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1.1 INTRODUCTION

The Watson Cogeneration Steam and Electric Reliability Project (Project) is a proposed expansion of a steam and electrical generating (cogeneration) facility that is located in the City of Carson in Southern California (see Figure 1-1, Regional Map and Figure 1-2, Project Vicinity Map). The Project will complete the original design of Watson Cogeneration Facility that has been in continuous operation for more than 20 years. The Project will add a nominal 85 megawatt (MW) combustion turbine generator (CTG) with a single-pressure heat recovery steam generator (HRSG) to provide additional process steam to the BP Carson refinery. The original plant design allocated plot space and included provisions to accommodate a new unit at a later date. The additional unit is sized and designed to provide reliable base load operations with supplemental duct firing in the HRSG.

The Project includes one General Electric (GE) 7EA CTG, with an inlet fogging system, one duct fired HRSG, two redundant natural gas compressors (2x100 percent), one boiler feedwater (BFW) pump, one circulating water pump, two new cells added to an existing cooling tower, electrical distribution system, instrumentation and controls, and all necessary auxiliary equipment as described herein. The Project's primary objective is to provide additional process steam in response to the refinery's process steam demand.

The Project complements the existing cogeneration facility located within the confines of the refinery. The existing facility has four GE 7EA CTGs, four HRSGs and two steam turbine generators (STG). In operation since 1988, the existing cogeneration facility is owned by Watson Cogeneration Company (Watson) and operated by BP West Coast Products, LLC - BP Carson Refinery. Watson is a joint partnership between subsidiaries of BP America and Edison Mission Energy. Since the Project consists of adding a fifth CTG/HRSG to the existing configuration, it is also referred to as the "fifth train."

This Application for Certification (AFC) has been prepared in accordance with the California Energy Commission's (CEC) August 2000 Rules of Practice and Procedure and Power Plant Site Certification, as amended, and is intended to provide:

- A detailed description of the Project
- An assessment of the anticipated Project impacts on the existing environment
- A discussion of compliance with applicable laws, ordinances, regulations, and standards (LORS)

The remainder of this Executive Summary summarizes the more detailed information presented in the balance of the AFC.

1.2 FACILITY LOCATION AND DESCRIPTION

1.2.1 Facility Location

The Project Area consists of the Project Site and the off-site Construction Laydown and Parking Area. The Project Site is located approximately 0.7 mile south of the 405 Freeway, roughly bounded by East 223rd Street to the north, Wilmington Avenue to the west, East Sepulveda

Boulevard to the south, and South Alameda Street to the east, in the City of Carson. The Project Site is a 2.5-acre brown field site located within the boundary of the existing Watson Cogeneration Facility, which is a 21.7-acre area within the 428-acre parcel further described as Assessors Parcel Number (APN) 7315-006-003, 1801 Sepulveda Boulevard, Carson, California, 90745 and is integral to BP's existing Carson Refinery (BP Refinery). The street address of the Project Site is located within the boundary of the existing Watson Cogeneration Facility at 22850 South Wilmington Avenue, Carson, California.

The Construction Laydown and Parking Area is a paved 25-acre parcel (APN 7315-020-019) located approximately 1 mile southeast of the Project Site, at 2149 East Sepulveda Boulevard which is at the northeast corner of East Sepulveda Boulevard and South Alameda Street. The area is owned by BP, and is currently used as a truck parking and staging area.

The Project Area is zoned Heavy Manufacturing (MH), and is surrounded by existing refineries and other industrial facilities. Adjoining and nearby property within 1 mile to the west are commercial properties. No off-site improvements such as water supply, natural gas or wastewater pipelines, are currently planned by the Project. The Project will connect to the existing supply pipelines currently used by Watson. Figure 1-3, Simulated Aerial Site Plan, provides a simulation of the appearance of the Project from an aerial perspective.

1.2.2 Fuel Gas Supply

The Project is designed to be fueled with either natural gas or a blend of natural gas and refinery gas. Fuel gases will be provided from the existing systems; however, the natural gas for the fifth train will be compressed by two new redundant dedicated gas compressors to the level as required by the manufacturer for DLN combustors. The use of refinery gas in the CTG will be limited by the manufacturer's requirements for the gas quality and the ability of the existing gas cleaning system to achieve the sulfur content below 40 parts per million (ppm).

The source of natural gas for the Project is pipeline quality gas from Southern California Gas Company (SoCalGas). The Project will obtain its gas from the existing refinery natural gas system at an interface point on the pipe rack. Natural gas requirements for the Project will be served via a 6-inch connection with the refinery gas supply system, downstream of existing compressors. The physical tie-in to the existing system is on the pipe rack. No new right-of-ways (ROW) are required.

Refinery gas will be used in the combustion turbine and duct burners of the HRSG. Fuel consumption will vary based on refinery steam demand, but the Project is expected to be operated as a base load unit.

1.2.3 Water Supply and Discharge

The Project will use reclaimed water supplied from the BP Refinery, which is implementing a separate program to convert industrial water uses to reclaimed supplies from the West Basin Municipal Water District. Once completed, this conversion will satisfy the Project's entire make up water needs..

The Project Site will generate industrial and stormwater for disposal. The primary sources of wastewater will be from cooling tower cells blowdown and reverse osmosis reject. This

wastewater will continue to be discharged to the existing oily water system at the BP Refinery. In addition, runoff from the Project will also be directed to the oily water system.

1.2.4 Transmission Facilities

The Project will step up electricity first to 69 kilovolts (kV) for delivery to a new on-site 69kV gas insulated substation (GIS) that provides power to the refinery and then to 230kV for delivery to the existing on-site 230kV GIS. The 230kV GIS is connected to the Southern California Edison (SCE) Hinson substation via two 230kV SCE transmission lines. Upgrades to these existing transmission lines to accommodate the Project are not required. Watson has conducted an analysis of the existing transmission system’s residual capacity and determined that no upgrades are necessary. A copy of the study performed by TriAxis Engineering, Inc., dated 6 February 2008 is provided in Appendix B, Transmission Line Analysis. Watson Cogeneration Company (Applicant) has submitted interconnection requests to SCE and the California Independent System Operator (CAISO) for a feasibility study.

