Southern California International Gateway Project

Revised Draft Environmental Impact Report

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EXECUTIVE SUMMARY

This revised draft Environmental Impact Report (hereinafter, "Revised Draft EIR") discloses additional information related to air quality impacts of the proposed Southern California International Gateway Project ("SCIG Project" or "Project"), specifically, the impacts of off-site ambient air pollution. This Revised Draft EIR consists of this Executive Summary and four chapters: (1) Introduction, which provides background information and sets forth the scope of the Revised Draft EIR; (2) Project Description, which summarizes the Project's setting and the proposed actions that would constitute the Project; (3) Off-Site Ambient Air Concentrations, which provides the results of expanded temporal and geographic analyses of the impacts of the Project for Impact AQ-4; and (4) Cumulative Offsite Ambient Air Pollutant Concentrations, which provides additional analysis of potential cumulative impacts associated with the SCIG Project in combination with Union Pacific Railroad's adjacent proposed Intermodal Container Transfer Facility Expansion and Modernization Project ("ICTF Expansion Project"). The Revised Draft EIR also includes a separate Technical Appendix document.

ES 1 INTRODUCTION

ES 1.1 BACKGROUND

The SCIG Project consists of the proposed construction and operation, by BNSF Railway, of a new near-dock intermodal rail facility that would handle containerized cargo transported through the Ports of Los Angeles and Long Beach ("Ports"). The Project has undergone extensive review and evaluation under the California Environmental Quality Act ("CEQA") since 2005, including a Draft EIR and a Recirculated Draft EIR released by the City of Los Angeles Harbor Department ("LAHD") in 2011 and 2012, respectively. The Final EIR ("2013 Final EIR"), was certified by the Los Angeles Board of Harbor Commissioners on March 7, 2013; the Los Angeles City Council affirmed the Board's certification on May 8, 2013.

After a period of litigation of the 2013 Final EIR, the California Court of Appeal, First District, ruled in *City of Long Beach v. City of Los Angeles* (19 Cal.App.5th 465) ("*City of Long Beach*") that the EIR's disclosure of certain Project-specific and cumulative impacts did not comply with CEQA; the remainder of the 2013 Final EIR was either not challenged or was found by the Court of Appeal to be in compliance with CEQA, and therefore remains valid. Subsequently, the Contra Costa County Superior Court issued a Judgement and a Peremptory Writ of Mandate Following Appeal ("Writ"), ordering that the certification of the 2013 Final EIR be set aside and that additional analyses be prepared and disclosed in a Revised Draft EIR. Specifically, the Writ requires LAHD to provide the following additional information related to Impact AQ-4 (operational-phase offsite ambient air pollution concentrations):

> 1) Analyses and/or disclosures that allow the EIR to disclose or estimate how frequently and for what length of time the level of air pollution in the area surrounding the proposed rail yard will exceed the standard of significance; and
>
> 2) An analysis of Cumulative Impact AQ-4 that makes a "good faith and reasonable disclosure" of the potential cumulative impacts of the SCIG Project, in combination with the proposed Union Pacific Railroad Intermodal Container Facility ("ICTF")

expansion project, in sufficient detail to disclose the potential cumulative impacts of two large railyard expansion projects located next to one another.

In compliance with the Writ, and in accordance with the *City of Long Beach*, this Revised Draft EIR presents the results of dispersion modeling of ambient air pollution concentrations for the SCIG Project in each of a range of discrete "benchmark" analysis years throughout the life of the Project ("Benchmark Years"). The Revised Draft EIR contains both Project-specific analyses and an analysis of the combined cumulative impacts of the SCIG and ICTF projects.

This Revised Draft EIR also presents and evaluates the ambient air pollutant concentrations of the No Project and Reduced Project alternatives in each of the Benchmark Years. Finally, this Revised Draft EIR presents a discussion of potential health effects of criteria air pollutants, in compliance with the requirements of the recent "Friant Ranch" CEQA decision (*Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502), which represents additional information and disclosure.

ES 1.2 NATURE AND INTENDED USES OF THIS REVISED DRAFT EIR

This Revised Draft EIR provides court-ordered additional information and disclosure related to the portions of the 2013 Final EIR concerning air quality Impact AQ-4 and Cumulative Impact AQ-4. Analyses in the 2013 Final EIR that were not addressed in the Writ have not been revised and are not being recirculated. Section 1.6, below, provides information on submitting comments to LAHD on this Revised Draft EIR.

Agency roles and responsibilities are unchanged from the 2013 Final EIR (Section 1.3 of the Recirculated Draft EIR). LAHD remains the lead agency under CEQA.

The 2013 Final EIR (State Clearinghouse Number 2005091116) to the extent it does not conflict with the additional information provided in this Revised Draft EIR, is incorporated herein by reference to provide context for the Revised Draft EIR.

ES 2 PROJECT DESCRIPTION

The description of the Project remains unchanged from Chapter 2 of the Recirculated Draft EIR, as modified by Section 3.2.3 of the 2013 Final EIR. In summary, the Project has three major physical components: (1) the intermodal railyard itself (railroad tracks, electric powered rail-mounted gantry cranes, a gate complex, and supporting buildings); (2) alternate sites (referred to as "Alternate Business Locations") south of the railyard site offered for some of the businesses ("non-SCIG tenants") that would be displaced from the railyard site; and (3) the South Lead Tracks that would serve as the primary entry and egress for intermodal trains. Once in operation, the Project would handle cargo containers up to a maximum capacity of 2.8 million TEUs (a standard measure of containerized cargo), or 1.5 million containers, per year. A key operational feature of the Project would be that most of the trucks currently traveling between marine terminals and BNSF's Hobart intermodal railyard near downtown Los Angeles, a journey of over 20 miles, would instead travel between the terminals and the SCIG facility, a distance of approximately four miles.

Uses surrounding the SCIG Project site include industrial facilities to the north (notably the ICTF), west, and south of the Project site. To the east of the Project site are the Southern California Edison right of way, the Terminal Island Freeway and West Long Beach, which is predominantly a single-

family residential area, but also includes schools, child care and nursing care facilities, supportive housing complexes, a small medical center, parks, numerous commercial businesses, and several warehousing and light industrial facilities.

ES 3 OFFSITE AMBIENT AIR POLLUTANT CONCENTRATIONS

ES 3.1 METHODOLOGY

For Impact AQ-4, the 2013 Final EIR addressed the potential for Project operations to result in offsite ambient air pollutant concentrations that would exceed a South Coast Air Quality Management District ("SCAQMD") threshold of significance. The 2013 Final EIR used a "composite emissions scenario" approach, under which dispersions of pollutant emissions were modeled for a single analytical scenario that consisted of a combination of the peak year (for the annual NO_2 and PM_{10} concentration thresholds), peak day (for the 24-hour PM_{10} and $PM_{2.5}$ concentration thresholds), or peak hour (for the 1-hour NO_2) emissions within the modeling domain by source category. This composite emissions scenario approach was characterized in *City of Long Beach* as producing a "worst case" analysis.

The modeling approach in this Revised Draft EIR differs from the original analysis in that it models emissions that are projected to occur in each of six individual Benchmark Years: the four analysis years evaluated in the 2013 Final EIR (2016 [the "opening year"], 2023, 2035, and 2046/2066), as well as two interpolated analysis years -- 2020 and 2030. Under the approach in this Revised Draft EIR, the same modeled dispersion factors developed as part of the 2013 Final EIR are now multiplied by emission rates specific to each Benchmark Year, rather than the maximum emissions values developed under the 2013 composite scenario. Because the same dispersion factors are used, the Revised Draft EIR results are based on all the same assumptions used in the 2013 Final EIR – the same modeling codes, the same meteorological data, the same monitored background data, and the same source inputs. Stated simply, the concentrations modeled in the 2013 EIR for a single composite or "worst case" scenario are modeled in this Revised Draft EIR for a series of Benchmark Years throughout the lifespan of the Project, using the same dispersion factors and assumptions that were used in the 2013 EIR. This Benchmark Year approach allows the Revised Draft EIR to expand the analysis in the 2013 EIR to disclose the magnitude and location of the predicted maximum impacts (also known as the maximally exposed individual, or MEI[1]) for each of the Benchmark Years, thereby portraying the forecasted progression of concentration impacts over the entire lifespan of the Project, consistent with the requirements of the Writ.

