

June 2013



Rancho-Ft Apache Storm Drain

Section 8 Initial Screening Process

Prepared for:



City of Las Vegas

Prepared by:



THE Louis Berger Group, INC.

RANCHO – FORT APACHE STORM DRAIN

SECTION 8 INITIAL SCREENING PROCESS PROJECT SPECIFIC PROCEDURES

Prepared For:

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1.0 INTRODUCTION

This facility-specific Environmental Assessment (EA) provides an analysis of the potential environmental impacts related to the construction, operation, and maintenance of the Rancho - Ft Apache Storm Drain (ID Miles RCHB 0250 and RCHB 0227) along Ft Apache Road between Elkhorn Road and the Clark County 215 Beltway (CC 215). The proposed project is located in the northwestern part of the City of Las Vegas in Clark County, Nevada (see Figure 1-1). The project consists of flood control conveyance facilities proposed in the Clark County Regional Flood Control District (CCRFCDD) Las Vegas Valley Flood Control Master Plan Update (MPU).

This screening analysis document, whose function is to determine the appropriate level of NEPA environmental documentation for the proposed project, is prepared in accordance with the procedures set forth in Chapter 8 of the Supplemental Environmental Impact Statement (SEIS) for the Clark County Regional Flood Control Master Plan (USDOL, Bureau of Land Management, September, 2004).

The SEIS is a programmatic environmental impact statement for the 2002 Master Plan Update (MPU) prepared by the Clark County Regional Flood Control District (CCRFCDD). The SEIS was prepared in accordance with NEPA (42 U.S.C. 4321 et seq.) and the Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508). Project-specific procedures are outlined in Chapter 8 requiring individual environmental screening and subsequent NEPA evaluations for specific facilities planned in the 2002 MPU upon approval of the Record of Decision.

When the SEIS was being prepared the 2002 MPU was the most current and it showed the Rancho - Ft Apache System as a 12-foot wide by 6.5-foot deep open concrete channel. Subsequently, in 2008 the CCRFCDD Flood Control Master Plan was updated and the facility was changed to an 11'x8' reinforced concrete box culvert. The current design shows the facility as a 12'x6' reinforced concrete box culvert.

Facility-specific environmental review, performed at a preliminary screening level of analysis, is required for the following environmental resources: geology and soils; paleontology; surface water; groundwater; biological resources; cultural resources; air quality; visual resources; recreation; hazardous materials; and, land use.

2.0 FACILITY SPECIFIC PROJECT DESCRIPTION

The Rancho - Ft Apache Storm Drain is a tributary to the Las Vegas Wash Middle Branch (LVMD) flood conveyance system, which is itself a tributary to the Las Vegas Wash. The Las Vegas Wash is the primary channel through which the valley's excess water returns to Lake Mead. The Rancho - Ft Apache Storm Drain is a project administered by the City of Las Vegas and funded by the CCRFCDD. The proposed storm drain is located within existing roadway right-of-way and will be located beneath an existing paved roadway in an urbanized area. No previously undisturbed areas will

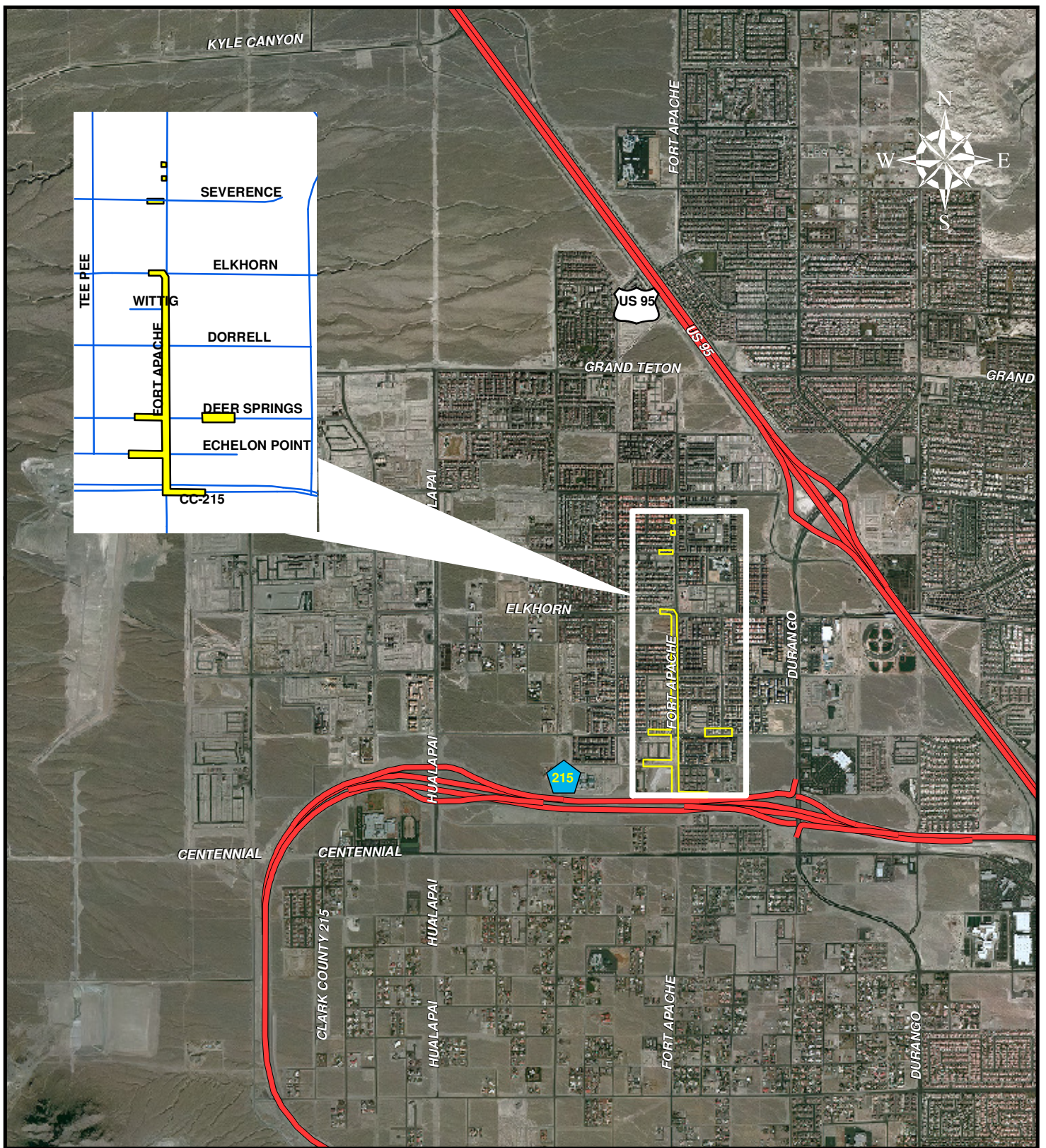
be impacted by construction activities. The proposed storm drain lies within the limits of the City of Las Vegas.