1.2.5 Project Schedule

The major construction schedule milestones are listed below:

Activity	Date
Begin Construction	May 2010
Startup and Test	January 2012
Project Operation	June 2012

1.3 PROJECT OWNERSHIP

- Owner: Watson Cogeneration Company
- Operator: BP West Coast Products, LLC – BP Carson Refinery

1.4 SUMMARY OF ENVIRONMENTAL IMPACTS

As with all projects of this type, this Project has the potential to adversely impact the existing environment. In order to limit potential project impacts to a level of insignificance under normal operating conditions, the Applicant has carefully chosen the Project location and incorporated innovative design measures. Section 5.0, Environmental Information, of this AFC assesses environmental impacts in detail. The findings for each resource area are further summarized below

1.4.1 Air Quality

Construction-related emissions at the Project Site will be minimized by compliance with the provisions of the following permits: (1) grading permit, (2) Stormwater Pollution Prevention Plan (SWPPP) requirements (construction site provisions), (3) use permit, (4) building permits, and (5) the SCAQMD Permit to Construct (PTC), which will require compliance with the provisions of all applicable fugitive dust rules that pertain to the site construction phase. Based

on the temporary nature and the time frame for construction, these measures will reduce construction emissions and effects to levels that are less than significant.

Operation of the proposed process and equipment systems will result in emissions to the atmosphere of both criteria and toxic air pollutants. Criteria pollutant emissions will consist primarily of nitrogen oxide (NO_x), carbon monoxide (CO), volatile organic compounds (VOCs), sulfur oxides (SO_x), sub 10-micron particulate matter (PM₁₀), and sub 2.5-micron particulate matter (PM_{2.5}). Air toxic pollutants will consist of a combination of toxic gases and toxic particulate matter species.

The Project design will incorporate the air pollution emission controls designed to meet SCAQMD BACT determinations. These controls will include Dry Low NO_x (DLN) combustors in the CTG to limit NO_x production, Selective Catalytic Reduction (SCR) with anhydrous ammonia for additional NO_x reduction in the HRSG, an oxidation catalyst to control CO and VOC emissions. Low NO_x burners will be incorporated into the HRSG.

The Project will not trigger the Prevention of Significant Deterioration (PSD) program requirements for any attainment pollutant, therefore neither a PSD increment analysis protocol nor a Class I effect assessment will be required. The facility will be required to obtain offsets pursuant to the SCAQMD regulations. The proposed criteria pollutant mitigation strategy for the Project is discussed in Appendix I, Air Quality Data, and is summarized below.

- NO_x and SO_x mitigation, in the form of Regional Clean Air Initiatives Market (RECLAIM Trading Credits [RTCs]) will be achieved via the RECLAIM program.
- VOC mitigation will be achieved by obtaining sufficient purchased Emission Reduction Credits (ERCs) to fully satisfy the Regulation XIII offset requirements.
- PM₁₀/PM_{2.5} mitigation will be achieved by accepting a cap on PM₁₀/PM_{2.5} emissions for all five units equivalent to the present daily PM₁₀/PM_{2.5} limits on the existing four units. The existing PM emissions limit is 1,244 lbs/day. Therefore, the daily limit for the five turbines/HRSGs combined will not exceed 1,244 lb/day.
- CO offsets are not required since the air basin is in attainment.

All modeled effects for the criteria pollutants are less than the Class II and SCAQMD significance levels. Emissions from the Project will not significantly affect the ambient air quality of the area.

1.4.2 Geological Hazards

Project construction and operation is not anticipated to result in significant adverse effects to geologic resources.

Construction-related effects to geologic resources primarily involve grading operations and operations for foundation support.

The potential effects of geologic hazards on Project operation include seismic shaking. With the implementation of mitigation measures, the effects of geologic hazards on Project operation will be reduced to a less-than-significant level.

Project facilities will be designed in accordance with the seismic design criteria of applicable building codes or a design-level geotechnical investigation. Liquefaction potential at the Project

Site will be determined during a future geotechnical investigation. Mitigation of liquefaction at the Project Site, if necessary, will be accomplished through ground improvement or the design of the specific structures.

Project improvements will be designed to withstand the effects of expansive soils, or the expansive soils will be removed or graded to mitigate the effects. Recommendations for mitigation of expansive soils will be provided as part of a design-level geotechnical investigation.

1.4.3 Agriculture / Soils

No significant effects to agriculture or soils are anticipated from the construction of the Project.

The total acreage to be disturbed during Project Site construction will be approximately 2.5 acres. No land disturbance will be necessary for the Construction Laydown and Parking Area, as it is an existing paved lot. No new off-site linear facilities will be needed, so no off-site land disturbance will occur. The Project Site and adjacent properties are currently in industrial use and are surrounded by areas of other industrial uses, vacant land, and commercial and residential development.

The Project Site is relatively flat. Consequently, the hazard of water erosion for these soils is slight. Before Project construction activities are started, a site-specific geotechnical investigation will be performed at the Project Site.

The use of erosion control best management practices (BMPs) to control water and wind erosion during construction activities and the placement of impervious surfaces on and/or the implementation of BMPs for disturbed areas within the Project Site will effectively control soil loss during and after construction.

1.4.4 Water Resources

Due to the use of reclaimed water supplies and the disposal of process wastewater and Project Site runoff to the existing oily water disposal system, the Project will have no significant effect on the water resources.

