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APPENDIX A
CACALUP Safety Zone Maps

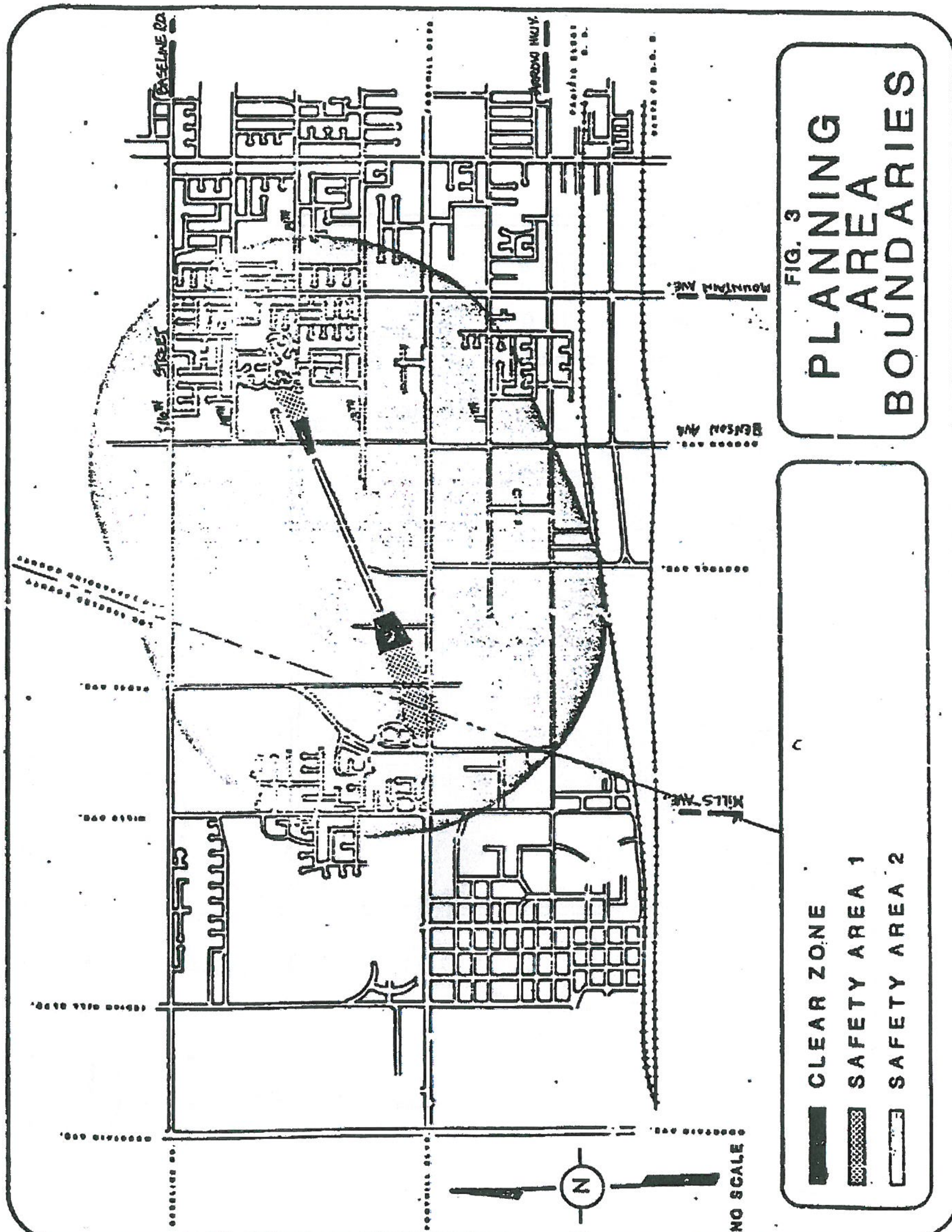

FIG. 3
PLANNING AREA BOUNDARIES

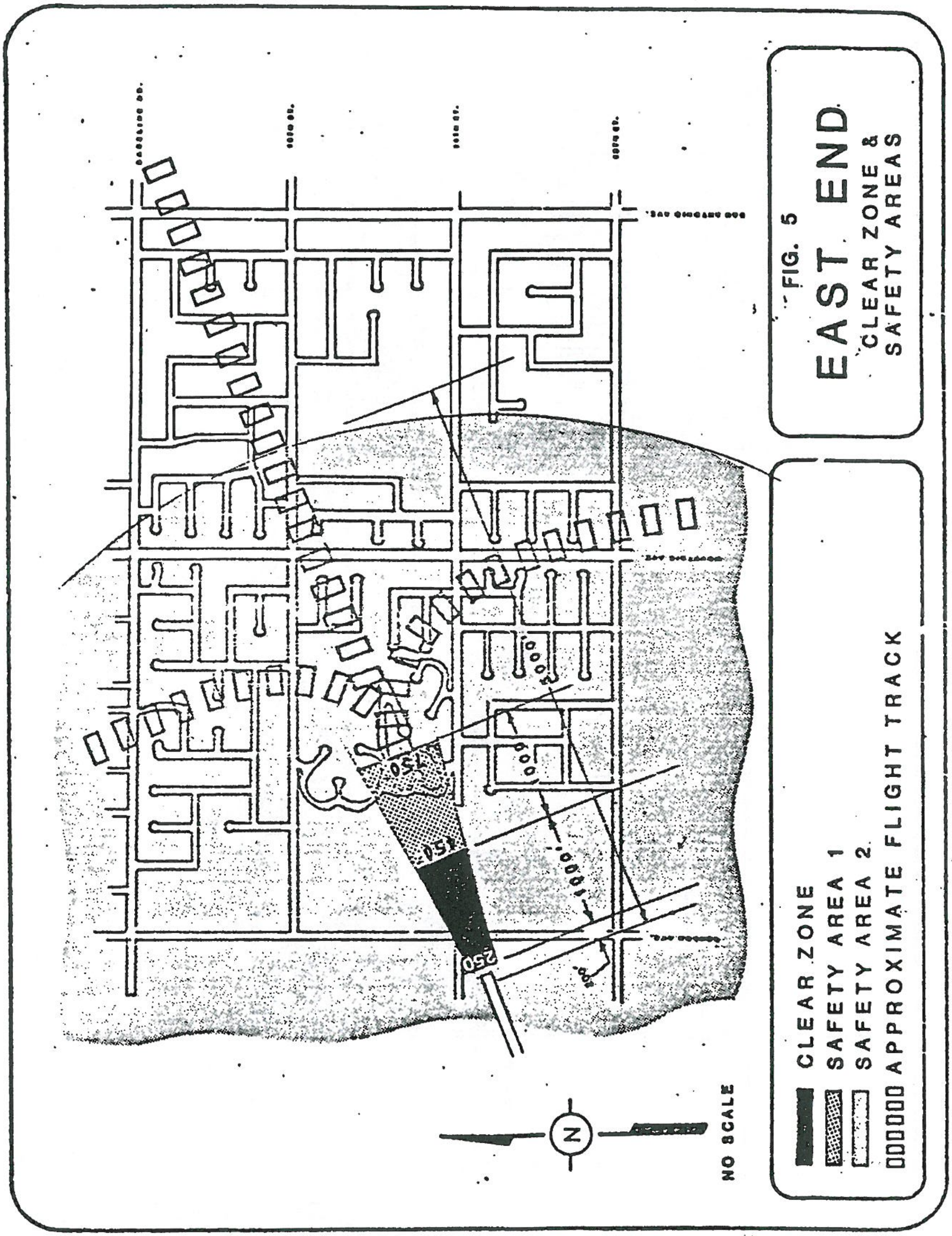
FIG. 5
EAST END
CLEAR ZONE &
SAFETY AREAS
CLEAR ZONE
SAFETY AREA 1
SAFETY AREA 2
APPROXIMATE FLIGHT TRACK
NO SCALE
N
250
150
1000'