Over the past decade, the project area has experienced rapid growth; additional commercial and residential development is expected to occur over the next several years. In anticipation of this development, the CCRFCD has planned over \$84 million in flood control improvements in the area over the next 10 years. The Rancho - Ft Apache Storm Drain Project is one part of this 10-year plan for the control of water flow during storm events.

The Rancho - Ft Apache Storm Drain Project involves the design and construction of an approximately one mile long 12-foot by 6-foot reinforced concrete box (RCB) underground storm drain conveyance system (see Figure 2-1, a reproduction of Figure F-13 from the 2008 MPU) along Ft Apache Road between Elkhorn Road and CC 215. The storm drain starts at the upstream end on Elkhorn road just west of Ft Apache Road. From there it turns southward along Ft Apache Road before turning to the east and running parallel to CC 215 for the last 1,000 feet. The RCB reach along CC215 will replace an existing riprap channel within the freeway right-of-way and connect to an existing concrete channel along the north side of the CC 215. The reach adjacent to the Ft. Apache Detention Basin will be located on what is currently an unpaved surface within the Ft. Apache Road right-of way.

The flow capacity of the system is approximately 1,450 cfs. The project also includes storm drain laterals extending west of Ft Apache Road on Severance Lane, Deer Springs Way, and Echelon Points Drive, three drop inlets on Ft Apache Road between Picturesque Avenue and Severance Lane, reconstruction of a short length of sanitary sewer pipe along Deer Springs Way near Campbell Road, as well as a number of smaller laterals and drop inlets along Ft Apache Road to direct flow into the main storm drain.

The anticipated start of construction of the proposed project is November of 2013.



Rancho - Fort Apache Storm Drain Project Location Map



The Louis Berger Group, Inc.

Figure 1.1



City of Las Vegas
Department of Public Works

2008
LAS VEGAS VALLEY
FLOOD CONTROL
MASTER PLAN UPDATE
(RECOMMENDED)

MPU FIGURE F-13
FLOOD CONTROL FACILITIES

LEGEND

- Project Boundary
- Existing Facilities
- Category A Proposed Facilities
- Category B Proposed Facilities
- Local Existing Facilities
- Ultimate Development Boundary
- Detention Basin
- Culvert or Bridge Crossing
- Stormdrain
- Lined Channel
- Unlined Channel
- Levee Dike
- Natural Wash/Floodway
- ID-Mile Separator

- Remove & Replace/Parallel Facilities
- | Category A | Category B |
|------------|------------|
| Channel | Channel |
| Stormdrain | Stormdrain |
| Crossing | Crossing |

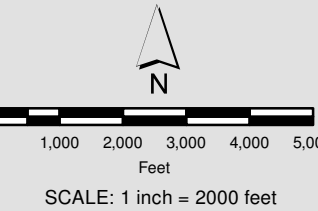


FIGURE 2-1

3.0 ENVIRONMENTAL SCREENING ANALYSIS

The SEIS presents “the process by which each new CCRFCD facility will be reviewed to ensure full compliance with environmental regulatory requirements and to minimize potential environmental impacts during construction, operation and maintenance.” The process sets up an initial screening to determine the appropriate level of environmental documentation (i.e. Categorical Exclusion/memorandum to file, Environmental Assessment, or Environmental Impact Statement).

The process involves reviewing the potential impacts to each of eleven environmental resource areas defined in the SEIS. The SEIS includes maps and tables that identify the potential resources that may be encountered within the study area. These maps have been reviewed to determine the potential impacts of the proposed project on each of these environmental resources. These analyses are discussed below.

The proposed project and construction staging areas are planned to remain within the existing right-of-way. Therefore, no project impacts would occur outside of the existing right-of-way.

3.1 Geology and Soils

The proposed Rancho - Ft Apache Storm Drain is located within existing right-of-way in previously disturbed paved and unpaved areas in a developed urbanized area. No previously undisturbed areas will be impacted by construction activities. Converse Consultants prepared a Geotechnical Evaluation of the project in April of 2011. The investigation included: a review of background geologic and soils data and aerial photographs; a geologic reconnaissance; drilling, logging, and sampling exploratory test borings; and, laboratory tests on selected soil samples. The evaluation concluded that there are no known geotechnical or geologic conditions that would preclude implementation of the proposed project.

The investigation included 16 exploratory borings to depths of about 20 feet, spaced approximately 500 feet apart in the project area. Each boring was backfilled with drill cuttings and patched where needed. The laboratory tests were performed to evaluate the moisture content and dry density, grain size distribution, Atterberg limits, and R-Value, as well as chemical analysis that included corrosivity and sulfate content.

According to the Geotechnical Evaluation, the proposed alignment will be underlain primarily by between 2 and 14 feet of uncemented surface soils consisting of poorly graded gravel with silt and sand, containing occasional cobbles. The uncemented soils overlie partially to fully cemented sands and gravels.

Free groundwater was not observed in the exploratory borings to the maximum exploration depth of 20 feet. Cemented soils were encountered at depths ranging from 2 feet to about 14 feet below the existing ground surface. A layer of caliche was

encountered at approximately five feet below the existing ground surface in one location. Trench excavations may be impeded due to the presence of caliche, which is rock-like in nature; rock excavation techniques should be anticipated during excavation of trenches.

The nearest fissure is located approximately 2 miles north-northeast of the site. There is no evidence of tectonic movement of faults in the Las Vegas Valley within the last 10,000 years. Figure 3-1 (Figure 3.1-1 of the SEIS) shows faults in the valley in relation to the project location.

