	303.92,	0.00)	DC	
	3RD HIGHEST VALUE IS	0.37301	AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	0.36936	AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	5TH HIGHEST VALUE IS	0.36669	AT (	277000.00,	3804000.00,	259.18,	272.70,	0.00)	DC	
	6TH HIGHEST VALUE IS	0.36475	AT (	276990.60,	3803841.00,	261.20,	283.82,	0.00)	DC	
	7TH HIGHEST VALUE IS	0.35985	AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	8TH HIGHEST VALUE IS	0.35722	AT (	276983.70,	3804018.20,	262.49,	271.12,	0.00)	DC	
	9TH HIGHEST VALUE IS	0.35667	AT (	276883.70,	3804018.20,	272.07,	272.07,	0.00)	DC	
	10TH HIGHEST VALUE IS	0.34845	AT (	277083.70,	3804018.20,	261.60,	261.60,	0.00)	DC	
SCENAR2	**1ST HIGHEST VALUE IS**	**0.44792**	**AT (**	**276983.70,**	**3803918.20,**	**259.77,**	**271.22,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	0.43841	AT (	276783.70,	3804018.20,	271.83,	303.92,	0.00)	DC	
	3RD HIGHEST VALUE IS	0.41756	AT (	276990.60,	3803841.00,	261.20,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	0.40839	AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	5TH HIGHEST VALUE IS	0.40238	AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	6TH HIGHEST VALUE IS	0.39876	AT (	276883.70,	3804018.20,	272.07,	272.07,	0.00)	DC	
	7TH HIGHEST VALUE IS	0.39478	AT (	277000.00,	3804000.00,	259.18,	272.70,	0.00)	DC	
	8TH HIGHEST VALUE IS	0.39429	AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	9TH HIGHEST VALUE IS	0.38463	AT (	276983.70,	3804018.20,	262.49,	271.12,	0.00)	DC	
	10TH HIGHEST VALUE IS	0.37438	AT (	277083.70,	3804018.20,	261.60,	261.60,	0.00)	DC	

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DP = DISCPOLR

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS *****

**** CONC OF PM10 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**0.37253**	**AT (277105.80, 3803800.20, 251.50, 283.82, 0.00)**	**DC**	
	2ND HIGHEST VALUE IS	0.35643	AT (277151.80, 3803722.40, 249.01, 294.20, 0.00)	DC	
	3RD HIGHEST VALUE IS	0.34877	AT (276990.60, 3803841.00, 261.20, 283.82, 0.00)	DC	
	4TH HIGHEST VALUE IS	0.34592	AT (277072.60, 3803882.70, 251.86, 283.82, 0.00)	DC	
	5TH HIGHEST VALUE IS	0.34358	AT (277183.70, 3803718.20, 251.01, 292.23, 0.00)	DC	
	6TH HIGHEST VALUE IS	0.33940	AT (276983.70, 3803918.20, 259.77, 271.22, 0.00)	DC	
	7TH HIGHEST VALUE IS	0.33295	AT (276175.60, 3803415.60, 246.19, 304.88, 0.00)	DC	
	8TH HIGHEST VALUE IS	0.33233	AT (277183.70, 3803818.20, 254.33, 283.82, 0.00)	DC	
	9TH HIGHEST VALUE IS	0.33099	AT (277083.70, 3803918.20, 254.69, 283.82, 0.00)	DC	
	10TH HIGHEST VALUE IS	0.32902	AT (276160.00, 3803503.80, 247.34, 304.88, 0.00)	DC	
SCENAR2	**1ST HIGHEST VALUE IS**	**0.40488**	**AT (277105.80, 3803800.20, 251.50, 283.82, 0.00)**	**DC**	
	2ND HIGHEST VALUE IS	0.39376	AT (276990.60, 3803841.00, 261.20, 283.82, 0.00)	DC	
	3RD HIGHEST VALUE IS	0.39055	AT (277151.80, 3803722.40, 249.01, 294.20, 0.00)	DC	
	4TH HIGHEST VALUE IS	0.37955	AT (276983.70, 3803918.20, 259.77, 271.22, 0.00)	DC	
	5TH HIGHEST VALUE IS	0.37674	AT (277072.60, 3803882.70, 251.86, 283.82, 0.00)	DC	
	6TH HIGHEST VALUE IS	0.37575	AT (277183.70, 3803718.20, 251.01, 292.23, 0.00)	DC	
	7TH HIGHEST VALUE IS	0.36676	AT (276783.70, 3804018.20, 271.83, 303.92, 0.00)	DC	
	8TH HIGHEST VALUE IS	0.36245	AT (276883.70, 3804018.20, 272.07, 272.07, 0.00)	DC	
	9TH HIGHEST VALUE IS	0.36175	AT (276175.60, 3803415.60, 246.19, 304.88, 0.00)	DC	
	10TH HIGHEST VALUE IS	0.36014	AT (277083.70, 3803918.20, 254.69, 283.82, 0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS *****

**** CONC OF PM10 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR,	YR,	ZELEV,	ZHILL,	ZFLAG)	OF TYPE	NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**0.44062 AT (**	**276990.60,**	**3803841.00,**	**261.20,**	**283.82,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	0.43814 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	3RD HIGHEST VALUE IS	0.43771 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	0.41624 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	5TH HIGHEST VALUE IS	0.40150 AT (	276983.70,	3803918.20,	259.77,	271.22,	0.00)	DC	
	6TH HIGHEST VALUE IS	0.39733 AT (	277183.70,	3803818.20,	254.33,	283.82,	0.00)	DC	
	7TH HIGHEST VALUE IS	0.37226 AT (	277183.70,	3803918.20,	256.49,	265.15,	0.00)	DC	
	8TH HIGHEST VALUE IS	0.36764 AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC	
	9TH HIGHEST VALUE IS	0.35515 AT (	277183.70,	3803718.20,	251.01,	292.23,	0.00)	DC	
	10TH HIGHEST VALUE IS	0.35385 AT (	277283.70,	3803818.20,	261.79,	267.14,	0.00)	DC	
SCENAR2	**1ST HIGHEST VALUE IS**	**0.49648 AT (**	**276990.60,**	**3803841.00,**	**261.20,**	**283.82,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	0.47828 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	3RD HIGHEST VALUE IS	0.47573 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	0.45044 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	5TH HIGHEST VALUE IS	0.44357 AT (	276983.70,	3803918.20,	259.77,	271.22,	0.00)	DC	
	6TH HIGHEST VALUE IS	0.42999 AT (	277183.70,	3803818.20,	254.33,	283.82,	0.00)	DC	
	7TH HIGHEST VALUE IS	0.40797 AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC	
	8TH HIGHEST VALUE IS	0.40179 AT (	277183.70,	3803918.20,	256.49,	265.15,	0.00)	DC	
	9TH HIGHEST VALUE IS	0.39291 AT (	277183.70,	3803718.20,	251.01,	292.23,	0.00)	DC	
	10TH HIGHEST VALUE IS	0.38097 AT (	277283.70,	3803818.20,	261.79,	267.14,	0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS *****

**** CONC OF PM10 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**0.48995 AT (**	**276990.60,**	**3803841.00,**	**261.20,**	**283.82,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	0.47476 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	3RD HIGHEST VALUE IS	0.45846 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	0.42967 AT (	276983.70,	3803918.20,	259.77,	271.22,	0.00)	DC	
	5TH HIGHEST VALUE IS	0.42815 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	6TH HIGHEST VALUE IS	0.42379 AT (	277183.70,	3803818.20,	254.33,	283.82,	0.00)	DC	
	7TH HIGHEST VALUE IS	0.39060 AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC	
	8TH HIGHEST VALUE IS	0.38088 AT (	277183.70,	3803918.20,	256.49,	265.15,	0.00)	DC	
	9TH HIGHEST VALUE IS	0.37604 AT (	277183.70,	3803718.20,	251.01,	292.23,	0.00)	DC	
	10TH HIGHEST VALUE IS	0.37308 AT (	277283.70,	3803818.20,	261.79,	267.14,	0.00)	DC	
SCENAR2	**1ST HIGHEST VALUE IS**	**0.53955 AT (**	**276990.60,**	**3803841.00,**	**261.20,**	**283.82,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	0.51465 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	3RD HIGHEST VALUE IS	0.49164 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	0.47308 AT (	276983.70,	3803918.20,	259.77,	271.22,	0.00)	DC	
	5TH HIGHEST VALUE IS	0.45942 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	6TH HIGHEST VALUE IS	0.45455 AT (	277183.70,	3803818.20,	254.33,	283.82,	0.00)	DC	
	7TH HIGHEST VALUE IS	0.43341 AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC	
	8TH HIGHEST VALUE IS	0.41584 AT (	277183.70,	3803718.20,	251.01,	292.23,	0.00)	DC	
	9TH HIGHEST VALUE IS	0.40593 AT (	277183.70,	3803918.20,	256.49,	265.15,	0.00)	DC	
	10TH HIGHEST VALUE IS	0.40323 AT (	276883.70,	3804018.20,	272.07,	272.07,	0.00)	DC	

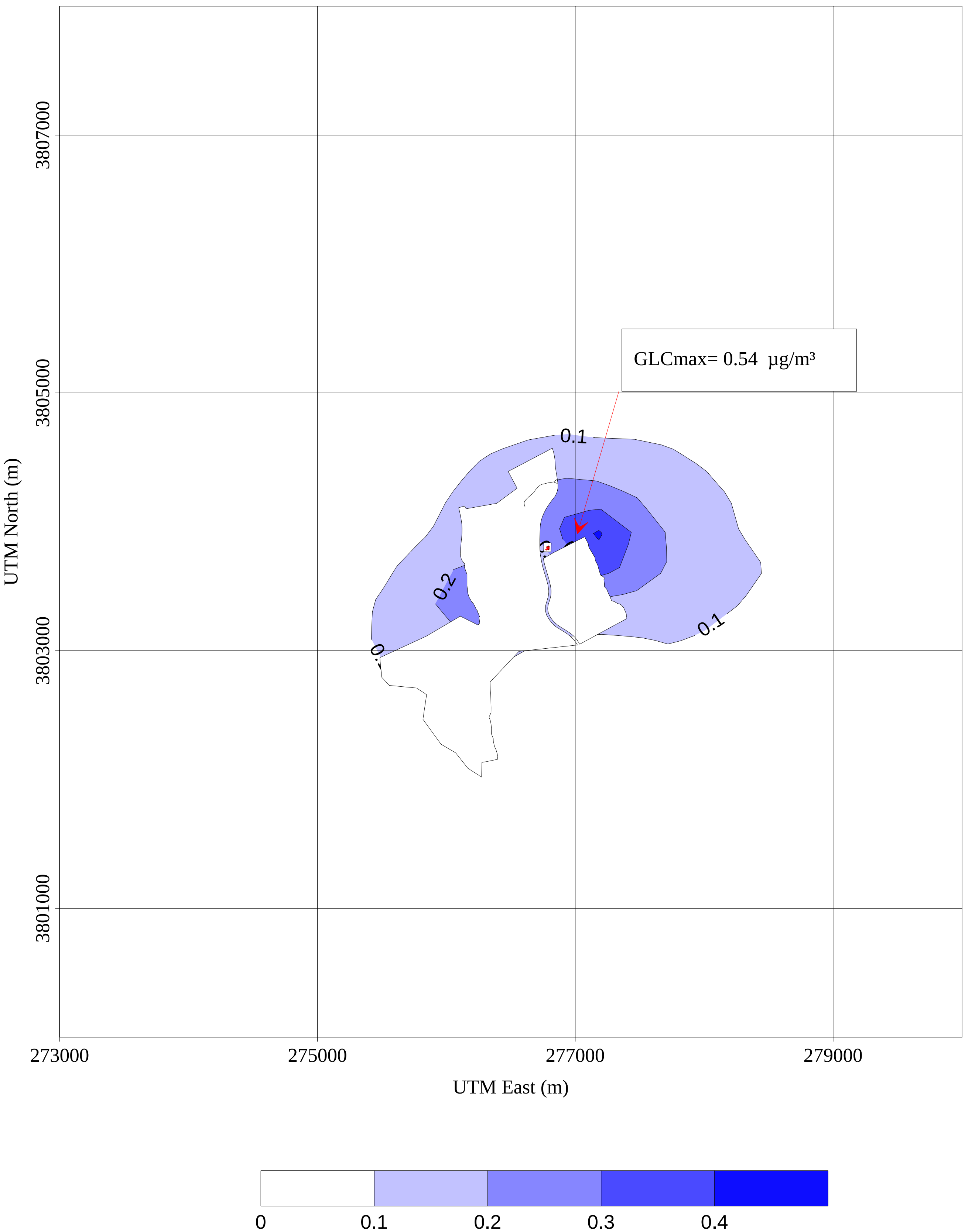
*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

Table D-2
Waste Management, Inc. Chambers R&B Landfill
Significant Impact Determination Modeling
Summary of Predicted Annual Concentrations for PM_{10}

Pollutant	Year Modeled	Met Data Set	Highest Scenario Source Group	Averaging Period	Max Modeled Conc . ($\mu g/m^3$)	Modeled Design Conc. ($\mu g/m^3$)	Class II SIL ($\mu g/m^3$)	Modeled Conc. as % of SIL
PM_{10}	1989	ahnahn89	SCENAR2	Annual	0.26258	0.36	1.00	35.50
PM_{10}	1990	ahnahn90	SCENAR2	Annual	0.27664			
PM_{10}	1991	ahnahn91	SCENAR2	Annual	0.35500			
PM_{10}	1992	ahnahn92	SCENAR2	Annual	0.31296			
PM_{10}	1993	ahnahn93	SCENAR2	Annual	0.27666			
PM_{10}	1989	banks89	SCENAR2	Annual	0.52687	**0.54**	**1.00**	**53.96**
PM_{10}	1990	banks90	SCENAR2	Annual	0.44792			
PM_{10}	1991	banks91	SCENAR2	Annual	0.40488			
PM_{10}	1992	banks92	SCENAR2	Annual	0.49648			
PM_{10}	1993	banks93	SCENAR2	Annual	0.53955			

Notes:
1. The design concentrations are the maximum of the five yearly modeled concentrations.