APPENDIX B
Air Quality Spreadsheet

Road Construction Emissions Model, Version 6.3.2

Emission Estimates for -> 14th St. Basin and Storm Drain Project				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	5.8	26.3	51.7	52.2	2.2	50.0	12.4	2.0	10.4	4,890.0
Grading/Excavation	11.3	128.3	49.7	52.3	2.3	50.0	12.5	2.1	10.4	4,859.4
Drainage/Utilities/Sub-Grade	4.0	17.1	31.5	51.7	1.7	50.0	11.9	1.5	10.4	3,037.0
Paving	3.2	11.5	17.7	1.6	1.6	-	1.4	1.4	-	1,558.0
Maximum (pounds/day)	11.3	128.3	51.7	52.3	2.3	50.0	12.5	2.1	10.4	4,890.0
Total (tons/construction project)	0.6	5.0	3.1	3.3	0.2	3.2	0.8	0.1	0.7	300.5

Notes:
- Project Start Year -> 2010
- Project Length (months) -> 7
- Total Project Area (acres) -> 13
- Maximum Area Disturbed/Day (acres) -> 5
- Total Soil Imported/Exported (yd^3/day)-> 1705

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> 14th St. Basin and Storm Drain Project				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	2.7	11.9	23.5	23.7	1.0	22.7	5.6	0.9	4.7	2,222.7
Grading/Excavation	5.1	58.3	22.6	23.8	1.0	22.7	5.7	0.9	4.7	2,208.8
Drainage/Utilities/Sub-Grade	1.8	7.8	14.3	23.5	0.8	22.7	5.4	0.7	4.7	1,380.4
Paving	1.5	5.2	8.1	0.7	0.7	-	0.7	0.7	-	708.2
Maximum (kilograms/day)	5.1	58.3	23.5	23.8	1.0	22.7	5.7	0.9	4.7	2,222.7
Total (megagrams/construction project)	0.5	4.6	2.8	3.0	0.1	2.9	0.7	0.1	0.6	272.6

Notes:
- Project Start Year -> 2010
- Project Length (months) -> 7
- Total Project Area (hectares) -> 5
- Maximum Area Disturbed/Day (hectares) -> 2
- Total Soil Imported/Exported ($meters^3$/day)-> 1304

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sume of exhaust and fugitive dust emissions shown in columns K and L.

APPENDIX C
Web Soil Survey Output

USDA United States Department of Agriculture

NRCS Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for San Bernardino County Southwestern Part, California

14th Street Water Quality Basin

June 21, 2010

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://soils.usda.gov/sqi/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://soils.usda.gov/contact/state_offices/).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Soil Data Mart Web site or the NRCS Web Soil Survey. The Soil Data Mart is the data storage site for the official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features
- Cities

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:5,030 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 11N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino County Southwestern Part, California
Survey Area Data: Version 4, Jan 3, 2008

Date(s) aerial images were photographed: 8/23/2005

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

San Bernardino County Southwestern Part, California (CA677)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
SoC	SOBOBA GRAVELLY LOAMY SAND, 0 TO 9 PERCENT SLOPES	33.9	30.9%
SpC	SOBOBA STONY LOAMY SAND, 2 TO 9 PERCENT SLOPES	75.3	68.7%
W	WATER	0.4	0.4%
Totals for Area of Interest		**109.6**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Bernardino County Southwestern Part, California

SoC—SOBOBA GRAVELLY LOAMY SAND, 0 TO 9 PERCENT SLOPES

Map Unit Setting

Elevation: 30 to 4,200 feet
Mean annual precipitation: 10 to 20 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 175 to 250 days

Map Unit Composition

Soboba and similar soils: 85 percent
Minor components: 15 percent

Description of Soboba

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Properties and qualities

Slope: 0 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Available water capacity: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability (nonirrigated): 6s

Typical profile

0 to 12 inches: Gravelly loamy sand
12 to 36 inches: Very gravelly loamy sand
36 to 60 inches: Very stony sand

Minor Components

Delhi fine sand

Percent of map unit: 5 percent

Unnamed

Percent of map unit: 5 percent

Tujunga gravelly loam

Percent of map unit: 3 percent

Unnamed

Percent of map unit: 2 percent
Landform: Drainageways

SpC—SOBOBA STONY LOAMY SAND, 2 TO 9 PERCENT SLOPES

Map Unit Setting

Elevation: 30 to 4,200 feet
Mean annual precipitation: 10 to 20 inches
Mean annual air temperature: 61 degrees F
Frost-free period: 210 to 330 days

Map Unit Composition

Soboba and similar soils: 85 percent
Minor components: 15 percent

Description of Soboba

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Properties and qualities

Slope: 2 to 9 percent
Surface area covered with cobbles, stones or boulders: 0.1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Available water capacity: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability (nonirrigated): 6s

Typical profile

0 to 10 inches: Very stony loamy sand
10 to 60 inches: Very stony sand

Minor Components

Ramona

Percent of map unit: 5 percent

Tujunga gravelly loamy coarse sand
Percent of map unit: 5 percent

Hanford
Percent of map unit: 5 percent

W—WATER

Map Unit Composition
Water: 100 percent

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://soils.usda.gov/

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://soils.usda.gov/

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://soils.usda.gov/

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://soils.usda.gov/

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.glti.nrcs.usda.gov/

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://soils.usda.gov/

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://soils.usda.gov/

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210.

APPENDIX D
Public Comments and Responses

14th Street Stormwater Collection and Integration Basin Project
Responses to Comments From Cable Airport

Page Number	Issue	Explanation or Revision
3	Define Clear Zone and Safety Zone	Sentence has been revised to define the Clear Zone and Safety Zone as follows (new text is underlined): The site is beneath the approach to the airport and the westerly 1/3 of the site is located in the airports Clear Zone (extreme crash hazard), while the easterly 2/3 is located within the airports Safety Zone 1 (significant crash hazard). The Clear Zone is now referred to as the Runway Protection Zone. Land uses are limited in both of these zones. See Chapter 2, Project Description, for a discussion of this issue.
8	Basin as an attractive nuisance to birds	There is a potential for the basin to attract birds if water is allowed to stand for long periods. However, percolation tests of the native soil on site shows that a conservative percolation rate of 5 inches per hour is achievable allowing the basin to drain within 72 hours. Additionally, the basin is equipped with a "basin drain" so that in the event of a standing water issue the basin can be drained quickly.
14	Slope gradient	The slope gradient of the basin would be 4:1. References to 2:1or 3:1 in the text has been revised to reflect this.
15	Length of construction of the on-site facilities	As discussed in the Project Description, the various components of the project including basin and bioswale construction as well as storm drain construction in 14th Street and Benson Avenue can be completed within 7 months as construction would overlap. Excavation of the basin and bioswale is anticipated to be completed within 3 months.
16	Add Clear Zone and Safety Zone designations to this page	These zones have been added to No. 9, Surrounding Land Uses and Setting since they are neither a General Plan designation or a Zoning designation.
35	Migratory Bird Treaty Act makes it unlawful to disturb nesting birds	The Migratory Bird Treaty is discussed in the Biological Resources section of the Initial Study because the project site provides habitat for burrowing owls. Page 36 discusses this species and the mitigation measures that must be implemented individuals are found to occupy the site. They may only be removed and relocated outside the breeding season which ends on August 31st.
43	Add small jets and emergency rescue services to the list of aircraft that use the	The second sentence of the first paragraph on page 43 has been revised to reflect airport usage as follows (new text is underlined): The airport is a private general aviation airport that is