3.2 Paleontology

The proposed storm drain is located within existing right-of-way in previously disturbed paved and unpaved areas in a developed urbanized area. No previously undisturbed areas will be impacted by construction activities.

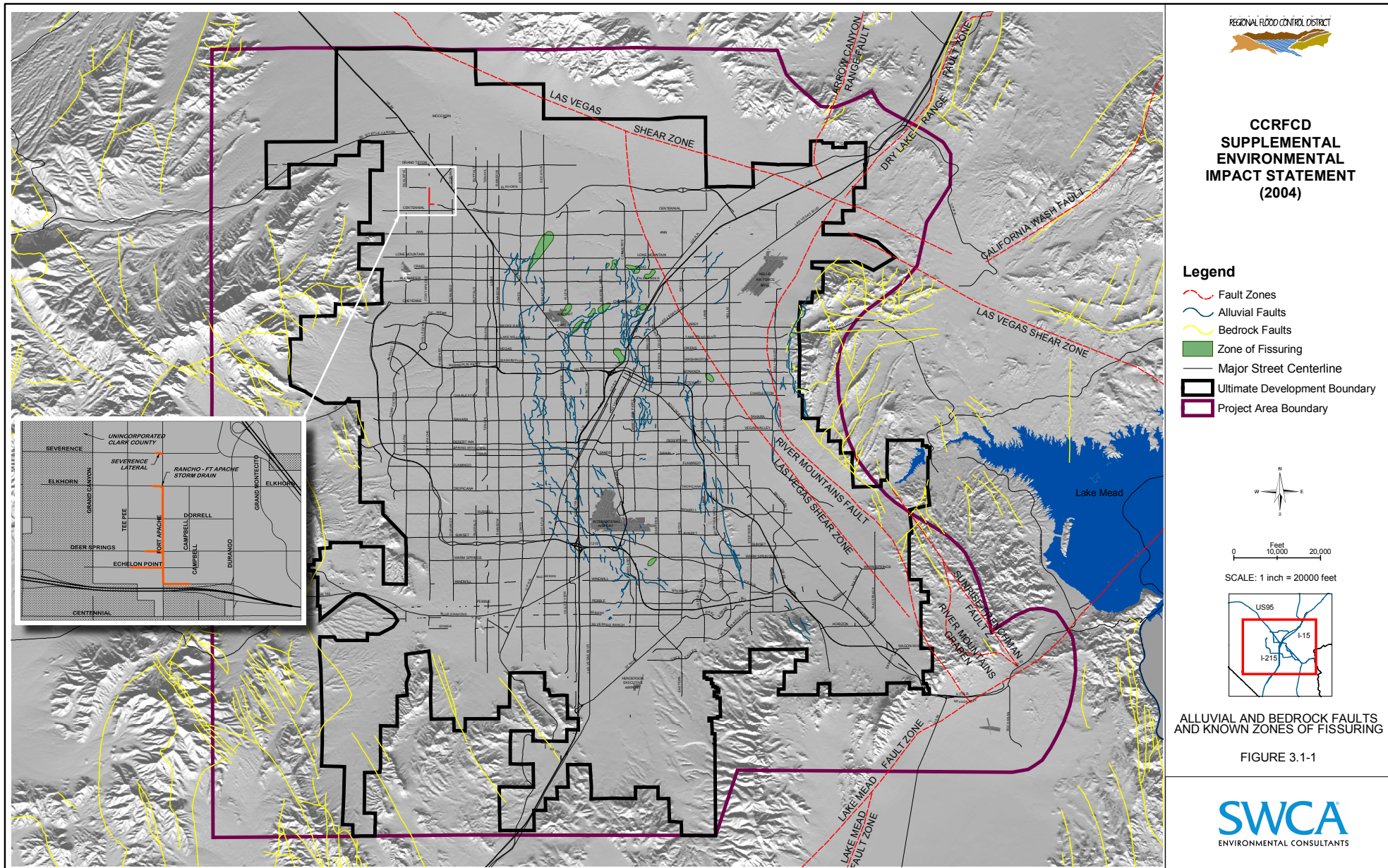
The SEIS states “Most of the proposed facilities occur in areas with little or no paleontological potential.” The Quaternary alluvial deposits that cover most of the Las Vegas Valley floor is classified as having little or no paleontological potential. A report prepared for the Clark County Regional Flood Control District entitled “Paleontological Surveys of Clark County Regional Flood Control District Sites, Clark County, NV (Dames & Moore, 1991) recommended against further evaluation. It recommended that if any fossils are uncovered during excavation that a qualified paleontologist be called immediately to ensure recovery of the fossils and to make recommendations for further mitigation, if necessary.

