APPENDIX B
AIR QUALITY MODELING ASSUMPTIONS

APPENDIX C
GENERAL BIOLOGICAL ASSESSMENT

Tequesquite Landfill Photovoltaic System Project
Air Quality Modeling Assumptions

July, 3 2010

Regional Significance Threshold Analysis

The thresholds contained in the SCAQMD CEQA Air Quality Handbook (SCAQMD 1993) are considered regional thresholds and are shown in the table below. These regional thresholds were developed based on the SCAQMD's treatment of a major stationary source.

SCAQMD CEQA Daily Regional Significance Thresholds

Emission Threshold	Units	VOC	NO_X	CO	SO_X	PM-10	PM-2.5
Construction	lbs/day	75	100	550	150	150	55

Air quality impacts can be described in a short-term and long-term perspective. Short-term impacts will occur during site grading and project construction and consist of fugitive dust and other particulate matter, as well as exhaust emissions generated by construction-related vehicles. Long-term air quality impacts will occur once the project is in operation. The proposed Project consists of the installation of 10 MW (megawatts) of photovoltaic (PV) solar arrays, electrical conduits, and appurtenant facilities on the top surface of the closed Tequesquite Landfill. As the Project is intended to generate clean renewable energy, the only long-term impacts are from the maintenance of the site, including washing of the panels using a water truck, which is considered negligible. Therefore, only short-term impacts were evaluated.

The project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rule 403 establishes these procedures. Compliance with this rule is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, managing haul road dust by application of water, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph and establishing a permanent, stabilizing ground cover on finished sites. In addition, projects that disturb 50 acres or more of soil or move 5,000 cubic yards of materials per day are required to submit a Fugitive Dust Control Plan or a Large Operation Notification Form to SCAQMD. Based on the size rate of construction (5 acres a day and minimal site disturbance) a Fugitive Dust Control Plan or Large Operation Notification would not be required.

Short-term emissions were evaluated using the URBEMIS 2007 version 9.2.4 for Windows computer program. The model evaluated emissions resulting from fugitive dust as well as exhaust emissions generated by minimal site leveling activities, construction, trenching, pole installation and replacement, painting of building housing electrical equipment, and minimal paving of related to the pole installation/replacement. The Project will be constructed in at least two phases with the first phase beginning no earlier than October 2010. For the purposes of this analysis, the Project is anticipated to be built in two consecutive phases as detailed further below. The default parameters within URBEMIS were used and these default values reflect a worst-case scenario, which means that project emissions are expected to be equal to or less than the estimated construction emissions. In addition to the default values used, several assumptions relevant to model inputs for short-term construction emission estimates are:

Phase 1: Construction of 1 MW System

1) Placement of solar arrays and appurtenances on the landfill surface will take approximately one month, beginning no earlier than Oct 1, 2010. The footprint for this construction activity on the landfill cover is 10 acres.
    - The site will not require grading; however, a minimal amount of leveling will be needed to smooth the surface and will not disturb more than five acres per day. No more than two skid steer loaders will be used to level the site and two all terrain forklifts will be used to move rack components and panels into position. No more than five heavy-duty diesel-fueled truck trip deliveries will occur per day to haul materials to the site for a total of 300 vehicle miles traveled.
    - A combination of hand and power tools will be used to install the panels on the landfill surface. Cutting and grinding equipment (modeled as concrete/industrial saws) will be used during installation of steel racks. Welders may also be needed and thus were modeled.
2) Grading and site preparation for the electrical equipment building will take approximately one week beginning no earlier than Oct 1, 2010. The maximum disturbance area will be approximately one acre per day. No soil import or export is anticipated. Construction equipment will include: 1 tractor/loader/backhoe; 1 rubber tired dozer; and 1 water truck.
3) Construction of electrical equipment building (EEB), no larger than 30 feet by 60 feet (1,800 square feet) will take approximately two weeks beginning no earlier than Oct 11, 2010. Although the construction material is unknown and may be prefabricated, it is assumed that it will be concrete or steel and will be built onsite. No more than two delivery truck trips are assumed to occur per day with a no more than 10 trips total which was modeled in the grading phase as on-road diesel truck travel. Construction equipment will include: 2 cement and mortar mixers; 2 welders; and 1 “other” piece of heavy duty construction equipment.

Phase 2: Construction of Remaining 9 MW System

1) Placement of solar arrays and appurtenances on landfill surface will take approximately six months beginning no earlier than Jan 1, 2012. The footprint for this construction activity on the landfill cover is 90 acres.
    - The site will not require grading; however, a minimal amount of leveling will be needed to smooth the surface and will not disturb more than five acres per day. No more than two skid steer loaders will be used to level the site and two all terrain forklifts will be used to move rack components and panels into position. No more than 15 heavy-duty diesel-fueled truck trip deliveries will occur per day to haul materials to the site.
    - A combination of hand and power tools will be used to install the panels on the landfill surface. Cutting and grinding equipment (modeled as two concrete/industrial saws) will be used during installation of steel racks. Welders may also be needed and thus two were modeled.
2) Installation and/or replacement of power poles for the worst-case transmission route option (TRO). The worst-case TRO would have the longest length and/or most poles to be replaced. TRO 3 represents the worst-case analysis and used herein. Its construction was assumed to occur over four months beginning no earlier than Jan 1, 2012. The total trenching area for TRO 3 is approximately 0.03 acres with the largest single location approximately 350 square feet (0.01acres). A total of 82 poles may be replaced along this route. Pole replacement equipment consists of 1 line truck, 1 bucket truck, and 1 material truck. These were modeled as "other equipment" in URBEMIS. Trenching equipment consists of 1 tractor/loader/backhoe, 1 rubber tired loader, 1 water truck, 1 dump truck, 1 concrete truck (dump truck and concrete truck modeled as "other equipment" in URBEMIS). Asphalt will be required for the trenching areas and any poles that are too close to existing asphalt, which will be determined at a later date. Therefore, to be conservative, the entire disturbance area (0.03 acres) was assumed to be paved.

- To evaluate project compliance with SCAQMD Rule 403 for fugitive dust control, the project utilized the mitigation option of watering the project site three times daily which achieves a control efficiency of 61 percent for PM-10 and PM-2.5 emissions.

The following table summarizes the estimated construction emissions.