	site	used by light planes and helicopters <u>as well as small jets and emergency rescue services that utilize the helipads on the approach end (runway 24).</u>
43/44	Cable airport is a privately owned airport and should be addressed under Question VIIIf	Safety at the Cable Airport was discussed under Question VIIIe rather than VIIIf because a) the airport is technically not an airstrip, and b) the airport operates under an approved Airport Land Use Plan. However to avoid confusion, responses to these two questions have been combined on pages 43 and 44.
44	Basin and bioswale could provide standing water that would attract birds to the site	There is a potential for the basin to attract birds if water is allowed to stand for long periods. However, percolation tests of the native soil on site shows that a conservative percolation rate of 5 inches per hour is achievable allowing the basin to drain within 72 hours. Additionally, the basin is equipped with a "basin drain" so that in the event of a standing water issue the basin can be drained quickly.
48	Rules for Clear Zone and Safety Zone could be compromised with the presence of birds and people	See response to question on Page44 for bird issue. The proposed walking trail was meant to formalize what is already occurring on the project site. Local residents routinely walk along the road that traverses the site and get access from a number of locations: the gate at 14th Street, the parking lot at Greenbelt Park, and from Benson Street. However, since the trail was only going to be designed in conjunction with the perimeter road around the basin and bioswale, a less formal approach can be taken to protect the status of the Airport Clear Zone and Safety Zone. Due to the location of the project site within these zones, the City has revised the project description so that is clear that the trail system will be eliminated and only a perimeter road will be provided, and thereby, the project will not increase the volume of foot traffic at the site. In addition, if noticeable foot traffic is increased, signage will be provided to notify the walking public that the location is designated as a Clear Zone and Safety Zone for Cable Airport.
51	People walking on site could be exposed to aircraft noise	Questions XIIe and XIIf are about people residing and working in close proximity to an airport and being exposed to excessive noise levels. This means that people would be in close proximity and could be exposed to excessive noise for long periods of time with no choice. Walking in the vicinity of the airport is another matter. People may choose to walk on the site or not, but if they choose to walk there it would be for a much shorter period of time than if they lived or worked nearby, and it would be their choice.
57	Safety fencing	Safety fencing will be added to bullet 3 of the Project Description on page 14 as follows (new text is

		underlined): • Construction of a water quality/regional drainage facility consisting of a ~~forebay~~ basin at a depth of between 16 and 20 feet and side slopes of 4:1, ~~and a water quality vegetated bioswale approximately 3 to 6 feet deep~~ with a fence around the perimeter at up to 4.5 feet in height. Note: since the circulation of the Draft Initial Study and NOI, the Public Works Department has revised the site plan and has excluded a bioswale from the project. The proposed project is now the basin at 4:1 slopes and up to 20 feet in depth.
63	Additional references	The list of references on page 65 will be expanded to include two additional references used in the preparation of the Initial Study. These are as follows: California Department of Transportation (Caltrans) Department of Aeronautics, *California Airport Land Use Planning Handbook*, January 2002 US Department of Transportation, Federal Aviation Administration, Airport Design Advisory Circular (AC150/5300-13), September 1989.
General Comment	Trail system on site would be defined as a "Very High Risk"	See response to comment for Page 57 above.

14th Street Stormwater Collection and Integration Basin Project
Responses to Comments From San Bernardino County Public Works

Page Number	Issue	Explanation or Revision
	The document does not include a detailed map showing the actual project limits	See Figure 4 on Page 5, Proposed Project Improvements. Proposed project features are identified with an arrow pointing from the label to the project feature. In addition, the proposed basin is shown on the project site in green while the new storm drain alignments are shown in orange.
	The document does not identify a biological survey conducted for the proposed project.	No formal biological survey report was prepared for the project site due to its long term use by the City Public Works Department as a storage area for stockpiling of construction material and bin storage, as well as being routinely mowed for weed abatement. The site also includes a concrete lined storm channel vegetated with non-native species and a road that traverses the site between Greenbelt Park on the north and the City's Corporate Yard on the south. Because of the urbanized condition of the project site, no formal biological survey was conducted.
Page 37	The San Antonio Drainage is adjacent to the project site Also it is unclear what burrowing owl mitigation is associated with wildlife corridors.	The San Antonio Drainage is not actually adjacent to the project site but west of Benson Avenue. It is separated further from the site by the Cable Airport and the Holliday Rock Foothill aggregate mine quarry. Both these land uses are enclosed by perimeter fencing. The discussion on Page 37 (response IV.d) addresses wildlife corridors and why it is unlikely that the project site is part of such a corridor. In addition to the response given in the Initial Study, the project site is surrounded by urban uses and with the exception of the frontage along Benson Avenue, the site is fenced. Thus reducing further the assumption that the site is part of a wildlife corridor. With regard to the second part of the comment, the reference to the response to question "a" and the burrowing owl was made because the question is about more than just wildlife corridors. The question also addresses the movement of native or migratory wildlife species as well as native wildlife nursery sites. Response to question "a" was cited to show that if potential wildlife species were present on site (see mitigation measures BIO-1 and BIO-2), presence was being addressed as part of a previous response.
Page 49	Water retention may attract birds to the site	The absence of vegetation (trees and shrubs) will deter birds from using the site for nesting. In addition,

	that could nest	percolation tests show that the soil is porous enough that water retained on site would be percolated into the subsurface within a 72 hour period thus reducing standing water to a minimum and limited to periods of heavy rainfall. Therefore, the site would not become a major attraction for birds.

14^{th} Street Stormwater Collection and Integration Basin Project

Responses to Comments From SCAQMD

This following analysis was prepared to address the South Coast Air Quality Management District (SCAQMD) comment letter, specifically to conduct a localized significance threshold analysis (LST). The analysis evaluates the emissions from the proposed basin and storm drain construction on the sensitive receptors located adjacent to the project site.

LST METHODOLOGY & THRESHOLDS

Screening level analysis for LSTs for construction sites of 5 acres or less use LST lookup tables developed by SCAQMD. The proposed new storm drains (Phases A and B) will disturb less than one acre each and are independent of each other and the site of the proposed water quality/percolation basin, which s 12.1 acres. Therefore, the LST lookup tables were used in the evaluation of Phases A and B. Table 1 shows the results of this analysis and that air quality impacts associated with storm drain construction would be less than significant.

TABLE 1: Phase A & B LST Analysis

Distance	CO (lbs/day)		NO_2 (lbs/day)		PM_{10} (lbs/day)		$PM_{2.5}$ (lbs/day)	
	A	B	A	B	A	B	A	B
Peak Daily On-site Emissions	3.40	1.69	1.37	0.68	1.39	0.07	0.33	0.03
Allowable emissions at 25 meters	863		118		5		4	
Allowable emissions at 50 meters	1,328		148		14		6	
Allowable emissions at 100 meters	2,423		211		44		12	
Allowable emissions at 200 meters	5,691		334		103		32	
Allowable emissions at 500 meters	23,065		652		280		141	
Exceed Allowable emissions?	No	No	No	No	No	No	No	No
A = New storm drain between Mountain Avenue and 14th Street western terminus B = New storm drain on Benson								

Dispersion modeling was performed to determine whether water quality/percolation basin construction activities could expose sensitive receptors to substantial pollutant concentrations. Localized concentrations were estimated using Screen3. In accordance with the SCAQMD methodology, actual receptor locations with respect to the project should be used when available. As shown in Figure 4, residences (sensitive receptors) are located within 25 meters of the eastern boundary of the project site. Therefore, the 25-meter default distance was used in this analysis. With respect to the SCAQMD methodology, construction activities taking place on 5 or more acres, emissions are anticipated to be significant if they exceed the following thresholds:

- 1-hr CO 20 ppm
- 8-hr CO 9 ppm
- 1-hr NO2 0.18 ppm
- 24-hr PM10 10.4 □g/m^3
- 24-hr PM2.5 10.4 □g/m^3

The unmitigated emissions with 5 acres per day of disturbance were evaluated and, as shown in Table 2, result in significant impacts for PM_{10} and $PM_{2.5}$ without mitigation. Emissions estimates and Screen3 are provided at the end of this response.