Figure D-2
Waste Management, Inc. Chambers R&B Landfill
Class II SID Modeling Analyses
Isocontour Plot for Annual Average PM10 Concentrations
GLCmax = 0.54 µg/m³, SIL = 1.0 µg/m³



APPENDIX E
CLASS II MODELING INFORMATION AND RESULTS FOR $PM_{2.5}$

The following attachments are included in this appendix in the following order:

General Information:

- Table E-1: Point Source Locations, Parameters, and Emission Rates for Sources Used in Cumulative Impact Modeling
- Table E-2: Area Source Locations, Parameters, and Emission Rates for Sources Used in Cumulative Impact Modeling
- Table E-3: Volume Source Locations, Parameters, and Emission Rates for Sources Used in Cumulative Impact Modeling

24-hour Average Concentrations Modeling:

- Printout of the SID Modeling Output File for Banks Met Data
- Table E-4: Summary of Predicted SID Modeling Concentrations for $PM_{2.5}$
- Figure E-1: Location of the Maximum Predicted $PM_{2.5}$ Design Value Concentrations for SID Modeling
  Note: The plotted results are for Source Group: SCENAR2, Banks met data.
- ~~Figure E-2: Location of All Receptors Used in Cumulative Modeling Analysis Note: This plot shows the location of all receptors for which the SID modeling predicted an exceedance of the SIL.~~
- Printout of the Cumulative Modeling Output File for Banks Met Data
- Printout of the Cumulative Modeling Output File for Athens Met Data
- Table E-5: Summary of Predicted 1-hour Concentrations for Nitrogen Dioxide, Cumulative Impact Modeling
- Figure E-3: Cumulative Impact Modeling - Predicted Concentrations for Source Group ALL, Significant Receptors, Athens Met Data
- Table E-6: Printout of the Maximum Daily Contribution File for Athens Met Data (condensed)

Listing Continues on the Next Page

The following attachments are included in this appendix in the following order (continued from the previous page):

Annual Average Concentrations Modeling:

- Printouts of the SID Modeling Output Files for Banks Met Data
- Table E-7: Predicted Annual Concentrations for $PM_{2.5}$, SID Modeling
- ~~Figure E-4: Location of the Receptors Used in Cumulative Impact Modeling Note: Only the receptors with the SID modeling concentrations exceeding the SIL are shown on the plot. The plotted results are for Source Group: SCENAR2, Banks Met Data~~
- Printout of the Cumulative Modeling Output File for Athens Met Data
- Table E-8: Predicted Annual Concentrations for $PM_{2.5}$, Cumulative Impact Modeling
- Figure E-5: Cumulative Impact Modeling - Predicted Concentrations for Source Group: ALL, Significant Receptors, Banks Met Data

Table E-1
Waste Management, Inc. Chambers R&B Landfill
Cumulative Impact Modeling for $PM_{2.5}$
Point Source Locations, Parameters, and Emission Rates

EPN	Model ID	Description	UTM-E NAD83	UTM-N NAD83	Base Elevation		Stack Height		Exit Temp.		Exit Velocity		Stack Diameter		Emission Rate $PM_{2.5}$		
			(meters)	(meters)	(feet)	(meters)	(feet)	(meters)	(^oF)	(^oK)	(ft/sec)	(m/sec)	(feet)	(meters)	(lb/hr)	(tpy)	(g/s)
FL1	FL1	Flare 1	276,973	3,803,524	850.10	259.1	21.0	6.4	1831.73	1273	65.6168	20.000	3.467	1.057	0.41	1.80	0.05
FL2	FL2	Flare 2	276,160	3,803,959	825.79	251.7	35.0	10.7	1831.73	1273	65.6168	20.000	5.683	1.732	1.10	4.80	0.14
FL3	FL3	Flare 3	276,197	3,803,510	814.86	248.4	42.0	12.8	1831.73	1273	65.6168	20.000	6.127	1.868	1.28	5.60	0.16
ST03	ST03	Generator Engine No. 3 SN03 Scenario 2	276,789	3,803,800	898.10	273.7	80.0	24.4	897.998	754.26	152.7297	46.552	1.330	0.405	0.42	1.86	0.05
ST04	ST04	Generator Engine No. 4 SN04	276,789	3,803,795	898.26	273.8	80.0	24.4	897.998	754.26	152.7297	46.552	1.330	0.405	0.85	3.71	0.11
ST05	ST05	Generator Engine No. 5 SN05	276,788	3,803,790	898.36	273.8	80.0	24.4	897.998	754.26	152.7297	46.552	1.330	0.405	0.85	3.71	0.11
ST06	ST06	Generator Engine No. 6 SN06	276,788	3,803,786	898.49	273.9	80.0	24.4	897.998	754.26	152.7297	46.552	1.330	0.405	0.85	3.71	0.11
ST07	ST07	Leachate Concentrator LC01	276,779	3,803,782	896.69	273.3	80.0	24.4	154.994	341.48	96.3825	29.377	2.500	0.762	2.12	9.29	0.27
SPST1N	SPST1N	Dahlberg Generating Station	278,599	3,769,964	788.71	240.4	65.0	19.8	733.73	663	61.7487	18.821	11.450	3.490	11.35	49.71	1.43
SPST2N	SPST2N	Dahlberg Generating Station	278,599	3,769,964	788.71	240.4	65.0	19.8	733.73	663	61.7487	18.821	11.450	3.490	11.35	49.71	1.43
SPST3N	SPST3N	Dahlberg Generating Station	278,599	3,769,964	788.71	240.4	65.0	19.8	733.73	663	61.7487	18.821	11.450	3.490	11.35	49.71	1.43
SPST4N	SPST4N	Dahlberg Generating Station	278,599	3,769,964	788.71	240.4	65.0	19.8	733.73	663	61.7487	18.821	11.450	3.490	11.35	49.71	1.43
SPST5N	SPST5N	Dahlberg Generating Station	278,599	3,769,964	788.71	240.4	65.0	19.8	733.73	663	61.7487	18.821	11.450	3.490	11.35	49.71	1.43
SPST6N	SPST6N	Dahlberg Generating Station	278,599	3,769,964	788.71	240.4	65.0	19.8	733.73	663	61.7487	18.821	11.450	3.490	11.35	49.71	1.43
SPST7N	SPST7N	Dahlberg Generating Station	278,599	3,769,964	788.71	240.4	65.0	19.8	733.73	663	61.7487	18.821	11.450	3.490	11.35	49.71	1.43
SPST8N	SPST8N	Dahlberg Generating Station	278,599	3,769,964	788.71	240.4	65.0	19.8	733.73	663	61.7487	18.821	11.450	3.490	11.35	49.71	1.43
SPST9N	SPST9N	Dahlberg Generating Station	278,599	3,769,964	788.71	240.4	65.0	19.8	733.73	663	61.7487	18.821	11.450	3.490	11.35	49.71	1.43
SPST10N	SPST10N	Dahlberg Generating Station	278,599	3,769,964	788.71	240.4	65.0	19.8	733.73	663	61.7487	18.821	11.450	3.490	11.35	49.71	1.43
SPST11N	SPST11N	Dahlberg Generating Station	278,653	3,769,017	720.51	219.6	60.0	18.3	1012.73	818	74.6293	22.747	26.115	7.960	69.05	302.43	8.70
SPST12N	SPST12N	Dahlberg Generating Station	278,661	3,769,072	730.31	222.6	60.0	18.3	1012.73	818	74.6293	22.747	26.115	7.960	69.05	302.43	8.70
SPST13N	SPST13N	Dahlberg Generating Station	278,670	3,769,016	723.29	220.5	60.0	18.3	1012.73	818	74.6293	22.747	26.115	7.960	69.05	302.43	8.70
SPST14N	SPST14N	Dahlberg Generating Station	278,677	3,768,871	698.46	212.9	60.0	18.3	1012.73	818	74.6293	22.747	26.115	7.960	69.05	302.43	8.70
FGH01	FGH01	Dahlberg Generating Station	278,599	3,769,964	788.71	240.4	0.0	0.0	-459.67	0	0.0000	0.000	0.000	0.000	0.00	0.00	0.00
FGH02	FGH02	Dahlberg Generating Station	278,599	3,769,964	788.71	240.4	0.0	0.0	-459.67	0	0.0000	0.000	0.000	0.000	0.00	0.00	0.00
FGH03	FGH03	Dahlberg Generating Station	278,599	3,769,964	788.71	240.4	0.0	0.0	-459.67	0	0.0000	0.000	0.000	0.000	0.00	0.00	0.00
FGH04	FGH04	Dahlberg Generating Station	278,599	3,769,964	788.71	240.4	0.0	0.0	-459.67	0	0.0000	0.000	0.000	0.000	0.00	0.00	0.00
LPRTO1N	LPRTO1N	Louisiana-Pacific Corporation	277,869	3,769,293	782.97	238.7	125.0	38.1	265.73	403	66.5945	20.298	7.087	2.160	11.59	50.75	1.46
LPRTO2N	LPRTO2N	Louisiana-Pacific Corporation	277,880	3,769,262	781.43	238.2	125.0	38.1	271.13	406	66.5945	20.298	7.087	2.160	11.59	50.75	1.46
LPRTO3N	LPRTO3N	Louisiana-Pacific Corporation	278,018	3,769,177	774.80	236.2	125.0	38.1	244.13	391	62.6378	19.092	7.087	2.160	11.59	50.75	1.46
LPSC6N	LPSC6N	Louisiana-Pacific Corporation	277,907	3,769,221	780.48	237.9	60.0	18.3	69.53	294	62.0013	18.898	2.559	0.780	0.82	3.58	0.10
LPSC7N	LPSC7N	Louisiana-Pacific Corporation	277,971	3,769,132	779.27	237.5	44.0	13.4	69.53	294	211.0007	64.313	2.493	0.760	0.25	1.10	0.03
LPSC8N	LPSC8N	Louisiana-Pacific Corporation	277,915	3,769,204	780.12	237.8	60.0	18.3	69.53	294	136.0007	41.453	2.297	0.700	0.06	0.26	0.01
LPSC9N	LPSC9N	Louisiana-Pacific Corporation	277,885	3,769,304	784.28	239.1	54.0	16.5	69.53	294	6.0007	1.829	2.428	0.740	0.08	0.35	0.01
LPSC10N	LPSC10N	Louisiana-Pacific Corporation	277,915	3,769,201	780.15	237.8	74.0	22.6	69.53	294	65.0000	19.812	2.297	0.700	0.05	0.22	0.01
LPSC11N	LPSC11N	Louisiana-Pacific Corporation	277,861	3,769,295	782.78	238.6	54.0	16.5	69.53	294	90.0000	27.432	0.984	0.300	0.18	0.79	0.02
LPSC12N	LPSC12N	Louisiana-Pacific Corporation	277,861	3,769,295	782.78	238.6	60.0	18.3	69.53	294	68.9993	21.031	2.001	0.610	0.56	2.45	0.07
LPRVN	LPRVN	Louisiana-Pacific Corporation	278,017	3,769,102	776.61	236.7	38.0	11.6	69.53	294	0.0984	0.030	5.184	1.580	0.01	0.04	0.00
LPCP06N	LPCP06N	Louisiana-Pacific Corporation	277,884	3,769,286	782.71	238.6	55.0	16.8	733.73	663	37.7723	11.513	0.984	0.300	0.02	0.10	0.00

Table E-2
Waste Management, Inc. Chambers R&B Landfill
Cumulative Impact Modeling for $PM_{2.5}$
Area Source Locations, Parameters, and Emission Rates