The BP Refinery is implementing a separate program to convert industrial water uses to reclaimed supplies from the West Basin Municipal Water District. Once completed, this conversion will satisfy the Project's entire make up water needs. This reclaimed water supply will be provided as reverse osmosis water and nitrified water. The water will be supplied to the Project via existing piping systems.

Annual water consumption for the Project is estimated to be 3,015 acre-feet. Process water uses met by reclaimed water supply include combustion turbine inlet fogger consumption, boiler feedwater makeup, and HRSG blowdown quenching. Makeup for cooling tower evaporation will be reclaimed water.

The Project Site is designated as a "C" zone for flood management and there are no Flood Insurance Rate Maps for incorporated areas of Carson. The "C" zone designation indicates that the area does not require flood insurance and that the potential for flooding is low.

1.4.5 Biological Resources

No biological effects are expected to occur as a result of the Project.

Together, the Project Site and the surrounding refinery constitute an industrial facility devoid of native vegetation. The refinery area is open and dry and completely hardscaped. Vegetation present on-site consists of scattered landscape plants and ruderal invasive species. The Project disturbance will be localized and contained mainly to the areas designated for the additional train and the two additional cooling tower cells. No off-site linears will be constructed. The Project Construction Laydown and Parking Area will be used only for storage and equipment parking, with no ground disturbance.

No federal-listed threatened or endangered species is expected to occur at the Project Site or associated construction areas due to lack of suitable habitat, so no effects are anticipated as a result of the Project.

Project construction has the potential for effects to bat species that may utilize the maintenance building currently located on the Project Site. Consequently, immediately before disturbance of the Project Site, a qualified biologist will survey the Project Areas to ensure that no wildlife species are present in any of the disturbance areas.

1.4.6 Cultural Resources

The Project is not anticipated to affect cultural resources that are either eligible for the California Register of Historical Resources (CRHR) or considered historical resources for purposes of California Environmental Quality Act (CEQA) within the APEs.

In the event of the discovery of a CRHR-eligible cultural resource within the APEs during construction phase of this Project, appropriate mitigation measures will be employed to ensure site avoidance and/or proper treatment of cultural resources.

The Project is not anticipated to affect significant cultural resources; however, mitigation measures have been provided that would reduce potential effects to cultural resources to a less than significant level in the event that an archaeological site is identified within the Project boundaries during construction. As a result, archaeological monitoring must be conducted during all new ground-disturbing activities within the Project Area. With implementation of the measures summarized below, no significant unavoidable effects to cultural resources are expected to occur.

- In the event cultural resources are encountered before or during construction activities, construction activities in the immediate vicinity of the identified resource shall be halted or redirected and a qualified archaeologist shall identify the nature and boundary of the finds and assess whether the proposed activities will impinge on a cultural resource.
- In instances where a Project facility must be placed within 100 feet of a known cultural resource eligible for inclusion on CRHR, the cultural resource will be temporarily fenced or otherwise demarcated on the ground, and the area will be designated environmentally sensitive. Construction equipment will be directed away from the cultural resource and construction personnel will be directed to avoid entering the area.

- A qualified professional archaeologist shall be retained to observe all ground-disturbing activities associated with the Project.
- A Native American monitor will be present during archaeological testing and/or data recovery for cultural resources that appear to have a prehistoric or ethnographic component.
- Significant cultural resources affected by the Project would require additional mitigation, which may include data recovery. A recovery of a sample of the deposit from which the archaeologist can define scientific data to address archaeological research questions is considered an effective mitigation measure.
- Human remains are not anticipated within the Project Site given the absence of a prehistoric deposit. If human remains are encountered, construction activities shall be immediately halted in the immediate vicinity of the discovery. The Project supervisor shall immediately contact the County Coroner and the Applicant. If the remains are Native American, the NAHC shall be contacted.
- Cultural materials shall be analyzed to characterize the resource(s) and its association to existing regional chronologies. The materials, and the contexts from which they were sampled, shall also be evaluated with regard to the eligibility criteria for inclusion on the CRHR.

1.4.7 Paleontological Resources

No effects on paleontological resources are expected to occur from Project operations. Construction of the Project (i.e., any Project-related ground disturbance of previously undisturbed sediment) could have adverse effects on significant paleontological resources. However, with a properly designed and implemented mitigation program, these effects will be reduced to less-than-significant effects.

Although no fossils are known to directly underlie the Project Site, the presence of fossil sites in alluvial deposits of the Quaternary older alluvium and alluvial or marine deposits of the Palos Verdes Sand within 1 mile of the Project Site and elsewhere, suggests a potential for additional similar fossil remains to be uncovered by excavations in these formations during Project construction. Under SVP (1995) criteria, these stratigraphic units have a high sensitivity for producing additional paleontological resources. Identifiable fossil remains recovered from these stratigraphic units during Project construction could be scientifically important and significant.

Potential effects on paleontological resources resulting from construction of the Project primarily involve terrain modification (excavations and drainage diversion measures). Paleontologic resources that could be adversely impacted by ground disturbance and earth moving include an undetermined number of fossil remains and unrecorded fossil sites, associated specimen data and corresponding geologic and geographic site data, and the fossil-bearing strata. Direct effects could result from grading and any other earth-moving activity that would disturb or bury previously undisturbed fossiliferous sediments, making those sediments and their paleontological resources unavailable for future scientific investigation.

Before construction begins, the paleontologist will conduct a field survey of exposures of sensitive stratigraphic units that will be disturbed. Earth-moving construction activities will be monitored wherever these activities will disturb previously undisturbed sediment. Monitoring

will not need to be conducted in areas where sediments have been previously disturbed or in areas where exposed sediments will be buried, but not otherwise disturbed.

1.4.8 Land Use

The Project will not cause any significant adverse land use effects and will not conflict with existing land use activities in the area of the Project Site.

The Project is consistent with the City of Carson General Plan, the City of Long Beach General Plan, the City of Los Angeles General Plan, the Wilmington–Harbor City Community Plan, and the zoning designation for the Project Site, with the approval of a Director Classification Conditional Use Permit (CUP).