Estimated Daily Construction Emissions

Activity/Year	Peak Daily Emissions (lb/day)					
	VOC	NO_X	CO	SO_2	PM-10	PM-2.5
SCAQMD Daily Construction Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Phase 1 - 2010						
1 MW PV Installation	4.36	27.60	16.93	0.01	53.61	12.44
EEB Site Grading	2.84	23.94	12.67	0.00	11.51	3.21
EEB Construction	1.53	9.36	4.81	0.00	0.47	0.42
EEB Coating	19.29	0.01	0.23	0.00	0.00	0.00
Maximum [1]	**25.18**	**51.54**	**29.60**	**0.01**	**65.12**	**15.65**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Phase 2 – 2012						
9 MW PV Installation	4.79	38.14	20.65	0.04	53.94	12.70
TRO Pole Replacement	1.33	14.36	5.34	0.00	0.61	0.48
TRO Trenching	2.46	21.67	10.60	0.00	1.03	0.94
TRO Paving	2.00	11.99	7.73	0.00	1.07	0.98
Maximum [2]	**10.58**	**86.16**	**44.32**	**0.04**	**56.65**	**15.10**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

[1] Maximum emissions will be the greater of 1 MW PV Installation and EEB Site Grading or 1 MW PV Installation, EEB Construction, and EEB Coating.
[2] All activities could occur concurrently thus the maximum emissions are the sum all of Phase 2 activities.

Evaluation of the table above shows that emissions from the construction of both Project Phases are below SCAQMD Daily Construction Thresholds for all criteria pollutants; therefore, the impact is less than significant.

Localized Significance Threshold Analysis

Background

Recently, as part of the SCAQMD's environmental justice program, attention has been focused on localized effects of air quality. Staff at SCAQMD has developed localized significance threshold (LST) methodology that can be used by public agencies to determine whether or not a project may generate significant adverse localized air quality impacts (both short-term and long-term). LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area (SRA). The project is located within SRA 23.

Short-Term Analysis

According to the LST methodology, only on-site emissions need to be analyzed. Therefore, emissions from off-site mobile sources like construction worker trips and on-road diesel delivery truck emissions were not compared tot eh LST thresholds. SCAQMD has provided LST lookup tables (available on the internet at http://www.aqmd.gov/ceqa/handbook/LST/LST.html) to allow users to readily determine if the daily emissions for proposed construction or operational activities could result in significant localized air quality impacts for projects 5 acres or smaller. Although the site is larger than 5 acres, no more than 5 acres will be disturbed for each activity per day. Therefore, the LST lookup tables were utilized to estimate the construction emissions.

The LST thresholds are estimated using the maximum daily disturbed area (in acres) and the distance of the project to the nearest sensitive receptors (in meters). The closest sensitive receptors in the Project vicinity are existing residences, Mountain View Elementary School on Grand Avenue just south of Jurupa Avenue, and any pre-schools and/or day care facilities that could be run out of residences. For Phase 1, the nearest receptors are residences on the bluff southeast of the landfill and the area for the EEB building approximately 730 feet (222 meters); therefore, a receptor distance of 200 meters was used. For Phase 2, the nearest receptors are residences on the bluff southeast of the landfill no closer than approximately 500 feet (152 meters); therefore a receptor distance of 100 meters was used for PV installation on the landfill. Residences, an elementary school, and potentially pre-schools run out of a home or in a small facility are directly adjacent to the roadways that need power poles installed or replaced. Therefore, for the TRO portion of Phase 2, the nearest receptor distance of 25 meters was used. The results are summarized below.

LST Results for Phase 1 Daily Construction Emissions

Pollutant	**NO_X (lbs/day)**	**CO (lbs/day)**	**PM-10 (lbs/day)**	**PM-2.5 (lbs/day)**
LST Threshold for 5 acre at 200 meters	**488**	**6,860**	**96**	**31**
PV Install	18.41	11.35	53.19	12.09
Exceeds Threshold?	**No**	**No**	**No**	**No**
LST Threshold for 1 acre at 200 meters	**335**	**4,359**	**67**	**20**
EEB Site Grading	23.89	11.89	11.50	3.21
EEB Construction	8.12	4.24	0.42	0.38
EEB Coating	0.00	0.00	0.00	0.00
EEB Maximum	32.01	16.13	11.92	3.59
Exceeds Threshold?	**No**	**No**	**No**	**No**

LST Results for Phase 2 Daily Construction Emissions

Pollutant	NO_X (lbs/day)	CO (lbs/day)	PM-10 (lbs/day)	PM-2.5 (lbs/day)
LST Threshold for 5 acre at 100 meters	**378**	**3,437**	**59**	**16**
PV Install	16.46	10.85	51.99	11.90
LST Threshold for 1 acre at 25 meters	**118**	**602**	**13**	**2**
Pole Replacement	14.32	4.67	0.60	0.48
Trenching	21.61	9.49	1.02	0.94
Paving	11.95	7.06	1.06	0.97
Maximum[1]	33.56	16.55	2.08	1.91
Exceeds Threshold?	**No**	**No**	**No**	**No**

Note: [1] Trenching does not occur in the same location as pole replacement. Paving is anticipated at the trenching sites, but is not anticipated at any pole replacement locations; however, if any poles are too close to existing pavement repaving may be required although the amount of asphalt required will be much than what is estimated above for the trenching areas. Therefore, the maximum emissions will be the greater of Trenching and Paving or Pole Replacement and Paving.

Emissions from construction of the project will be below the localized significance thresholds established by SCAQMD for the project; therefore, the impact is considered less than significant.

Long-Term Analysis

According to the SCAQMD's LST methodology, the operational emissions to be analyzed are from on-site stationary sources and on-site mobile source emissions. Off-site mobile source emissions should not be included in the analysis. Since the project consists of a solar PV system and appurtenances, the only operational emissions would be from vehicles used to maintain the facility. The operational emissions would be negligible; therefore, no long-term LST analysis is required.

Greenhouse Gas Analysis

The following table summarizes the output results and presents the emissions estimates in metric tonnes (MT) of CO_2 (one metric tonne equals approximately 2,205 pounds).

Project Construction Equipment CO_2 Emissions

Phase	Total Tons CO_2	Total MT CO_2/year
Phase 1	48.65	44.13
Phase 2	653.03	592.42
Total	701.68	636.55

[1] calculations based on URBEMIS output.

Evaluation of the table above indicates that an estimated maximum of 636.55 $MTCO_2$ will occur from project construction equipment over the estimated construction period. Lower emissions are estimated on an annual basis as shown above. The proposed project does not fit into the categories provided (industrial, commercial, and residential) in either the draft thresholds from the California Air Resources Board (CARB) or SCAQMD. The project's emissions will be compared to whichever threshold is more conservative. The draft GHG threshold from CARB has yet to identify a performance standard for construction-related emissions for industrial or commercial/residential projects. Both the total CO_2 emissions from project construction and annual maximum emissions are below the lowest SCAQMD recommended screening level of 1,400 tons per year (1,270 $MTCO_2$/y) for commercial projects[1].