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EPN	Model ID	Description	UTM-E NAD83	UTM-N NAD83	Base Elevation		Release Height		Easterly Length		Northerly Length		Angle from North	Emission Rate $PM_{2.5}$	
			(meters)	(meters)	(feet)	(meters)	(feet)	(meters)	(feet)	(meters)	(feet)	(meters)		(lb/hr)	(g/s)
URD1	URD1	Unpaved Roads Area Source	276,400	3,803,000	828.44	252.5	3.3	1.0	1300.00	396.24	3300.00	1005.84	-15.00	1.14E+00	1.44E-01
MAT1	MAT1	Material Handling Emissions	276,400	3,803,820	990.12	301.8	3.3	1.0	100.00	30.48	100.00	30.48	-15.00	1.08E-05	1.36E-06

Table E-3
Waste Management, Inc. Chambers R&B Landfill
Cumulative Impact Modeling for $PM_{2.5}$
Volume Sources Locations, Parameters, and Emission Rates

EPN	Model ID	Description	UTM-E NAD83	UTM-N NAD83	Base Elevation		Release Height		Horizontal Dimension		Vertical Dimension		Emission Rate $PM_{2.5}$	
			(meters)	(meters)	(feet)	(meters)	(feet)	(meters)	(feet)	(meters)	(feet)	(meters)	(lb/hr)	(g/s)
ENR_0001	ENR_0001	Entrance Paved Road	276,860	3,804,329	902.26	275.0	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
ENR_0002	ENR_0002	Entrance Paved Road	276,850	3,804,322	900.62	274.5	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
ENR_0003	ENR_0003	Entrance Paved Road	276,840	3,804,315	899.38	274.1	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
ENR_0004	ENR_0004	Entrance Paved Road	276,833	3,804,309	898.85	274.0	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
EXR_0001	EXR_0001	Exit Paved Road	276,864	3,804,293	904.23	275.6	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
EXR_0002	EXR_0002	Exit Paved Road	276,854	3,804,299	902.43	275.1	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
EXR_0003	EXR_0003	Exit Paved Road	276,843	3,804,304	900.85	274.6	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
EXR_0004	EXR_0004	Exit Paved Road	276,833	3,804,307	899.18	274.1	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0001	HRD_0001	Onsite Paved Road	276,830	3,804,308	898.65	273.9	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0002	HRD_0002	Onsite Paved Road	276,818	3,804,307	898.56	273.9	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0003	HRD_0003	Onsite Paved Road	276,807	3,804,305	898.56	273.9	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0004	HRD_0004	Onsite Paved Road	276,795	3,804,303	899.05	274.0	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0005	HRD_0005	Onsite Paved Road	276,783	3,804,300	899.57	274.2	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0006	HRD_0006	Onsite Paved Road	276,771	3,804,297	899.67	274.2	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0007	HRD_0007	Onsite Paved Road	276,760	3,804,294	899.67	274.2	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0008	HRD_0008	Onsite Paved Road	276,748	3,804,292	899.41	274.1	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0009	HRD_0009	Onsite Paved Road	276,737	3,804,288	899.05	274.0	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0010	HRD_0010	Onsite Paved Road	276,726	3,804,282	898.46	273.9	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0011	HRD_0011	Onsite Paved Road	276,717	3,804,274	897.90	273.7	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0012	HRD_0012	Onsite Paved Road	276,709	3,804,266	898.59	273.9	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0013	HRD_0013	Onsite Paved Road	276,700	3,804,257	898.06	273.7	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0014	HRD_0014	Onsite Paved Road	276,692	3,804,249	897.41	273.5	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0015	HRD_0015	Onsite Paved Road	276,686	3,804,239	897.90	273.7	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0016	HRD_0016	Onsite Paved Road	276,679	3,804,228	897.93	273.7	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0017	HRD_0017	Onsite Paved Road	276,671	3,804,220	897.47	273.6	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0018	HRD_0018	Onsite Paved Road	276,662	3,804,212	897.70	273.6	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0019	HRD_0019	Onsite Paved Road	276,653	3,804,205	898.16	273.8	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0020	HRD_0020	Onsite Paved Road	276,643	3,804,197	897.51	273.6	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0021	HRD_0021	Onsite Paved Road	276,635	3,804,189	897.05	273.4	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0022	HRD_0022	Onsite Paved Road	276,627	3,804,180	897.11	273.4	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0023	HRD_0023	Onsite Paved Road	276,618	3,804,171	897.11	273.4	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04

Table E-3
Waste Management, Inc. Chambers R&B Landfill
Cumulative Impact Modeling for $PM_{2.5}$
Volume Sources Locations, Parameters, and Emission Rates

EPN	Model ID	Description	UTM-E NAD83	UTM-N NAD83	Base Elevation		Release Height		Horizontal Dimension		Vertical Dimension		Emission Rate $PM_{2.5}$	
			(meters)	(meters)	(feet)	(meters)	(feet)	(meters)	(feet)	(meters)	(feet)	(meters)	(lb/hr)	(g/s)
HRD_0024	HRD_0024	Onsite Paved Road	276,610	3,804,162	896.98	273.4	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0025	HRD_0025	Onsite Paved Road	276,605	3,804,152	897.08	273.4	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0026	HRD_0026	Onsite Paved Road	276,604	3,804,140	896.00	273.1	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0027	HRD_0027	Onsite Paved Road	276,606	3,804,129	893.83	272.4	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04
HRD_0028	HRD_0028	Onsite Paved Road	276,610	3,804,117	892.75	272.1	8.2	2.5	18.30709	5.58	7.6444	2.330	1.85E-03	2.33E-04

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM 1ST-HIGHEST 24-HR RESULTS AVERAGED OVER 5 YEARS *****

**** CONC OF PM25 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR,	YR,	ZELEV,	ZHILL,	ZFLAG)	OF TYPE	NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**3.26524 AT (**	**276783.70,**	**3804018.20,**	**271.83,**	**303.92,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	3.10224 AT (	276727.60,	3803952.20,	272.82,	304.65,	0.00)	DC	
	3RD HIGHEST VALUE IS	2.87639 AT (	276783.00,	3804112.90,	279.01,	279.01,	0.00)	DC	
	4TH HIGHEST VALUE IS	2.82749 AT (	276883.70,	3804118.20,	272.37,	276.74,	0.00)	DC	
	5TH HIGHEST VALUE IS	2.78830 AT (	276883.70,	3804018.20,	272.07,	272.07,	0.00)	DC	
	6TH HIGHEST VALUE IS	2.68549 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	7TH HIGHEST VALUE IS	2.59985 AT (	276990.60,	3803841.00,	261.20,	283.82,	0.00)	DC	
	8TH HIGHEST VALUE IS	2.54366 AT (	276845.50,	3804202.20,	277.27,	277.27,	0.00)	DC	
	9TH HIGHEST VALUE IS	2.46384 AT (	276983.70,	3803918.20,	259.77,	271.22,	0.00)	DC	
	10TH HIGHEST VALUE IS	2.41792 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
SCENAR2	**1ST HIGHEST VALUE IS**	**3.57676 AT (**	**276727.60,**	**3803952.20,**	**272.82,**	**304.65,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	3.49527 AT (	276783.70,	3804018.20,	271.83,	303.92,	0.00)	DC	
	3RD HIGHEST VALUE IS	3.07692 AT (	276783.00,	3804112.90,	279.01,	279.01,	0.00)	DC	
	4TH HIGHEST VALUE IS	3.04691 AT (	276883.70,	3804018.20,	272.07,	272.07,	0.00)	DC	
	5TH HIGHEST VALUE IS	2.93857 AT (	276883.70,	3804118.20,	272.37,	276.74,	0.00)	DC	
	6TH HIGHEST VALUE IS	2.85493 AT (	276990.60,	3803841.00,	261.20,	283.82,	0.00)	DC	
	7TH HIGHEST VALUE IS	2.76701 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	8TH HIGHEST VALUE IS	2.74385 AT (	276983.70,	3803918.20,	259.77,	271.22,	0.00)	DC	
	9TH HIGHEST VALUE IS	2.61857 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	10TH HIGHEST VALUE IS	2.59983 AT (	276845.50,	3804202.20,	277.27,	277.27,	0.00)	DC	

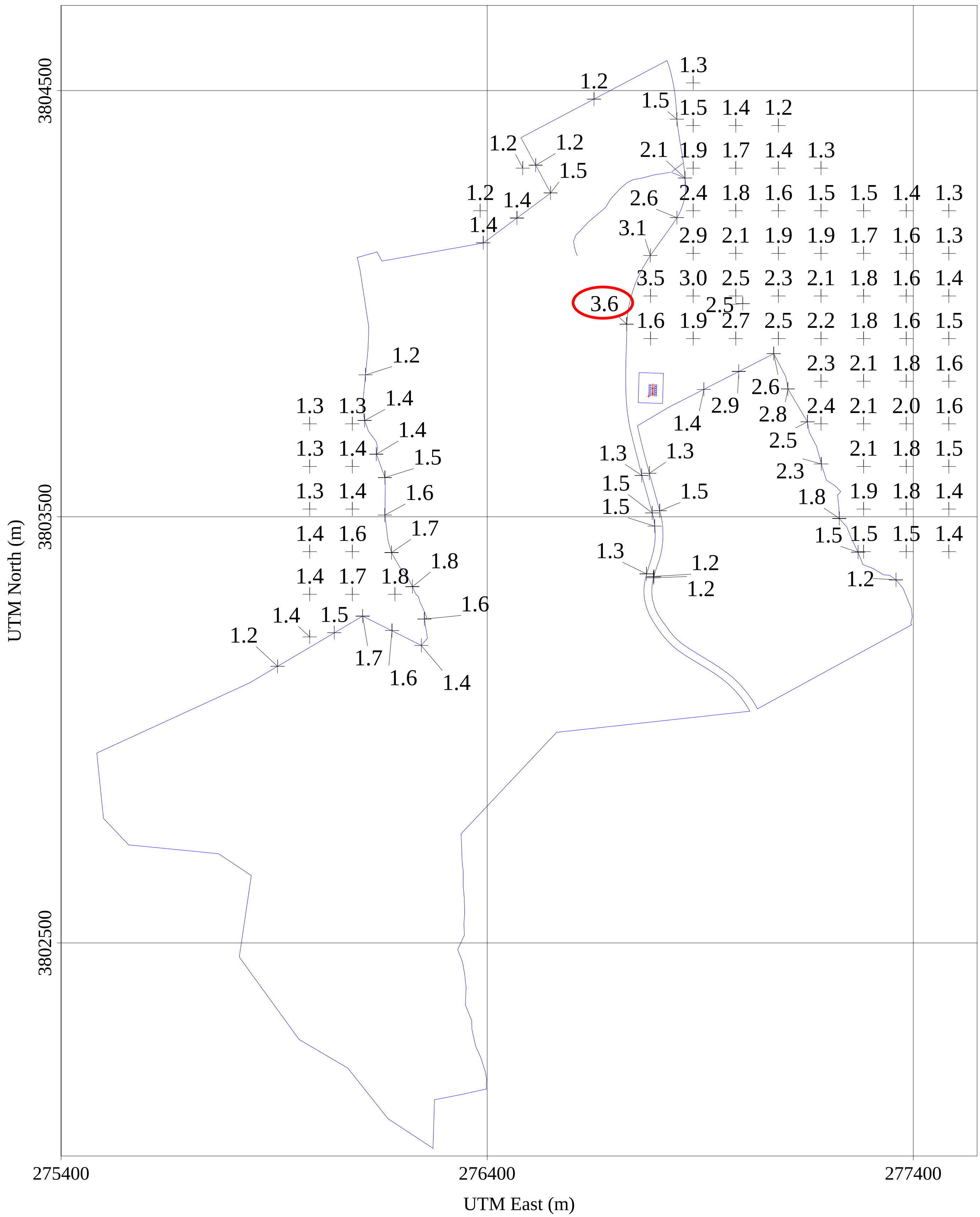
*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

Table E-4
Waste Management, Inc. Chambers R&B Landfill
Significant Impact Determination Modeling
Summary of Predicted 24-hour Concentrations for $PM_{2.5}$

Pollutant	Year Modeled	Met Data Set	Highest Scenario Source Group	Averaging Period	Average 5-year Modeled Conc . ($\mu g/m^3$)	Modeled Design Conc. ($\mu g/m^3$)	Class II SIL ($\mu g/m^3$)	Modeled Conc. to SIL Ratio
$PM_{2.5}$	1989 - 1993	ahnahn89-93	SCENAR2	24-hour	1.92155	1.92	1.20	1.60
$PM_{2.5}$	1989 - 1993	banks89-93	SCENAR2	24-hour	3.57676	**3.58**	**1.20**	**2.98**

Notes:
1. The Highest-1st-High concentrations were modeled for 24-hour averaging period.
2. The design concentrations are the average of the five yearly modeled concentrations.