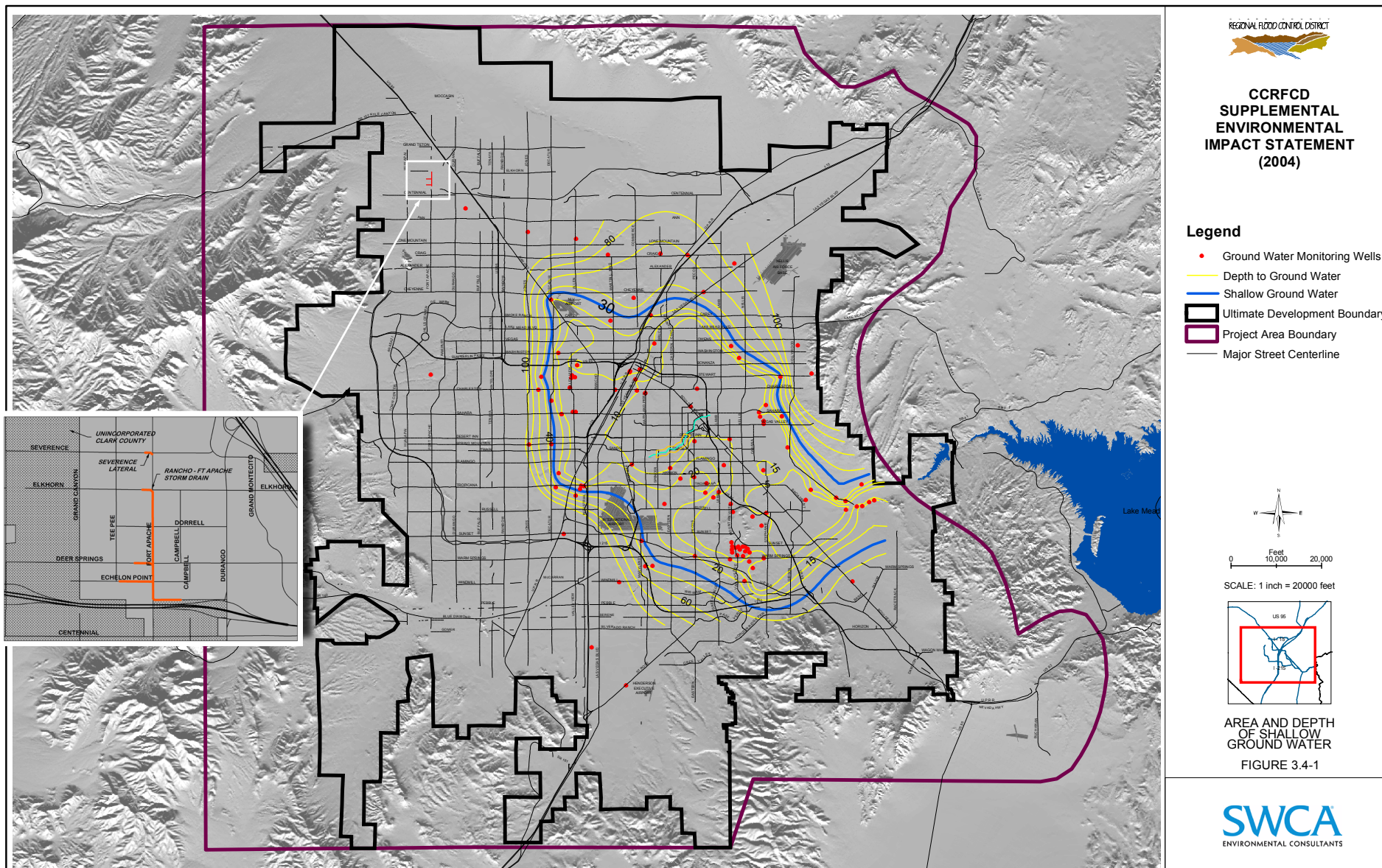
3.3 Surface Water Hydrology

The project is designed to convey the 100-year future flow rate of 1450 cfs. There are no adverse impacts to sensitive biological resources downstream. The downstream drainage facilities have adequate capacity to receive this flow. Inasmuch as the proposed project is a storm drain that will be located under existing roadways, no 404 Permit is required.

3.4 Groundwater

Figure 3-2 (Figure 3.4-1 of the SEIS) shows that the project site is located in an area with a depth to groundwater of 100 feet. According to the Geotechnical Evaluation by Converse Consultants, groundwater was not encountered in exploratory borings along the proposed storm drain alignment. Accordingly, it is not anticipated that groundwater will affect proposed construction activities in the project area.





3.5 Biological Resources

The proposed Ft. Apache Storm Drain is located within existing right-of-way in previously disturbed paved and unpaved areas in a developed urbanized area. No previously undisturbed areas will be impacted by construction activities. The project area shown on Figure 3-3 (Figure 3.5-1 of the SEIS) is located in an areas classified as “Developed Urban” and Creosote-Bursage Scrub. In the intervening time since the SEIS was approved, the entire project area has been urbanized.

Figure 3-4 (Figure 3.5-2 of the SEIS) shows that no sensitive species habitats are located within the project area.

3.6 Cultural Resources

The proposed Ft. Apache Storm Drain is located within existing roadway right-of-way and will be located beneath an existing paved roadway in an urbanized area. No previously undisturbed areas will be impacted by construction activities.

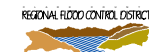
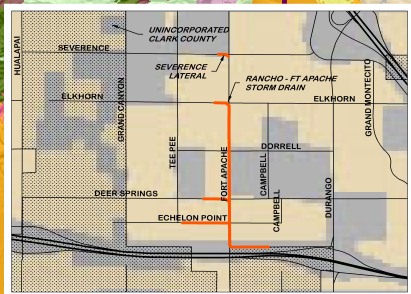
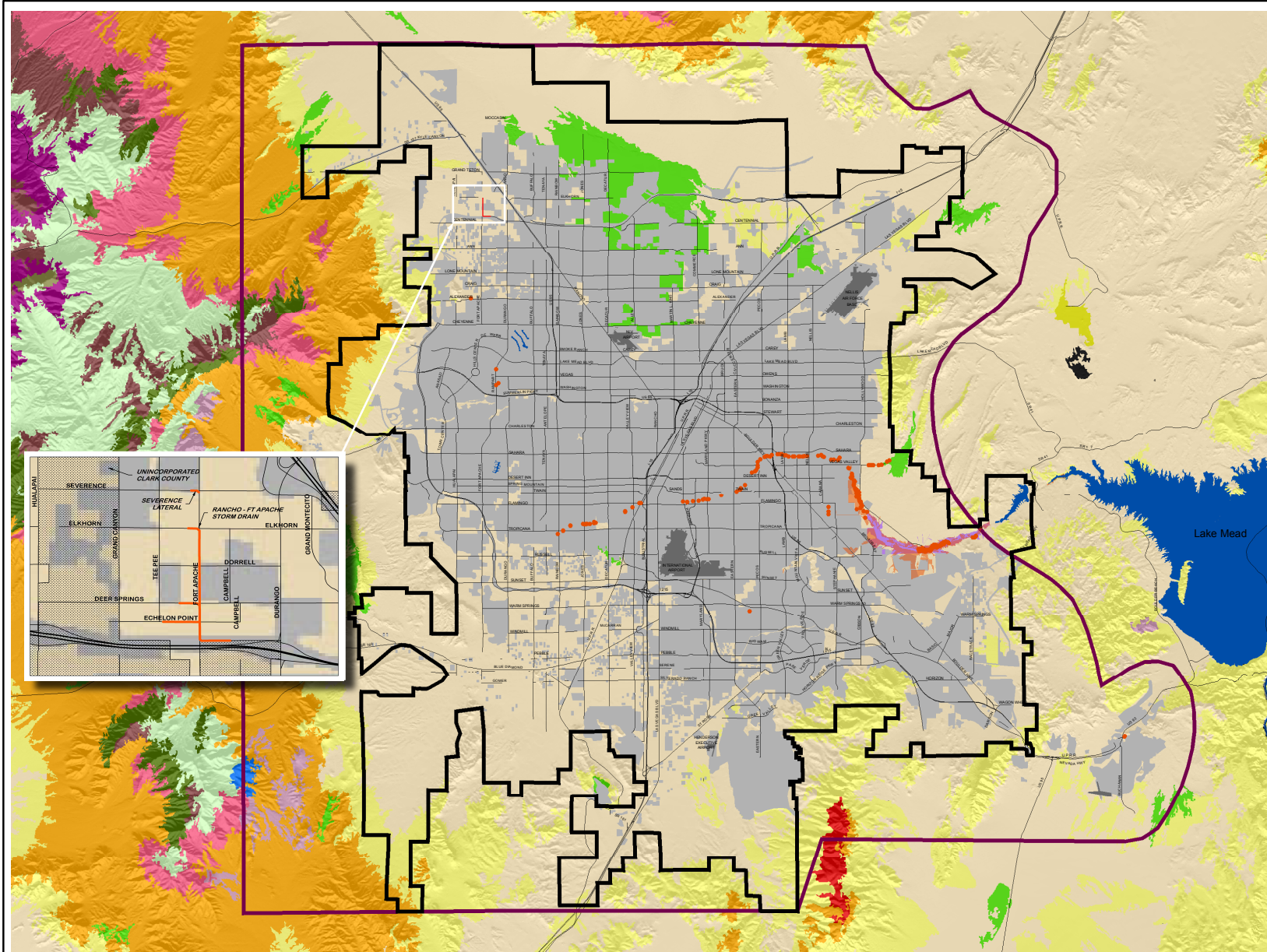
The alignment along Ft Apache Road between CC 215 and Severance Lane has been previously surveyed and no archaeological sites were located within the proposed project area.