Additionally, renewable energy projects such as this reduce operational GHG emissions from fossil fuels used in power plants to generate electricity.

Therefore, the project will not generate emissions, either directly or indirectly, that will cause a significant impact on the environment.

[1] Draft thresholds provided by SCAQMD working group November 19, 2009. Available at http://www.aqmd.gov/ceqa/handbook/GHG/GHG.html

REFERENCES

The following documents were referred to as general information sources during preparation of this document. They are available for public review at the locations abbreviated after each listing and spelled out at the end of this section. Some of these documents are also available at public libraries and at other public agency offices.

CARB 2008 — California Air Resources Board, *Preliminary Draft Staff Proposal, Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act*, October 24, 2008. (Available on October 24, 2008 at www.arb.ca.gov/cc/localgov/ceqa/ceqa.htm) (CARB 2008)

SCAQMD 1993 — South Coast Air Quality Management District, *CEQA Air Quality Handbook*, November 1993. (Available at SCAQMD.)

URBEMIS — Rimpo and Associates Inc, *URBEMIS 2007 for Windows Computer Program and User's Guide, Version 9.2.4.*, February 2008. (Available on June 16, 2008 at http://www.urbemis.com/)

Location	**Address**
SCAQMD	South Coast Air Quality Management District 21865 East Copley Drive Diamond Bar, CA 91765-4182

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: G:\2010\10-0010\AQIA\URBEMIS\phase 1A - PV constuction.urb924

Project Name: Tequesquite Landfill PV - Phase 1A - PV Construction

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	4.36	27.60	16.93	0.01	100.06	1.74	101.80	20.90	1.60	22.50	3,318.76
2010 TOTALS (lbs/day mitigated)	4.36	27.60	16.93	0.01	51.87	1.74	53.61	10.84	1.60	12.44	3,318.76

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/1/2010-11/1/2010 Active Days: 22	**4.36**	**27.60**	**16.93**	**0.01**	**100.06**	**1.74**	**101.80**	**20.90**	**1.60**	**22.50**	**3,318.76**
Fine Grading 10/01/2010-11/01/2010	4.36	27.60	16.93	0.01	100.06	1.74	101.80	20.90	1.60	22.50	3,318.76
Fine Grading Dust	0.00	0.00	0.00	0.00	100.00	0.00	100.00	20.88	0.00	20.88	0.00
Fine Grading Off Road Diesel	3.64	18.41	11.35	0.00	0.00	1.38	1.38	0.00	1.27	1.27	1,767.36
Fine Grading On Road Diesel	0.65	9.05	3.23	0.01	0.04	0.35	0.39	0.01	0.32	0.34	1,271.52
Fine Grading Worker Trips	0.07	0.14	2.35	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.88

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Phase Assumptions

Phase: Fine Grading 10/1/2010 - 11/1/2010 - Site leveling and installation of PV array

Total Acres Disturbed: 10

Maximum Daily Acreage Disturbed: 5

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 300

Off-Road Equipment:

2 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

2 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 8 hours per day

2 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/1/2010-11/1/2010 Active Days: 22	**4.36**	**27.60**	**16.93**	**0.01**	51.87	**1.74**	53.61	10.84	**1.60**	12.44	**3,318.76**
Fine Grading 10/01/2010-11/01/2010	4.36	27.60	16.93	0.01	51.87	1.74	53.61	10.84	1.60	12.44	3,318.76
Fine Grading Dust	0.00	0.00	0.00	0.00	51.81	0.00	51.81	10.82	0.00	10.82	0.00
Fine Grading Off Road Diesel	3.64	18.41	11.35	0.00	0.00	1.38	1.38	0.00	1.27	1.27	1,767.36
Fine Grading On Road Diesel	0.65	9.05	3.23	0.01	0.04	0.35	0.39	0.01	0.32	0.34	1,271.52
Fine Grading Worker Trips	0.07	0.14	2.35	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.88

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 10/1/2010 - 11/1/2010 - Site leveling and installation of PV array

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: G:\2010\10-0010\AQIA\URBEMIS\phase 1A - PV constuction.urb924

Project Name: Tequesquite Landfill PV - Phase 1A - PV Construction

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	4.36	27.60	16.93	0.01	100.06	1.74	101.80	20.90	1.60	22.50	3,318.76
2010 TOTALS (lbs/day mitigated)	4.36	27.60	16.93	0.01	51.87	1.74	53.61	10.84	1.60	12.44	3,318.76

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/1/2010-11/1/2010 Active Days: 22	**4.36**	**27.60**	**16.93**	**0.01**	**100.06**	**1.74**	**101.80**	**20.90**	**1.60**	**22.50**	**3,318.76**
Fine Grading 10/01/2010-11/01/2010	4.36	27.60	16.93	0.01	100.06	1.74	101.80	20.90	1.60	22.50	3,318.76
Fine Grading Dust	0.00	0.00	0.00	0.00	100.00	0.00	100.00	20.88	0.00	20.88	0.00
Fine Grading Off Road Diesel	3.64	18.41	11.35	0.00	0.00	1.38	1.38	0.00	1.27	1.27	1,767.36
Fine Grading On Road Diesel	0.65	9.05	3.23	0.01	0.04	0.35	0.39	0.01	0.32	0.34	1,271.52
Fine Grading Worker Trips	0.07	0.14	2.35	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.88

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Phase Assumptions

Phase: Fine Grading 10/1/2010 - 11/1/2010 - Site leveling and installation of PV array

Total Acres Disturbed: 10

Maximum Daily Acreage Disturbed: 5

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 300

Off-Road Equipment:

2 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

2 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 8 hours per day

2 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/1/2010-11/1/2010 Active Days: 22	**4.36**	**27.60**	**16.93**	**0.01**	51.87	**1.74**	53.61	10.84	**1.60**	12.44	**3,318.76**
Fine Grading 10/01/2010-11/01/2010	4.36	27.60	16.93	0.01	51.87	1.74	53.61	10.84	1.60	12.44	3,318.76
Fine Grading Dust	0.00	0.00	0.00	0.00	51.81	0.00	51.81	10.82	0.00	10.82	0.00
Fine Grading Off Road Diesel	3.64	18.41	11.35	0.00	0.00	1.38	1.38	0.00	1.27	1.27	1,767.36
Fine Grading On Road Diesel	0.65	9.05	3.23	0.01	0.04	0.35	0.39	0.01	0.32	0.34	1,271.52
Fine Grading Worker Trips	0.07	0.14	2.35	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.88