Figure E-1
Waste Management, Inc. Chambers R&B Landfill
Class II SIL Modeling Analyses
Location of the Maximum Predicted 24-hour PM2.5 Design Value
Concentrations Relative to the Project Sources



**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM 1ST-HIGHEST 24-HR RESULTS AVERAGED OVER 5 YEARS *****

**** CONC OF PM25 IN MICROGRAMS/M**3 ****

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					NETWORK OF TYPE GRID-ID
ONSITE	**1ST HIGHEST VALUE IS**	**5.67049 AT (**	**276563.00,**	**3802994.20,**	**258.51,**	**258.51,**	**0.00)**	**DC**
	2ND HIGHEST VALUE IS	5.41267 AT (	276744.50,	3803014.00,	258.81,	267.43,	0.00)	DC
	3RD HIGHEST VALUE IS	5.33777 AT (	276252.80,	3803259.90,	246.15,	304.03,	0.00)	DC
	4TH HIGHEST VALUE IS	5.06186 AT (	276224.80,	3803335.70,	246.42,	304.88,	0.00)	DC
	5TH HIGHEST VALUE IS	4.92410 AT (	276506.60,	3802934.30,	258.39,	258.39,	0.00)	DC
	6TH HIGHEST VALUE IS	4.87388 AT (	276245.40,	3803198.20,	245.91,	303.61,	0.00)	DC
	7TH HIGHEST VALUE IS	4.72095 AT (	276183.70,	3803318.20,	253.04,	303.61,	0.00)	DC
	8TH HIGHEST VALUE IS	4.65378 AT (	276583.70,	3802918.20,	254.75,	254.75,	0.00)	DC
	9TH HIGHEST VALUE IS	4.35562 AT (	276864.40,	3804295.00,	275.58,	275.58,	0.00)	DC
	10TH HIGHEST VALUE IS	4.35044 AT (	276176.60,	3803232.60,	255.28,	298.52,	0.00)	DC
OFFSITE	**1ST HIGHEST VALUE IS**	**0.36627 AT (**	**277583.70,**	**3804418.20,**	**304.47,**	**304.47,**	**0.00)**	**DC**
	2ND HIGHEST VALUE IS	0.35904 AT (	277483.70,	3804418.20,	297.01,	297.01,	0.00)	DC
	3RD HIGHEST VALUE IS	0.35796 AT (	277683.70,	3804518.20,	304.54,	308.12,	0.00)	DC
	4TH HIGHEST VALUE IS	0.35740 AT (	277083.70,	3802718.20,	277.32,	277.32,	0.00)	DC
	5TH HIGHEST VALUE IS	0.35631 AT (	277483.70,	3804518.20,	295.98,	295.98,	0.00)	DC
	6TH HIGHEST VALUE IS	0.35594 AT (	276983.70,	3802518.20,	273.81,	273.81,	0.00)	DC
	7TH HIGHEST VALUE IS	0.35518 AT (	277183.70,	3802618.20,	275.06,	276.35,	0.00)	DC
	8TH HIGHEST VALUE IS	0.35494 AT (	277083.70,	3802618.20,	271.91,	271.91,	0.00)	DC
	9TH HIGHEST VALUE IS	0.35461 AT (	277183.70,	3802718.20,	275.49,	275.49,	0.00)	DC
	10TH HIGHEST VALUE IS	0.35438 AT (	277683.70,	3804418.20,	301.92,	308.12,	0.00)	DC
ALL	**1ST HIGHEST VALUE IS**	**5.72339 AT (**	**276563.00,**	**3802994.20,**	**258.51,**	**258.51,**	**0.00)**	**DC**
	2ND HIGHEST VALUE IS	5.43901 AT (	276744.50,	3803014.00,	258.81,	267.43,	0.00)	DC
	3RD HIGHEST VALUE IS	5.36470 AT (	276252.80,	3803259.90,	246.15,	304.03,	0.00)	DC
	4TH HIGHEST VALUE IS	5.08870 AT (	276224.80,	3803335.70,	246.42,	304.88,	0.00)	DC
	5TH HIGHEST VALUE IS	4.97645 AT (	276506.60,	3802934.30,	258.39,	258.39,	0.00)	DC
	6TH HIGHEST VALUE IS	4.90082 AT (	276245.40,	3803198.20,	245.91,	303.61,	0.00)	DC
	7TH HIGHEST VALUE IS	4.74763 AT (	276183.70,	3803318.20,	253.04,	303.61,	0.00)	DC
	8TH HIGHEST VALUE IS	4.71439 AT (	276583.70,	3802918.20,	254.75,	254.75,	0.00)	DC
	9TH HIGHEST VALUE IS	4.39808 AT (	276683.70,	3802918.20,	252.83,	261.26,	0.00)	DC
	10TH HIGHEST VALUE IS	4.37712 AT (	276176.60,	3803232.60,	255.28,	298.52,	0.00)	DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM 1ST-HIGHEST 24-HR RESULTS AVERAGED OVER 5 YEARS *****

**** CONC OF PM25 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
PROJECT	**1ST HIGHEST VALUE IS**	**1.92155 AT (**	**276224.80,**	**3803335.70,**	**246.42,**	**304.88,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	1.89994 AT (	276783.00,	3804112.90,	279.01,	279.01,	0.00)	DC	
	3RD HIGHEST VALUE IS	1.88630 AT (	276183.70,	3803318.20,	253.04,	303.61,	0.00)	DC	
	4TH HIGHEST VALUE IS	1.80576 AT (	276107.80,	3803267.10,	262.40,	262.40,	0.00)	DC	
	5TH HIGHEST VALUE IS	1.78979 AT (	276783.70,	3804018.20,	271.83,	303.92,	0.00)	DC	
	6TH HIGHEST VALUE IS	1.75409 AT (	276845.50,	3804202.20,	277.27,	277.27,	0.00)	DC	
	7TH HIGHEST VALUE IS	1.73900 AT (	276083.70,	3803318.20,	263.18,	263.18,	0.00)	DC	
	8TH HIGHEST VALUE IS	1.73638 AT (	276175.60,	3803415.60,	246.19,	304.88,	0.00)	DC	
	9TH HIGHEST VALUE IS	1.71086 AT (	276176.60,	3803232.60,	255.28,	298.52,	0.00)	DC	
	10TH HIGHEST VALUE IS	1.69580 AT (	276864.40,	3804295.00,	275.58,	275.58,	0.00)	DC	
ALL	**1ST HIGHEST VALUE IS**	**8.43901 AT (**	**276683.70,**	**3802918.20,**	**252.83,**	**261.26,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	8.43724 AT (	276744.50,	3803014.00,	258.81,	267.43,	0.00)	DC	
	3RD HIGHEST VALUE IS	7.81671 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	7.81311 AT (	276563.00,	3802994.20,	258.51,	258.51,	0.00)	DC	
	5TH HIGHEST VALUE IS	7.70237 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	6TH HIGHEST VALUE IS	7.62613 AT (	276583.70,	3802918.20,	254.75,	254.75,	0.00)	DC	
	7TH HIGHEST VALUE IS	7.46414 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	8TH HIGHEST VALUE IS	6.99730 AT (	277183.70,	3803818.20,	254.33,	283.82,	0.00)	DC	
	9TH HIGHEST VALUE IS	6.77225 AT (	277183.70,	3803718.20,	251.01,	292.23,	0.00)	DC	
	10TH HIGHEST VALUE IS	6.50119 AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

Table E-5
Waste Management, Inc. Chambers R&B Landfill
Cumulative Impact Modeling
Summary of Predicted 24-hour Concentrations for $PM_{2.5}$

Pollutant	Year Modeled	Met Data Set	Source Group	Averaging Period	Average 5-year Modeled Conc. ($\mu g/m^3$)	Modeled Design Conc. ($\mu g/m^3$)	Background Conc. ($\mu g/m^3$)	Total Conc. ($\mu g/m^3$)	Class II NAAQS ($\mu g/m^3$)	Total Conc. as % of NAAQS
$PM_{2.5}$	1989 - 1993	ahnahn89-93	ALL	24-hour	**8.44**	**8.44**	**27.3**	**35.74**	**35.0**	**102.11**
$PM_{2.5}$	1989 - 1993	banks89-93	ALL	24-hour	5.72	5.72	27.3	33.02	35.0	94.35

Notes:
1. The Highest-1st-High concentrations were modeled for 24-hour averaging period.
2. The design concentrations are the average of the five yearly modeled concentrations.

Figure E-3
Waste Management, Inc. Chambers R&B Landfill
Cumulative Impact Modeling for PM2.5 24-hour NAAQS (35 µg/m³)
Predicted Concentrations for Source Group ALL for Receptors within the ROI
Background Concentration of 27.3 µg/m³ is added to the Model Predictions

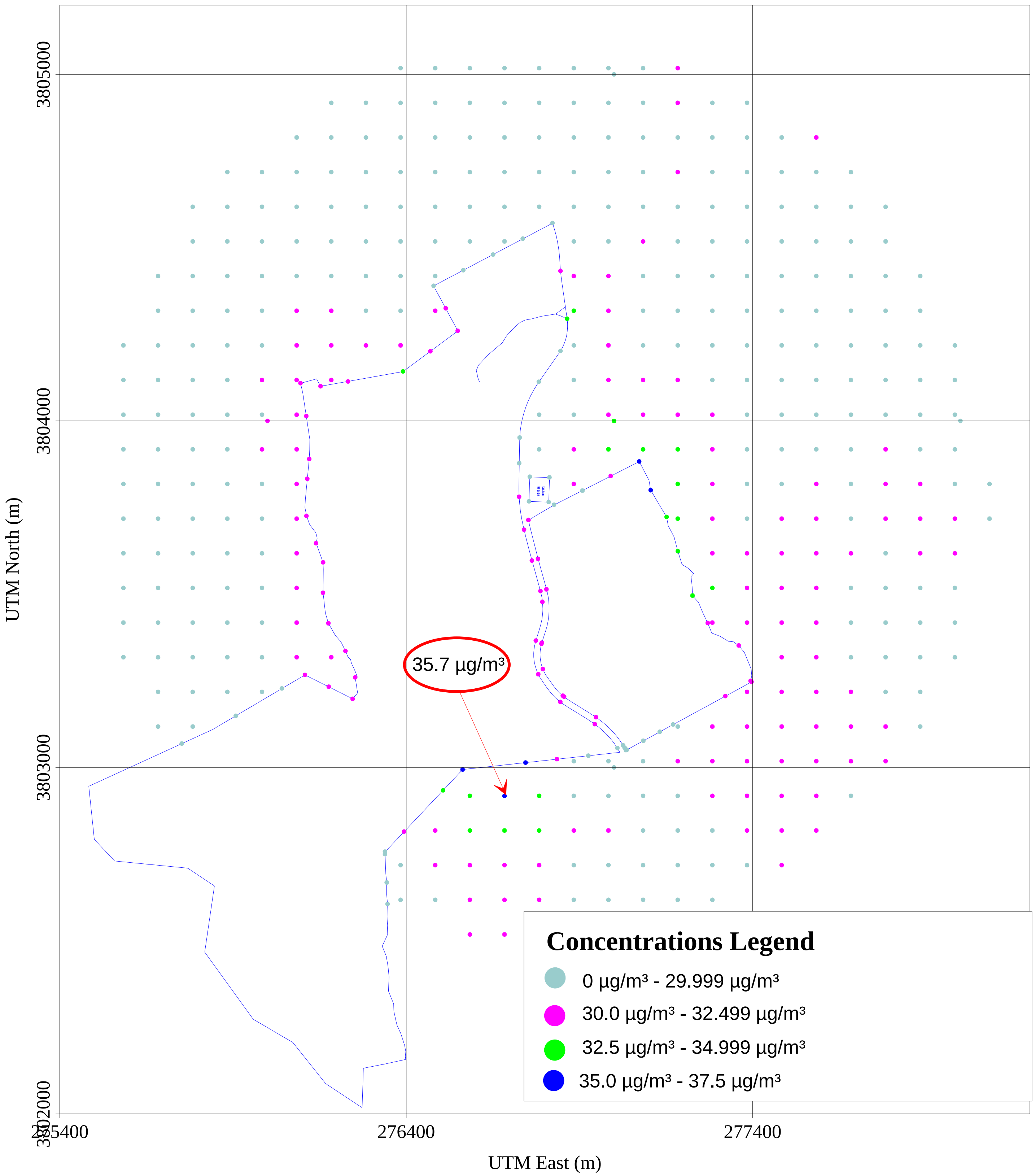


Table E-6
Waste Management, Inc. Chambers R&B Landfill
Cumulative Impact Modeling
Printout of Condensed MAXDFILE for 24-hour Concentrations for $PM_{2.5}$, Athens Met Data

* AERMOD (11103): Waste Management R&B Chambers Landfill 2/14/2012
* MODELING OPTIONS USED: 11:50:45
* RegDFAULT CONC ELEV
* MAXDCONT FILE OF 1ST-HIGHEST 24-HR VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ; ABOVE THRESH = 7.70000
* FOR A TOTAL OF 127 RECEPTORS AND 2 SOURCE GROUPS; WITH CONTRIBUTIONS FROM OTHER SOURCE GROUPS PAIRED IN TIME & SPACE
* FORMAT: (3(1X,F13.5),3(1X,F8.2),2X,A6,2X,A8,2X,A5,5X,A8,2X, 2(F13.5,2X:))