The additional Benchmark Year modeling was performed for five project scenarios: the unmitigated Project; the unmitigated Reduced Project (which is identical to the Project through 2023, as throughput would be the same under both scenarios, and similar to the Project thereafter, with the exception that throughput would be restricted to a lower level under the Reduced Project); the No Project; and the mitigated Project and mitigated Reduced Project, which are based on emissions after application of Mitigation Measure AQ-7 (on-site sweeping, which only affects PM). Impacts were assessed by comparing the maximum modeled ground-level concentration (for

[1] See Section 3.4.1 for a discussion of the concept of the MEI.

NO_2), or increment (for PM), in each Benchmark Year to the SCAQMD thresholds used in the 2013 Final EIR.

In addition to the maximum modeled concentration or maximum concentration increment, this Revised Draft EIR also presents contour diagrams (or isopleths) for each pollutant and averaging time in each Benchmark Year, which show the geographic extent of exceedances of the various thresholds for the Project, No Project, and Reduced Project. These diagrams, viewed sequentially, reveal the progression over time and space of the significant impacts of each scenario during the lifespan of the Project, and also disclose whether sensitive receptors and/or residential areas would experience significant impacts in any given Benchmark Year. By examining the series of contour diagrams for a particular pollutant in Benchmark Years over the lifespan of the Project, the decision-makers and the public can evaluate trends over time. Specifically, taken together, the contours show the location of the impacts, their frequency, and their duration. Moreover, by comparing the Project, Reduced Project, and No Project contours, decision-makers and the public can compare the impacts of the Project to the impacts of not building the Project or of operating the Reduced Project.

Additional information about the methodology used in this Revised Draft EIR can be found in Section 3.4.1 and in the Technical Appendix.

ES 3.2 IMPACT ASSESSMENT

The Benchmark Year results provide substantial additional temporal and geographic information about the potential impacts of the Project over its lifespan while generally confirming the significance conclusions of the 2013 Final EIR's composite emissions scenario approach. Moreover, the Benchmark Year concentrations are lower than those presented in the 2013 Final EIR because they are not based on the peak "composite" value for each source category regardless of year. Table ES-1 summarizes the impacts by significance criterion.

Table ES-1: Expanded AQ-4 Dispersion Modeling by Benchmark Year - Summary of Exceedances of Significance Criteria

Pollutant	Unmitigated Project	Mitigated Project	No Project	Unmitigated Reduced Project	Mitigated Reduced Project
1-hour NO_2 (federal and state)	All Benchmark Years	All Benchmark Years	All Benchmark Years	All Benchmark Years	All Benchmark Years
Annual NO_2	2016, 2035, 2046/2066	2016, 2035, 2046/2066	None	2016, 2046/2066	2016, 2046/2066
24-hour PM_{10}	All Benchmark Years	All Benchmark Years	2035, 2046/2066	All Benchmark Years	All Benchmark Years
Annual PM_{10}	2020, 2023, 2030, 2035, 2046/2066	2020, 2023, 2030, 2035, 2046/2066	2035, 2046/2066	2020, 2023, 2030, 2035, 2046/2066	2020, 2023, 2030, 2035, 2046/2066
24-hour $PM_{2.5}$	2016, 2020, 2023	2016, 2020, 2023	None	2016, 2020, 2023	2016, 2020, 2023

ES 3.2.1 1-Hour NO_2

Exceedances: The modeled total ground-level NO_2 concentrations for the Project, No Project, and Reduced Project scenarios would be above the state and federal 1-hour standards and would therefore exceed the CEQA threshold of significance in all Benchmark Years. The Project and Reduced Project scenarios would result in identical concentrations through 2023 when throughput would be the same under both scenarios, and would diverge only slightly in later years as the Reduced Project reaches capacity. Maximum concentrations would be highest under the No Project scenario in all Benchmark Years.

Sources: In general, the primary emissions sources at the MEI for the Project and Reduced Project scenarios would be non-SCIG cargo-handling equipment (CHE) and on-site trucks at the Alternate Business Locations, but for the No Project scenario, the primary emissions at the MEI would be generated by on-site CHE and trucks of the current businesses on the main facility site.

Geographical Extent of Impacts: All three scenarios would affect sensitive receptors and some residential areas as a result of exceedances of the federal standard. In 2016 and 2020 the Project and Reduced Project scenarios' exceedances of the federal standard would affect small residential areas and a few sensitive receptors both in West Long Beach, just east of the Terminal Island Freeway, and in Wilmington, just west of Alameda Street. In 2023 and thereafter, significant impacts on sensitive receptors and residences would be confined to a small area of West Long Beach. The Project and Reduced Project scenarios' exceedances of the 1-hour state standard in each Benchmark Years would be confined to industrial areas and would therefore not affect sensitive receptors or residential areas.

The effects of the No Project scenario from exceedances of the federal and state 1-hour standards, however, would be widespread, particularly for the federal standard, and would occur in every Benchmark Year. At their maximum, in 2016, exceedances of the federal standard, and thus significant impacts, would occur over much of Wilmington, the Port of Long Beach, and the City of Long Beach south of Willow Street and west of Cherry Avenue. Accordingly, the No Project scenario would have significant impacts related to 1-hour NO_2 on numerous sensitive receptors and substantial areas of residential uses. Due to exceedances of the state 1-hour standard, the No Project scenario would also have significant impacts on sensitive uses and residential areas in a small area of West Long Beach.

ES 3.2.2 Annual NO_2

Exceedances: The Project's concentrations would exceed the CEQA significance threshold in Benchmark Years 2016, 2035, and 2046/2066. The Reduced Project scenario's concentrations would exceed the threshold in 2016 and 2046/2066. The exceedances for both scenarios would in every case be marginally above the significance threshold. The No Project scenario's concentrations would not exceed the threshold in any Benchmark Year.

Sources: The major emission sources for the Project and Reduced Project at the MEI would be non-SCIG tenant CHE and on-site trucks until 2023, but would be SCIG trucks thereafter. For the No Project scenario, the main source contributions at the MEI in all Benchmark Years would be non-SCIG tenant CHE, locomotives, and trucks of the current businesses on the site.

Geographical Extent of Impacts: None of the three scenarios would have significant impacts on sensitive receptors or residential areas; the exceedances of the annual standard by the Project and Reduced Project would be confined to industrial areas in the immediate vicinity of the Project site.

ES 3.2.3 24-Hour PM_{10}

Exceedances: The Project and Reduced Project scenarios' concentration increments, with and without mitigation, would exceed the SCAQMD 24-hour criterion, and therefore the CEQA threshold of significance, in every Benchmark Year. The No Project scenario's concentration increments would be above the threshold only in years 2035 and 2046/2066. The mitigated Project and mitigated Reduced Project scenarios' concentration increments would be similar to those of the unmitigated scenarios, as mitigation measure MM AQ-7 would not reduce emissions to below significance in any Benchmark Year.

Sources: The major emission sources for the Project and Reduced Project (both unmitigated and mitigated scenarios) at the MEI would be non-SCIG tenant CHE and trucks until 2023, but SCIG trucks thereafter. For the No Project scenario, the main source contributions at the MEI would be trucks traveling between the marine terminals and the Hobart intermodal facility, and non-SCIG tenant gasoline vehicles.

Geographical Extent of Impacts: Although all three scenarios would result in exceedances of the 24-hour criterion, the exceedances would be restricted to areas of industrial uses in the immediate vicinity of the Project site. No sensitive receptors or residential areas would be affected by those exceedances.

ES 3.2.4 Annual PM_{10}

Exceedances: The unmitigated Project and Reduced Project scenarios' concentration increments would exceed the SCAQMD criteria, and therefore the CEQA significance threshold, in every Benchmark Year except 2016. The No Project scenario's concentration increments would exceed the threshold only in Benchmark Years 2035 and 2046/2066.

The mitigated Project and mitigated Reduced Project scenarios' concentration increments would be almost identical to those of the unmitigated scenarios in the early years, as mitigation measure MM AQ-7 would marginally reduce emissions and therefore concentrations; in the later years, however, the effects of mitigation would be greater. Increments would remain above significance for annual PM_{10} for the same Benchmark Years (2020 through 2046/2066).

Sources: The major emission sources for the Project and Reduced Project (mitigated and unmitigated scenarios) at the MEI in every Benchmark Year would be SCIG trucks, both on-site and off-site. The No Project scenario's main source contributions at the MEI in all Benchmark Years would be trucks traveling between the marine terminals and the Hobart intermodal facility and non-SCIG tenant gasoline vehicles.