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 10/1/2010 - 11/1/2010 - Site leveling and installation of PV array

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: G:\2010\10-0010\AQIA\URBEMIS\phase 1B - electrical building construction.urb924

Project Name: Tequesquite Landfill PV - Phase 1B - Electrical Bldg Construction

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	20.73	25.14	13.11	0.00	20.01	1.19	21.20	4.18	1.09	5.27	2,375.77
2010 TOTALS (lbs/day mitigated)	20.73	25.14	13.11	0.00	10.37	1.19	11.56	2.17	1.09	3.26	2,375.77

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/1/2010-10/8/2010 Active Days: 6	2.93	**25.14**	**13.11**	**0.00**	**20.01**	**1.19**	**21.20**	**4.18**	**1.09**	**5.27**	**2,375.77**
Fine Grading 10/01/2010-10/08/2010	2.93	25.14	13.11	0.00	20.01	1.19	21.20	4.18	1.09	5.27	2,375.77
Fine Grading Dust	0.00	0.00	0.00	0.00	20.00	0.00	20.00	4.18	0.00	4.18	0.00
Fine Grading Off Road Diesel	2.82	23.89	11.89	0.00	0.00	1.14	1.14	0.00	1.05	1.05	2,112.94
Fine Grading On Road Diesel	0.09	1.21	0.43	0.00	0.01	0.05	0.05	0.00	0.04	0.04	169.54
Fine Grading Worker Trips	0.02	0.05	0.78	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.29
Time Slice 10/11/2010-10/20/2010 Active Days: 8	1.44	8.15	4.38	0.00	0.00	0.42	0.42	0.00	0.38	0.38	995.59
Building 10/11/2010-10/22/2010	1.44	8.15	4.38	0.00	0.00	0.42	0.42	0.00	0.38	0.38	995.59
Building Off Road Diesel	1.43	8.12	4.24	0.00	0.00	0.42	0.42	0.00	0.38	0.38	977.57
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.69
Building Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.33

6/30/2010 11:37:21 AM

Time Slice 10/21/2010-10/22/2010	**20.73**	8.16	4.61	0.00	0.00	0.42	0.42	0.00	0.38	0.39	1,023.58
Active Days: 2											
Building 10/11/2010-10/22/2010	1.44	8.15	4.38	0.00	0.00	0.42	0.42	0.00	0.38	0.38	995.59
Building Off Road Diesel	1.43	8.12	4.24	0.00	0.00	0.42	0.42	0.00	0.38	0.38	977.57
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.69
Building Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.33
Coating 10/21/2010-10/22/2010	19.29	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.99
Architectural Coating	19.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.99

Phase Assumptions

Phase: Fine Grading 10/1/2010 - 10/8/2010 - Default Fine Site Grading for Electrical Bldg Description

Total Acres Disturbed: 1

Maximum Daily Acreage Disturbed: 1

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 40

Off-Road Equipment:

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Building Construction 10/11/2010 - 10/22/2010 - Default Elect Building Construction Description

Off-Road Equipment:

2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day

1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

2 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 10/21/2010 - 10/22/2010 - Default Architectural Coating for Electrical Bldg

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/1/2010-10/8/2010 Active Days: 6	2.93	**25.14**	**13.11**	**0.00**	10.37	**1.19**	11.56	2.17	**1.09**	3.26	**2,375.77**
Fine Grading 10/01/2010-10/08/2010	2.93	25.14	13.11	0.00	10.37	1.19	11.56	2.17	1.09	3.26	2,375.77
Fine Grading Dust	0.00	0.00	0.00	0.00	10.36	0.00	10.36	2.16	0.00	2.16	0.00
Fine Grading Off Road Diesel	2.82	23.89	11.89	0.00	0.00	1.14	1.14	0.00	1.05	1.05	2,112.94
Fine Grading On Road Diesel	0.09	1.21	0.43	0.00	0.01	0.05	0.05	0.00	0.04	0.04	169.54
Fine Grading Worker Trips	0.02	0.05	0.78	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.29
Time Slice 10/11/2010-10/20/2010 Active Days: 8	1.44	8.15	4.38	0.00	0.00	0.42	0.42	0.00	0.38	0.38	995.59
Building 10/11/2010-10/22/2010	1.44	8.15	4.38	0.00	0.00	0.42	0.42	0.00	0.38	0.38	995.59
Building Off Road Diesel	1.43	8.12	4.24	0.00	0.00	0.42	0.42	0.00	0.38	0.38	977.57
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.69
Building Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.33
Time Slice 10/21/2010-10/22/2010 Active Days: 2	**20.73**	8.16	4.61	0.00	0.00	0.42	0.42	0.00	0.38	0.39	1,023.58
Building 10/11/2010-10/22/2010	1.44	8.15	4.38	0.00	0.00	0.42	0.42	0.00	0.38	0.38	995.59
Building Off Road Diesel	1.43	8.12	4.24	0.00	0.00	0.42	0.42	0.00	0.38	0.38	977.57
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.69
Building Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.33
Coating 10/21/2010-10/22/2010	19.29	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.99
Architectural Coating	19.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.99

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 10/1/2010 - 10/8/2010 - Default Fine Site Grading for Electrical Bldg Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: G:\2010\10-0010\AQIA\URBEMIS\phase 1B - electrical building construction.urb924

Project Name: Tequesquite Landfill PV - Phase 1B - Electrical Bldg Construction

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	20.73	25.14	13.11	0.00	20.01	1.19	21.20	4.18	1.09	5.27	2,375.77
2010 TOTALS (lbs/day mitigated)	20.73	25.14	13.11	0.00	10.37	1.19	11.56	2.17	1.09	3.26	2,375.77