TABLE 2: SCREEN 3 - 5 Acre per day Concentrations

Distance	CO (1-Hr Conc.)[2]	CO (8-Hr Conc.)[3]	NO_2 (1-Hr Conc.)[4]	PM_{10} (24-Hr Conc.)	$PM_{2.5}$ (24-Hr Conc.)
Peak Daily Emissions (lb/day)	128.32 ppm	128.32 ppm	51.68 ppm	52.27 µg/m^3	12.46 µg/m^3
Concentration at 25 meters	3.43 ppm	4.20 ppm	0.11 ppm	101.88 µg/m^3	12.52 µg/m^3
Concentration at 50 meters	3.48 ppm	4.24 ppm	0.11 ppm	32.10 µg/m^3	3.94 µg/m^3
Concentration at 100 meters	3.57 ppm	4.30 ppm	0.11 ppm	3.19 µg/m^3	0.39 µg/m^3
Concentration at 200 meters	3.62 ppm	4.33 ppm	0.12 ppm	0.03 µg/m^3	0.00 µg/m^3
Concentration at 500 meters	3.23 ppm	4.06 ppm	0.11 ppm	0.00 µg/m^3	0.00 µg/m^3
Concentration at 800 meters	3.13 ppm	3.99 ppm	0.11 ppm	0.00 µg/m^3	0.00 µg/m^3
Concentration at 1000 meters	3.10 ppm	3.97 ppm	0.11 ppm	0.00 µg/m^3	0.00 µg/m^3
Ambient Air Quality Standard	20.00 ppm	9.00 ppm	0.18 ppm	10.40 µg/m^3	10.40 µg/m^3
Exceeds Standard?	No	No	No	YES	YES

[1] CO and NO_2 are in ppm, PM_{10} and $PM_{2.5}$ are in µg/m^3
[2] Includes background concentration of 3 ppm
[3] Includes background concentration of 1.8 ppm
[4] Includes background concentration of 0.1 ppm

Construction emissions for the proposed project can be further reduced by further limiting the daily disturbance as well as increasing the daily watering requirements as described in

Mitigation Measures listed below. With the incorporation of these mitigation measures, PM10 and PM2.5 emissions reduced to below the SCAQMD LST Construction threshold of 10.4 □g/m^3 as shown in Table 3.

- The construction contractor shall ensure that construction activities are limited to the disturbance of 1 acre per day or less when working within 50 meters of the eastern project border.
- The construction contractor shall ensure that all disturbed areas within 50 meters of the eastern site boundary are watered a minimum of 6 times per day. All other areas of disturbance shall be watered at least two times per day.

TABLE 3: SCREEN 3 - 1 Acre per day Concentrations

Distance	PM_{10} (24-Hr Conc.)	$PM_{2.5}$ (24-Hr Conc.)
Peak Daily Emissions (lb/day)	4.85 µg/m^3	4.85 µg/m^3
Concentration at 25 meters	9.70 µg/m^3	9.70 µg/m^3
Concentration at 50 meters	3.06 µg/m^3	3.06 µg/m^3
Concentration at 100 meters	0.30 µg/m^3	0.30 µg/m^3
Concentration at 200 meters	0.00 µg/m^3	0.00 µg/m^3
Concentration at 500 meters	0.00 µg/m^3	0.00 µg/m^3
Concentration at 800 meters	0.00 µg/m^3	0.00 µg/m^3
Concentration at 1000 meters	0.00 µg/m^3	0.00 µg/m^3
Ambient Air Quality Standard	10.40 µg/m^3	10.40 µg/m^3
Exceeds Standard?	No	No

ATTACHMENT 1

EMISSIONS

Road Construction Emissions Model, Version 6.3.2

Emission Estimates for -> 14th St. Basin and Storm Drain Project				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	5.8	26.3	51.7	52.2	2.2	50.0	12.4	2.0	10.4	4,890.0
Grading/Excavation	11.3	128.3	49.7	52.3	2.3	50.0	12.5	2.1	10.4	4,859.4
Drainage/Utilities/Sub-Grade	4.0	17.1	31.5	51.7	1.7	50.0	11.9	1.5	10.4	3,037.0
Paving	3.2	11.5	17.7	1.6	1.6	-	1.4	1.4	-	1,558.0
Maximum (pounds/day)	11.3	128.3	51.7	52.3	2.3	50.0	12.5	2.1	10.4	4,890.0
Total (tons/construction project)	0.6	5.0	3.1	3.3	0.2	3.2	0.8	0.1	0.7	300.5

Notes:
- Project Start Year -> 2010
- Project Length (months) -> 7
- Total Project Area (acres) -> 13
- Maximum Area Disturbed/Day (acres) -> 5
- Total Soil Imported/Exported (yd^3/day)-> 1705

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> 14th St. Basin and Storm Drain Project				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	2.7	11.9	23.5	23.7	1.0	22.7	5.6	0.9	4.7	2,222.7
Grading/Excavation	5.1	58.3	22.6	23.8	1.0	22.7	5.7	0.9	4.7	2,208.8
Drainage/Utilities/Sub-Grade	1.8	7.8	14.3	23.5	0.8	22.7	5.4	0.7	4.7	1,380.4
Paving	1.5	5.2	8.1	0.7	0.7	-	0.7	0.7	-	708.2
Maximum (kilograms/day)	5.1	58.3	23.5	23.8	1.0	22.7	5.7	0.9	4.7	2,222.7
Total (megagrams/construction project)	0.5	4.6	2.8	3.0	0.1	2.9	0.7	0.1	0.6	272.6

Notes:
- Project Start Year -> 2010
- Project Length (months) -> 7
- Total Project Area (hectares) -> 5
- Maximum Area Disturbed/Day (hectares) -> 2
- Total Soil Imported/Exported ($meters^3$/day)-> 1304

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sume of exhaust and fugitive dust emissions shown in columns K and L.

14th Street Basin and Storm Drain Construction

LST Analysis - 5 acre disturbance mitigation

SRA 32

322.1510526

152 48966.96

12.10 acrages of site 221.28 Side Length, m

Emissions

Activity	Pollutant	Emissions, lbs/day	Source Area, m^2	Number of Sources	Operating Hours, hrs/day	Emissions Rate, g/s-m^2	
Construction/Asphalt/Painting	CO	128.32	48,966.96	1	8	0.0000413	4.13E-05
Construction/Asphalt/Painting	NOx	51.68	48,966.96	1	8	0.0000166	1.66E-05
Site Preparation/Rough Grading	PM10	52.27	48,966.96	1	8	0.0000168	1.68E-05
Grading	PM2.5	12.46	48,966.96	1	8	0.0000040	4.00E-06

CO Results

Distance to Receptor, m	1-hour CO Project Concentration, ug/m^3	1-hour CO Project Concentration, ppm	1-hour CO Background Concentration, ppm	1-hour CO Total Concentration, ppm	8-hour CO Project Concentration, ppm	8-hour CO Background Concentration, ppm	8-hour CO Total Concentration, ppm	1-hour CO Limit, ppm	8-hour CO Limit, ppm
25	498.70	0.4343	3.0	3.4343	2.4040	1.8	4.2040	20	9
50	550.50	0.4813	3.0	3.4813	2.4369	1.8	4.2369	20	9
100	646.90	0.5656	3.0	3.5656	2.4959	1.8	4.2959	20	9
200	704.90	0.6163	3.0	3.6163	2.5314	1.8	4.3314	20	9
500	258.00	0.2256	3.0	3.2256	2.2579	1.8	4.0579	20	9
800	148.10	0.1295	3.0	3.1295	2.1907	1.8	3.9907	20	9
1,000	112.00	0.0979	3.0	3.0979	2.1685	1.8	3.9685	20	9