The Project Site is designated as Heavy Industrial by the Land Use Element of the City of Carson General Plan and is accordingly zoned Heavy Manufacturing (MH). According to the City of Carson Zoning Ordinance, petroleum refining, oil reclaiming, and coal or coal tar distillation are allowed in an MH district with a Director Classification CUP.

No agricultural uses exist within the affected environment. Therefore, no land will be converted from agriculture production as a result of the Project; nor will any prime farmlands be affected by the Project.

The Project's effects to land use planning and public policy will be minimal and no significant cumulative effects will result from the Project.

1.4.9 Socioeconomics

No significant adverse socioeconomic effects were identified for the Project. Project construction will result in temporary direct and secondary economic benefits. Project operations will not result in significant effects because operations will not require any additional employees.

Los Angeles County is a highly urbanized area, containing approximately 9.9 million people, a population that accounts for over one-quarter of California's population, spread over 3 percent of California's land area. Approximately 45 percent of California's population lives in Los Angeles County or in one of the four counties that border Los Angeles County.

In 2000, approximately 69 percent of Los Angeles County residents were members of a minority. Also in 2000, 18 percent of Los Angeles County residents lived below the poverty level.

The average size of the workforce over the 26-month site preparation and construction period will be 41 workers. The majority of the workforce (approximately 80 percent) is expected to be hired from within Los Angeles County. Construction is forecasted to begin in May 2010 and end in January 2012. Commissioning and startup is forecasted to begin in January 2012 with full-scale operation to initiate by June 2012.

Given the wide availability of construction workers within a daily commute of the Project Site, the Project would not result in an influx of a significant number of construction workers to the Project Area. The effects of Project construction on the local labor force would be less than significant.

Construction of the Project is estimated to cost between \$140 million and \$170 million, including an estimated payroll of \$14.5 million. The capital cost would be approximately \$125.5 million to

\$155.5 million, including equipment, materials, and supplies. An estimated \$6.5 million (4 to 5 percent of non-labor construction cost) will be spent within Los Angeles County on materials and supplies. The remaining materials (comprising approximately 95 percent of non-labor cost), including the turbines, will be purchased outside of Los Angeles County.

Due to the temporary nature of construction, no substantial and long-term disruptions to businesses will occur. As a result, the effects of Project construction on businesses would be less than significant.

The Applicant expects that the Project will be staffed by existing employees of the BP Carson Refinery. No new employees (permanent or contract) will be hired for Project operation. Materials and supplies for Project operation and maintenance would cost approximately \$3 million annually, not including fuel costs. Approximately 10 percent (\$300,000) of the operations and maintenance materials would be purchased in Los Angeles County. No relocations would occur due to Project operation.

Construction activity will result in secondary economic benefits (indirect and induced) within Los Angeles County. Secondary employment effects will include indirect employment due to the purchase of goods and services by firms involved with construction, and induced employment due to construction workers spending their income in the local area.

The estimated secondary impacts of construction that will occur within Los Angeles County will be approximately 109 jobs, approximately \$5.5 million in labor income, and approximately \$15.8 million in economic output. These beneficial effects of the Project would be temporary, occurring over the 26-month site preparation and construction period and would lag behind the direct effects of construction by approximately 6 to 12 months. These economic benefits would not trigger significant, adverse environmental effects and would therefore result in less-than-significant effects.

Two hundred and seventeen census tracts are fully or partially present within a 6-mile radius of the Project Site. These 217 census tracts and their distance to the Project Site are depicted in Figure 5.10-2, Minority and Low-Income Populations. Of these 217 census tracts, 126 were identified to have a total minority population greater than 79 percent, which is 10 percentage points higher than the county-wide average. Also, 58 census tracts were identified as having a low-income population greater than 28 percent, which is 10 percentage points higher than the county-wide average. In total, 135 census tracts were identified as having either (1) a minority population greater than 79 percent or (2) a low-income population greater than 28 percent. These 135 census tracts qualify as environmental justice populations.

The procurement of equipment within Los Angeles County for the purpose of Project Operation will likely be less-than-significant in relation to the availability of trade equipment in the area. Therefore, less-than-significant effects are anticipated as a result of Project Operation.

1.4.10 Traffic / Transportation

The results of the Project construction traffic analysis showed that no study intersection will be significantly affected during peak Project construction activities in 2011. Project operation will not have any effects on traffic or transportation because no new employees will be needed.

The Project construction schedule is 26 months. The average construction workforce will be about 41 workers over this period. However, during month 12 of construction (the peak month), the construction workforce may reach up to 80 workers.

The Applicant will provide, where warranted and required, the following mitigations either as part of the construction activity requirements, or as proactive measures to minimize construction-related trip making and the resultant increases in traffic in the surrounding roadway circulation system.

- During Project construction, the Applicant will designate a construction worker, equipment, and material delivery/haul route from their points of origin to Alameda Avenue and toward the off-site Construction Laydown and Parking Area. Construction workers will be shuttled to and from the off-site parking area to the Project Site. Construction materials and equipment will be transported as needed from the Construction Laydown and Parking Area to minimize crowding and traffic at the Project Site.
- If required, the Applicant will prepare a traffic and transportation control plan in coordination with the City of Carson and the California Department of Transportation (Caltrans) to address potential short-term construction traffic activities on city or state rights-of-way (ROW). The Applicant will secure all required permits needed for work on city and state roadways and intersections before the start of Project construction.

1.4.11 Noise

Due to the acoustical design of the Project, predicted operational noise emissions at nearby sensitive areas are expected to range from 38 to 48 dBA and therefore conform to the most restrictive standards. These predicted levels would result in ambient increases of not more than 1 dBA, which is considered an insignificant effect. Construction noise would be temporary and only occur during daytime hours. Moreover, all feasible construction noise abatement measures will be implemented. Therefore, no significant effect is expected to result from construction noise.