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/1/2010-10/8/2010 Active Days: 6	2.93	**25.14**	**13.11**	**0.00**	**20.01**	**1.19**	**21.20**	**4.18**	**1.09**	**5.27**	**2,375.77**
Fine Grading 10/01/2010-10/08/2010	2.93	25.14	13.11	0.00	20.01	1.19	21.20	4.18	1.09	5.27	2,375.77
Fine Grading Dust	0.00	0.00	0.00	0.00	20.00	0.00	20.00	4.18	0.00	4.18	0.00
Fine Grading Off Road Diesel	2.82	23.89	11.89	0.00	0.00	1.14	1.14	0.00	1.05	1.05	2,112.94
Fine Grading On Road Diesel	0.09	1.21	0.43	0.00	0.01	0.05	0.05	0.00	0.04	0.04	169.54
Fine Grading Worker Trips	0.02	0.05	0.78	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.29
Time Slice 10/11/2010-10/20/2010 Active Days: 8	1.44	8.15	4.38	0.00	0.00	0.42	0.42	0.00	0.38	0.38	995.59
Building 10/11/2010-10/22/2010	1.44	8.15	4.38	0.00	0.00	0.42	0.42	0.00	0.38	0.38	995.59
Building Off Road Diesel	1.43	8.12	4.24	0.00	0.00	0.42	0.42	0.00	0.38	0.38	977.57
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.69
Building Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.33

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Time Slice 10/21/2010-10/22/2010	**20.73**	8.16	4.61	0.00	0.00	0.42	0.42	0.00	0.38	0.39	1,023.58
Active Days: 2											
Building 10/11/2010-10/22/2010	1.44	8.15	4.38	0.00	0.00	0.42	0.42	0.00	0.38	0.38	995.59
Building Off Road Diesel	1.43	8.12	4.24	0.00	0.00	0.42	0.42	0.00	0.38	0.38	977.57
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.69
Building Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.33
Coating 10/21/2010-10/22/2010	19.29	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.99
Architectural Coating	19.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.99

Phase Assumptions

Phase: Fine Grading 10/1/2010 - 10/8/2010 - Default Fine Site Grading for Electrical Bldg Description

Total Acres Disturbed: 1

Maximum Daily Acreage Disturbed: 1

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 40

Off-Road Equipment:

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Building Construction 10/11/2010 - 10/22/2010 - Default Elect Building Construction Description

Off-Road Equipment:

2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day

1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

2 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 10/21/2010 - 10/22/2010 - Default Architectural Coating for Electrical Bldg

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/1/2010-10/8/2010 Active Days: 6	2.93	**25.14**	**13.11**	**0.00**	10.37	**1.19**	11.56	2.17	**1.09**	3.26	**2,375.77**
Fine Grading 10/01/2010-10/08/2010	2.93	25.14	13.11	0.00	10.37	1.19	11.56	2.17	1.09	3.26	2,375.77
Fine Grading Dust	0.00	0.00	0.00	0.00	10.36	0.00	10.36	2.16	0.00	2.16	0.00
Fine Grading Off Road Diesel	2.82	23.89	11.89	0.00	0.00	1.14	1.14	0.00	1.05	1.05	2,112.94
Fine Grading On Road Diesel	0.09	1.21	0.43	0.00	0.01	0.05	0.05	0.00	0.04	0.04	169.54
Fine Grading Worker Trips	0.02	0.05	0.78	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.29
Time Slice 10/11/2010-10/20/2010 Active Days: 8	1.44	8.15	4.38	0.00	0.00	0.42	0.42	0.00	0.38	0.38	995.59
Building 10/11/2010-10/22/2010	1.44	8.15	4.38	0.00	0.00	0.42	0.42	0.00	0.38	0.38	995.59
Building Off Road Diesel	1.43	8.12	4.24	0.00	0.00	0.42	0.42	0.00	0.38	0.38	977.57
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.69
Building Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.33
Time Slice 10/21/2010-10/22/2010 Active Days: 2	**20.73**	8.16	4.61	0.00	0.00	0.42	0.42	0.00	0.38	0.39	1,023.58
Building 10/11/2010-10/22/2010	1.44	8.15	4.38	0.00	0.00	0.42	0.42	0.00	0.38	0.38	995.59
Building Off Road Diesel	1.43	8.12	4.24	0.00	0.00	0.42	0.42	0.00	0.38	0.38	977.57
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.69
Building Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.33
Coating 10/21/2010-10/22/2010	19.29	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.99
Architectural Coating	19.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.99

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 10/1/2010 - 10/8/2010 - Default Fine Site Grading for Electrical Bldg Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: G:\2010\10-0010\AQIA\URBEMIS\phase 2.urb924

Project Name: Tequesquite Landfill PV - Phase 2

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012 TOTALS (lbs/day unmitigated)	10.57	86.16	44.32	0.04	100.36	4.58	104.94	20.98	4.21	25.19	12,187.84
2012 TOTALS (lbs/day mitigated)	10.57	86.16	44.32	0.04	52.07	4.58	56.65	10.89	4.21	15.11	12,187.84

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 1/2/2012-4/30/2012 Active Days: 86	**10.57**	**86.16**	**44.32**	**0.04**	**100.36**	**4.58**	**104.94**	**20.98**	**4.21**	**25.19**	**12,187.84**
Asphalt 01/01/2012-04/30/2012	2.00	11.99	7.73	0.00	0.00	1.06	1.07	0.00	0.98	0.98	1,070.50
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.98	11.95	7.06	0.00	0.00	1.06	1.06	0.00	0.97	0.97	976.70
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52
Paving Worker Trips	0.02	0.04	0.67	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.27
Fine Grading 01/01/2012-04/30/2012	1.33	14.36	5.34	0.00	0.20	0.50	0.71	0.04	0.46	0.50	2,289.40
Fine Grading Dust	0.00	0.00	0.00	0.00	0.20	0.00	0.20	0.04	0.00	0.04	0.00
Fine Grading Off Road Diesel	1.31	14.32	4.67	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,196.12
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.04	0.67	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.27

6/30/2010 02:25:49 PM

Fine Grading 01/01/2012-06/30/2012	4.79	38.14	20.65	0.04	100.14	1.99	102.13	20.93	1.83	22.76	5,861.73
Fine Grading Dust	0.00	0.00	0.00	0.00	100.00	0.00	100.00	20.88	0.00	20.88	0.00
Fine Grading Off Road Diesel	3.10	16.46	10.85	0.00	0.00	1.18	1.18	0.00	1.08	1.08	1,767.36
Fine Grading On Road Diesel	1.63	21.57	7.79	0.04	0.13	0.81	0.93	0.04	0.74	0.78	3,814.56
Fine Grading Worker Trips	0.06	0.11	2.01	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.81
Trenching 01/01/2012-04/30/2012	2.46	21.67	10.60	0.00	0.01	1.02	1.03	0.00	0.94	0.94	2,966.22
Trenching Off Road Diesel	2.43	21.61	9.49	0.00	0.00	1.02	1.02	0.00	0.94	0.94	2,810.76
Trenching Worker Trips	0.03	0.06	1.12	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.45
Time Slice 5/1/2012-6/29/2012 Active Days: 44	4.79	38.14	20.65	0.04	100.14	1.99	102.13	20.93	1.83	22.76	5,861.73
Fine Grading 01/01/2012-06/30/2012	4.79	38.14	20.65	0.04	100.14	1.99	102.13	20.93	1.83	22.76	5,861.73
Fine Grading Dust	0.00	0.00	0.00	0.00	100.00	0.00	100.00	20.88	0.00	20.88	0.00
Fine Grading Off Road Diesel	3.10	16.46	10.85	0.00	0.00	1.18	1.18	0.00	1.08	1.08	1,767.36
Fine Grading On Road Diesel	1.63	21.57	7.79	0.04	0.13	0.81	0.93	0.04	0.74	0.78	3,814.56
Fine Grading Worker Trips	0.06	0.11	2.01	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.81