Geographical Extent of Impacts: In 2035 and thereafter, the unmitigated Project scenario's exceedances of the annual standard would affect a few sensitive receptors in West Long Beach adjacent to the Terminal Island Freeway (e.g., Bethune Transitional Center and the Century Villages at Cabrillo), and exceedances at a few residences along San Gabriel Drive were

conservatively assumed. The mitigated Project scenario's exceedances would be slightly less extensive, and would not affect any sensitive receptors or residences in any Benchmark Year.

The No Project scenario's exceedances in 2035 and thereafter would occur in a narrow strip centered on I-710 north of the Project site, which could have significant impacts on small residential areas immediately adjacent to the freeway.

The mitigated and unmitigated Reduced Project scenarios' exceedances would not affect any sensitive receptors or residential areas in any Benchmark Year.

ES 3.2.5 24-Hour $PM_{2.5}$

Exceedances: For the Project and Reduced Project, both the unmitigated and the mitigated scenarios would result in concentration increments above the SCAQMD thresholds, and would therefore exceed the CEQA significance threshold, in Benchmark Years 2016, 2020, and 2023. The No Project scenario's increments would not exceed the significance threshold in any Benchmark Year.

Sources: For the Project and Reduced Project scenarios, the main source contributors to the maximum increment for 24-hour $PM_{2.5}$ concentrations would be non-SCIG tenant CHE and onsite trucks. The No Project scenario would not result in exceedances of the significance criterion.

Geographical Extent of Impacts: The Project and the Reduced Project scenarios' significant impacts would be restricted to industrial areas in the immediate vicinity of the SCIG site. Accordingly, no sensitive receptors or residential areas would experience significant impacts related to 24-hour $PM_{2.5}$ in any Benchmark Year.

ES 3.2.6 Health Effects of Significant Air Quality Impacts

There is currently no accepted methodology available that can accurately quantify local health effects from ambient NO_2 concentrations associated with an individual project. Therefore, the analysis in this Revised Draft EIR is limited to a qualitative description of the types of adverse health effects associated with exposure to NO_2 concentrations exceeding SCAQMD significance thresholds.

According to the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB), a causal relationship exists between short-term (and, likely, long-term) NO_2 exposure and respiratory effects such as asthma attacks. There is also suggestive evidence of links between NO_2 exposure and a variety of ailments such as cardiovascular effects, diabetes, mortality, low birth weights, and cancer.

With respect to PM, there is currently no accepted methodology available that can accurately quantify local health effects from ambient PM concentrations associated with an individual project. However, PM is a component of air toxics, and the health risk assessment prepared for the 2013 Final EIR, while not specific to PM, did address local health effects of air toxics.

The main conclusions of EPA and CARB are that health effects associated with exposure to PM include mortality, increased hospital admissions for cardiopulmonary causes, acute and chronic bronchitis, asthma attacks and emergency room visits, respiratory symptoms, and days with some

restriction in activity. These adverse health effects have been reported primarily in infants, children, the elderly, and those with pre-existing cardiopulmonary disease.

ES 4 CUMULATIVE OFFSITE AMBIENT AIR POLLUTANT CONCENTRATION IMPACTS

ES 4.1 INTRODUCTION

This Revised Draft EIR adds information to the 2013 Final EIR's analysis of cumulative offsite air pollution concentration impacts (Cumulative Impact AQ-4), with disclosure of additional information about potential cumulative impacts of the SCIG Project in combination with the proposed ICTF Expansion Project located immediately north of the SCIG Project site. The combined cumulative analysis discloses the potential cumulative effect of SCIG Project and ICTF Expansion Project on ambient air pollutant concentrations at sensitive receptors or residential areas in the vicinity of both projects.

The 2013 Final EIR analyzed the cumulative impacts of the Project in combination with 170 other present or reasonably foreseeable future projects, including the ICTF Expansion Project. *City of Long Beach* did not rule that the EIR's cumulative impact significance conclusions were inaccurate but did hold that its discussion of Cumulative Impact AQ-4 had identified potential cumulative impacts of the ICTF Expansion Project, "in such general terms that the 'big picture' – two large railyard expansions located next to one [another] – is missing from the analysis," and that LAHD must make a "good faith and reasonable disclosure" of the cumulative air pollutant concentration impacts before approving CEQA review of the SCIG Project. This Revised Draft EIR, therefore, only re-analyzes the potential cumulative AQ-4 impacts of the SCIG Project in combination with the ICTF Expansion Project; the other related projects are not included in this analysis.

ES 4.2 METHODOLOGY

The cumulative analysis in this Revised Draft EIR is based on the latest dispersion modeling for the ICTF Expansion Project, which was performed by the ICTF Joint Powers Authority (JPA) in or before 2015. That analysis modeled a single "worst-case" composite emissions scenario for a 15-year operational life of the ICTF Expansion Project (from 2020 to 2035), similar to the approach used in the 2013 Final EIR for the SCIG Project, and used 2010 as its CEQA baseline year. In this revised cumulative analysis, the ICTF results for each pollutant and averaging period were compared to the SCIG Project results developed for each Benchmark Year. These comparisons used the same significance thresholds as the 2013 Final EIR's analysis.

For each SCIG Benchmark Year, LAHD compared the unmitigated significant impacts of the SCIG Project as identified in Chapter 3 of this Revised Draft EIR to the impacts of the ICTF Expansion Project from the ICTF modeling composite emissions scenario, then plotted the geographic extent of exceedances to identify overlapping impacts in each Benchmark Year.

In these plots, the ICTF exceedance contour is identical in every Benchmark Year, since it is based on a single composite analysis, and the SCIG exceedance contours vary from year to year in accordance with the SCIG Project modeling results.

ES 4.3 ADDITIONAL INFORMATION REGARDING THE POTENTIAL CUMULATIVE AQ-4 IMPACTS OF THE COMBINED SCIG AND ICTF PROJECTS

ES 4.3.1 Combined Cumulative NO_2 Impacts

The SCIG Project was estimated to result in ground-level concentrations of NO_2 exceeding the SCAQMD significance thresholds for federal and state 1-hour criteria in all Benchmark Years, and for the annual criterion in 2016, 2035, and 2046/2066. The ICTF Expansion Project's composite analysis identified exceedances of all three thresholds.

1-Hour NO_2: The geographical analysis showed that exceedances of the 1-hour NO_2 federal standard by the two projects overlapped in all Benchmark Years (exceedances of the state threshold did not overlap). Most of the overlap occurred in the industrial area west of the SCIG Project site and did not affect sensitive receptors or residential areas. However, a small overlap occurred around the intersection of Willow Street and the Terminal Island Freeway in all years, and starting in 2046 that overlap could affect one sensitive receptor (the Buddhist temple) and a very small residential area on the west side of Webster Avenue. For this overlap area, cumulative impacts of the SCIG Project and the ICTF Expansion Project with respect to 1-hour NO_2 federal concentrations would be significant. Additionally, receptors that are outside of but close to both significant impact contours represent areas where the two projects, while not having significant impacts on their own, could combine to produce significant cumulative impacts. For 1-hour NO_2, these areas include portions of West Long Beach closest to the Project site.

Annual NO_2: The geographical analysis showed no overlapping areas of exceedance of the NO_2 annual threshold in any Benchmark Year. Because the significant impact contours for the SCIG Project and the ICTF Expansion Project are not near each other, it is unlikely that less-than-significant impacts from the two projects would combine to produce a significant cumulative impact. Accordingly, it is unlikely that there would be combined cumulative impacts of the SCIG Project and the ICTF Expansion Project with respect to annual NO_2 concentrations.

ES 4.3.2 Combined Cumulative Particulate Matter Impacts

This analysis showed no overlapping areas of exceedance in any Benchmark Year for either PM_{10} or $PM_{2.5}$. The significant increments due to the SCIG Project and positive increments due to ICTF Expansion Project are widely separated geographically and thus unlikely to combine to produce significant cumulative impacts. Accordingly, it is unlikely that there would be combined cumulative impacts of the SCIG Project and the ICTF Expansion Project with respect to particulate matter.