Project construction is expected to be typical of that of other power facilities in terms of schedule and equipment used. The noise level will vary during the construction period, depending on the construction phase. Construction of power facilities can generally be divided into five phases that use different types of construction equipment. The five phases are commonly known as (1) site preparation and excavation, (2) concrete pouring, (3) steel erection, (4) mechanical and electrical equipment installation, and (5) cleanup.

The nearest residential receptor is approximately 3,300 feet northwest of the Project Site. Projected construction noise levels are predicted to range from 44 dBA to 52 dBA at nearby residential receivers. The noise emissions presented are those expected outdoors, and a building or home would provide significant attenuation of these levels.

These projected levels would be temporary and only occur during daytime hours. Moreover, all feasible construction noise abatement measures will be implemented.

Pile driving will be necessary for construction of the Project. Noise from these operations could be expected to reach 104 dBA at a distance of 50 feet. Based on simple geometric dispersion, pile driving noise would thus be projected to reach levels of 77 dBA at the nearest residential

receptor. Added to the existing daytime ambient level of 66 dBA Leq, this would combine to produce 77 dBA, an increase of 11 dBA over the ambient level.

The actual effect at the receptor locations will be greatly reduced from this value due to localized attenuation (approximately 10 dBA, variable by specific location). Although pile driving will produce a noticeable effect, limiting the pile driving to daytime hours, combined with localized attenuation and the temporary nature of the work, will result in effects that are tolerable to residents.

Typically, the loudest noise encountered during construction, inherent in building any project incorporating a steam turbine, is created by the steam blows. High-pressure steam blows, if unsilenced, can typically produce noise levels as high as 129 dBA at a distance of 50 feet; this would amount to roughly 92 dBA at the nearest sensitive receptor. With a silencer installed on the steam blow piping, noise levels are commonly attenuated to 89 dBA at 50 feet; this would yield approximately 52 dBA at the nearest sensitive receptor without consideration of path attenuation.

No mitigation measures for the Project are required, because the Project noise levels will comply with all state and local performance standards, given the acoustical design of the Project, which includes CTG air intake and exhaust stack silencers, CTG acoustical enclosures, fuel gas compressor enclosures, and property line acoustical barriers.

1.4.12 Visual Resources

No significant visual effects would occur to any potential viewers in the viewshed surrounding the Project.

The Project would have low visibility from adjacent locations in the area. In general, cultural modifications in the area obstruct even foreground views. Given the smaller scale of the Project (2.5 acres) when compared to the existing BP Carson Refinery and Watson Cogeneration Facility and the high degree of existing landscape modification associated with the Watson Cogeneration Facility, the refinery, industrial parks, and other commercial facilities within the Visual Sphere of Influence (VSOI), no significant effects on scenic attractiveness are expected. All activities at the Project Site would occur in areas previously modified in conjunction with the existing BP facilities. Further, virtually all areas within the VSOI are classified as retaining low distinctive or diverse natural amenities and lacking substantial positive cultural modifications. The Project would not change the existing character of the site, and no significant effects to the scenic attractiveness of the VSOI as a whole are anticipated. Therefore, no significant effects would occur relative to existing scenic attractiveness.

The addition of a single CTG/HRSG would not affect the visual resources of an area that not only contains four existing stacks but also is surrounded by other highly visible industrial modifications.

Potential visual issues associated with cooling tower plumes include the presence of visible plumes and the occurrence of ground level fogging and/or icing episodes resulting from contact of visible plumes with the ground. In order to evaluate the effects on the local and regional environment, a modeling analysis was conducted to simulate the cooling tower plumes from the Project using three years of meteorological data.

Although the plumes generated from the Project would slightly add to the number of existing plumes currently occurring on-site and in the Project Area, this increase is not anticipated to be substantial in the context of the existing setting. Also, most viewers are conditioned to expect plumes from the BP Carson Refinery and the Watson Cogeneration Facility; therefore, the potential effects from visible plumes are considered to be less than significant.

The Applicant proposes mitigation measures for the Project, though no mitigation measures are required. The Project is located in an area that is already heavily developed. The Project structures are similar to the structures at the existing facility, so any visual effects are mitigated. Also, by locating the Project immediately adjacent to the existing transmission source, unnecessary transmission lines and prominent transmission poles are eliminated.

1.4.13 Waste Management

Construction wastes will be managed and disposed of properly, so that they will not cause significant environmental or health and safety effects. Most of the hazardous waste generated during construction, such as used oil, can be recycled. The small quantities of hazardous and non-hazardous waste that cannot be recycled are not expected to significantly impact the capacities of the Class I and Class III landfills in California.

The existing Watson Cogeneration Facility operation-related procedures for handling hazardous and non-hazardous wastes will be implemented for Project operation. These procedures will mitigate effects from hazardous and non-hazardous waste to a less-than-significant level.

The majority of oil bearing materials will be handled on-site through the refinery wastewater treatment system.

The Applicant will implement several waste mitigation measures during Project construction, including training, waste management plans, spill control and management procedures, and waste minimization procedures.

1.4.14 Hazardous Materials Handling

The effects associated with the use of hazardous materials during construction will be less than significant as a result of the Applicant implementing appropriate procedures and mitigation measures.

With the implementation of the Risk Management Plan (RMP), Hazardous Materials Business Plans (HMBPs) and Best Management Plans (BMPs), the long-term and cumulative effects associated with spills or releases of hazardous materials would be avoided. Therefore, the effects of hazardous materials handling associated with the Project will be less than significant.

The hazardous materials to be used during Project construction include gasoline, diesel fuel, oil, and lubricants as well as minimal amounts of cleaners, solvents, adhesives, and paint materials. However, no acutely hazardous materials will be used or stored on-site during construction.