Phase Assumptions

Phase: Fine Grading 1/1/2012 - 6/30/2012 - Site leveling & installation for 9 MW PV Installation

Total Acres Disturbed: 90

Maximum Daily Acreage Disturbed: 5

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 900

Off-Road Equipment:

2 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

2 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 8 hours per day

2 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

6/30/2010 02:25:49 PM

Phase: Fine Grading 1/1/2012 - 4/30/2012 - Power Pole Installation/Replacement Description

Total Acres Disturbed: 90.03

Maximum Daily Acreage Disturbed: 0.01

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

3 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

Phase: Trenching 1/1/2012 - 4/30/2012 - Default Trenching for Pole Replacement/Install Description

Off-Road Equipment:

2 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 1/1/2012 - 4/30/2012 - Default Paving Description

Acres to be Paved: 0.03

Off-Road Equipment:

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 1/2/2012-4/30/2012 Active Days: 86	**10.57**	**86.16**	**44.32**	**0.04**	52.07	**4.58**	56.65	10.89	**4.21**	15.11	**12,187.84**
Asphalt 01/01/2012-04/30/2012	2.00	11.99	7.73	0.00	0.00	1.06	1.07	0.00	0.98	0.98	1,070.50
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.98	11.95	7.06	0.00	0.00	1.06	1.06	0.00	0.97	0.97	976.70
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52
Paving Worker Trips	0.02	0.04	0.67	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.27

Fine Grading 01/01/2012-04/30/2012	1.33	14.36	5.34	0.00	0.11	0.50	0.61	0.02	0.46	0.48	2,289.40
Fine Grading Dust	0.00	0.00	0.00	0.00	0.10	0.00	0.10	0.02	0.00	0.02	0.00
Fine Grading Off Road Diesel	1.31	14.32	4.67	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,196.12
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.04	0.67	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.27
Fine Grading 01/01/2012-06/30/2012	4.79	38.14	20.65	0.04	51.95	1.99	53.94	10.87	1.83	12.70	5,861.73
Fine Grading Dust	0.00	0.00	0.00	0.00	51.81	0.00	51.81	10.82	0.00	10.82	0.00
Fine Grading Off Road Diesel	3.10	16.46	10.85	0.00	0.00	1.18	1.18	0.00	1.08	1.08	1,767.36
Fine Grading On Road Diesel	1.63	21.57	7.79	0.04	0.13	0.81	0.93	0.04	0.74	0.78	3,814.56
Fine Grading Worker Trips	0.06	0.11	2.01	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.81
Trenching 01/01/2012-04/30/2012	2.46	21.67	10.60	0.00	0.01	1.02	1.03	0.00	0.94	0.94	2,966.22
Trenching Off Road Diesel	2.43	21.61	9.49	0.00	0.00	1.02	1.02	0.00	0.94	0.94	2,810.76
Trenching Worker Trips	0.03	0.06	1.12	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.45
Time Slice 5/1/2012-6/29/2012 Active Days: 44	4.79	38.14	20.65	0.04	51.95	1.99	53.94	10.87	1.83	12.70	5,861.73
Fine Grading 01/01/2012-06/30/2012	4.79	38.14	20.65	0.04	51.95	1.99	53.94	10.87	1.83	12.70	5,861.73
Fine Grading Dust	0.00	0.00	0.00	0.00	51.81	0.00	51.81	10.82	0.00	10.82	0.00
Fine Grading Off Road Diesel	3.10	16.46	10.85	0.00	0.00	1.18	1.18	0.00	1.08	1.08	1,767.36
Fine Grading On Road Diesel	1.63	21.57	7.79	0.04	0.13	0.81	0.93	0.04	0.74	0.78	3,814.56
Fine Grading Worker Trips	0.06	0.11	2.01	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.81

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/1/2012 - 6/30/2012 - Site leveling & installation for 9 MW PV Installation

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Fine Grading 1/1/2012 - 4/30/2012 - Power Pole Installation/Replacement Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

6/30/2010 02:26:10 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: G:\2010\10-0010\AQIA\URBEMIS\phase 2.urb924

Project Name: Tequesquite Landfill PV - Phase 2

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012 TOTALS (lbs/day unmitigated)	10.57	86.16	44.32	0.04	100.36	4.58	104.94	20.98	4.21	25.19	12,187.84
2012 TOTALS (lbs/day mitigated)	10.57	86.16	44.32	0.04	52.07	4.58	56.65	10.89	4.21	15.11	12,187.84

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 1/2/2012-4/30/2012 Active Days: 86	**10.57**	**86.16**	**44.32**	**0.04**	**100.36**	**4.58**	**104.94**	**20.98**	**4.21**	**25.19**	**12,187.84**
Asphalt 01/01/2012-04/30/2012	2.00	11.99	7.73	0.00	0.00	1.06	1.07	0.00	0.98	0.98	1,070.50
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.98	11.95	7.06	0.00	0.00	1.06	1.06	0.00	0.97	0.97	976.70
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52
Paving Worker Trips	0.02	0.04	0.67	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.27
Fine Grading 01/01/2012-04/30/2012	1.33	14.36	5.34	0.00	0.20	0.50	0.71	0.04	0.46	0.50	2,289.40
Fine Grading Dust	0.00	0.00	0.00	0.00	0.20	0.00	0.20	0.04	0.00	0.04	0.00
Fine Grading Off Road Diesel	1.31	14.32	4.67	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,196.12
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.04	0.67	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.27