UTM X	UTM Y	CONC	ZELEV	ZHILL	ZFLAG	AVE	GRP	RANK	CONT PROJECT	CONT ALL
(m)	(µg/m^3)	(µg/m^3)	(m)	(m)					(µg/m^3)	(µg/m^3)
277072.6	3803882.7	7.81671	251.86	283.82	0	24-HR	ALL	1ST	0.4784	7.81671
277105.8	3803800.2	7.70237	251.5	283.82	0	24-HR	ALL	1ST	0.53735	7.70237
276563	3802994.2	7.81311	258.51	258.51	0	24-HR	ALL	1ST	0.14383	7.81311
276744.5	3803014	8.43724	258.81	267.43	0	24-HR	ALL	1ST	0.05303	8.43724
276683.7	3802918.2	8.43901	252.83	261.26	0	24-HR	ALL	1ST	0.0563	8.43901

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 5 YEARS *****

**** CONC OF PM25 IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR,	YR,	ZELEV,	ZHILL,	ZFLAG)	OF TYPE	NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**0.41470 AT (**	**276990.60,**	**3803841.00,**	**261.20,**	**283.82,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	0.41310 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	3RD HIGHEST VALUE IS	0.41051 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	0.40993 AT (	276983.70,	3803918.20,	259.77,	271.22,	0.00)	DC	
	5TH HIGHEST VALUE IS	0.39943 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	6TH HIGHEST VALUE IS	0.37007 AT (	277183.70,	3803818.20,	254.33,	283.82,	0.00)	DC	
	7TH HIGHEST VALUE IS	0.35450 AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC	
	8TH HIGHEST VALUE IS	0.35315 AT (	277000.00,	3804000.00,	259.18,	272.70,	0.00)	DC	
	9TH HIGHEST VALUE IS	0.34941 AT (	277083.70,	3804018.20,	261.60,	261.60,	0.00)	DC	
	10TH HIGHEST VALUE IS	0.34936 AT (	277183.70,	3803918.20,	256.49,	265.15,	0.00)	DC	
SCENAR2	**1ST HIGHEST VALUE IS**	**0.46772 AT (**	**276990.60,**	**3803841.00,**	**261.20,**	**283.82,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	0.45420 AT (	276983.70,	3803918.20,	259.77,	271.22,	0.00)	DC	
	3RD HIGHEST VALUE IS	0.44935 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	0.44802 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	5TH HIGHEST VALUE IS	0.43343 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	6TH HIGHEST VALUE IS	0.40057 AT (	277183.70,	3803818.20,	254.33,	283.82,	0.00)	DC	
	7TH HIGHEST VALUE IS	0.39212 AT (	277151.80,	3803722.40,	249.01,	294.20,	0.00)	DC	
	8TH HIGHEST VALUE IS	0.38926 AT (	276783.70,	3804018.20,	271.83,	303.92,	0.00)	DC	
	9TH HIGHEST VALUE IS	0.38311 AT (	277000.00,	3804000.00,	259.18,	272.70,	0.00)	DC	
	10TH HIGHEST VALUE IS	0.37899 AT (	276883.70,	3804018.20,	272.07,	272.07,	0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

Table E-7
Waste Management, Inc. Chambers R&B Landfill
Significant Impact Determination Modeling
Summary of Predicted Annual Concentrations for $PM_{2.5}$

Pollutant	Year Modeled	Met Data Set	Highest Scenario Source Group	Averaging Period	Average 5-year Modeled Conc . (μg/m^3)	Modeled Design conc. (μg/m^3)	Class II SIL (μg/m^3)	Modeled Conc. as % of SIL
$PM_{2.5}$	1989 - 1993	ahnahn89-93	SCENAR2	Annual	0.29539	0.295	0.30	98.46
$PM_{2.5}$	1989 - 1993	banks89-93	SCENAR2	Annual	0.46772	**0.468**	**0.30**	**155.91**

Notes:
1. The design concentrations are the average of the five yearly modeled concentrations.

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 5 YEARS *****

**** CONC OF PM25 IN MICROGRAMS/M**3 ****

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
ONSITE	**1ST HIGHEST VALUE IS**	**1.84482 AT (**	**276864.40,**	**3804295.00,**	**275.58,**	**275.58,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	1.72804 AT (	276883.70,	3804318.20,	276.52,	276.52,	0.00)	DC	
	3RD HIGHEST VALUE IS	1.38475 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	1.35846 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	5TH HIGHEST VALUE IS	1.34269 AT (	276774.10,	3803365.80,	268.94,	294.20,	0.00)	DC	
	6TH HIGHEST VALUE IS	1.32576 AT (	276787.40,	3803509.10,	267.06,	302.91,	0.00)	DC	
	7TH HIGHEST VALUE IS	1.32008 AT (	276762.90,	3803597.20,	266.86,	304.10,	0.00)	DC	
	8TH HIGHEST VALUE IS	1.30481 AT (	276781.30,	3803268.80,	269.37,	294.20,	0.00)	DC	
	9TH HIGHEST VALUE IS	1.29773 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	10TH HIGHEST VALUE IS	1.29612 AT (	276793.30,	3803477.70,	267.58,	302.84,	0.00)	DC	
OFFSITE	**1ST HIGHEST VALUE IS**	**0.04778 AT (**	**277783.70,**	**3804518.20,**	**304.16,**	**304.16,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	0.04753 AT (	277683.70,	3804518.20,	304.54,	308.12,	0.00)	DC	
	3RD HIGHEST VALUE IS	0.04725 AT (	277583.70,	3804418.20,	304.47,	304.47,	0.00)	DC	
	4TH HIGHEST VALUE IS	0.04700 AT (	277683.70,	3804418.20,	301.92,	308.12,	0.00)	DC	
	5TH HIGHEST VALUE IS	0.04695 AT (	277783.70,	3804418.20,	300.30,	307.97,	0.00)	DC	
	6TH HIGHEST VALUE IS	0.04599 AT (	277883.70,	3804418.20,	295.11,	295.70,	0.00)	DC	
	7TH HIGHEST VALUE IS	0.04521 AT (	277483.70,	3804418.20,	297.01,	297.01,	0.00)	DC	
	8TH HIGHEST VALUE IS	0.04489 AT (	277483.70,	3804518.20,	295.98,	295.98,	0.00)	DC	
	9TH HIGHEST VALUE IS	0.04472 AT (	277783.70,	3804618.20,	291.36,	308.12,	0.00)	DC	
	10TH HIGHEST VALUE IS	0.04460 AT (	277883.70,	3804318.20,	288.10,	307.17,	0.00)	DC	
ALL	**1ST HIGHEST VALUE IS**	**1.88529 AT (**	**276864.40,**	**3804295.00,**	**275.58,**	**275.58,**	**0.00)**	**DC**	
	2ND HIGHEST VALUE IS	1.76862 AT (	276883.70,	3804318.20,	276.52,	276.52,	0.00)	DC	
	3RD HIGHEST VALUE IS	1.42568 AT (	277105.80,	3803800.20,	251.50,	283.82,	0.00)	DC	
	4TH HIGHEST VALUE IS	1.39924 AT (	277072.60,	3803882.70,	251.86,	283.82,	0.00)	DC	
	5TH HIGHEST VALUE IS	1.38331 AT (	276774.10,	3803365.80,	268.94,	294.20,	0.00)	DC	
	6TH HIGHEST VALUE IS	1.36624 AT (	276787.40,	3803509.10,	267.06,	302.91,	0.00)	DC	
	7TH HIGHEST VALUE IS	1.36041 AT (	276762.90,	3803597.20,	266.86,	304.10,	0.00)	DC	
	8TH HIGHEST VALUE IS	1.34554 AT (	276781.30,	3803268.80,	269.37,	294.20,	0.00)	DC	
	9TH HIGHEST VALUE IS	1.33845 AT (	277083.70,	3803918.20,	254.69,	283.82,	0.00)	DC	
	10TH HIGHEST VALUE IS	1.33664 AT (	276793.30,	3803477.70,	267.58,	302.84,	0.00)	DC	

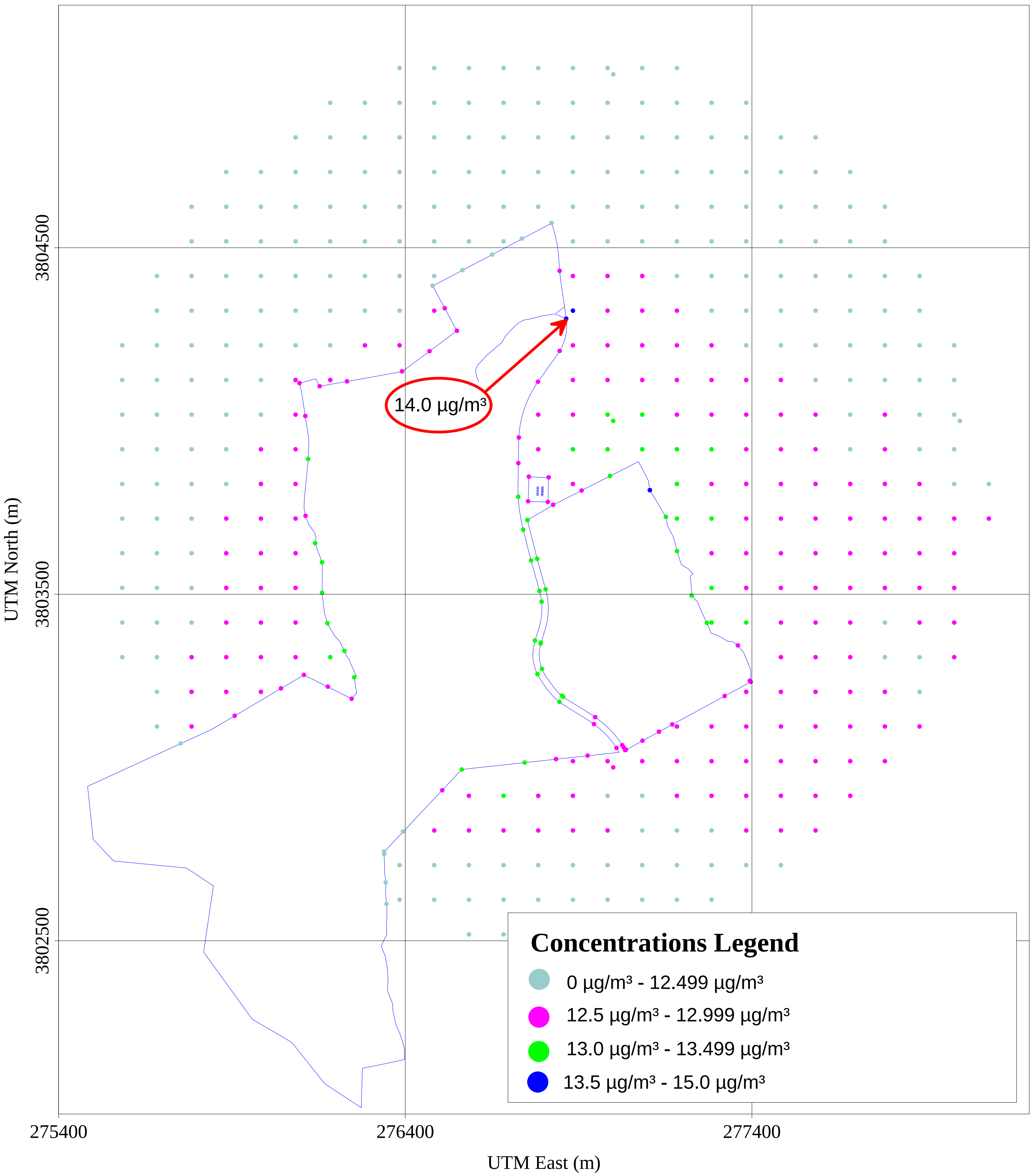
*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

Table E-8
Waste Management, Inc. Chambers R&B Landfill
Cumulative Impact Modeling
Summary of Predicted 24-hour Concentrations for $PM_{2.5}$

Pollutant	Year Modeled	Met Data Set	Source Group	Averaging Period	Average 5-year Modeled Conc. (μg/m^3)	Modeled Design Conc. (μg/m^3)	Background Conc. (μg/m^3)	Total Conc. (μg/m^3)	Class II NAAQS (μg/m^3)	Total Conc. as % of NAAQS
$PM_{2.5}$	1989 - 1993	ahnahn89-93	ALL	24-hour	1.88529	**1.89**	**12.1**	**13.99**	**15.0**	**93.2**
$PM_{2.5}$	1989 - 1993	banks89-93	ALL	24-hour	1.44744	1.45	12.1	13.55	15.0	90.3

Notes:
1. The Highest-1st-High concentrations were modeled for 24-hour averaging period.
2. The design concentrations are the average of the five yearly modeled concentrations.