The existing Watson Cogeneration Facility utilizes anhydrous ammonia in the selective catalytic reduction technology to control nitrogen oxide emissions. During operation, the Project will result in an incremental increase in the use of ammonia. The incremental increases of ammonia will be stored in an existing tank at the Watson Cogeneration Facility.

An RMP has already been prepared and implemented for the existing Watson Cogeneration Facility to manage and minimize the risks associated with the storage and use of anhydrous ammonia and flammable gases. This RMP will be updated as necessary for the Project and will be used during Project operation.

No adverse environmental effects are anticipated from other hazardous materials that will be used at the Project Site. Only minimal quantities of paints, oils, solvents, and cleaners (in quantities typical of those packaged for retail consumer use) are or will be present during Project operation. Small volumes of petroleum products associated with construction equipment will be kept on-site during construction. Long-term and cumulative effects will be avoided by cleaning up any accidental leaks or spills of these materials as soon as they occur.

1.4.15 Public Health

Emissions of criteria pollutants will adhere to regulatory standards. The Project also will include emission control technologies necessary to meet the required emission standards specified for criteria pollutants under SCAQMD rules. Air dispersion modeling results show that emissions will not result in concentrations of criteria pollutants in air that exceed ambient air quality standards. Therefore, the Project is not anticipated to have a significant effect on public health from emissions of criteria pollutants.

Potential effects associated with emissions of toxic pollutants to the air from the Project.

The calculated cancer burden for Project is 0.0032, indicating that emissions from the Project would not be associated with any increase in cancer cases in the previously defined population. In addition, the cancer burden is less than the SCAQMD Rule 1401 threshold values.

The acute non-cancer hazard quotient associated with concentrations in air is below 1.0, which is unlikely to represent significant effect to public health.

Results from the air toxics HRA based on emissions modeling indicate that there will be no significant incremental public health risks from construction or operation of the Project. Results from criteria pollutant modeling for routine operations indicate that potential ambient concentrations of NO₂, CO, SO₂, and PM₁₀ will not significantly effect air quality. Potential concentrations are below the federal and California standards established to protect public health, including the more sensitive members of the population.

1.4.16 Worker Safety

No significant unavoidable adverse effects to worker safety are anticipated from the Project.

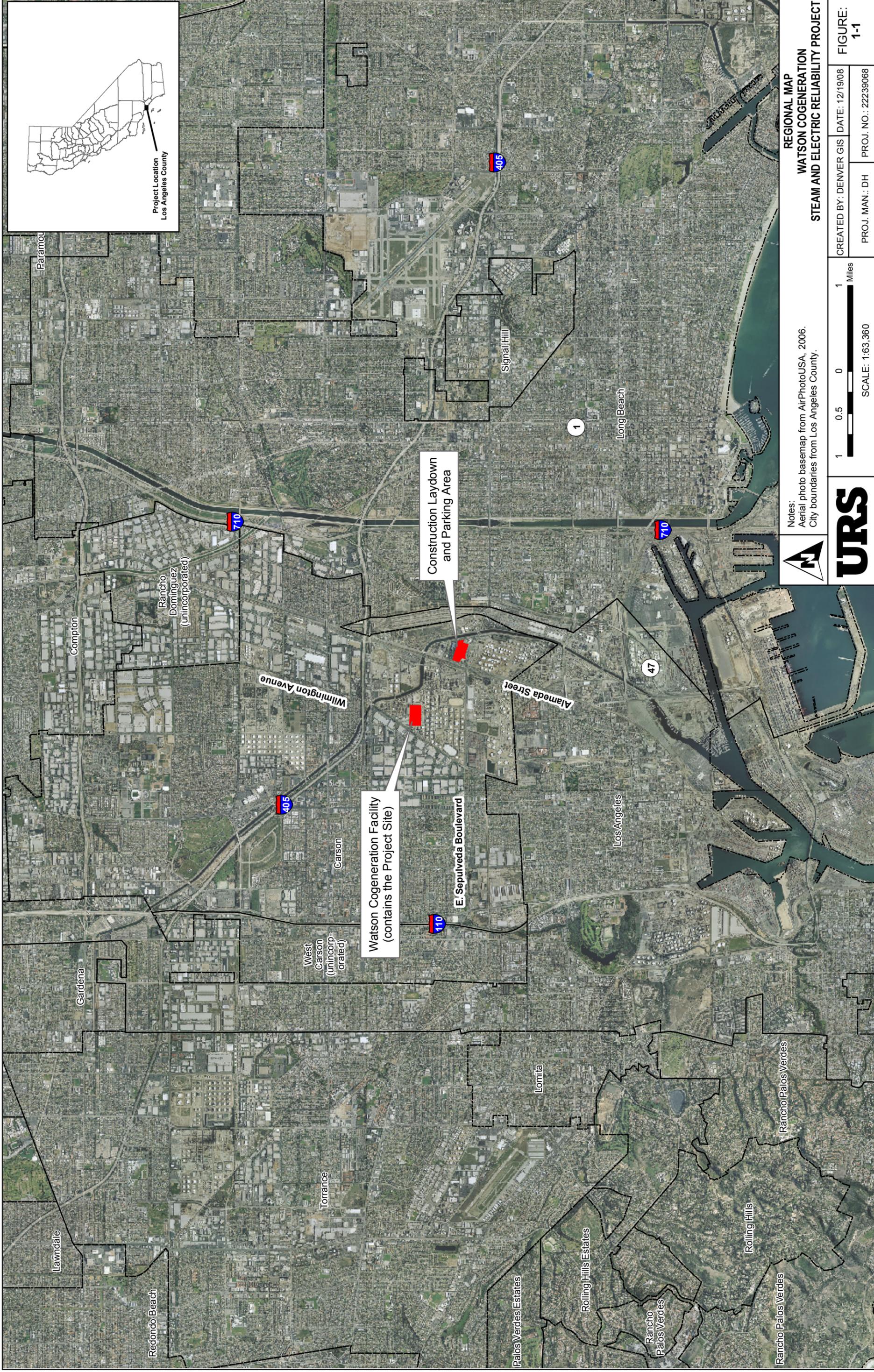
To protect the health and safety of workers during construction, the Applicant will ensure compliance with the Construction Health and Safety Program, and all federal, state, and local health standards that pertain to worker health and safety.