Fine Grading 01/01/2012-06/30/2012	4.79	38.14	20.65	0.04	100.14	1.99	102.13	20.93	1.83	22.76	5,861.73
Fine Grading Dust	0.00	0.00	0.00	0.00	100.00	0.00	100.00	20.88	0.00	20.88	0.00
Fine Grading Off Road Diesel	3.10	16.46	10.85	0.00	0.00	1.18	1.18	0.00	1.08	1.08	1,767.36
Fine Grading On Road Diesel	1.63	21.57	7.79	0.04	0.13	0.81	0.93	0.04	0.74	0.78	3,814.56
Fine Grading Worker Trips	0.06	0.11	2.01	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.81
Trenching 01/01/2012-04/30/2012	2.46	21.67	10.60	0.00	0.01	1.02	1.03	0.00	0.94	0.94	2,966.22
Trenching Off Road Diesel	2.43	21.61	9.49	0.00	0.00	1.02	1.02	0.00	0.94	0.94	2,810.76
Trenching Worker Trips	0.03	0.06	1.12	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.45
Time Slice 5/1/2012-6/29/2012 Active Days: 44	4.79	38.14	20.65	0.04	100.14	1.99	102.13	20.93	1.83	22.76	5,861.73
Fine Grading 01/01/2012-06/30/2012	4.79	38.14	20.65	0.04	100.14	1.99	102.13	20.93	1.83	22.76	5,861.73
Fine Grading Dust	0.00	0.00	0.00	0.00	100.00	0.00	100.00	20.88	0.00	20.88	0.00
Fine Grading Off Road Diesel	3.10	16.46	10.85	0.00	0.00	1.18	1.18	0.00	1.08	1.08	1,767.36
Fine Grading On Road Diesel	1.63	21.57	7.79	0.04	0.13	0.81	0.93	0.04	0.74	0.78	3,814.56
Fine Grading Worker Trips	0.06	0.11	2.01	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.81

Phase Assumptions

Phase: Fine Grading 1/1/2012 - 6/30/2012 - Site leveling & installation for 9 MW PV Installation

Total Acres Disturbed: 90

Maximum Daily Acreage Disturbed: 5

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 900

Off-Road Equipment:

2 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

2 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 8 hours per day

2 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

6/30/2010 02:26:10 PM

Phase: Fine Grading 1/1/2012 - 4/30/2012 - Power Pole Installation/Replacement Description

Total Acres Disturbed: 90.03

Maximum Daily Acreage Disturbed: 0.01

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

3 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

Phase: Trenching 1/1/2012 - 4/30/2012 - Default Trenching for Pole Replacement/Install Description

Off-Road Equipment:

2 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 1/1/2012 - 4/30/2012 - Default Paving Description

Acres to be Paved: 0.03

Off-Road Equipment:

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 1/2/2012-4/30/2012 Active Days: 86	**10.57**	**86.16**	**44.32**	**0.04**	52.07	**4.58**	56.65	10.89	**4.21**	15.11	**12,187.84**
Asphalt 01/01/2012-04/30/2012	2.00	11.99	7.73	0.00	0.00	1.06	1.07	0.00	0.98	0.98	1,070.50
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.98	11.95	7.06	0.00	0.00	1.06	1.06	0.00	0.97	0.97	976.70
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52
Paving Worker Trips	0.02	0.04	0.67	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.27

Fine Grading 01/01/2012-04/30/2012	1.33	14.36	5.34	0.00	0.11	0.50	0.61	0.02	0.46	0.48	2,289.40
Fine Grading Dust	0.00	0.00	0.00	0.00	0.10	0.00	0.10	0.02	0.00	0.02	0.00
Fine Grading Off Road Diesel	1.31	14.32	4.67	0.00	0.00	0.50	0.50	0.00	0.46	0.46	2,196.12
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.04	0.67	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.27
Fine Grading 01/01/2012-06/30/2012	4.79	38.14	20.65	0.04	51.95	1.99	53.94	10.87	1.83	12.70	5,861.73
Fine Grading Dust	0.00	0.00	0.00	0.00	51.81	0.00	51.81	10.82	0.00	10.82	0.00
Fine Grading Off Road Diesel	3.10	16.46	10.85	0.00	0.00	1.18	1.18	0.00	1.08	1.08	1,767.36
Fine Grading On Road Diesel	1.63	21.57	7.79	0.04	0.13	0.81	0.93	0.04	0.74	0.78	3,814.56
Fine Grading Worker Trips	0.06	0.11	2.01	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.81
Trenching 01/01/2012-04/30/2012	2.46	21.67	10.60	0.00	0.01	1.02	1.03	0.00	0.94	0.94	2,966.22
Trenching Off Road Diesel	2.43	21.61	9.49	0.00	0.00	1.02	1.02	0.00	0.94	0.94	2,810.76
Trenching Worker Trips	0.03	0.06	1.12	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.45
Time Slice 5/1/2012-6/29/2012 Active Days: 44	4.79	38.14	20.65	0.04	51.95	1.99	53.94	10.87	1.83	12.70	5,861.73
Fine Grading 01/01/2012-06/30/2012	4.79	38.14	20.65	0.04	51.95	1.99	53.94	10.87	1.83	12.70	5,861.73
Fine Grading Dust	0.00	0.00	0.00	0.00	51.81	0.00	51.81	10.82	0.00	10.82	0.00
Fine Grading Off Road Diesel	3.10	16.46	10.85	0.00	0.00	1.18	1.18	0.00	1.08	1.08	1,767.36
Fine Grading On Road Diesel	1.63	21.57	7.79	0.04	0.13	0.81	0.93	0.04	0.74	0.78	3,814.56
Fine Grading Worker Trips	0.06	0.11	2.01	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.81

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/1/2012 - 6/30/2012 - Site leveling & installation for 9 MW PV Installation

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Fine Grading 1/1/2012 - 4/30/2012 - Power Pole Installation/Replacement Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

6/30/2010 01:49:40 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: G:\2010\10-0010\AQIA\URBEMIS\phase 1A - PV constuction.urb924

Project Name: Tequesquite Landfill PV - Phase 1A - PV Construction

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	CO2
2010 TOTALS (tons/year unmitigated)	36.51
2010 TOTALS (tons/year mitigated)	36.51
Percent Reduction	0.00

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	CO2
2010	36.51
Fine Grading 10/01/2010-11/01/2010	36.51
Fine Grading Dust	0.00
Fine Grading Off Road Diesel	19.44
Fine Grading On Road Diesel	13.99
Fine Grading Worker Trips	3.08

6/30/2010 01:49:40 PM

Phase Assumptions

Phase: Fine Grading 10/1/2010 - 11/1/2010 - Site leveling and installation of PV array