3.7 Air Quality

The proposed project will have no long term impacts on air quality in the basin. Temporary air quality impacts will be dust generation during construction, and exhaust pollution from construction vehicles. The SEIS gives a method for calculating pollution from construction activities and the threshold values that must be met.

The underground storm drain conveyance system will consist primarily of an approximately one mile long reinforced concrete box. Tables 3-1 and 3-2 (G-2a and G-2b of the Appendix G to the SEIS) provide Emission rate Calculations for Composite Particulate Matter (PM₁₀), Carbon Monoxide (CO), Volatile Organic Compounds (VOCs), and Nitric Oxide (NO₂) for concrete box construction activities.

The PM₁₀ emission rate for construction of a concrete box is 54.40 lbs/day. Based on the calculations shown in Table G-2a, the total PM₁₀ project emission is 0.39 ton. The Conformity Threshold for PM₁₀ is 70 tons/year; therefore, the project PM₁₀ contribution is insignificant. The daily CO emission rate of CO for construction of a concrete box is 233.00 lbs/day. Based on the calculations shown in the table, the total CO project emission is 2.18 tons. The Conformity Threshold for CO is 100 tons/year; therefore, the project CO contribution is insignificant.



CCRFCD SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (2004)

Legend

- Open Water
- Ultimate Development Boundary
- Project Area Boundary
- Major Street Centerline
- Airport

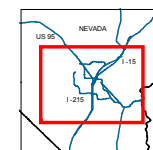
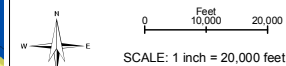
Landcover

Vegetation Communities Within Project Area

- Blackbrush Scrub
- Creosote - Bursage Scrub
- Developed Urban
- Grassland
- Juniper
- Mojave Desert Mixed Shrub
- Mountain Shrub
- Pinyon
- Pinyon - Juniper
- Riparian - Wetland
- Sagebrush
- Sagebrush - Perennial Grass
- Salt Desert Scrub - Mesquite/Acacia

Other Vegetation Communities

- Barren
- Playas
- Ponderosa Pine
- White Fir
- Known Distribution of Noxious Weeds
- Known Distribution of Noxious Weeds
- Known Distribution of Noxious Weeds