CHAPTER 1: INTRODUCTION

1.1. BACKGROUND

On February 22, 2013, the City of Los Angeles Harbor Department ("LAHD") released the Final Environmental Impact Report ("Final EIR"; State Clearinghouse Number 2005091116) pursuant to the California Environmental Quality Act ("CEQA") for the Southern California International Gateway Project ("SCIG," or the "Project"). The Project consists of the construction and operation, by BNSF Railway Company ("BNSF"), of a new near-dock intermodal rail facility that would handle containerized cargo transported through the Ports of Los Angeles and Long Beach, collectively known as the "San Pedro Bay Ports" or "Ports." The release of the Final EIR followed the release of a Draft Environmental Impact Report ("Draft EIR") on September 23, 2011 and a Recirculated Draft Environmental Impact Report ("Recirculated Draft EIR") on September 25, 2012. The Recirculated Draft EIR provided updated Project parameters and cargo forecasts, and presented revised analyses of certain Project impacts.

On March 7, 2013, the City, by and through its Board of Harbor Commissioners ("Board"), certified the EIR for the Project ("2013 Final EIR"), adopted related findings and documents, and approved the Project. On March 21, 2013, the Board approved the Site Preparation and Access Agreement and Permit 901 governing the Project's 50-year lease (collectively, "SCIG Project Agreements"). On May 8, 2013, the Los Angeles City Council ("City Council") affirmed the Board's certification and approved the SCIG Project Agreements. After a period of litigation on the 2013 Final EIR, on January 12, 2018, the California Court of Appeal, First District, ruled in *City of Long Beach v. City of Los Angeles* (19 Cal.App.5th 465) ("*City of Long Beach*") that the EIR's disclosure of certain Project-specific and cumulative offsite ambient air pollution concentration impacts did not comply with CEQA. The remainder of the 2013 Final EIR was either not challenged in court or was found by the Court of Appeal to be CEQA-compliant, and therefore remains valid, has not been revised, and is not being recirculated.

On May 18, 2018, the Contra Costa County Superior Court ("Superior Court") issued its Judgment Granting in Part Peremptory Writ of Mandate Following Appeal ("Judgment") and Peremptory Writ of Mandate Following Appeal ("Writ"). The Writ commanded Respondents City and LAHD to set aside the certification of the 2013 Final EIR, as well as the approval of the SCIG Project Agreements. The Writ further directed the City and LAHD to prepare the following analyses and/or disclosures in a revised draft EIR, circulate them for public comment, and take them into account in reconsidering approval of the Project:

a. An analysis and/or disclosure of the offsite ambient air pollution concentrations (Impact AQ-4) that allows the EIR to disclose or estimate how frequently and for what length of time the level of air pollution in the area surrounding the proposed rail yard will exceed the standard of significance. "A reasonable selection of benchmark years, as in other analyses, may be acceptable." (*City of Long Beach*, 19 Cal.App.5th at 487-488.)

b. An analysis of Cumulative Impact AQ-4 that makes a "good faith and reasonable disclosure" of the potential cumulative impacts of the SCIG Project, in combination with the proposed Union Pacific Railroad Intermodal Container Facility ("ICTF")

expansion project, in sufficient detail to disclose the potential cumulative impacts of two large railyard expansion projects located next to one another. (*City of Long Beach,* 19 Cal.App.5th at 490.)

On August 23, 2018, the Board adopted Resolution No. 18-8333 and Order No. 18-7242, setting aside the Board's March 7, 2013 certification of the 2013 Final EIR and approval of SCIG and the SCIG Project Agreements, and directed LAHD to suspend any and all Project activities until such time as the City and BNSF have taken actions necessary to bring determinations, findings, and decisions related to the Project into compliance with CEQA. On September 18, 2018, the City Council adopted a Motion under Council File No. 13-0295-S9 to rescind and set aside City Council actions, resolutions, and orders related to the SCIG Project approval. On October 17, 2018, the City filed the Initial Return to the Writ with the Superior Court, confirming the City's completion of the initial necessary actions to comply with the Writ, including the adoption of the above-described Resolution, Order, and Motion.

This revised draft EIR (hereinafter, "Revised Draft EIR") was prepared in response to, and in compliance with, the Court of Appeal's ruling in *City of Long Beach* and the Superior Court's Writ. After the Board has certified a "Revised Final EIR" that includes the 2013 Final EIR and this Revised Draft EIR, the Board would use the information herein in a proceeding to reconsider approval of the Project.

1.2. NATURE AND INTENDED USES OF THIS REVISED DRAFT EIR

This document is a court-ordered Revised Draft EIR, limited to providing additional information and disclosure related to the portions of the 2013 Final EIR concerning Project-specific and cumulative offsite ambient air pollution concentration potential impacts (air quality Impact AQ-4 and Cumulative Impact AQ-4). Unless otherwise specifically noted, the remainder of the 2013 Final EIR is unchanged by this Revised Draft EIR. The unchanged portions of the 2013 Final EIR enjoy a presumption of legal validity, and are no longer subject to legal challenge. (See Pub. Resources Code, Section 21167.2, 21167.3; see also *Laurel Heights Improvement Assn. v. Regents of the University of California* (1993) 6 Cal.4th 1112, 1130 [even where an initial EIR may have been flawed, the presumption of validity serves "the interests of finality" in administrative decision-making].)

Of the eight air quality impact areas evaluated in the 2013 Final EIR for the Project and alternatives, only Project-specific Impact AQ-4 and Cumulative Impact AQ-4 were successfully challenged in court as set forth in the Court of Appeal's ruling in *City of Long Beach* and require additional disclosures under the Writ. Under such circumstances, in which a lead agency, on remand, is revising only limited portions of an EIR found to be non-compliant with CEQA by a reviewing court, the lead agency need only circulate those portions of the original EIR that have been modified in response to the court's directive. (See Pub. Resources Code, Section 21168.9, subd. (b) [relief ordered by court in CEQA case shall include only those specific mandates which are necessary to achieve compliance with CEQA]; *Planning and Conservation League v. Castaic Lake Water Agency* (2009) 180 Cal.App.4th 210, 225-229 [attacks on an EIR prepared on remand from an adverse court decision must be limited to aspects of new EIR that are "materially different" from the original EIR]; and *Ione Valley Land, Air, and Water Defense Alliance, LLC v. County of*

Amador (2019) 33 Cal.App.5th 165, 173 ["partially recirculated EIR" prepared in response to writ requiring decertification of entire prior EIR after adverse court decision was properly limited to only those particular analyses ordered performed pursuant to writ].)

Therefore, reviewers of this Revised Draft EIR should limit their comments to the additional information contained in this Revised Draft EIR (i.e., the disclosure of additional information concerning Project-specific and Cumulative Impact AQ-4), and LAHD will respond only to comments that relate to the additional information contained in this Revised Draft EIR. The remainder of the 2013 Final EIR remains unchanged and valid, and is not being circulated for further public comment.

This Revised Draft EIR is an informational document, prepared pursuant to the Writ, to inform public agency decision-makers and the general public of (1) potential offsite ambient air pollution concentration impacts from Project operations (including the No Project and Reduced Project alternatives, and (2) potential combined cumulative offsite ambient air pollution concentration impacts of SCIG and ICTF Expansion Project operations.

1.3. LEAD, RESPONSIBLE AND TRUSTEE AGENCIES

Agency roles and responsibilities are unchanged from the 2013 Final EIR (Section 1.3 of the Recirculated Draft EIR). LAHD remains the lead agency.

1.4. REVISED DRAFT EIR ORGANIZATION

This Revised Draft Revised EIR is organized into the chapters described in Table 1-1.

Table 1-1: Revised Draft EIR Organization

Revised Draft EIR Section	Description
Executive Summary	Introduces the Project and provides an overview of the methodology and results of the analyses in this Revised Draft EIR.
Chapter 1: Introduction	Summarizes the Project and describes the background and history of the environmental review under CEQA, describes the nature and intended uses of this Revised Draft EIR, and describes the organization of this document.
Chapter 2: Project Description	Summarizes Chapter 2 of the Recirculated Draft EIR (as modified by Section 3.2.3 of the Final EIR), which is incorporated by reference and which describes the purpose, need, and objectives of the proposed Project and the proposed Project elements. This chapter is provided only to establish context for Chapters 3 and 4, and is not being circulated for further public comment.
Chapter 3: Offsite Ambient Air Pollutant Concentrations	Consistent with the Writ, Chapter 3 provides additional information about potential offsite ambient air pollutant concentrations associated with Project operations ("Impact AQ-4" in the Recirculated Draft EIR) in the following Benchmark

Revised Draft EIR Section	Description
	Years: 2016, 2020, 2023, 2030, 2035, and 2046/2066. Chapter 3 also provides similar additional information for the No Project and Reduced Project alternatives for the same Benchmark Years, which allows comparison of the Project impacts to impacts of not building the Project or building the Reduced Project alternative. Chapter 3 not only discloses the "maximum" modeled impacts for each Benchmark Year, but also provides discussion and diagrams of the geographic extent of any significant impacts in each Benchmark Year for the Project, No Project, and Reduced Project. Additionally, Chapter 3 discloses the effects of mitigation measures on the Project and Reduced Project impacts.
Chapter 4: Cumulative Offsite Ambient Air Pollutant Concentrations (Project and ICTF Expansion Project Combined)	Consistent with the Writ, Chapter 4 provides additional information about potential impacts of offsite ambient air pollutant concentrations associated with Project operations in combination with operations of the proposed ICTF Expansion Project operations (Cumulative Impact AQ-4 in the Recirculated Draft EIR).
Technical Appendix	Presents additional background information and technical details supporting the analyses in Chapters 3 and 4.