The existing Watson Cogeneration Facility maintains safety training programs for the operation of the facility. These programs will be used during operation of the Project, and the Project will be incorporated into these programs.

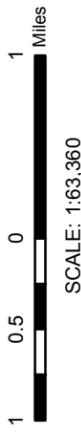
1.5 PROJECT ALTERNATIVES

As part of the project development process, various project alternatives were assessed, including:

- **No Project alternative:** This was rejected due to the need for a reliable supply of steam, which is critical to the safe and efficient operation of the BP Carson Refinery.
- **Alternative Site Location:** This was rejected because the Watson Cogeneration Facility was originally designed with provisions for this expansion and a plot space was already allocated for it.
- **Alternative Project Configurations:** General Electric 7EA combustion turbine generators are already in use at the existing Watson Cogeneration Facility. This type of generator fits the already allocated space for the Project.
- **Alternative Technologies:** Alternative generating technologies (such as coal, oil, nuclear, and renewables) were ruled out because they would not meet the refinery's needs for reliable steam supply within the physical constraints of the existing facility.
- **Alternate Linear Routes:** The Project will not require any new off-site linear facilities. Consequently, alternate linear routes do not apply.
- **Water Supply Alternatives:** Numerous alternatives were considered. The Project will receive its entire supply from the BP Carson Refinery, which is implementing a separate program to convert industrial water uses to reclaimed supplies from the West Basin Municipal Water District.
- **Wastewater Management Alternatives:** Several alternatives were explored. The existing refinery wastewater treatment system and industrial wastewater discharge permit are adequate to accommodate the Project without modification.



Notes:
 Aerial photo basemap from AirPhotoUSA, 2006.
 City boundaries from Los Angeles County.



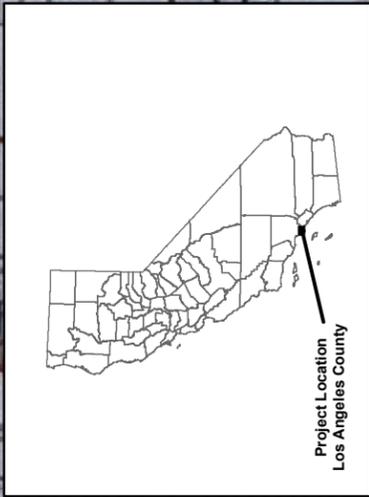
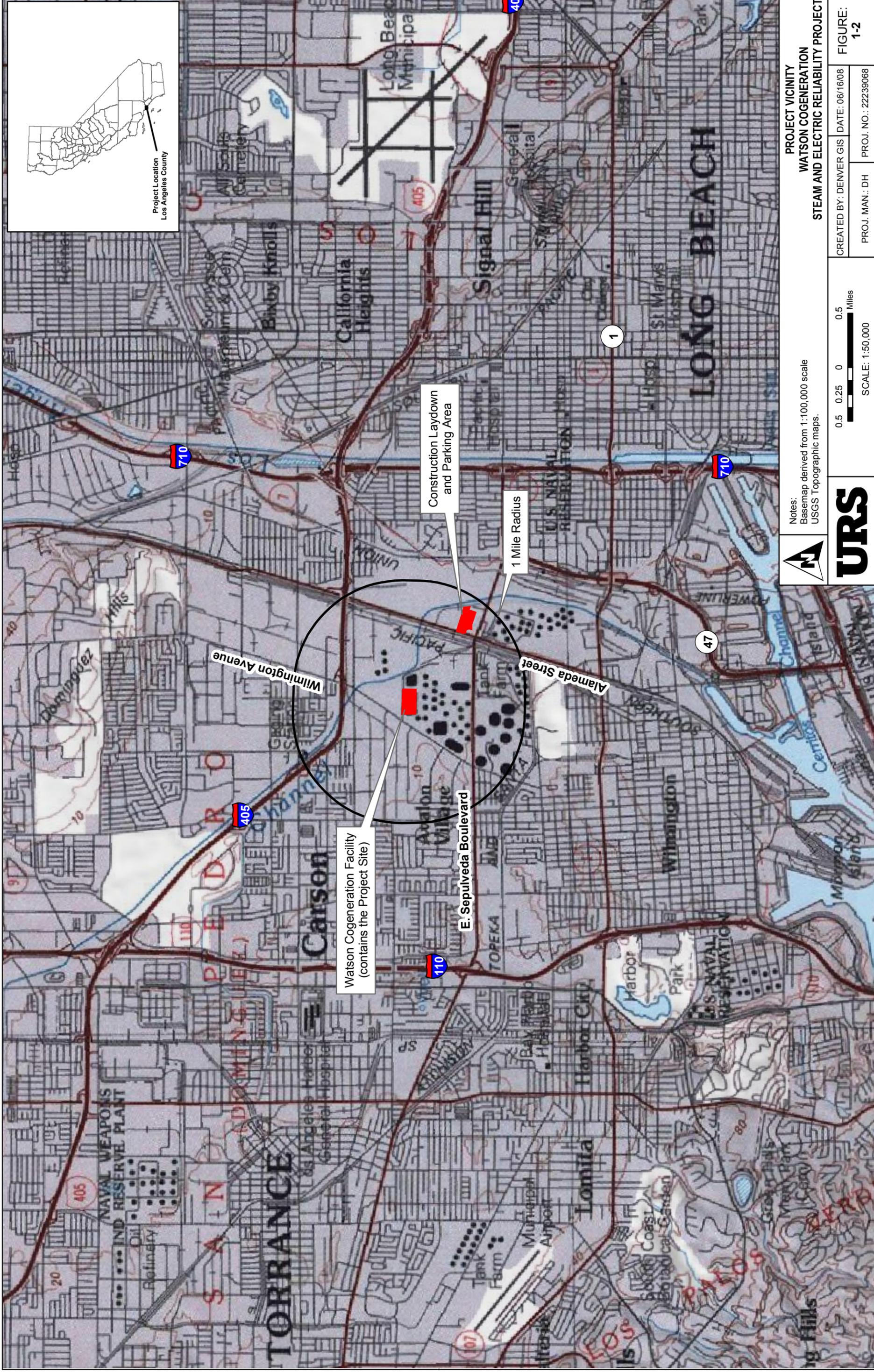
SCALE: 1:63,360