NOx Conversion to Nitrogen Dioxide - Construction

Distance to Receptor, m	NO_2/NOx Ratio	1-hour NO_2 Project Concentration, ug/m^3	1-hour NO_2 Project Concentration, ppm	1-hour NO_2 Background Concentration, ppm	1-hour NO_2 Total Concentration, ppm	1-hour NO^2 Limit, ppm
25	0.053	199.60	0.0056	0.10	0.1056	0.18
50	0.059	221.30	0.0069	0.10	0.1069	0.18
100	0.074	260.00	0.0102	0.10	0.1102	0.18
200	0.114	283.30	0.0172	0.10	0.1172	0.18
500	0.258	103.70	0.0142	0.10	0.1142	0.18
800	0.390	59.10	0.0123	0.10	0.1123	0.18
1,000	0.467	45.02	0.0112	0.10	0.1112	0.18

PM10 and PM2.5 Results

The following is an excerpt from the SCAQMD LST Methodology, which is used to estimate PM10 and PM2.5 concentrations.

$$C_x = 0.9403\ C_o\ e^{-0.0462\ x}$$

Where: C_x is the predicted PM10 concentration at x meters from the fence line;
C_o is the PM10 concentration at the fence line as estimated by ISC3;
e is the natural logarithm; and
x is the distance in meters from the fence line.

Distance from Fenceline, m	24-hour PM10 Concentration, ug/m^3	24-hour PM2.5 Concentration, ug/m^3	24-hour PM10 Limit, ug/m^3	24-hour PM2.5 Limit, ug/m^3
At fenceline (ISC Output)	343.90	42.26	10.4	10.4
25	101.88	12.52	10.4	10.4
50	32.10	3.94	10.4	10.4
75	10.11	1.24	10.4	10.4
200	0.03	0.00	10.4	10.4
500	0.00	0.00	10.4	10.4
800	0.00	0.00	10.4	10.4
1,000	0.00	0.00	10.4	10.4

33.75 is highest without going over at 25 meters
107.372 is highest without going over at 50 meters
1122 is highest without going over at 100 meters
113800 is highest without going over at 200 meters

14th Street Basin and Storm Drain Construction Air Quality Emission Estimates

Emission Estimates for -> 14th St. Basin and Storm Drain Project

Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
1 acre per day										
Grubbing/Land Clearing	3.6	16.9	32.4	21.4	1.4	20.0	5.4	1.2	4.2	2,992.2
Grading/Excavation	10.7	125.8	46.5	22.0	2.0	20.0	6.0	1.9	4.2	4,470.3
Drainage/Utilities/Sub-Grade	3.9	16.0	30.2	21.6	1.6	20.0	5.6	1.5	4.2	2,824.4
Paving	2.6	8.9	14.0	1.2	1.2	-	1.1	1.1	-	1,209.1
Maximum (pounds/day)	11.3	128.3	51.7	22.0	2.0	20.0	6.0	1.9	4.2	4,470.3
Phase A	0.3	3.4	1.4	0.6	0.1	0.5	0.2	0.0	0.1	118.5
Phase B	0.1	1.7	0.7	0.3	0.0	0.3	0.1	0.0	0.1	59.0
Phase C	10.8	123.2	49.6	21.2	2.0	19.2	5.8	1.8	4.0	4,292.8
6x per day watering	11.3	128.3	51.7	5.0	2.0	3.0	2.5	1.9	0.6	4,890.0
Phase A	0.3	3.4	1.4	0.1	0.1	0.1	0.1	0.0	0.0	129.6
Phase B	0.1	1.7	0.7	0.1	0.0	0.0	0.0	0.0	0.0	64.5
Phase C	10.8	123.2	49.6	4.8	2.0	2.9	2.4	1.8	0.6	4,695.8
Total (tons/construction project)	0.6	5.0	3.1	1.4	0.1	1.3	0.4	0.1	0.3	300.5

Notes: Changes from 5 acre emissions

Maximum Area Disturbed/Day (acres) -> 1

Daily waterings 6 85% reduction

14th Street Basin and Storm Drain Construction
LST Analysis - 1 acre disturbance & 6 waterings per day mitigation

SRA 32

12.10 acrages of site

221.28 Side Length, m

Emissions

Activity	Pollutant	Emissions, lbs/day	Source Area, m^2	Number of Sources	Operating Hours, hrs/day	Emissions Rate, g/s-m^2	
	CO	128.32	48,966.96	1	8	0.0000413	4.13E-05
	NOx	51.66	48,966.96	1	8	0.0000166	1.66E-05
	PM10	4.85	48,966.96	1	8	0.0000016	1.60E-06
	PM2.5	2.39	48,966.96	1	8	0.0000008	8.00E-07

CO Results

Distance to Receptor, m	1-hour CO Project Concentration, ug/m^3	1-hour CO Project Concentration, ppm	1-hour CO Background Concentration, ppm	1-hour CO Total Concentration, ppm	8-hour CO Project Concentration, ppm	8-hour CO Background Concentration, ppm	8-hour CO Total Concentration, ppm	1-hour CO Limit, ppm	8-hour CO Limit, ppm
25	496.70	0.4343	3.0	3.4343	2.4040	1.8	4.2040	20	9
50	550.50	0.4813	3.0	3.4813	2.4369	1.8	4.2369	20	9
100	646.90	0.5656	3.0	3.5656	2.4959	1.8	4.2959	20	9
200	704.90	0.6163	3.0	3.6163	2.5314	1.8	4.3314	20	9
500	258.00	0.2256	3.0	3.2256	2.2579	1.8	4.0579	20	9
800	148.10	0.1295	3.0	3.1295	2.1907	1.8	3.9907	20	9
1,000	112.00	0.0979	3.0	3.0979	2.1685	1.8	3.9685	20	9

NOx Conversion to Nitrogen Dioxide - Construction

Distance to Receptor, m	NO_2/NOx Ratio	1-hour NO_2 Project Concentration, ug/m^3	1-hour NO_2 Project Concentration, ppm	1-hour NO_2 Background Concentration, ppm	1-hour NO_2 Total Concentration, ppm	1-hour NO^2 Limit, ppm
25	0.053	199.60	0.0056	0.10	0.1056	0.18
50	0.059	221.30	0.0069	0.10	0.1069	0.18
100	0.074	260.00	0.0102	0.10	0.1102	0.18
200	0.114	283.30	0.0172	0.10	0.1172	0.18
500	0.258	103.70	0.0142	0.10	0.1142	0.18
800	0.390	59.10	0.0123	0.10	0.1123	0.18
1,000	0.467	45.02	0.0112	0.10	0.1112	0.18

PM10 and PM2.5 Results

The following is an excerpt from the SCAQMD LST Methodology, which is used to estimate PM10 and PM2.5 concentrations.

$$C_x = 0.9403\ C_o\ e^{-0.0462\ x}$$

Where: C_x is the predicted PM10 concentration at x meters from the fence line:
C_o is the PM10 concentration at the fence line as estimated by ISC3;
e is the natural logarithm; and
x is the distance in meters from the fence line.