1.5. DOCUMENTS INCORPORATED BY REFERENCE

Except as provided herein, and to the extent it does not conflict with the additional information provided in this Revised Draft EIR regarding Impact AQ-4 and Cumulative Impact AQ-4 potential impacts and revised methodologies as described in Chapters 3 and 4, the 2013 Final EIR (State Clearinghouse Number 2005091116) is incorporated herein by reference to provide context for the Revised Draft EIR.

1.6. PROVISIONS FOR PUBLIC REVIEW AND COMMENT

In light of the foregoing, LAHD is circulating this Revised Draft EIR for a public review period of 45 days. A copy of this Revised Draft EIR, as well as the 2013 Final EIR (including the DEIR, Recirculated Draft EIR, and FEIR) and the administrative record, are available for public review at the Harbor Department's Environmental Management Division located at 425 S. Palos Verdes St, 4th Floor, San Pedro. Due to COVID-19, please send your request to ceqacommments@portla.org to schedule an appointment to pick up a copy for viewing. In addition, electronic versions of the Revised Draft EIR and the 2013 Final EIR are available on the LAHD website at https://www.portoflosangeles.org.

Please submit written or e-mailed comments on only the information and analysis contained in this Revised Draft EIR to:

Christopher Cannon, Director
Environmental Management Division
Los Angeles Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

or

Email to ceqacomments@portla.org.

CHAPTER 2: PROJECT DESCRIPTION

The description of the Project remains unchanged from Chapter 2 of the Recirculated Draft EIR, as modified by Section 3.2.3 of the Final EIR. In summary, the Project has three major physical components: (1) the railyard itself (including the North Lead Tracks), which consists of railroad tracks, electric powered rail-mounted gantry cranes for loading and unloading railcars, a gate complex for handling trucks, and supporting buildings; (2) the alternate sites offered for some of the businesses that would be displaced from the railyard site (hereinafter, these businesses are referred to as "non-SCIG tenants" and the alternate sites as "Alternate Business Locations"); and (3) the South Lead Tracks that provide the principal access to the site for intermodal trains. These components are identified on Figure 2-1. Once in operation, the Project would handle cargo containers up to a maximum capacity of 2.8 million TEUs (a standard measure of containerized cargo), or 1.5 million containers, per year. A key result of Project implementation is that most of the trucks that currently travel between the marine terminals and BNSF's Hobart intermodal railyard near downtown Los Angeles (a distance of approximately 20 miles) would instead travel between the terminals and the Project (a distance of approximately four miles).

The site of the railyard component (hereinafter, "Project site" or "SCIG site") is zoned for heavy industrial uses and bounded generally by Sepulveda Boulevard to the north, Pacific Coast Highway to the south, the Dominguez Channel to the west, and the Terminal Island ("TI") Freeway to the east. At present, the Project site is devoted to a variety of uses by the current non-SCIG tenants that are related to goods movement and transportation (including the use of cargo handling equipment ("CHE") and off-site diesel and gasoline trucks), an electrical transmission line right-of-way, and miscellaneous other industrial and institutional uses.

Uses surrounding the Project site include industrial facilities to the north (notably, the existing ICTF railyard), west, and south, and the TI Freeway to the east. The area beyond the TI Freeway to the east, within West Long Beach, is predominantly a single-family residential area, but also includes commercial businesses and several warehousing and light industrial facilities. This area also includes a number of sensitive receptors that were considered in both the 2013 Final EIR and this Revised Draft EIR, including two high schools, a middle school, two elementary schools, parks and athletic fields, two child care centers, a supportive housing complex, and a small medical center (see Section 3.2.2.4 of the Recirculated Draft EIR, as modified by Section 3.2.5 of the Final EIR). Many of these features are also identified on Figure 2-1.

Figure 2-1. SCIG Project Site Location

CHAPTER 3: OFFSITE AMBIENT AIR POLLUTANT CONCENTRATIONS

3.1. INTRODUCTION

This chapter provides additional information about the impacts of the operational offsite ambient air pollutant concentrations impacts (Impact AQ-4) of the Project, as required by the Writ. Additional information about the operational offsite ambient air pollutant concentration impacts of the No Project and Reduced Project is also provided in this Chapter.

Section 3.2 of the Recirculated Draft EIR, as modified by Section 3.2.5 of the Final EIR, describes the predicted construction and operational air quality impacts of the Project. Section 5.4.2.2 and Section 5.5.2.2 of the Recirculated Draft EIR, as modified by Section 3.2.17 of the Final EIR, describe the predicted operational air quality impacts of the No Project and Reduced Project alternatives under Impact AQ-4.

3.2. ENVIRONMENTAL SETTING

The environmental setting, baseline conditions, and sensitive receptors are unchanged from the 2013 Final EIR (Section 3.2.2 of the Recirculated Draft EIR, as modified by Section 3.2.5 of the Final EIR). The 2010 baseline land uses continue, although in some instances a different entity is permitted to conduct them.

3.3. APPLICABLE REGULATIONS

The same regulations used for the 2013 Final EIR are used in this Revised Draft EIR. (See Section 3.2.3 of the Recirculated Draft EIR, as modified by Section 3.2.5 of the Final EIR.)

3.4. METHODOLOGY

As indicated in Section 1.1, the Court of Appeal's ruling in *City of Long Beach* found the methodology used in the 2013 Final EIR under AQ-4 to result in an incomplete analysis of impacts. This section summarizes that methodology, describes the court's findings regarding that methodology, and summarizes the revised methodology used in this Revised Draft EIR.

3.4.1 2013 FINAL EIR AQ-4 METHODOLOGY

Impact AQ-4 evaluates whether Project operations would result in offsite ambient air pollutant concentrations that would exceed the relevant SCAQMD thresholds of significance for criteria pollutants. For the 2013 Final EIR, as described in Section 3.2.4.1 of the Recirculated Draft EIR (as modified by Section 3.2.5 of the Final EIR), and Appendix C2 of the Final EIR, LAHD conducted dispersion modeling to estimate maximum ambient offsite air pollutant concentrations from onsite and offsite Project sources (e.g., trucks, trains, CHE, etc.) and compared them to the applicable SCAQMD significance thresholds. In particular, LAHD modeled a *single* "composite emissions scenario" for each pollutant by taking the maximum (or peak) predicted emissions for that pollutant from each source category over the lifespan of the Project regardless of the year in

which those emissions were predicted to occur. For example, the maximum annual emissions for NOx in the 2013 Final EIR were derived by adding emissions from different years: 2016 for CHE and non-SCIG tenant onsite and offsite trucks, 2035 for hostlers and locomotives, and 2046 for SCIG trucks;[2] a similar process was used to develop the scenarios for the other pollutants considered under AQ-4 in the 2013 Final EIR. These maximum emissions values were then used to model the off-site concentrations of each pollutant. Specifically, dispersion modeling was performed using AERMOD and unit emission rates. The output of this modeling resulted in dispersion factors specific to each source category. The dispersion factors for each source category were then multiplied by the source-specific unit emission rates developed under the composite scenario to determine a single modeled concentration at each receiving location (or "receptor").

To determine CEQA significant impacts, LAHD compared (1) the modeled total ground-level concentrations (modeled concentration plus monitored ambient background) of emitted pollutants to the applicable SCAQMD significance threshold, in the case of NO_2 (annual and 1-hour), and (2) the modeled ground-level concentration increments (above the 2010 Baseline) to the applicable SCAQMD significance threshold, in the case of PM_{10} (annual and 24-hour) and $PM_{2.5}$ (24-hour). These different approaches to determining significance reflect the significance thresholds established by the SCAQMD for CEQA analyses. If the receptor with the highest modeled total concentration, in the case of NO_2, or highest modeled concentration increment, in the case of PM_{10} and $PM_{2.5}$, would experience an impact above the applicable threshold, then a CEQA significant impact was found.