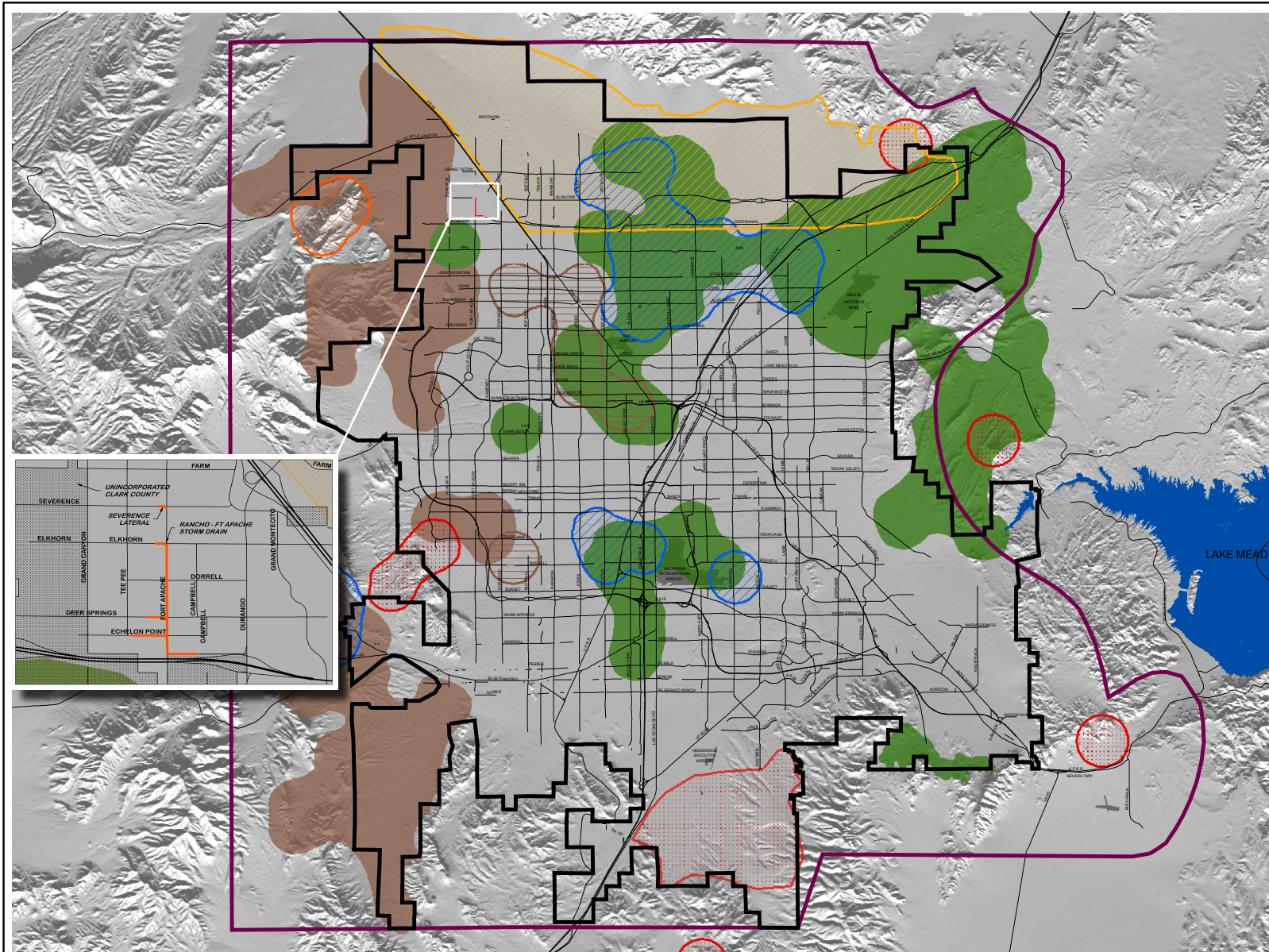
DISTRIBUTION OF
VEGETATION
COMMUNITY TYPES
FIGURE 3.5-1

SWCA
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City of Las Vegas
Department of
Public Works

Distribution of Vegetation Community Types



**CCRFCD
SUPPLEMENTAL
ENVIRONMENTAL
IMPACT STATEMENT
(2004)**

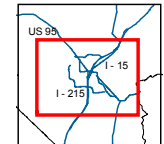
Legend

- Ultimate Development Boundary
- Project Area Boundary
- Major Street Centerline
- Mojave Milkvetch Habitat
- Blue Diamond Cholla Habitat
- Bearpoppy and Buckwheat
- Las Vegas Buckwheat
- Rosy Twotone Beardtongue
- White Bearpoppy
- Las Vegas Bearpoppy
- Yellow Twotone Beardtongue



0 Feet 10,000 20,000

SCALE: 1 inch = 20,000 feet



KNOWN DISTRIBUTIONS
OF SENSITIVE PLANTS

FIGURE 3.5-2

SWCA
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Data sources: Clark County GIS Management Office spring 2003 - Major Street Centerline, BLM Disposal Boundary, Airports, Open Water, Watershed Boundary \ BLM 2003 - Project Area Boundary\ CCRFCD 2002 Master Plan Update - Species Distributions



City of Las Vegas
Department of
Public Works

Known Distributions of Sensitive Plants

Figure 3-4

TABLE 3-1. Composite PM₁₀ and CO Emission Rate Calculations for Construction Activities

COLUMN A	COLUMN B	COLUMN C	COLUMN D	COLUMN E	COLUMN F	COLUMN G	COLUMN H	COLUMN I	COLUMN J
Facility Type	Construction Length (feet)	Construction Width (feet)	Area Disturbed (feet ²)	Construction Daily Rate ¹ (feet ²)	Construction Length (days)	PM10 Daily Emissions ² (lb/day)	CO Daily Emissions ² (lb/day)	Total PM10 (tons)	Total CO (tons)
	(Enter length)	(Enter width)	(Col. B x Col. C)	(Constant)	(Col. D ÷ Col. E)	(Constant)	(Constant)	(Col. F x Col. G ÷ 2,000)	(Col. F x Col. H ÷ 2,000)
Pipelines				15,000		61.14	305.20		
Concrete Box	5,338	12	64,056	4,500	14.23	54.40	305.20	0.39	2.17
Unlined Channel				20,000		33.60	121.20		
Lined Channel	50	12	600	7,000	0.09	43.90	233.00	0.00	0.01
Unlined Dike				20,000		40.60	158.40		
Lined Dikes				8,000		50.34	265.40		
Bridges ⁵				200		77.43	459.10		
Floodway				125,000		101.05	121.20		
Other Instructions	Enter Size (acres)		Column B ÷ 43,560						
Detention Basin									
Total Project Emissions ⁵								0.39	2.18
Conformity Thresholds								70 tons/year	100 tons/year
Conformity Determination is not needed if Total Project Emissions are less than Conformity Thresholds								N/A	N/A

1 Construction rate is the same rate used in the 1991 BLM/CCRFCD (Dames & Moore 1991).

2 Emission factor is from PM10 Attainment Demonstration Plan, Las Vegas Valley Non-attainment Area, Clark County, NV. PM10 emission = 0.42 tons/acre-month x disturbed area (feet²) x duration of project (months). This includes fugitive dust and does not include credit for use of fugitive dust controls.

3 The calculation is lb/typical weekday. This value is assumed to be lb/9-hr.

4 Assumes a 60-foot right-of-way with 10-foot easement on each side.

5 This includes all project components and facilities combined for a single project.

Source: CCRFCD (2001).