54.03
60.12

Distance from Fenceline, m	24-hour PM10 Concentration, ug/m^3	24-hour PM2.5 Concentration, ug/m^3	24-hour PM10 Limit, ug/m^3	24-hour PM2.5 Limit, ug/m^3
At fenceline (ISC Output)	32.75	8.45	10.4	10.4
25	9.70	2.50	10.4	10.4
50	3.06	0.79	10.4	10.4
100	0.30	0.08	10.4	10.4
200	0.00	0.00	10.4	10.4
500	0.00	0.00	10.4	10.4
800	0.00	0.00	10.4	10.4
1,000	0.00	0.00	10.4	10.4

61.75

33.75 is highest without going over at 25 meters
107.372 is highest without going over at 50 meters
1122 is highest without going over at 100 meters
113800 is highest without going over at 200 meters

ATTACHMENT 2

SCAQMD LOOK-UP TABLES

Table C-1. 2006 – 2008 Thresholds for Construction and Operation with Gradual Conversion of NOx to NO_2

SRA No.	Source Receptor Area	Allowable emissions (lbs/day) as a function of receptor distance (meters) from site boundary									
		1 Acre					2 Acre				
		25	50	100	200	500	25	50	100	200	500
1	Central LA	74	74	82	106	168	108	106	110	126	179
2	Northwest Coastal LA County	103	104	121	156	245	147	143	156	186	262
3	Southwest Coastal LA County	91	93	107	139	218	131	128	139	165	233
4	South Coastal LA County	57	58	68	90	142	82	80	87	106	151
5	Southeast LA County	80	81	94	123	192	114	111	121	145	205
6	West San Fernando Valley	103	104	121	157	245	147	143	156	187	263
7	East San Fernando Valley	80	81	94	122	191	114	111	121	144	204
8	West San Gabriel Valley	69	69	81	104	164	98	95	104	124	175
9	East San Gabriel Valley	89	112	159	251	489	128	151	200	284	513
10	Pomona/Walnut Valley	103	129	185	292	570	149	175	230	330	598
11	South San Gabriel Valley	83	84	96	123	193	121	118	126	147	206
12	South Central LA County	46	46	54	70	109	65	64	69	82	117
13	Santa Clarita Valley	114	115	133	173	273	163	159	172	204	291
15	San Gabriel Mountains	114	115	133	173	273	163	159	172	204	291
16	North Orange County	103	104	121	159	252	147	143	156	186	269
17	Central Orange County	81	83	98	123	192	115	114	125	148	205
18	North Coastal Orange County	92	93	108	140	219	131	128	139	165	235
19	Saddleback Valley	91	93	108	140	218	131	127	139	165	233
20	Central Orange County Coastal	92	93	108	140	219	131	128	139	165	235
21	Capistrano Valley	91	93	108	140	218	131	127	139	165	233
22	Norco/Corona	118	148	211	334	652	170	200	263	378	684
23	Metropolitan Riverside County	118	148	212	335	652	170	200	264	379	684
24	Perris Valley	118	148	212	335	652	170	200	264	379	684
25	Lake Elsinore	162	203	292	460	896	234	275	363	521	941
26	Temecula Valley	162	203	292	460	896	234	275	363	521	941
27	Anza Area	162	203	292	460	896	234	275	363	521	941
28	Hemet/San Jacinto Valley	162	203	292	460	896	234	275	363	521	941
29	Banning Airport	103	131	189	299	585	149	176	234	340	614
30	Coachella Valley	132	166	238	376	733	191	225	296	425	769
31	East Riverside County	132	166	238	376	733	191	225	296	425	769
32	Northwest San Bernardino Valley	118	148	211	334	652	170	200	263	378	684
33	Southwest San Bernardino Valley	118	148	211	334	652	170	200	263	378	684
34	Central San Bernardino Valley	118	148	211	334	652	170	200	263	378	684
35	East San Bernardino Valley	118	148	211	334	651	170	200	263	377	683
36	West San Bernardino Mountains	118	148	211	334	652	170	200	263	378	684
37	Central San Bernardino Mountains	118	148	211	334	652	170	200	263	378	684
38	East San Bernardino Mountains	118	148	211	334	651	170	200	263	377	683

Table C-2. 2006 – 2008 CO Emission Thresholds for Construction and Operation

SRA No.	Source Receptor Area	Allowable emissions (lbs/day) as a function of receptor distance (meters) from site boundary									
		1 Acre					2 Acre				
		25	50	100	200	500	25	50	100	200	500
1	Central LA	680	882	1,259	2,406	7,911	1,048	1,368	1,799	3,016	8,637
2	Northwest Coastal LA County	562	833	1,233	2,367	7,724	827	1,213	1,695	2,961	8,446
3	Southwest Coastal LA County	664	785	1,156	2,228	7,269	967	1,158	1,597	2,783	7,950
4	South Coastal LA County	585	789	1,180	2,296	7,558	842	1,158	1,611	2,869	8,253
5	Southeast LA County	571	735	1,088	2,104	6,854	861	1,082	1,496	2,625	7,500
6	West San Fernando Valley	426	652	1,089	2,096	6,815	644	903	1,497	2,629	7,460
7	East San Fernando Valley	498	732	1,158	2,227	7,267	786	1,068	1,594	2,786	7,947
8	West San Gabriel Valley	535	783	1,158	2,229	7,270	812	1,125	1,594	2,785	7,957
9	East San Gabriel Valley	623	945	1,914	4,803	20,721	953	1,344	2,445	5,658	22,093
10	Pomona/Walnut Valley	612	911	1,741	4,345	18,991	885	1,358	2,298	5,097	20,256
11	South San Gabriel Valley	673	760	1,113	2,110	6,884	1,031	1,143	1,554	2,660	7,530
12	South Central LA County	231	342	632	1,545	5,452	346	515	841	1,817	5,962
13	Santa Clarita Valley	590	879	1,294	2,500	8,174	877	1,256	1,787	3,108	8,933
15	San Gabriel Mountains	590	879	1,294	2,500	8,174	877	1,256	1,787	3,108	8,933
16	North Orange County	522	685	1,014	1,975	6,531	762	1,010	1,395	2,444	7,121
17	Central Orange County	485	753	1,128	2,109	6,841	715	1,041	1,547	2,685	7,493
18	North Coastal Orange County	647	738	1,090	2,096	6,841	962	1,089	1,506	2,615	7,493
19	Saddleback Valley	696	833	1,234	2,376	7,724	993	1,227	1,696	2,965	8,454
20	Central Orange County Coastal	647	738	1,090	2,096	6,841	962	1,089	1,506	2,615	7,493
21	Capistrano Valley	696	833	1,234	2,376	7,724	993	1,227	1,696	2,965	8,454
22	Norco/Corona	674	999	1,853	4,352	17,637	1,007	1,474	2,461	5,183	18,934
23	Metropolitan Riverside County	602	887	1,746	4,359	17,640	883	1,262	2,232	5,136	18,947
24	Perris Valley	602	887	1,746	4,359	17,640	883	1,262	2,232	5,136	18,947
25	Lake Elsinore	750	1,105	2,176	5,501	23,866	1,100	1,572	2,781	6,399	25,412
26	Temecula Valley	750	1,105	2,176	5,501	23,866	1,100	1,572	2,781	6,399	25,412
27	Anza Area	750	1,105	2,176	5,501	23,866	1,100	1,572	2,781	6,399	25,412
28	Hemet/San Jacinto Valley	750	1,105	2,176	5,501	23,866	1,100	1,572	2,781	6,399	25,412
29	Banning Airport	1,000	1,420	2,623	6,154	25,057	1,541	2,049	3,458	7,395	26,890
30	Coachella Valley	878	1,387	2,565	6,021	24,417	1,299	1,931	3,409	7,174	26,212
31	East Riverside County	878	1,387	2,565	6,021	24,417	1,299	1,931	3,409	7,174	26,212
32	Northwest San Bernardino Valley	863	1,328	2,423	5,691	23,065	1,232	1,877	3,218	6,778	24,768
33	Southwest San Bernardino Valley	863	1,328	2,423	5,691	23,065	1,232	1,877	3,218	6,778	24,768
34	Central San Bernardino Valley	667	1,059	2,141	5,356	21,708	972	1,463	2,738	6,346	23,304
35	East San Bernardino Valley	775	1,205	2,279	5,351	21,703	1,174	1,712	3,029	6,375	23,294
36	West San Bernardino Mountains	863	1,328	2,423	5,691	23,065	1,232	1,877	3,218	6,778	24,768
37	Central San Bernardino Mountains	667	1,059	2,141	5,356	21,708	972	1,463	2,738	6,346	23,304
38	East San Bernardino Mountains	775	1,205	2,279	5,351	21,703	1,174	1,712	3,029	6,375	23,294