Total Acres Disturbed: 10

Maximum Daily Acreage Disturbed: 5

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 300

Off-Road Equipment:

2 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

2 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 8 hours per day

2 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	CO2
2010	36.51
Fine Grading 10/01/2010-11/01/2010	36.51
Fine Grading Dust	0.00
Fine Grading Off Road Diesel	19.44
Fine Grading On Road Diesel	13.99
Fine Grading Worker Trips	3.08

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 10/1/2010 - 11/1/2010 - Site leveling and installation of PV array

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

6/30/2010 11:37:49 AM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: G:\2010\10-0010\AQIA\URBEMIS\phase 1B - electrical building construction.urb924

Project Name: Tequesquite Landfill PV - Phase 1B - Electrical Bldg Construction

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	CO2
2010 TOTALS (tons/year unmitigated)	12.13
2010 TOTALS (tons/year mitigated)	12.13
Percent Reduction	0.00

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	CO2
2010	12.13
Fine Grading 10/01/2010-10/08/2010	7.13
Fine Grading Dust	0.00
Fine Grading Off Road Diesel	6.34
Fine Grading On Road Diesel	0.51
Fine Grading Worker Trips	0.28
Building 10/11/2010-10/22/2010	4.98
Building Off Road Diesel	4.89
Building Vendor Trips	0.02
Building Worker Trips	0.07
Coating 10/21/2010-10/22/2010	0.03
Architectural Coating	0.00
Coating Worker Trips	0.03

Phase Assumptions

Phase: Fine Grading 10/1/2010 - 10/8/2010 - Default Fine Site Grading for Electrical Bldg Description

Total Acres Disturbed: 1

Maximum Daily Acreage Disturbed: 1

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 40

Off-Road Equipment:

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

6/30/2010 11:37:49 AM

Phase: Building Construction 10/11/2010 - 10/22/2010 - Default Elect Building Construction Description
Off-Road Equipment:
2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day
1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
2 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 10/21/2010 - 10/22/2010 - Default Architectural Coating for Electrical Bldg
Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	CO2
2010	12.13
Fine Grading 10/01/2010-10/08/2010	7.13
Fine Grading Dust	0.00
Fine Grading Off Road Diesel	6.34
Fine Grading On Road Diesel	0.51
Fine Grading Worker Trips	0.28
Building 10/11/2010-10/22/2010	4.98
Building Off Road Diesel	4.89
Building Vendor Trips	0.02
Building Worker Trips	0.07
Coating 10/21/2010-10/22/2010	0.03
Architectural Coating	0.00
Coating Worker Trips	0.03

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 10/1/2010 - 10/8/2010 - Default Fine Site Grading for Electrical Bldg Description
For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:
PM10: 61% PM25: 61%

6/30/2010 02:26:27 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: G:\2010\10-0010\AQIA\URBEMIS\phase 2.urb924

Project Name: Tequesquite Landfill PV - Phase 2

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	CO2
2012 TOTALS (tons/year unmitigated)	653.04
2012 TOTALS (tons/year mitigated)	653.04
Percent Reduction	0.00

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	CO2
2012	653.04
Asphalt 01/01/2012-04/30/2012	46.03
Paving Off-Gas	0.00
Paving Off Road Diesel	42.00
Paving On Road Diesel	0.02
Paving Worker Trips	4.01
Fine Grading 01/01/2012-04/30/2012	98.44
Fine Grading Dust	0.00
Fine Grading Off Road Diesel	94.43
Fine Grading On Road Diesel	0.00
Fine Grading Worker Trips	4.01
Fine Grading 01/01/2012-06/30/2012	381.01
Fine Grading Dust	0.00
Fine Grading Off Road Diesel	114.88
Fine Grading On Road Diesel	247.95
Fine Grading Worker Trips	18.19
Trenching 01/01/2012-04/30/2012	127.55
Trenching Off Road Diesel	120.86
Trenching Worker Trips	6.68

6/30/2010 02:26:27 PM

Phase Assumptions

Phase: Fine Grading 1/1/2012 - 6/30/2012 - Site leveling & installation for 9 MW PV Installation
Total Acres Disturbed: 90
Maximum Daily Acreage Disturbed: 5
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 900
Off-Road Equipment:
2 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day
2 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 8 hours per day
2 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Fine Grading 1/1/2012 - 4/30/2012 - Power Pole Installation/Replacement Description
Total Acres Disturbed: 90.03
Maximum Daily Acreage Disturbed: 0.01
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
3 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

Phase: Trenching 1/1/2012 - 4/30/2012 - Default Trenching for Pole Replacement/Install Description
Off-Road Equipment:
2 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 1/1/2012 - 4/30/2012 - Default Paving Description
Acres to be Paved: 0.03
Off-Road Equipment:
1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day

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Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	CO2
2012	653.04
Asphalt 01/01/2012-04/30/2012	46.03
Paving Off-Gas	0.00
Paving Off Road Diesel	42.00
Paving On Road Diesel	0.02
Paving Worker Trips	4.01
Fine Grading 01/01/2012-04/30/2012	98.44
Fine Grading Dust	0.00
Fine Grading Off Road Diesel	94.43
Fine Grading On Road Diesel	0.00
Fine Grading Worker Trips	4.01
Fine Grading 01/01/2012-06/30/2012	381.01
Fine Grading Dust	0.00
Fine Grading Off Road Diesel	114.88
Fine Grading On Road Diesel	247.95
Fine Grading Worker Trips	18.19
Trenching 01/01/2012-04/30/2012	127.55
Trenching Off Road Diesel	120.86
Trenching Worker Trips	6.68

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/1/2012 - 6/30/2012 - Site leveling & installation for 9 MW PV Installation

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Fine Grading 1/1/2012 - 4/30/2012 - Power Pole Installation/Replacement Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Construction GHG Emissions Estimates

Construction Emissions

Phase 1 - 2010

Activity	Annual Tons	Annual MT CO2
1MW PV Installation	36.51	33.12
EEB Site Grading	6.62	6.01
EEB Construction	5.49	4.98
EEB Coating	0.03	0.03
Total	48.65	44.13

Phase 2 - 2012

Activity	Annual Tons	Annual MT CO2
9MW PV Installation	381.01	345.65
TRO Pole Replacemen	98.44	89.30
TRO Trenching	127.55	115.71
TRO Paving	46.03	41.76
Total	653.03	592.42

Total

Phase	Total Tons CO2	Total MT CO2
Phase 1	48.65	44.13
Phase 2	653.03	592.42
Total	701.68	636.55

* Annual tons obtained from URBEMIS output.