The receptor with the highest modeled total concentration or increment, as applicable, is often referred to as the "maximum exposed individual" or "MEI," but it is important to note that the MEI is not defined as a place where someone lives, but rather the point on the modeling grid where the impact is greatest. The modeling grid establishes the points at which the model calculates pollutant concentrations, and the grid points are typically regularly spaced across the geographic area of analysis; accordingly, the MEI is not associated with specific addresses and is often in an industrial area or a vacant field rather than a residential or sensitive location.

Maximum emissions from one pollutant source may not – and typically do not – all occur in the same year, day, or hour as the maximum emissions from another source. Accordingly, the single composite emissions scenario results, by design, in "over-predictive" and "worst-case" estimated operational emissions and, consequently, offsite ambient concentrations. The 2013 Final EIR methodology was useful because it allowed LAHD to evaluate and disclose the potential for the Project's offsite pollution impacts *ever* to exceed a significance threshold for each pollutant at any time during the lifespan of the Project. The same approach was used to model conservative worst-case emissions scenario concentrations for the No Project and Reduced Project alternatives.

In addition to determining whether significant ambient offsite air pollutant concentration impacts may occur, LAHD presented contour diagrams depicting the geographic areas where the total ground-level concentrations in the case of NO_2 (and incremental changes compared to baseline concentrations in the case of PM_{10} and $PM_{2.5}$) may exceed significance standards at any point

[2]Composite scenario operational emissions used for dispersion modeling are summarized in detail in Appendix C2 of the 2013 Final EIR (Tables C2.2-3, C2.2-4, C2.2-5), and the resulting maximum off-site concentrations are presented in Appendix C2 in Tables C2.5-10, C2.5-11, C2.5-13, C2.5-14, C2.5-16, C2.5-17.

during the life of the Project, the No Project, and the Reduced Project (Recirculated Draft EIR figures 3.2-2 through 3.2-6). These contours also showed which sensitive receptors would experience significant impacts from the exceedances. Finally, the contour diagrams illustrated the impact-reducing effect of Mitigation Measure AQ-7 on PM_{10} and $PM_{2.5}$ exceedances for the Project and Reduced Project.[3]

Using the composite emissions scenario methodology, the 2013 Final EIR concluded that Project and Reduced Project operations would have significant impacts on air quality because offsite ambient air pollutant concentrations would exceed the SCAQMD thresholds for 1-hour and annual NO_2, 24-hour and annual PM_{10}, and 24-hour $PM_{2.5}$. The 2013 Final EIR also found that the No Project alternative would have significant impacts on air quality because offsite ambient air pollutant concentrations would exceed the SCAQMD thresholds for 1-hour and annual NO_2, and 24-hour and annual PM_{10}.

3.4.2 COURT OF APPEAL DECISION AND WRIT

As discussed in Chapter 1, the Court of Appeal found fault with the 2013 Final EIR's Impact AQ-4 methodology. Specifically, it found the "composite emissions, or worst-case, methodology" used in the 2013 Final EIR to be "incomplete," and that a "single modeling run with a 50-year analysis does not comply with CEQA." Although the Court expressly found that the EIR's Impact AQ-4 approach was not "misleading," it did find "crucial information" was omitted from the EIR, – namely, that the single composite emissions scenario methodology does not disclose "the frequency of occasions or the estimated length of time during which ambient pollutants will remain at heightened levels – whether the worst case will be the situation for one day or for as long as the railyard is in operation." Further, the Court found this approach did not answer the question, "[w]ill air quality improve over time, or remain constant?"

The Court of Appeal also found the 2013 Final EIR's analysis did not provide sufficient information to understand the geographic distribution of the impacts, i.e., which receptors would experience significant impacts. As an example, the Court wondered why "the concentration of PM_{10} that currently exists over the lengthy stretch of highway over a mile away from the project site will, under the project, be concentrated immediately surrounding the project, which includes both homes and schools."

Finally, the Court of Appeal quoted the Superior Court, which found "insufficient information to permit meaningful comparison of the project and no project alternative." As an example, the Court of Appeal noted that while emissions of PM_{10} would be lower under the Project, the 2013 Final EIR does not explain why concentrations of PM_{10} in the area surrounding the Project would be three times greater under the Project than the No Project scenario.

To assist the City in obtaining the additional information necessary to help answer the above questions, the Court of Appeal found that "[a] reasonable selection of benchmark years, as in other

[3] Mitigation Measure AQ-7 is unchanged from the 2013 Final EIR and reduces only emissions of PM_{10} and $PM_{2.5}$. The measure requires BNSF to sweep the SCIG facility on-site, along routes used by drayage trucks, yard hostlers, service trucks and employee commuter vehicles, on a weekly basis using a commercial street sweeper or any technology with equivalent fugitive dust control.

analyses [in the 2013 Final EIR], may be acceptable." The Court stated that without additional information, the public and decision-makers cannot "fairly consider alternatives and mitigation measures or intelligently balance competing considerations before adopting a statement of overriding considerations."

In accordance with the Court of Appeal's decision, the Superior Court issued the Writ, ordering the City and LAHD to conduct additional analyses and/or make additional disclosures as quoted in Section 1.1 (a), above:

> An analysis and/or disclosure of the offsite ambient air pollution concentrations (Impact AQ-4), which allows the EIR to disclose or estimate how frequently and for what length of time the level of air pollution in the area surrounding the proposal rail yard will exceed the standard of significance. A reasonable selection of benchmark years, as in other analyses, may be acceptable.

3.4.3 REVISED DRAFT EIR AQ-4 METHODOLOGY

The 2013 Final EIR AQ-4 analysis retains relevant information for decision-makers and the public to consider as it provides "worst-case" information. However, in compliance with the Writ and the Court of Appeal's decision in *City of Long Beach*, in this Revised Draft DEIR LAHD extended its prior dispersion modeling of offsite ambient air pollution from the Project, No Project, and Reduced Project; the methodology used to conduct these additional calculations, described more fully in the Technical Appendix, is referred to herein as the "Revised AQ-4 Methodology." Specifically, instead of a *single* composite emissions scenario for the 50-year operational life of SCIG, LAHD extended the 2013 air dispersion modeling (the Final EIR AQ-4 Methodology described above) to produce concentrations at all receptors for *six* benchmark years ("Benchmark Years"). These consisted of the same four years used in the analyses of average daily emissions from Project operations under Impact AQ-3 (2016, 2023, 2035, and 2046/2066[4]) and two additional years based on interpolated data (2020 and 2030, selected to show emissions from relatively evenly spaced-out years over the Project's life).

Under the approach in this Revised Draft EIR, the same modeled dispersion factors developed as part of the 2013 Final EIR are now multiplied by emission rates specific to each Benchmark Year rather than the maximum emissions values developed under the 2013 composite scenario. Because the same dispersion factors are used, the Revised Draft EIR results are based on all the same assumptions used in the 2013 Final EIR – the same modeling codes, the same meteorological data, the same monitored background data, and the same source inputs. Stated simply, the concentrations modeled in the 2013 EIR for a single composite or "worst case" scenario are modeled in this Revised Draft EIR for a series of Benchmark Years throughout the lifespan of the Project, using the same dispersion factors and assumptions that were used in the 2013 EIR. This Benchmark Year approach allows the Revised Draft EIR to expand the analysis in the 2013 EIR

[4] Benchmark Year 2016 is assumed to be the first year of operations for the purposes of the 2013 Final EIR. Benchmark years 2046 and 2066 are combined because the Final EIR assumed the operational emissions (see Table 3.2-26 of Section 3.2 in 2013 Final EIR for the Project; and Chapter 5 Alternatives for No Project and Reduced Project emissions), and, therefore, offsite concentrations, of the Project, No Project, and Reduced Project would not change after 2046.

to disclose the magnitude and location of the predicted maximum impacts (the MEI) for each of the Benchmark Years, thereby portraying the forecasted progression of concentration impacts over the entire lifespan of the Project, consistent with the requirements of the Writ. Table 3-1 summarizes the key steps in the performing the Revised AQ-4 Methodology analysis; additional detail is provided in the Technical Appendix.