Table C-4. PM10 Emission Thresholds for Construction

SRA No.	Source Receptor Area	Significance Threshold of 10.4 mg/m³ Allowable emissions (lbs/day) as a function of receptor distance (meters) from boundary of site									
		1 Acre					2 Acre				
		25	50	100	200	500	25	50	100	200	500
1	Central LA	5	15	33	70	179	8	25	43	80	190
2	Northwest Coastal LA County	4	12	27	57	146	6	19	34	64	154
3	Southwest Coastal LA County	5	14	28	56	140	8	23	37	65	148
4	South Coastal LA County	4	13	29	61	158	7	21	37	70	167
5	Southeast LA County	4	13	30	66	173	7	21	39	74	182
6	West San Fernando Valley	4	11	27	59	155	6	17	33	66	162
7	East San Fernando Valley	4	13	26	54	136	7	21	34	62	144
8	West San Gabriel Valley	4	11	27	58	152	6	19	34	66	160
9	East San Gabriel Valley	5	14	34	75	199	7	22	42	84	207
10	Pomona/Walnut Valley	4	11	26	57	148	6	18	33	64	156
11	South San Gabriel Valley	5	13	29	60	153	7	22	37	68	162
12	South Central LA County	4	12	26	54	139	7	20	34	62	146
13	Santa Clarita Valley	4	12	25	51	131	6	19	32	59	139
15	San Gabriel Mountains	4	12	25	51	131	6	19	32	59	139
16	North Orange County	4	10	24	53	137	6	17	31	60	145
17	Central Orange County	4	12	28	60	158	6	19	35	68	166
18	North Coastal Orange County	4	13	27	54	135	7	21	35	62	144
19	Saddleback Valley	4	11	24	48	121	6	18	30	55	129
20	Central Orange County Coastal	4	13	27	54	135	7	21	35	62	144
21	Capistrano Valley	4	11	24	48	121	6	18	30	55	129
22	Norco/Corona	4	11	32	73	198	6	18	39	81	206
23	Metropolitan Riverside County	4	12	30	67	178	7	20	38	75	186
24	Perris Valley	4	12	30	67	178	7	20	38	75	186
25	Lake Elsinore	4	12	30	67	178	7	20	38	75	186
26	Temecula Valley	4	12	30	67	178	7	20	38	75	186
27	Anza Area	4	12	30	67	178	7	20	38	75	186
28	Hemet/San Jacinto Valley	4	12	30	67	178	7	20	38	75	186
29	Banning Airport	6	19	55	129	348	10	32	73	157	407
30	Coachella Valley	4	13	35	80	214	7	22	44	89	223
31	East Riverside County	4	13	35	80	214	7	22	44	89	223
32	Northwest San Bernardino Valley	5	14	44	103	280	6	19	34	66	160
33	Southwest San Bernardino Valley	5	14	44	103	280	6	19	34	66	160
34	Central San Bernardino Valley	4	13	33	74	196	7	22	42	83	205
35	East San Bernardino Valley	4	12	36	82	220	7	21	44	90	230
36	West San Bernardino Mountains	5	14	44	103	280	6	19	34	66	160
37	Central San Bernardino Mountains	4	13	33	74	196	7	22	42	83	205
38	East San Bernardino Mountains	4	12	36	82	220	7	21	44	90	230

Table C-6. PM2.5 Emission Thresholds for Construction

SRA No.	Source Receptor Area	Significance Threshold of 10.4 ug/m^3 Allowable emissions (lbs/day) as a function of receptor distance (meters) from boundary of site									
		1 Acre					2 Acre				
		25	50	100	200	500	25	50	100	200	500
1	Central LA	3	5	10	24	102	5	7	12	28	110
2	Northwest Coastal LA County	3	4	8	18	77	4	5	10	21	82
3	Southwest Coastal LA County	3	5	9	21	75	5	7	12	25	81
4	South Coastal LA County	3	5	10	26	93	5	7	13	30	101
5	Southeast LA County	3	4	8	19	86	4	6	10	22	92
6	West San Fernando Valley	3	4	7	18	79	4	5	9	21	84
7	East San Fernando Valley	3	4	8	18	68	4	6	10	21	73
8	West San Gabriel Valley	3	4	7	18	77	4	5	9	21	82
9	East San Gabriel Valley	3	5	9	22	94	5	7	12	26	100
10	Pomona/Walnut Valley	3	4	7	18	75	4	6	10	21	80
11	South San Gabriel Valley	4	5	9	20	83	5	8	12	24	89
12	South Central LA County	3	4	7	17	70	4	6	9	19	74
13	Santa Clarita Valley	3	4	7	18	74	4	5	9	20	80
15	San Gabriel Mountains	3	4	7	18	74	4	5	9	20	80
16	North Orange County	3	4	9	20	74	4	6	11	24	79
17	Central Orange County	3	4	9	22	85	4	6	11	25	92
18	North Coastal Orange County	3	5	9	22	76	5	7	12	26	83
19	Saddleback Valley	3	4	8	19	68	4	6	10	22	74
20	Central Orange County Coastal	3	5	9	22	76	5	7	12	26	83
21	Capistrano Valley	3	4	8	19	68	4	6	10	22	74
22	Norco/Corona	3	5	9	22	92	5	7	12	25	98
23	Metropolitan Riverside County	3	4	8	20	86	4	6	10	23	91
24	Perris Valley	3	4	8	20	86	4	6	10	23	91
25	Lake Elsinore	3	4	8	20	86	4	6	10	23	91
26	Temecula Valley	3	4	8	20	86	4	6	10	23	91
27	Anza Area	3	4	8	20	86	4	6	10	23	91
28	Hemet/San Jacinto Valley	3	4	8	20	86	4	6	10	23	91
29	Banning Airport	4	7	14	36	156	6	9	17	41	166
30	Coachella Valley	3	5	10	24	105	5	7	12	28	112
31	East Riverside County	3	5	10	24	105	5	7	12	28	112
32	Northwest San Bernardino Valley	4	6	12	32	141	5	8	14	36	150
33	Southwest San Bernardino Valley	4	6	12	32	141	5	8	14	36	150
34	Central San Bernardino Valley	3	5	9	23	98	4	6	12	26	104
35	East San Bernardino Valley	4	5	10	26	112	5	7	13	30	120
36	West San Bernardino Mountains	4	6	12	32	141	5	8	14	36	150
37	Central San Bernardino Mountains	3	5	9	23	98	4	6	12	26	104
38	East San Bernardino Mountains	4	5	10	26	112	5	7	13	30	120

ATTACHMENT 3

SCREEN3 OUTPUT

08/25/10
17:43:29

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

14th Street Basin and Storm Drain Construction - CO - 5 acre mitigated

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                  =        AREA
   EMISSION RATE (G/(S-M**2))   =      .413000E-04
   SOURCE HEIGHT (M)            =       5.0000
   LENGTH OF LARGER SIDE (M)    =     221.2800
   LENGTH OF SMALLER SIDE (M)   =     221.2800
   RECEPTOR HEIGHT (M)          =       2.0000
   URBAN/RURAL OPTION           =        URBAN
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =     .000 M**4/S**3;  MOM. FLUX =     .000 M**4/S**2.