Figure E-5
Waste Management, Inc. Chambers R&B Landfill
Cumulative Impact Modeling for PM2.5 Annual NAAQS (15 µg/m³)
Predicted Concentrations for Source Group ALL for Receptors within the ROI
Background Concentration of 12.1 µg/m³ is added to the Model Predictions



APPENDIX F
MODELING RESULTS FOR CLASS I AREA IMPACTS

The following attachments are included in this appendix in the following order:

Modeling for Nitrogen Dioxide:

- Printouts of the Annual Average Concentrations Modeling Output Files for Nitrogen Oxides, Athens Met Data (five printouts)
- Table F-1: Summary of Predicted Annual Concentrations for Nitrogen Dioxide

Modeling for Particulate Matter:

- Printouts of the Annual and 24-hour Average Concentrations from the Modeling Output Files for Particulate Matter, Athens Met Data (ten printouts)
- Table F-2: Summary of Predicted 24-hour Concentrations for PM_{10}
- Table F-3: Summary of Predicted Annual Concentrations for PM_{10}
- Table F-4: Summary of Predicted 24-hour Concentrations for $PM_{2.5}$
- Table F-5: Summary of Predicted Annual Concentrations for $PM_{2.5}$

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS (1989) *****

**** CONC OF NOX IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR,	YR,	ZELEV,	ZHILL,	ZFLAG)	OF TYPE	NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**0.01010 AT (**	**308254.62,**	**3842652.30,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
	2ND HIGHEST VALUE IS	0.00990 AT (	307571.67,	3843195.54,	273.65,	273.65,	0.00)	DP	
	3RD HIGHEST VALUE IS	0.00979 AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP	
	4TH HIGHEST VALUE IS	0.00935 AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP	
	5TH HIGHEST VALUE IS	0.00865 AT (	306177.86,	3844245.85,	273.65,	273.65,	0.00)	DP	
	6TH HIGHEST VALUE IS	0.00731 AT (	301029.08,	3847525.99,	273.65,	273.65,	0.00)	DP	
	7TH HIGHEST VALUE IS	0.00723 AT (	300262.18,	3847942.38,	273.65,	273.65,	0.00)	DP	
	8TH HIGHEST VALUE IS	0.00704 AT (	304020.55,	3845728.53,	273.65,	273.65,	0.00)	DP	
	9TH HIGHEST VALUE IS	0.00701 AT (	301788.60,	3847096.27,	273.65,	273.65,	0.00)	DP	
	10TH HIGHEST VALUE IS	0.00696 AT (	283747.26,	3853308.40,	273.65,	273.65,	0.00)	DP	
SCENAR2	**1ST HIGHEST VALUE IS**	**0.01075 AT (**	**308254.62,**	**3842652.30,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
	2ND HIGHEST VALUE IS	0.01057 AT (	307571.67,	3843195.54,	273.65,	273.65,	0.00)	DP	
	3RD HIGHEST VALUE IS	0.01039 AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP	
	4TH HIGHEST VALUE IS	0.01002 AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP	
	5TH HIGHEST VALUE IS	0.00928 AT (	306177.86,	3844245.85,	273.65,	273.65,	0.00)	DP	
	6TH HIGHEST VALUE IS	0.00768 AT (	301029.08,	3847525.99,	273.65,	273.65,	0.00)	DP	
	7TH HIGHEST VALUE IS	0.00757 AT (	300262.18,	3847942.38,	273.65,	273.65,	0.00)	DP	
	8TH HIGHEST VALUE IS	0.00740 AT (	301788.60,	3847096.27,	273.65,	273.65,	0.00)	DP	
	9TH HIGHEST VALUE IS	0.00740 AT (	304020.55,	3845728.53,	273.65,	273.65,	0.00)	DP	
	10TH HIGHEST VALUE IS	0.00730 AT (	283747.26,	3853308.40,	273.65,	273.65,	0.00)	DP	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS (1990) *****

**** CONC OF NOX IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
SCENAR1	1ST HIGHEST VALUE IS	0.00861 AT (	306177.86,	3844245.85,	273.65,	273.65,	0.00)	DP	
	2ND HIGHEST VALUE IS	0.00821 AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP	
	3RD HIGHEST VALUE IS	0.00813 AT (	308254.62,	3842652.30,	273.65,	273.65,	0.00)	DP	
	4TH HIGHEST VALUE IS	0.00809 AT (	307571.67,	3843195.54,	273.65,	273.65,	0.00)	DP	
	5TH HIGHEST VALUE IS	0.00790 AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP	
	6TH HIGHEST VALUE IS	0.00715 AT (	304020.55,	3845728.53,	273.65,	273.65,	0.00)	DP	
	7TH HIGHEST VALUE IS	0.00712 AT (	276788.60,	3853795.00,	273.65,	273.65,	0.00)	DP	
	8TH HIGHEST VALUE IS	0.00707 AT (	277661.22,	3853787.38,	273.65,	273.65,	0.00)	DP	
	9TH HIGHEST VALUE IS	0.00692 AT (	301788.60,	3847096.27,	273.65,	273.65,	0.00)	DP	
	10TH HIGHEST VALUE IS	0.00671 AT (	302540.50,	3846653.37,	273.65,	273.65,	0.00)	DP	
SCENAR2	1ST HIGHEST VALUE IS	0.00928 AT (	306177.86,	3844245.85,	273.65,	273.65,	0.00)	DP	
	2ND HIGHEST VALUE IS	0.00885 AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP	
	3RD HIGHEST VALUE IS	0.00869 AT (	307571.67,	3843195.54,	273.65,	273.65,	0.00)	DP	
	4TH HIGHEST VALUE IS	0.00866 AT (	308254.62,	3842652.30,	273.65,	273.65,	0.00)	DP	
	5TH HIGHEST VALUE IS	0.00839 AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP	
	6TH HIGHEST VALUE IS	0.00765 AT (	304020.55,	3845728.53,	273.65,	273.65,	0.00)	DP	
	7TH HIGHEST VALUE IS	0.00739 AT (	276788.60,	3853795.00,	273.65,	273.65,	0.00)	DP	
	8TH HIGHEST VALUE IS	0.00734 AT (	301788.60,	3847096.27,	273.65,	273.65,	0.00)	DP	
	9TH HIGHEST VALUE IS	0.00733 AT (	277661.22,	3853787.38,	273.65,	273.65,	0.00)	DP	
	10TH HIGHEST VALUE IS	0.00715 AT (	302540.50,	3846653.37,	273.65,	273.65,	0.00)	DP	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS (1991) *****

**** CONC OF NOX IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC		RECEPTOR (XR,	YR,	ZELEV,	ZHILL,	ZFLAG)	OF TYPE	NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**0.00893**	**AT (**	**307571.67,**	**3843195.54,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
	2ND HIGHEST VALUE IS	0.00883	AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP	
	3RD HIGHEST VALUE IS	0.00815	AT (	308254.62,	3842652.30,	273.65,	273.65,	0.00)	DP	
	4TH HIGHEST VALUE IS	0.00770	AT (	306177.86,	3844245.85,	273.65,	273.65,	0.00)	DP	
	5TH HIGHEST VALUE IS	0.00744	AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP	
	6TH HIGHEST VALUE IS	0.00641	AT (	300262.18,	3847942.38,	273.65,	273.65,	0.00)	DP	
	7TH HIGHEST VALUE IS	0.00638	AT (	301029.08,	3847525.99,	273.65,	273.65,	0.00)	DP	
	8TH HIGHEST VALUE IS	0.00638	AT (	299488.12,	3848345.33,	273.65,	273.65,	0.00)	DP	
	9TH HIGHEST VALUE IS	0.00631	AT (	301788.60,	3847096.27,	273.65,	273.65,	0.00)	DP	
	10TH HIGHEST VALUE IS	0.00625	AT (	304020.55,	3845728.53,	273.65,	273.65,	0.00)	DP	
SCENAR2	**1ST HIGHEST VALUE IS**	**0.00954**	**AT (**	**307571.67,**	**3843195.54,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
	2ND HIGHEST VALUE IS	0.00946	AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP	
	3RD HIGHEST VALUE IS	0.00868	AT (	308254.62,	3842652.30,	273.65,	273.65,	0.00)	DP	
	4TH HIGHEST VALUE IS	0.00823	AT (	306177.86,	3844245.85,	273.65,	273.65,	0.00)	DP	
	5TH HIGHEST VALUE IS	0.00792	AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP	
	6TH HIGHEST VALUE IS	0.00683	AT (	301029.08,	3847525.99,	273.65,	273.65,	0.00)	DP	
	7TH HIGHEST VALUE IS	0.00681	AT (	300262.18,	3847942.38,	273.65,	273.65,	0.00)	DP	
	8TH HIGHEST VALUE IS	0.00680	AT (	301788.60,	3847096.27,	273.65,	273.65,	0.00)	DP	
	9TH HIGHEST VALUE IS	0.00674	AT (	299488.12,	3848345.33,	273.65,	273.65,	0.00)	DP	
	10TH HIGHEST VALUE IS	0.00668	AT (	304020.55,	3845728.53,	273.65,	273.65,	0.00)	DP	

*** RECEPTOR TYPES: GC = GRIDCART
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**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS (1992) *****

**** CONC OF NOX IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR,	YR,	ZELEV,	ZHILL,	ZFLAG) OF TYPE	NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**0.00725 AT (**	**306177.86,**	**3844245.85,**	**273.65,**	**273.65,**	**0.00)**	**DP**
	2ND HIGHEST VALUE IS	0.00720 AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP
	3RD HIGHEST VALUE IS	0.00714 AT (	307571.67,	3843195.54,	273.65,	273.65,	0.00)	DP
	4TH HIGHEST VALUE IS	0.00675 AT (	308254.62,	3842652.30,	273.65,	273.65,	0.00)	DP
	5TH HIGHEST VALUE IS	0.00657 AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP
	6TH HIGHEST VALUE IS	0.00648 AT (	304020.55,	3845728.53,	273.65,	273.65,	0.00)	DP
	7TH HIGHEST VALUE IS	0.00617 AT (	283747.26,	3853308.40,	273.65,	273.65,	0.00)	DP
	8TH HIGHEST VALUE IS	0.00599 AT (	303284.56,	3846197.40,	273.65,	273.65,	0.00)	DP
	9TH HIGHEST VALUE IS	0.00584 AT (	277661.22,	3853787.38,	273.65,	273.65,	0.00)	DP
	10TH HIGHEST VALUE IS	0.00578 AT (	282882.07,	3853422.31,	273.65,	273.65,	0.00)	DP
SCENAR2	**1ST HIGHEST VALUE IS**	**0.00771 AT (**	**306177.86,**	**3844245.85,**	**273.65,**	**273.65,**	**0.00)**	**DP**
	2ND HIGHEST VALUE IS	0.00766 AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP
	3RD HIGHEST VALUE IS	0.00762 AT (	307571.67,	3843195.54,	273.65,	273.65,	0.00)	DP
	4TH HIGHEST VALUE IS	0.00726 AT (	308254.62,	3842652.30,	273.65,	273.65,	0.00)	DP
	5TH HIGHEST VALUE IS	0.00708 AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP
	6TH HIGHEST VALUE IS	0.00697 AT (	304020.55,	3845728.53,	273.65,	273.65,	0.00)	DP
	7TH HIGHEST VALUE IS	0.00649 AT (	283747.26,	3853308.40,	273.65,	273.65,	0.00)	DP
	8TH HIGHEST VALUE IS	0.00644 AT (	303284.56,	3846197.40,	273.65,	273.65,	0.00)	DP
	9TH HIGHEST VALUE IS	0.00610 AT (	277661.22,	3853787.38,	273.65,	273.65,	0.00)	DP
	10TH HIGHEST VALUE IS	0.00605 AT (	282882.07,	3853422.31,	273.65,	273.65,	0.00)	DP