TABLE 3-2. Estimating Ozone Precursors

COLUMN A	COLUMN B	COLUMN C	COLUMN D	COLUMN E	COLUMN F	COLUMN G	COLUMN H	COLUMN I	COLUMN J
Facility Type	Construction Length (feet)	Construction Width (feet)	Area Disturbed (feet ²)	Construction Daily Rate ¹ (feet ²)	Construction Length (days)	VOC Daily Emissions ² (lb/day)	NO ₂ Daily Emissions ² (lb/day)	Total VOC (tons)	Total NO ₂ (tons)
	(Enter length)	(Enter width)	(Col. B x Col. C)	(Constant)	(Col. D ÷ Col. E)	(Constant)	(Constant)	(Col. F x Col. G ÷ 2,000)	(Col. F x Col. H ÷ 2,000)
Pipelines				15,000		0.141	1.658		
Concrete Box	5,338	12	64,056	4,500	14.23	0.141	1.658	0.001	0.012
Unlined Channel				20,000		0.147	1.794		
Lined Channel	50	12	600	7,000	0.09	0.198	2.367	0.000	0.000
Unlined Dike				20,000		0.172	2.192		
Lined Dikes				8,000		0.256	3.163		
Bridges ⁵				200		0.210	2.505		
Floodway				125,000		0.147	1.784		
Other Instructions	Enter Size (acres)		Column B ÷ 43,560						
Detention Basin									
Total Project Emissions ⁵								0.001	0.012
Conformity Thresholds								50 tons/year	100 tons/year
Conformity Determination is not needed if Total Project Emissions are less than Conformity Thresholds								N/A	N/A

1 Construction rate is the same rate used in the 1990 Flood Control Master Plan for Clark County Regional Flood Control District.

2 Emission factor is from summation of emissions from equipment used for 8-hr day (Table 4.8-1)

(feet²) x duration of project (months). This includes fugitive dust and does not include credit for use of fugitive dust controls.

3 For electronic version, only enter length and width of project or acres for basins.

4 Assumes a 60-foot right-of-way with 10-foot easement on each side.

5 This includes all project components and facilities combined for a single project.

3.8 Visual Resources

This project will not have adverse impacts on the visual resources. Figure 3-5, The Visual Character Map (Figure 3.9-1 of the SEIS), indicates that visual character of the project area is “rural”. The project will not alter the visual character of the area in any way.

3.9 Recreation

The project will have no impact on recreation, since there are no parks or recreational facilities within the immediate project area. The park at the northeast corner of Ft Apache Road and Ekhorn Road is outside the project limits and its recreational value will not be affected by the project.