REGIONAL MAP
WATSON COGENERATION
STEAM AND ELECTRIC RELIABILITY PROJECT

CREATED BY: DENVER GIS DATE: 12/19/08
 PROJ. MAN.: DH PROJ. NO.: 22239068

FIGURE:
1-1



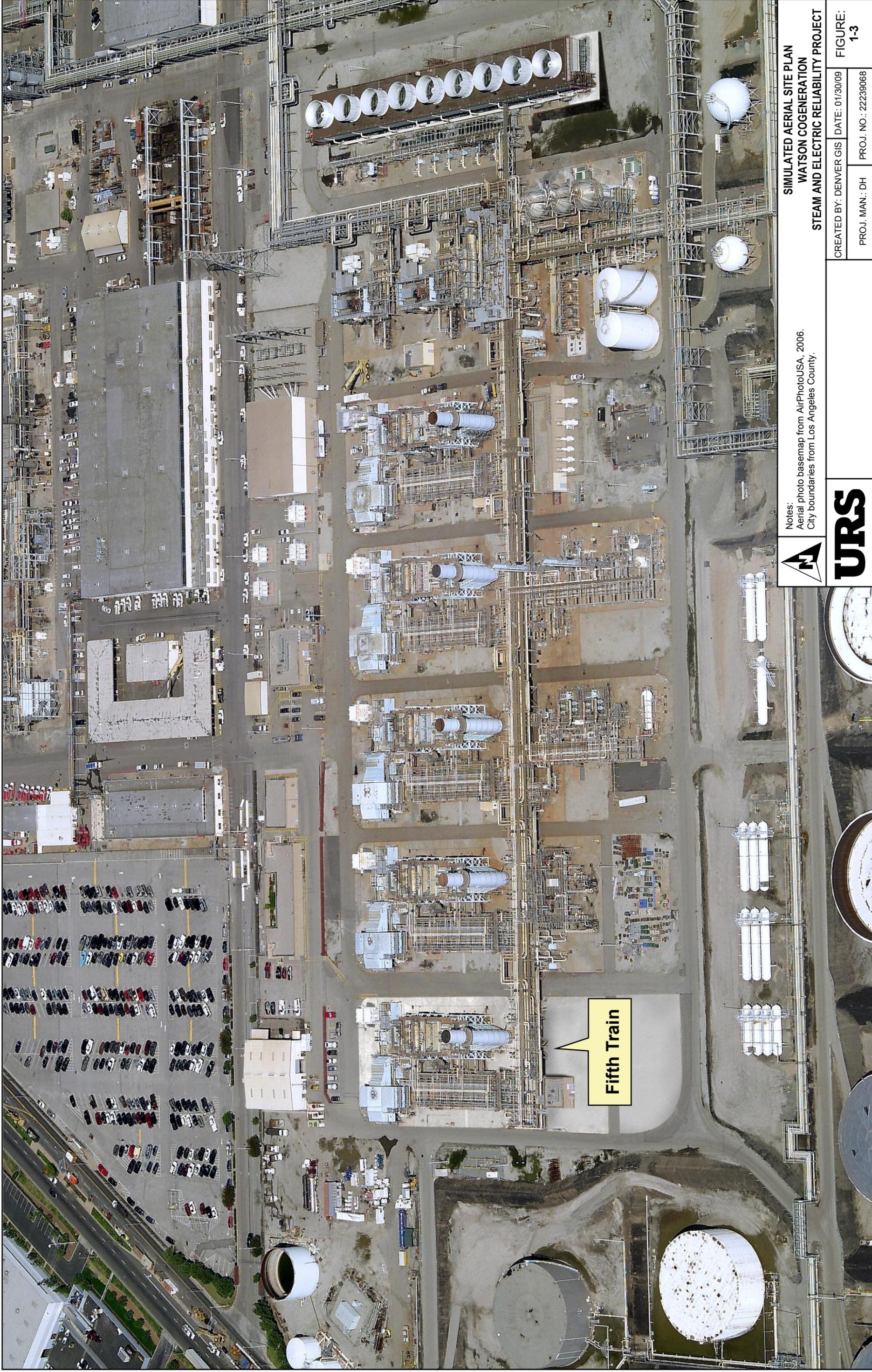
Notes:
Basemap derived from 1:100,000 scale
USGS Topographic maps.



PROJECT VICINITY
WATSON COGENERATION
STEAM AND ELECTRIC RELIABILITY PROJECT

CREATED BY: DENVER GIS DATE: 06/16/08
PROJ. MAN.: DH PROJ. NO.: 22239068

FIGURE:
1-2



Notes:
Aerial photo basemap from AirPhotoUSA, 2006.
City boundaries from Los Angeles County.

**SIMULATED AERIAL SITE PLAN
WATSON COGENERATION
STEAM AND ELECTRIC RELIABILITY PROJECT**



CREATED BY: DENVER GIS | DATE: 01/30/09
PROJ. MAN.: DH | PROJ. NO.: 22239068

FIGURE:
1-3