Table 3-1: Key Steps in Revised AQ-4 Methodology

Key Step	Details
Identify emission rates developed as part of 2013 Final EIR for each Project Scenario.	• Identified the final operational emissions data files used in the Recirculated Draft EIR and 2013 Final EIR, including data files for all five Project Scenarios, and the final data files for the 2010 Baseline (needed for the analysis of $PM_{2.5}$ and PM_{10}). • No emissions were recalculated for any Project Scenario. • No construction sources were included.
Interpolate emissions rates by source category for the additional Benchmark Years.	• 2016, 2023, 2035, and 2046/2066 emissions remain unchanged from the 2013 Final EIR and Appendix C1. Year 2016 is the assumed opening year of SCIG operations; year 2023 was chosen because CARB's Bus and Truck Rule is expected to be implemented and subsume the CARB Drayage Truck Rule; and year 2046/2066 is representative of full operation and the expected end of the SCIG lease. • Emissions rates from each source category in Benchmark Years 2020 and 2030 were interpolated by LAHD based on adjacent Benchmark Years.
Calculate ground level pollutant concentrations for each Benchmark Year.	• Used same dispersion factors developed in 2013 Final EIR analysis. Because the same dispersion factors are used, the Revised AQ-4 Methodology is based on all the same assumptions used in the 2013 Final EIR – the same modeling codes, the same meteorological data, the same monitored background data and the same source inputs. • For each Benchmark Year, multiplied the dispersion factors from the 2013 Final EIR dispersion model output by the average emission rates for each operational emissions source, pollutant, and period in a Benchmark Year using the same process used in 2013 Final EIR analysis. • For each Project Scenario, determined the maximum total concentrations and increments (i.e., MEIs) for each Benchmark Year, pollutant, and averaging period.
Conduct impact assessments.	• Compared the total modeled ground-level concentrations (modeled concentration plus background concentration from the 2013 Final EIR) to the applicable SCAQMD significance thresholds for NO_2.

Key Step	Details
	• Compared incremental modeled ground-level concentrations above the 2010 Baseline to the applicable SCAQMD significance thresholds for PM_{10} and $PM_{2.5}$. • Prepared contour diagrams showing (1) the location of the MEI and (2) the entire geographic extent of the impacts above the threshold. • For exceedances, conducted evaluation of foreseeable health-related effects of significant concentration impacts in compliance with the requirements of *Friant Ranch*.

LAHD performed the additional Benchmark Year modeling for five project scenarios: the unmitigated and mitigated Project, the unmitigated and mitigated Reduced Project, and the No Project ("Project Scenarios"); the mitigated Project and mitigated Reduced Project are based on emissions from sources after Mitigation Measure AQ-7 is considered. Maximum ground-level concentrations (i.e., concentrations at the MEI) for each Benchmark Year for each Project Scenario are disclosed in this chapter. To determine significant impacts for each Project Scenario, LAHD compared the maximum ground-level concentration in each Benchmark Year to the applicable SCAQMD threshold:

- For NO_2, the applicable SCAQMD significance thresholds are compared to total ground-level concentrations in each Benchmark Year (i.e., the maximum modeled concentration due to Project emissions added to the background concentration taken from the Recirculated Draft EIR);[5]
- For PM_{10} and $PM_{2.5}$- the applicable SCAQMD significance thresholds are compared to modeled ground-level concentration increments above the 2010 Baseline used in the 2013 Final EIR. For each Benchmark Year, if the highest concentration increment would exceed the applicable threshold, then a significant impact under CEQA was found for the receptor at that location (i.e., the MEI), regardless of the zoning at that location (e.g., industrial, commercial, residential).

The MEI total ground-level concentrations or concentration increments used to determine the significance of CEQA impacts tell only part of the story, however, because they disclose impacts at only a single location. To aid understanding of the full nature and extent of the identified significant impacts, this chapter of the Revised Draft EIR also presents contour diagrams (or isopleths) for each pollutant in each Benchmark Year that show the geographic extent of all exceedances of the threshold for the mitigated Project, No Project, and mitigated Reduced Project.

[5] Additional calculations for concentrations of CO and SO_2 were also performed using the Revised Draft EIR AQ-4 Methodology for purposes of preparation of this Revised Draft EIR and confirmed to be below the applicable significance thresholds in every Benchmark Year. This was expected because the 2013 Final EIR composite modeling demonstrated that CO and SO_2 impacts were less than significant, and analyses based on individual Benchmark Year emission rates using the Revised Draft EIR AQ-4 Methodology will necessarily result in equal or lower concentrations. In accordance with the Writ, further disclosures for CO and SO_2 are not necessary.

These diagrams reveal whether residential and/or sensitive receptors would experience significant impacts in any given Benchmark Year. To give an indication of where, within the contours, significant impacts would be highest, the MEI is also plotted on the contour diagrams (labeled "Maximum Ground Level Concentration" for NO_2 or "Maximum Increment" for PM_{10} and $PM_{2.5}$). The areas closer to the edge of the contour line (which represents the applicable SCAQMD significance threshold) have modeled concentrations closer to the threshold, while the areas closer to the MEI would have higher total concentrations or concentration increments. The contour diagrams are based on the same modeling domain used in the 2013 Final EIR, which is considerably larger and more detailed than typically used in CEQA analyses, allowing a depiction of impacts at considerable distances from the SCIG facility. Nevertheless, the concentrations are calculated at discrete receptors spaced in grids throughout the modeling domain. In cases where an exceedance is calculated at a receptor directly adjacent to a residential area, a significant impact is conservatively assumed, consistent with the resolution of the modeling and consistent with CEQA practice.

By examining the series of contour diagrams for a particular pollutant in Benchmark Years over the life of the Project, the decision-makers and the public can evaluate trends over time. Specifically, taken together, the contours show the location of the impacts, their frequency, and their duration. Moreover, by comparing the Project, Reduced Project, and No Project contours, the decision-makers and the public can compare the impacts of the Project to the impacts of not building the Project or of operating the Reduced Project.

In the Benchmark Year analyses, significance thresholds remain unchanged from the 2013 Final EIR. The NO_2 thresholds are absolute thresholds; the modeled impacts from Project operations are added to the background concentration for the Project vicinity and presented in this analysis as total ground-level concentrations. The ground-level concentrations are then compared to the threshold at each receptor. To evaluate Project impacts related to ambient NO_2 concentrations, the analysis uses three standards: the federal 1-hour National Ambient Air Quality Standard ("NAAQS") of 188 $\mu g/m^3$, the current SCAQMD NO_2 threshold based on the 1-hour California ambient air quality standard of 338 $\mu g/m^3$, and the SCAQMD NO_2 threshold based on the California annual ambient air quality standard of 56 $\mu g/m^3$. Impacts are calculated based on measured background concentrations plus maximum modeled concentrations. Background concentrations are calculated differently for the two standards: the 1-hour NAAQS is defined as the 98^{th} percentile monitored value while the 1-hour California standard is defined as the maximum. This difference means that the calculated concentration at a given point is often different for the two standards, even when a project's emissions are the same, with the result that the contour maps differ between the two measures of NO_2.

The same dispersion factors used to obtain the single composite emissions scenario results disclosed in the 2013 Final EIR are used to obtain the Benchmark Year results disclosed in this Revised Draft EIR. Because the same dispersion factors are used, the Revised AQ-4 Methodology is based on all the same assumptions used in the 2013 Final EIR: the same modeling codes, the same meteorological data, the same monitored background data, and the same source inputs. Further, the 2010 Baseline is also used to determine concentration increments for PM_{10} and $PM_{2.5}$. This Revised AQ-4 Methodology, accordingly, provides additional Benchmark Year information about the single composite emissions scenario disclosed in the 2013 Final EIR.

The results of the additional analyses for the Project, No Project, and Reduced Project are set forth in Section 3.5 of this Chapter. As shown below, the results provide substantial additional information about the potential impacts of the Project while largely confirming the significance findings of the single composite emissions scenario in the 2013 Final EIR. Moreover, the Benchmark Year concentrations are always equal or lower than those resulting from the composite emissions scenario approach used in the 2013 Final EIR because they are not based on the peak value for each source category regardless of year. Rather, the results of the additional analysis are based on predicted emissions in the Benchmark Years, which vary from year to year based on multiple factors such as facility throughput, number of trips, engine deterioration and turnover, regulations, etc. Thus, the Revised AQ-4 Methodology is not a hypothetical "worst-case" approach, but rather informs the decision-makers and the public of reasonably foreseeable impacts and how they will vary over the lifespan of the Project.