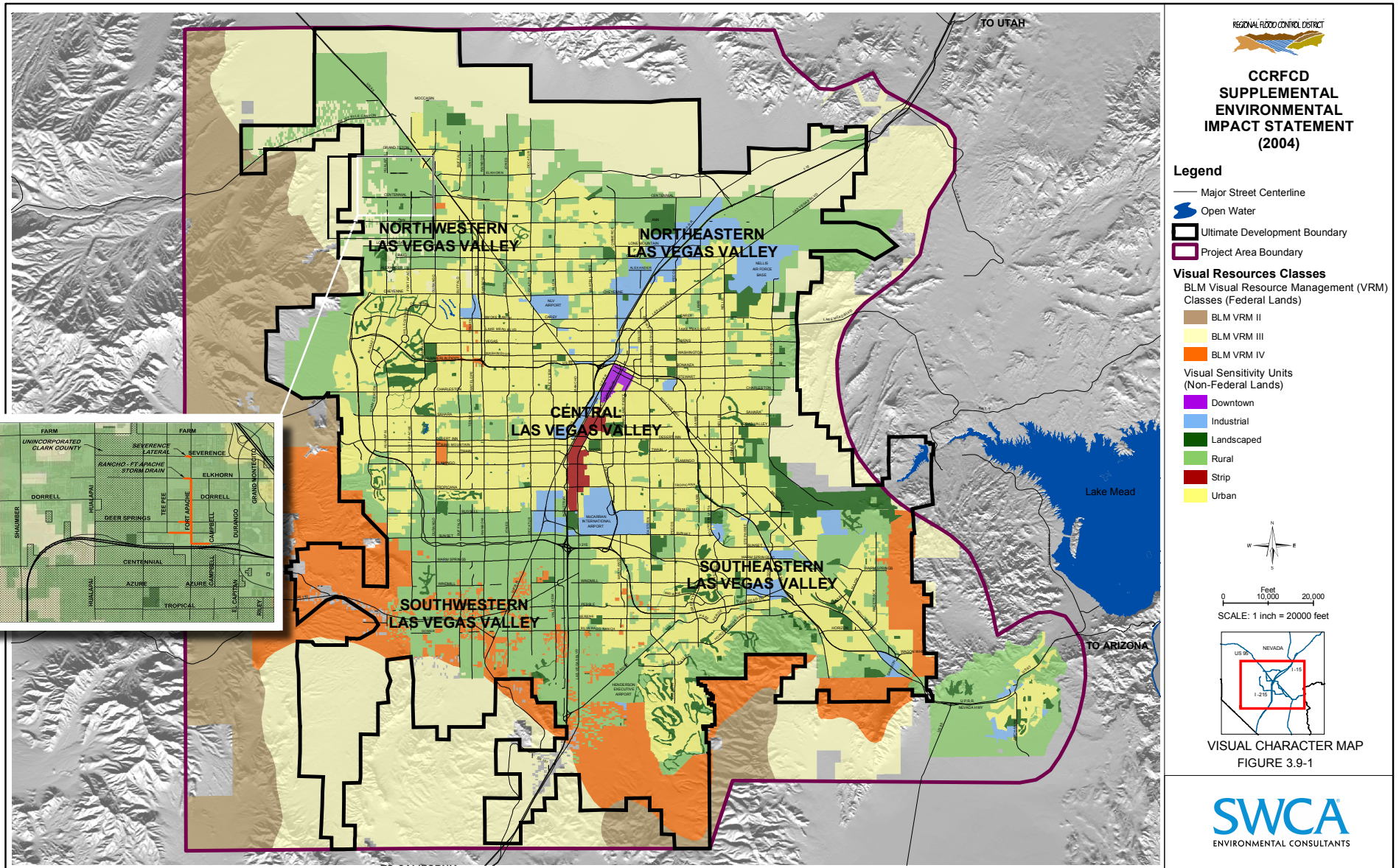
3.10 Hazardous Material

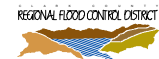
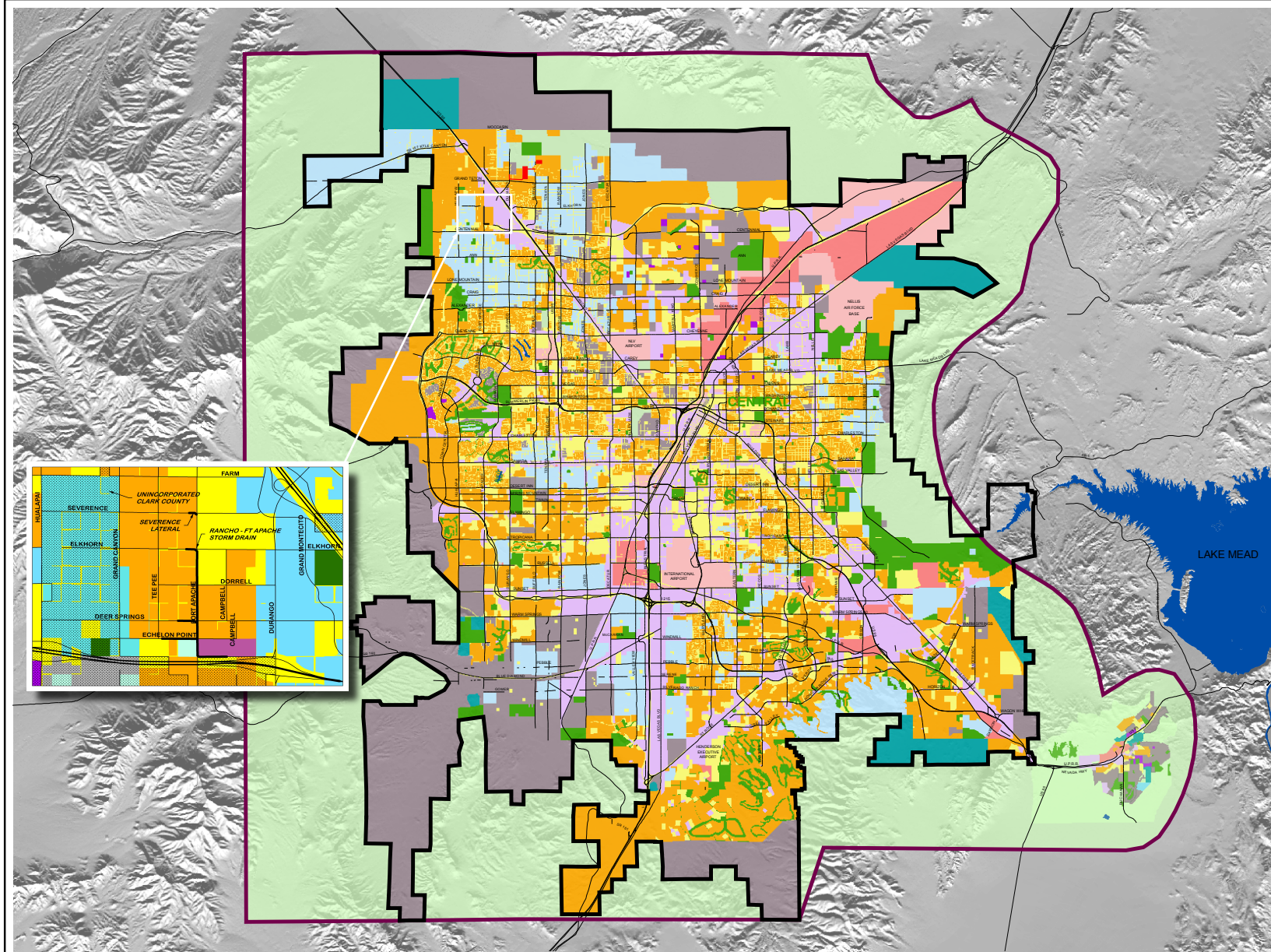
Initial investigations of past property usage indicate that hazardous materials are not likely to be a concern in the project area. The project will not involve the introduction of hazardous materials into the environment. The proposed storm drain is located within existing right-of-way in previously disturbed paved and unpaved areas in a developed urbanized area. No previously undisturbed areas will be impacted by construction activities. Therefore, additional hazardous materials investigations are not necessary.

3.11 Land Use

The proposed storm drain is located within existing right-of-way in previously disturbed paved and unpaved areas in a developed urbanized area. No previously undisturbed areas will be impacted by construction activities.

The project will have no impact on land use in the area. The project area north of Echelon Point is zoned for residential land use. Between Echelon Point and CC 215 is residential on the east side and public facility for the Ft. Apache Detention Basin on the west side. The part along CC 215 is within public facility land use. Figure 3-6 (Figure 3.13-2 of the SEIS) shows the project area in relation to the current land use plan.





**CCRFCD
SUPPLEMENTAL
ENVIRONMENTAL
IMPACT STATEMENT
(2004)**

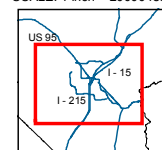
Legend

- Ultimate Development Boundary
- Project Area Boundary
- Major Street Centerline
- Existing and Planned land Use**
 - Undeveloped Land, Open Desert
 - Parks, Golf Courses
 - Rural
 - Low Density Residential
 - Medium Density Residential
 - High Density Residential
 - Public Facility, Multi Family
 - Commercial, Office, Retail, Casino
 - Light Industrial
 - Heavy Industrial
 - Schools
 - Lakes



0 10,000 20,000
Feet

SCALE: 1 inch = 20,000 feet



GENERAL LAND USE
CLASSIFICATIONS
FIGURE 3.13-2

SWCA
ENVIRONMENTAL CONSULTANTS



City of Las Vegas
Department of
Public Works

General Land Use Classifications

Figure 3-6

4.0 Recommendations

The impacts of the proposed flood control project were evaluated for the eleven environmental resources areas outlined in Section 8 of the SEIS. The project will not have any significant impacts on any of these environmental resources. Therefore, no further evaluation of environmental impacts is recommended.

5.0 References

Bureau of Land Management. *Supplemental Programmatic Environmental Impact Statement for the Clark County Regional Flood Control District 2002 Master Plan Update*, September 2004.

Clark County Regional Flood Control District. *2002 Las Vegas Valley Flood Control Master Plan Update*. September 2002.

Clark County Regional Flood Control District. *2008 Las Vegas Valley Flood Control Master Plan Update*. September 2008.

Converse Consultants. *Geotechnical Investigation, Rancho-Fort Apache Storm Drain, Fort Apache Road, Between Elkhorn Road and the Bruce Woodbury Beltway*, April 25, 2011.



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