*** FULL METEOROLOGY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

   DIST     CONC               U10M   USTK  MIX HT   PLUME   MAX DIR
   (M)    (UG/M**3)    STAB   (M/S)  (M/S)   (M)     HT (M)   (DEG)
 -------  ----------   ----   -----  -----  ------   ------  -------
     25.   496.7         5     1.0    1.0 10000.0     5.00     45.
     50.   550.5         5     1.0    1.0 10000.0     5.00     45.
    100.   646.9         5     1.0    1.0 10000.0     5.00     42.
    200.   704.9         5     1.0    1.0 10000.0     5.00     45.
    500.   258.0         5     1.0    1.0 10000.0     5.00     45.
    800.   148.1         5     1.0    1.0 10000.0     5.00     45.
   1000.   112.0         5     1.0    1.0 10000.0     5.00     44.

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

  CALCULATION         MAX CONC    DIST TO   TERRAIN
   PROCEDURE         (UG/M**3)    MAX (M)    HT (M)
 --------------     -----------   -------   -------
 SIMPLE TERRAIN        704.9         200.        0.

 ***************************************************
 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
 ***************************************************
```

08/25/10
17:41:37

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

14th Street Basin and Storm Drain Construction - NOx - 5 acre mitigated

```
SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                 =        AREA
   EMISSION RATE (G/(S-M**2))  =     .166000E-04
   SOURCE HEIGHT (M)           =       5.0000
   LENGTH OF LARGER SIDE (M)   =     221.2800
   LENGTH OF SMALLER SIDE (M)  =     221.2800
   RECEPTOR HEIGHT (M)         =       2.0000
   URBAN/RURAL OPTION          =       URBAN
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =     .000 M**4/S**3;  MOM. FLUX =     .000 M**4/S**2.

*** FULL METEOROLOGY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***
```

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
25.	199.6	5	1.0	1.0	10000.0	5.00	45.
50.	221.3	5	1.0	1.0	10000.0	5.00	45.
100.	260.0	5	1.0	1.0	10000.0	5.00	42.
200.	283.3	5	1.0	1.0	10000.0	5.00	45.
500.	103.7	5	1.0	1.0	10000.0	5.00	45.
800.	59.51	5	1.0	1.0	10000.0	5.00	45.
1000.	45.02	5	1.0	1.0	10000.0	5.00	44.

```
***************************************
*** SUMMARY OF SCREEN MODEL RESULTS ***
***************************************
```

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	283.3	200.	0.

```
***************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
***************************************************
```

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

14th Street Basin and Storm Drain Construction - PM10 - 1 Acre and 6 waterings

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                  =        AREA
   EMISSION RATE (G/(S-M**2))   =     .160000E-05
   SOURCE HEIGHT (M)            =      1.0000
   LENGTH OF LARGER SIDE (M)    =    221.2800
   LENGTH OF SMALLER SIDE (M)   =    221.2800
   RECEPTOR HEIGHT (M)          =      2.0000
   URBAN/RURAL OPTION           =       URBAN
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =     .000 M**4/S**3;  MOM. FLUX =     .000 M**4/S**2.

*** FULL METEOROLOGY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

   DIST     CONC              U10M   USTK   MIX HT   PLUME   MAX DIR
   (M)    (UG/M**3)   STAB   (M/S)  (M/S)    (M)    HT (M)    (DEG)
 -------  ----------  ----   -----  -----  ------   ------   -------
      0.   32.75        6     1.0    1.0  10000.0    1.00      45.

      ***************************************
      *** SUMMARY OF SCREEN MODEL RESULTS ***
      ***************************************

 CALCULATION         MAX CONC      DIST TO    TERRAIN
  PROCEDURE         (UG/M**3)      MAX (M)     HT (M)
 --------------    -----------     -------    -------
 SIMPLE TERRAIN       32.75            0.         0.

 ***************************************************
 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
 ***************************************************
```

08/25/10
17:45:11

```
 ***   SCREEN3 MODEL RUN   ***
 *** VERSION DATED 96043 ***

14th Street Basin and Storm Drain Construction

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                    =        AREA
   EMISSION RATE (G/(S-M**2))     =     .168000E-04
   SOURCE HEIGHT (M)              =       1.0000
   LENGTH OF LARGER SIDE (M)      =     221.2800
   LENGTH OF SMALLER SIDE (M)     =     221.2800
   RECEPTOR HEIGHT (M)            =       2.0000
   URBAN/RURAL OPTION             =       URBAN
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =     .000 M**4/S**3;  MOM. FLUX =     .000 M**4/S**2.

*** FULL METEOROLOGY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

   DIST     CONC              U10M   USTK   MIX HT   PLUME  MAX DIR
   (M)    (UG/M**3)   STAB   (M/S)  (M/S)    (M)    HT (M)   (DEG)
 -------  ----------  ----   -----  -----  -------  ------  -------
      0.    343.9       6      1.0    1.0  10000.0    1.00     45.

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION         MAX CONC      DIST TO    TERRAIN
  PROCEDURE         (UG/M**3)      MAX (M)     HT (M)
--------------     -----------    -------    -------
SIMPLE TERRAIN       343.9             0.         0.

***************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
***************************************************
```

08/25/10
18:08:24

```
 ***   SCREEN3 MODEL RUN   ***
 *** VERSION DATED 96043 ***

14th Street Basin and Storm Drain Construction - PM2.5 - 1 acre and 6 waterings

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                    =        AREA
   EMISSION RATE (G/(S-M**2))     =     .800000E-06
   SOURCE HEIGHT (M)              =       5.0000
   LENGTH OF LARGER SIDE (M)      =     221.2800
   LENGTH OF SMALLER SIDE (M)     =     221.2800
   RECEPTOR HEIGHT (M)            =       2.0000
   URBAN/RURAL OPTION             =        URBAN
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =     .000 M**4/S**3;  MOM. FLUX =      .000 M**4/S**2.

*** FULL METEOROLOGY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF     0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

   DIST     CONC               U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)    (UG/M**3)    STAB   (M/S)  (M/S)    (M)    HT (M)   (DEG)
 -------  ----------   ----   -----  -----  ------   ------  -------
      0.   8.452         5     1.0     1.0 10000.0    5.00     45.

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
 --------------   -----------   -------   -------
 SIMPLE TERRAIN     8.452          0.        0.

***************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
***************************************************
```

08/25/10
17:47:26

```
 ***   SCREEN3 MODEL RUN   ***
 *** VERSION DATED 96043 ***

14th Street Basin and Storm Drain Construction - PM2.5 - 5 acre mitigation

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                   =        AREA
   EMISSION RATE (G/(S-M**2))    =     .400000E-05
   SOURCE HEIGHT (M)             =      5.0000
   LENGTH OF LARGER SIDE (M)     =    221.2800
   LENGTH OF SMALLER SIDE (M)    =    221.2800
   RECEPTOR HEIGHT (M)           =      2.0000
   URBAN/RURAL OPTION            =       URBAN
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =     .000 M**4/S**3;  MOM. FLUX =     .000 M**4/S**2.

*** FULL METEOROLOGY ***

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

   DIST     CONC              U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)    (UG/M**3)   STAB   (M/S)  (M/S)    (M)    HT (M)   (DEG)
 -------  ----------  ----  -----  -----  ------  ------  -------
     0.   42.26         5     1.0    1.0 10000.0    5.00     45.

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION        MAX CONC      DIST TO    TERRAIN
  PROCEDURE        (UG/M**3)      MAX (M)     HT (M)
--------------    -----------    -------    -------
SIMPLE TERRAIN      42.26            0.          0.

****************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****************************************************
```

APPENDIX E
Mitigation Monitoring and Reporting Program