*** RECEPTOR TYPES: GC = GRIDCART
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DC = DISCCART
DP = DISCPOLR

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS (1993) *****

**** CONC OF NOX IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC		RECEPTOR (XR,	YR,	ZELEV,	ZHILL,	ZFLAG)	OF TYPE	NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**0.00834**	**AT (**	**306177.86,**	**3844245.85,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
	2ND HIGHEST VALUE IS	0.00822	AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP	
	3RD HIGHEST VALUE IS	0.00795	AT (	307571.67,	3843195.54,	273.65,	273.65,	0.00)	DP	
	4TH HIGHEST VALUE IS	0.00729	AT (	308254.62,	3842652.30,	273.65,	273.65,	0.00)	DP	
	5TH HIGHEST VALUE IS	0.00669	AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP	
	6TH HIGHEST VALUE IS	0.00625	AT (	301788.60,	3847096.27,	273.65,	273.65,	0.00)	DP	
	7TH HIGHEST VALUE IS	0.00619	AT (	301029.08,	3847525.99,	273.65,	273.65,	0.00)	DP	
	8TH HIGHEST VALUE IS	0.00615	AT (	299488.12,	3848345.33,	273.65,	273.65,	0.00)	DP	
	9TH HIGHEST VALUE IS	0.00614	AT (	300262.18,	3847942.38,	273.65,	273.65,	0.00)	DP	
	10TH HIGHEST VALUE IS	0.00608	AT (	298707.16,	3848734.70,	273.65,	273.65,	0.00)	DP	
SCENAR2	**1ST HIGHEST VALUE IS**	**0.00900**	**AT (**	**306177.86,**	**3844245.85,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
	2ND HIGHEST VALUE IS	0.00891	AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP	
	3RD HIGHEST VALUE IS	0.00862	AT (	307571.67,	3843195.54,	273.65,	273.65,	0.00)	DP	
	4TH HIGHEST VALUE IS	0.00782	AT (	308254.62,	3842652.30,	273.65,	273.65,	0.00)	DP	
	5TH HIGHEST VALUE IS	0.00711	AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP	
	6TH HIGHEST VALUE IS	0.00660	AT (	301788.60,	3847096.27,	273.65,	273.65,	0.00)	DP	
	7TH HIGHEST VALUE IS	0.00649	AT (	301029.08,	3847525.99,	273.65,	273.65,	0.00)	DP	
	8TH HIGHEST VALUE IS	0.00644	AT (	299488.12,	3848345.33,	273.65,	273.65,	0.00)	DP	
	9TH HIGHEST VALUE IS	0.00642	AT (	300262.18,	3847942.38,	273.65,	273.65,	0.00)	DP	
	10TH HIGHEST VALUE IS	0.00638	AT (	298707.16,	3848734.70,	273.65,	273.65,	0.00)	DP	

*** RECEPTOR TYPES: GC = GRIDCART
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Table F-1
Waste Management, Inc. Chambers R&B Landfill
Class I SID Modeling
Summary of Predicted Annual Concentrations for Nitrogen Dioxide

Pollutant	Year Modeled	Met Data Set	Source Group	Highest Scenario	Averaging Period	Max NO_x Modeled Conc. ($\mu g/m^3$)	Max Predicted Conc. ($\mu g/m^3$)	NO_2/NO_X Adjustment Factor	Modeled Design conc. ($\mu g/m^3$)	Class I SIL ($\mu g/m^3$)	Modeled Conc. as % of SIL
NO_2	1989	ahnahn89	ALL	SCENAR2	Annual	0.01075	**0.0108**	**0.75**	**0.0081**	**0.10**	**8.06**
NO_2	1990	ahnahn90	ALL	SCENAR2	Annual	0.00928					
NO_2	1991	ahnahn91	ALL	SCENAR2	Annual	0.00954					
NO_2	1992	ahnahn92	ALL	SCENAR2	Annual	0.00771					
NO_2	1993	ahnahn93	ALL	SCENAR2	Annual	0.00900					
NO_2	1989	banks89	ALL	SCENAR2	Annual	0.00373	0.0037	0.7500	0.0028	0.10	2.80
NO_2	1990	banks90	ALL	SCENAR2	Annual	0.00324					
NO_2	1991	banks91	ALL	SCENAR2	Annual	0.00373					
NO_2	1992	banks92	ALL	SCENAR2	Annual	0.00273					
NO_2	1993	banks93	ALL	SCENAR2	Annual	0.00326					

Notes:
1. The highest annual concentration for any receptor is shown in the table.
2. A 0.75 conversion factor was used to convert NOx predicted concntrations to NO2 concentrations.
3. The design concentration is the maximum of the five yearly modeled concentrations.

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS (1989) *****

**** CONC OF PM IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**0.00231 AT (**	**308254.62,**	**3842652.30,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
	2ND HIGHEST VALUE IS	0.00227 AT (	307571.67,	3843195.54,	273.65,	273.65,	0.00)	DP	
	3RD HIGHEST VALUE IS	0.00224 AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP	
	4TH HIGHEST VALUE IS	0.00214 AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP	
	5TH HIGHEST VALUE IS	0.00198 AT (	306177.86,	3844245.85,	273.65,	273.65,	0.00)	DP	
	6TH HIGHEST VALUE IS	0.00167 AT (	301029.08,	3847525.99,	273.65,	273.65,	0.00)	DP	
	7TH HIGHEST VALUE IS	0.00166 AT (	300262.18,	3847942.38,	273.65,	273.65,	0.00)	DP	
	8TH HIGHEST VALUE IS	0.00161 AT (	304020.55,	3845728.53,	273.65,	273.65,	0.00)	DP	
	9TH HIGHEST VALUE IS	0.00161 AT (	301788.60,	3847096.27,	273.65,	273.65,	0.00)	DP	
	10TH HIGHEST VALUE IS	0.00159 AT (	283747.26,	3853308.40,	273.65,	273.65,	0.00)	DP	
SCENAR2	**1ST HIGHEST VALUE IS**	**0.00246 AT (**	**308254.62,**	**3842652.30,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
	2ND HIGHEST VALUE IS	0.00242 AT (	307571.67,	3843195.54,	273.65,	273.65,	0.00)	DP	
	3RD HIGHEST VALUE IS	0.00238 AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP	
	4TH HIGHEST VALUE IS	0.00230 AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP	
	5TH HIGHEST VALUE IS	0.00213 AT (	306177.86,	3844245.85,	273.65,	273.65,	0.00)	DP	
	6TH HIGHEST VALUE IS	0.00176 AT (	301029.08,	3847525.99,	273.65,	273.65,	0.00)	DP	
	7TH HIGHEST VALUE IS	0.00173 AT (	300262.18,	3847942.38,	273.65,	273.65,	0.00)	DP	
	8TH HIGHEST VALUE IS	0.00170 AT (	301788.60,	3847096.27,	273.65,	273.65,	0.00)	DP	
	9TH HIGHEST VALUE IS	0.00170 AT (	304020.55,	3845728.53,	273.65,	273.65,	0.00)	DP	
	10TH HIGHEST VALUE IS	0.00167 AT (	283747.26,	3853308.40,	273.65,	273.65,	0.00)	DP	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

***** THE SUMMARY OF HIGHEST 24-HR RESULTS *****

**** CONC OF PM IN MICROGRAMS/M**3****

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
SCENAR1	**HIGH**	**1ST HIGH VALUE IS**	**0.06349**	**ON 89120624: AT (**	**283747.26,**	**3853308.40,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
SCENAR2	**HIGH**	**1ST HIGH VALUE IS**	**0.06889**	**ON 89120624: AT (**	**283747.26,**	**3853308.40,**	**273.65,**	**273.65,**	**0.00)**	**DP**	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS (1990) *****

**** CONC OF PM IN MICROGRAMS/M**3 ****

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**0.00197 AT (**	**306177.86,**	**3844245.85,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
	2ND HIGHEST VALUE IS	0.00188 AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP	
	3RD HIGHEST VALUE IS	0.00186 AT (	308254.62,	3842652.30,	273.65,	273.65,	0.00)	DP	
	4TH HIGHEST VALUE IS	0.00186 AT (	307571.67,	3843195.54,	273.65,	273.65,	0.00)	DP	
	5TH HIGHEST VALUE IS	0.00181 AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP	
	6TH HIGHEST VALUE IS	0.00164 AT (	304020.55,	3845728.53,	273.65,	273.65,	0.00)	DP	
	7TH HIGHEST VALUE IS	0.00163 AT (	276788.60,	3853795.00,	273.65,	273.65,	0.00)	DP	
	8TH HIGHEST VALUE IS	0.00162 AT (	277661.22,	3853787.38,	273.65,	273.65,	0.00)	DP	
	9TH HIGHEST VALUE IS	0.00159 AT (	301788.60,	3847096.27,	273.65,	273.65,	0.00)	DP	
	10TH HIGHEST VALUE IS	0.00154 AT (	302540.50,	3846653.37,	273.65,	273.65,	0.00)	DP	
SCENAR2	**1ST HIGHEST VALUE IS**	**0.00213 AT (**	**306177.86,**	**3844245.85,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
	2ND HIGHEST VALUE IS	0.00203 AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP	
	3RD HIGHEST VALUE IS	0.00199 AT (	307571.67,	3843195.54,	273.65,	273.65,	0.00)	DP	
	4TH HIGHEST VALUE IS	0.00199 AT (	308254.62,	3842652.30,	273.65,	273.65,	0.00)	DP	
	5TH HIGHEST VALUE IS	0.00192 AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP	
	6TH HIGHEST VALUE IS	0.00175 AT (	304020.55,	3845728.53,	273.65,	273.65,	0.00)	DP	
	7TH HIGHEST VALUE IS	0.00169 AT (	276788.60,	3853795.00,	273.65,	273.65,	0.00)	DP	
	8TH HIGHEST VALUE IS	0.00168 AT (	301788.60,	3847096.27,	273.65,	273.65,	0.00)	DP	
	9TH HIGHEST VALUE IS	0.00168 AT (	277661.22,	3853787.38,	273.65,	273.65,	0.00)	DP	
	10TH HIGHEST VALUE IS	0.00164 AT (	302540.50,	3846653.37,	273.65,	273.65,	0.00)	DP	

*** RECEPTOR TYPES: GC = GRIDCART
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DP = DISCPOLR

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF HIGHEST 24-HR RESULTS *****

**** CONC OF PM IN MICROGRAMS/M**3****

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
SCENAR1	**HIGH**	**1ST HIGH VALUE IS**	**0.06023c**	**ON 90012724:**	**AT (252548.12, 3847525.99, 273.65, 273.65, 0.00)**	**DP**	
SCENAR2	**HIGH**	**1ST HIGH VALUE IS**	**0.06415c**	**ON 90011424:**	**AT (291407.19, 3851610.24, 273.65, 273.65, 0.00)**	**DP**	

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**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS (1991)*****

**** CONC OF PM IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR,	YR,	ZELEV,	ZHILL,	ZFLAG)	OF TYPE	NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**0.00205 AT (**	**307571.67,**	**3843195.54,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
	2ND HIGHEST VALUE IS	0.00202 AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP	
	3RD HIGHEST VALUE IS	0.00187 AT (	308254.62,	3842652.30,	273.65,	273.65,	0.00)	DP	
	4TH HIGHEST VALUE IS	0.00176 AT (	306177.86,	3844245.85,	273.65,	273.65,	0.00)	DP	
	5TH HIGHEST VALUE IS	0.00170 AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP	
	6TH HIGHEST VALUE IS	0.00147 AT (	300262.18,	3847942.38,	273.65,	273.65,	0.00)	DP	
	7TH HIGHEST VALUE IS	0.00146 AT (	301029.08,	3847525.99,	273.65,	273.65,	0.00)	DP	
	8TH HIGHEST VALUE IS	0.00146 AT (	299488.12,	3848345.33,	273.65,	273.65,	0.00)	DP	
	9TH HIGHEST VALUE IS	0.00145 AT (	301788.60,	3847096.27,	273.65,	273.65,	0.00)	DP	
	10TH HIGHEST VALUE IS	0.00143 AT (	304020.55,	3845728.53,	273.65,	273.65,	0.00)	DP	
SCENAR2	**1ST HIGHEST VALUE IS**	**0.00219 AT (**	**307571.67,**	**3843195.54,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
	2ND HIGHEST VALUE IS	0.00217 AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP	
	3RD HIGHEST VALUE IS	0.00199 AT (	308254.62,	3842652.30,	273.65,	273.65,	0.00)	DP	
	4TH HIGHEST VALUE IS	0.00189 AT (	306177.86,	3844245.85,	273.65,	273.65,	0.00)	DP	
	5TH HIGHEST VALUE IS	0.00182 AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP	
	6TH HIGHEST VALUE IS	0.00157 AT (	301029.08,	3847525.99,	273.65,	273.65,	0.00)	DP	
	7TH HIGHEST VALUE IS	0.00156 AT (	300262.18,	3847942.38,	273.65,	273.65,	0.00)	DP	
	8TH HIGHEST VALUE IS	0.00156 AT (	301788.60,	3847096.27,	273.65,	273.65,	0.00)	DP	
	9TH HIGHEST VALUE IS	0.00155 AT (	299488.12,	3848345.33,	273.65,	273.65,	0.00)	DP	
	10TH HIGHEST VALUE IS	0.00153 AT (	304020.55,	3845728.53,	273.65,	273.65,	0.00)	DP	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF HIGHEST 24-HR RESULTS *****

**** CONC OF PM IN MICROGRAMS/M**3****

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
SCENAR1	**HIGH**	**1ST HIGH VALUE IS**	**0.04744**	**ON 91032124: AT (**	**306879.35,**	**3843726.78,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
SCENAR2	**HIGH**	**1ST HIGH VALUE IS**	**0.04988**	**ON 91032124: AT (**	**306879.35,**	**3843726.78,**	**273.65,**	**273.65,**	**0.00)**	**DP**	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS (1992) *****

**** CONC OF PM IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC		RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**0.00166**	**AT (**	**306177.86,**	**3844245.85,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
	2ND HIGHEST VALUE IS	0.00165	AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP	
	3RD HIGHEST VALUE IS	0.00164	AT (	307571.67,	3843195.54,	273.65,	273.65,	0.00)	DP	
	4TH HIGHEST VALUE IS	0.00155	AT (	308254.62,	3842652.30,	273.65,	273.65,	0.00)	DP	
	5TH HIGHEST VALUE IS	0.00151	AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP	
	6TH HIGHEST VALUE IS	0.00149	AT (	304020.55,	3845728.53,	273.65,	273.65,	0.00)	DP	
	7TH HIGHEST VALUE IS	0.00141	AT (	283747.26,	3853308.40,	273.65,	273.65,	0.00)	DP	
	8TH HIGHEST VALUE IS	0.00137	AT (	303284.56,	3846197.40,	273.65,	273.65,	0.00)	DP	
	9TH HIGHEST VALUE IS	0.00134	AT (	277661.22,	3853787.38,	273.65,	273.65,	0.00)	DP	
	10TH HIGHEST VALUE IS	0.00132	AT (	282882.07,	3853422.31,	273.65,	273.65,	0.00)	DP	
SCENAR2	**1ST HIGHEST VALUE IS**	**0.00177**	**AT (**	**306177.86,**	**3844245.85,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
	2ND HIGHEST VALUE IS	0.00175	AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP	
	3RD HIGHEST VALUE IS	0.00175	AT (	307571.67,	3843195.54,	273.65,	273.65,	0.00)	DP	
	4TH HIGHEST VALUE IS	0.00166	AT (	308254.62,	3842652.30,	273.65,	273.65,	0.00)	DP	
	5TH HIGHEST VALUE IS	0.00162	AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP	
	6TH HIGHEST VALUE IS	0.00160	AT (	304020.55,	3845728.53,	273.65,	273.65,	0.00)	DP	
	7TH HIGHEST VALUE IS	0.00149	AT (	283747.26,	3853308.40,	273.65,	273.65,	0.00)	DP	
	8TH HIGHEST VALUE IS	0.00148	AT (	303284.56,	3846197.40,	273.65,	273.65,	0.00)	DP	
	9TH HIGHEST VALUE IS	0.00140	AT (	277661.22,	3853787.38,	273.65,	273.65,	0.00)	DP	
	10TH HIGHEST VALUE IS	0.00139	AT (	282882.07,	3853422.31,	273.65,	273.65,	0.00)	DP	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

***** THE SUMMARY OF HIGHEST 24-HR RESULTS *****

**** CONC OF PM IN MICROGRAMS/M**3****

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
SCENAR1	**HIGH**	**1ST HIGH VALUE IS**	**0.06990c**	**ON 92120324: AT (**	**258058.27,**	**3850154.19,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
SCENAR2	**HIGH**	**1ST HIGH VALUE IS**	**0.07346c**	**ON 92120324: AT (**	**258058.27,**	**3850154.19,**	**273.65,**	**273.65,**	**0.00)**	**DP**	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

**MODELOPTs: RegDFAULT CONC ELEV

***** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 1 YEARS (1993)*****

**** CONC OF PM IN MICROGRAMS/M**3****

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
SCENAR1	**1ST HIGHEST VALUE IS**	**0.00191 AT (**	**306177.86,**	**3844245.85,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
	2ND HIGHEST VALUE IS	0.00188 AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP	
	3RD HIGHEST VALUE IS	0.00182 AT (	307571.67,	3843195.54,	273.65,	273.65,	0.00)	DP	
	4TH HIGHEST VALUE IS	0.00167 AT (	308254.62,	3842652.30,	273.65,	273.65,	0.00)	DP	
	5TH HIGHEST VALUE IS	0.00153 AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP	
	6TH HIGHEST VALUE IS	0.00143 AT (	301788.60,	3847096.27,	273.65,	273.65,	0.00)	DP	
	7TH HIGHEST VALUE IS	0.00142 AT (	301029.08,	3847525.99,	273.65,	273.65,	0.00)	DP	
	8TH HIGHEST VALUE IS	0.00141 AT (	299488.12,	3848345.33,	273.65,	273.65,	0.00)	DP	
	9TH HIGHEST VALUE IS	0.00141 AT (	300262.18,	3847942.38,	273.65,	273.65,	0.00)	DP	
	10TH HIGHEST VALUE IS	0.00139 AT (	298707.16,	3848734.70,	273.65,	273.65,	0.00)	DP	
SCENAR2	**1ST HIGHEST VALUE IS**	**0.00206 AT (**	**306177.86,**	**3844245.85,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
	2ND HIGHEST VALUE IS	0.00204 AT (	306879.35,	3843726.78,	273.65,	273.65,	0.00)	DP	
	3RD HIGHEST VALUE IS	0.00198 AT (	307571.67,	3843195.54,	273.65,	273.65,	0.00)	DP	
	4TH HIGHEST VALUE IS	0.00179 AT (	308254.62,	3842652.30,	273.65,	273.65,	0.00)	DP	
	5TH HIGHEST VALUE IS	0.00163 AT (	308927.98,	3842097.22,	273.65,	273.65,	0.00)	DP	
	6TH HIGHEST VALUE IS	0.00151 AT (	301788.60,	3847096.27,	273.65,	273.65,	0.00)	DP	
	7TH HIGHEST VALUE IS	0.00149 AT (	301029.08,	3847525.99,	273.65,	273.65,	0.00)	DP	
	8TH HIGHEST VALUE IS	0.00148 AT (	299488.12,	3848345.33,	273.65,	273.65,	0.00)	DP	
	9TH HIGHEST VALUE IS	0.00147 AT (	300262.18,	3847942.38,	273.65,	273.65,	0.00)	DP	
	10TH HIGHEST VALUE IS	0.00146 AT (	298707.16,	3848734.70,	273.65,	273.65,	0.00)	DP	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

***** THE SUMMARY OF HIGHEST 24-HR RESULTS *****

**** CONC OF PM IN MICROGRAMS/M**3****

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
SCENAR1	**HIGH**	**1ST HIGH VALUE IS**	**0.05438**	**ON 93122724: AT (**	**308927.98,**	**3842097.22,**	**273.65,**	**273.65,**	**0.00)**	**DP**	
SCENAR2	**HIGH**	**1ST HIGH VALUE IS**	**0.05665**	**ON 93122724: AT (**	**308927.98,**	**3842097.22,**	**273.65,**	**273.65,**	**0.00)**	**DP**	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

Table F-2
Waste Management, Inc. Chambers R&B Landfill
Class I SID Modeling
Summary of Predicted 24-hour Concentrations for PM_{10}

Pollutant	Year Modeled	Met Data Set	Source Group	Highest Scenario	Averaging Period	Max Modeled Conc . ($\mu g/m^3$)	Modeled Design conc. ($\mu g/m^3$)	Class I SIL ($\mu g/m^3$)	Modeled Conc. as % of SIL
PM_{10}	1989	ahnahn89	ALL	SCENAR2	24-hour	0.06889	**0.073**	**0.3**	**24.49**
PM_{10}	1990	ahnahn90	ALL	SCENAR2	24-hour	0.06415			
PM_{10}	1991	ahnahn91	ALL	SCENAR2	24-hour	0.04988			
PM_{10}	1992	ahnahn92	ALL	SCENAR2	24-hour	0.07346			
PM_{10}	1993	ahnahn93	ALL	SCENAR2	24-hour	0.05665			
PM_{10}	1989	banks89	ALL	SCENAR2	24-hour	0.03905	0.044	0.3	14.77
PM_{10}	1990	banks90	ALL	SCENAR2	24-hour	0.04431			
PM_{10}	1991	banks91	ALL	SCENAR2	24-hour	0.03299			
PM_{10}	1992	banks92	ALL	SCENAR2	24-hour	0.04219			
PM_{10}	1993	banks93	ALL	SCENAR2	24-hour	0.02768			

Notes:
1. The 1-st High 24-hour average concentration for any receptor is shown for individual years in the table.
2. The design concentration is the maximum of the five yearly modeled concentrations.

Table F-3
Waste Management, Inc. Chambers R&B Landfill
Class I SID Modeling
Summary of Predicted Annual Concentrations for PM_{10}

Pollutant	Year Modeled	Met Data Set	Source Group	Highest Scenario	Averaging Period	Max Modeled Conc . (μg/m^3)	Modeled Design conc. (μg/m^3)	Class I SIL (μg/m^3)	Modeled Conc. as % of SIL
PM_{10}	1989	ahnahn89	ALL	SCENAR2	Annual	0.00246	**0.0025**	**0.2**	**1.23**
PM_{10}	1990	ahnahn90	ALL	SCENAR2	Annual	0.00213			
PM_{10}	1991	ahnahn91	ALL	SCENAR2	Annual	0.00219			
PM_{10}	1992	ahnahn92	ALL	SCENAR2	Annual	0.00177			
PM_{10}	1993	ahnahn93	ALL	SCENAR2	Annual	0.00206			
PM_{10}	1989	banks89	ALL	SCENAR2	Annual	0.00085	0.0009	0.2	0.43
PM_{10}	1990	banks90	ALL	SCENAR2	Annual	0.00074			
PM_{10}	1991	banks91	ALL	SCENAR2	Annual	0.00085			
PM_{10}	1992	banks92	ALL	SCENAR2	Annual	0.00063			
PM_{10}	1993	banks93	ALL	SCENAR2	Annual	0.00075			

Notes:
1. The highest annual concentration for any receptor is shown for individual years in the table.
2. The design concentration is the maximum of the five yearly modeled concentrations.

Table F-4
Waste Management, Inc. Chambers R&B Landfill
Class I SID Modeling
Summary of Predicted 24-hour Concentrations for $PM_{2.5}$

Pollutant	Year Modeled	Met Data Set	Source Group	Highest Scenario	Averaging Period	Max Modeled Conc . (μg/m^3)	Modeled Design conc. (μg/m^3)	Class I SIL (μg/m^3)	Modeled Conc. as % of SIL
$PM_{2.5}$	1989	ahnahn89	ALL	SCENAR2	24-hour	0.06889	**0.063**	**0.07**	**89.44**
$PM_{2.5}$	1990	ahnahn90	ALL	SCENAR2	24-hour	0.06415			
$PM_{2.5}$	1991	ahnahn91	ALL	SCENAR2	24-hour	0.04988			
$PM_{2.5}$	1992	ahnahn92	ALL	SCENAR2	24-hour	0.07346			
$PM_{2.5}$	1993	ahnahn93	ALL	SCENAR2	24-hour	0.05665			
$PM_{2.5}$	1989	banks89	ALL	SCENAR2	24-hour	0.03905	0.037	0.07	53.21
$PM_{2.5}$	1990	banks90	ALL	SCENAR2	24-hour	0.04431			
$PM_{2.5}$	1991	banks91	ALL	SCENAR2	24-hour	0.03299			
$PM_{2.5}$	1992	banks92	ALL	SCENAR2	24-hour	0.04219			
$PM_{2.5}$	1993	banks93	ALL	SCENAR2	24-hour	0.02768			

Notes:
1. The 1-st High 24-hour average concentration for any receptor is shown for individual years in the table.
2. The design concentrations were calculated as an average of the maximum annual concentrations.
The average concntrations are higher than the true design values (i.e., the highest concentration averaged over the five years modeled, on a recetro-by-receptor basis) as the average values are not receptor-based.

Table F-5
Waste Management, Inc. Chambers R&B Landfill
Class I SID Modeling
Summary of Predicted Annual Concentrations for $PM_{2.5}$

Pollutant	Year Modeled	Met Data Set	Source Group	Highest Scenario	Averaging Period	Max Modeled Conc . (μg/m^3)	Modeled Design conc. (μg/m^3)	Class I SIL (μg/m^3)	Modeled Conc. as % of SIL
$PM_{2.5}$	1989	ahnahn89	ALL	SCENAR2	Annual	0.00246			
$PM_{2.5}$	1990	ahnahn90	ALL	SCENAR2	Annual	0.00213			
$PM_{2.5}$	1991	ahnahn91	ALL	SCENAR2	Annual	0.00219	**0.0021**	**0.06**	**3.54**
$PM_{2.5}$	1992	ahnahn92	ALL	SCENAR2	Annual	0.00177			
$PM_{2.5}$	1993	ahnahn93	ALL	SCENAR2	Annual	0.00206			
$PM_{2.5}$	1989	banks89	ALL	SCENAR2	Annual	0.00085			
$PM_{2.5}$	1990	banks90	ALL	SCENAR2	Annual	0.00074			
$PM_{2.5}$	1991	banks91	ALL	SCENAR2	Annual	0.00085	0.0008	0.06	1.27
$PM_{2.5}$	1992	banks92	ALL	SCENAR2	Annual	0.00063			
$PM_{2.5}$	1993	banks93	ALL	SCENAR2	Annual	0.00075			

Notes:
1. The highest annual concentration for any receptor is shown for individual years in the table.
2. The design concentrations were calculated as an average of the maximum annual concentrations.
The average concntrations are higher than the true design values (i.e., the highest concentration averaged over the five years modeled, on a recetro-by-receptor basis) as the average values are not receptor-based.