Finally, for exceedances of SCAQMD thresholds, LAHD conducted an evaluation of whether significant ambient criteria air pollutant concentration impacts would result in any foreseeable health effects. LAHD conducted this review to provide additional information and disclosures of foreseeable health-related effects from ambient air pollutant concentrations above the applicable SCAQMD thresholds, or – to the extent such disclosure is not possible – an evidence-backed explanation of why such information is not obtainable. The evaluation complies with the requirements of *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502 ("*Friant Ranch*"), and is unrelated to the 2013 Final EIR's AQ-7 analysis for toxic air contaminants, which remains unchanged.

The Revised AQ-4 Methodology allows the public and decision-makers to answer the following questions based on the additional information provided in this Revised Draft EIR:

- Do exceedances occur over the life of the Project or are they limited in duration?
- What is the geographic distribution of the maximum exceedances? What is the geographic extent of any exceedances at the beginning and end of the Project lifespan, and at each Benchmark Year? To what extent do residential areas and sensitive receptors experience significant impacts as a result of the exceedances during the life of the Project?
- Do significant offsite air pollutant impacts from the Project increase or decrease over time? Do they change locations, and if so, why?
- How does the Project compare, both in both the scope of any exceedances and their geographic distribution, with the No Project and Reduced Project scenarios at different points in the Project's 50-year lifespan?

3.5. IMPACTS AND MITIGATION

3.5.1 INTRODUCTION

The Benchmark Year concentrations for the Unmitigated Project (also referred to simply as the Project), Unmitigated Reduced Project (also referred to simply as Reduced Project), and No Project set forth in this section provide substantial additional information about the potential

impacts of the various scenarios while generally confirming the significance conclusions of the single composite emissions scenario approach that was presented in the 2013 Final EIR. Moreover, the Benchmark Year concentrations are always equal to or lower than those resulting from the composite emissions scenario approach used in the 2013 Final EIR because, in keeping with the holding in *City of Long Beach* and the requirements of the Writ, they are not based on the peak value for each source category regardless of year.

Exceedances of CEQA significance thresholds for NO_2, PM_{10}, and $PM_{2.5}$ are summarized in Table 3-2, and are further discussed in Section 3.5.2 (for NO_2), and in Section 3.5.3 (for PM_{10} and $PM_{2.5}$). Each section includes:

- a discussion of source contributions to the MEIs;
- disclosure of the geographic extent and duration of exceedances through a series of contour maps and a summary of total ground level concentrations or increments (i.e., MEIs);
- a discussion of health effects consistent with *Friant Ranch*.

For further information on the effects of Mitigation Measure AQ-7 on the Project and Reduced Project scenarios, Section 3.5.3.3 includes particulate matter concentration impact tables for both the unmitigated and mitigated Project and Reduced Project scenarios. Because Mitigation Measure AQ-7 only affects exceedances of 24-hour and annual PM_{10} and 24-hour $PM_{2.5}$, NO_2 concentrations are the same for the mitigated and unmitigated Project and Reduced Project scenarios. As shown in Section 3.5.3.3, Mitigation Measure AQ-7 did not reduce any unmitigated Project or unmitigated Reduced Project impacts to below the relevant significance threshold.

Table 3-2: Additional AQ-4 Dispersion Modeling by Benchmark Year -- Summary of Exceedances of Significance Criteria

Pollutant	Unmitigated Project	Mitigated Project	No Project	Unmitigated Reduced Project	Mitigated Reduced Project
1-hour NO_2 (federal and state)	All Benchmark Years	All Benchmark Years	All Benchmark Years	All Benchmark Years	All Benchmark Years
Annual NO_2	2016, 2035, 2046/2066	2016, 2035, 2046/2066	None	2016, 2046/2066	2016, 2046/2066
24-hour PM_{10}	All Benchmark Years	All Benchmark Years	2035, 2046/2066	All Benchmark Years	All Benchmark Years
Annual PM_{10}	2020, 2023, 2030, 2035, 2046/2066	2020, 2023, 2030, 2035, 2046/2066	2035, 2046/2066	2020, 2023, 2030, 2035, 2046/2066	2020, 2023, 2030, 2035, 2046/2066
24-hour $PM_{2.5}$	2016, 2020, 2023	2016, 2020, 2023	None	2016, 2020, 2023	2016, 2020, 2023

Source Contribution. The term "source contribution" refers to the mix of emission sources (e.g., switcher locomotives, linehaul locomotives, railyard equipment, drayage trucks, worker vehicles, non-SCIG tenant vehicles, etc.) contributing to a modeled concentration at a given receptor location. The mix of source contributions varies from receptor to receptor based on the receptor's proximity to various sources, the rate of emissions of those sources, and the changes in source activity over the period of the analysis. The location of the maximum receptor may vary from year to year due to changes in emissions, and, correspondingly, source contribution at the maximum receptor may also change. Major categories of sources include the equipment and vehicles associated with the Alternate Business Location sites (non-SCIG tenants), including the trucks, locomotives, and CHE; CHE operating at the SCIG railyard and SCIG drayage trucks; and, under the No Project scenario, the trucks that would travel between the marine terminals and BNSF's Hobart intermodal railyard near downtown Los Angeles. Additional information on source contributions to maximum modeled concentrations can be found in Section 3.2 of the Technical Appendix. For detailed charts on source contributions see the Technical Appendix, Section 3.2.

Geographic Extent. Contour diagrams of the geographic distribution of exceedances of the applicable SCAQMD thresholds are presented for each pollutant and averaging time in each Benchmark Year. Each diagram presents a green line of constant concentration (an isopleth) corresponding to the value of the relevant SCAQMD significance threshold. The areas within the contours represent locations outside the Project boundaries where calculated pollutant concentrations would exceed the SCAQMD thresholds. The areas within the contour that are nearer to the contour line have modeled total concentrations or increments closer to the threshold level, while areas farther from the contour line and closer to the MEI have higher modeled total concentrations or increments. In some diagrams, the green contour line is not immediately apparent because of the small size of the area(s) of exceedance. In cases where no exceedances would occur outside the Project boundaries, no diagram is presented.

Each figure also identifies the location of the MEI. The figures presenting results for PM_{10} and $PM_{2.5}$ show both the receptor where the maximum modeled concentration occurs and the receptor where the maximum CEQA increment occurs (labeled as "Incr."); as explained above, significance for PM_{10} and $PM_{2.5}$ under CEQA is based on the increment above baseline, not the total ground-level concentration. These figures also depict the locations of the sensitive receptors in the general vicinity of the SCIG site.

The figures show the areas and locations that would experience significant impacts. They show, for example, whether residential areas, schools, or other sensitive receptors would experience significant impacts in any given Benchmark Year. When taken together, they show how the location of significant impacts compares under the Project, Reduced Project, and No Project scenarios. Further, when taken together, the figures show the change in location of impacts over the lifespan of the Project, as well as the temporal trends of the significant impacts.

Health Effects. This discussion of the potential health effects of criteria air pollutant impacts is presented consistent with *Friant Ranch*. Potential health effects are described for the Project's emissions affecting ambient concentrations, as considered in Impact AQ-4. This discussion is not a new impact assessment, but rather provides supplemental information related to the significant air quality concentration impacts that are disclosed in this Revised Draft EIR. Health effects information was acquired through a review of available literature published by the SCAQMD,

CARB, and EPA. The discussion considers the localized health effects of the modeled ambient concentrations.

SCAQMD significance thresholds are designed to attain or maintain state and federal ambient air quality standards, which in turn were established at levels designed to protect public health. If a project's concentration impacts do not exceed SCAQMD significance thresholds, they can be presumed to not have substantial adverse health effects.

Total modeled concentrations and concentration increments that exceed SCAQMD significance thresholds can be presumed to have adverse health effects; however, LAHD is unaware of an accepted available methodology that could accurately quantify local health effects from ambient NO_2, $PM_{2.5,}$ or PM_{10} concentrations associated with an individual project (such as the SCIG Project) that has localized, rather than region-wide, effects. Therefore, the extent to which local adverse health effects can be identified in this analysis is limited to (a) defining the geographical area of significant local impacts; (b) estimating the frequency of significant local impacts; (c) presenting the magnitude of the significant local impacts; and (d) qualitatively describing the types of adverse health effects associated with exposure to concentrations of NO_2, $PM_{2.5}$, and PM_{10} exceeding SCAQMD thresholds.

NO_2 is also an ozone precursor. However, because ozone is formed sometime later and downwind from its precursor emission source (EPA, 2018), ozone behaves as a regional pollutant rather than a local pollutant. For example, the highest ozone concentrations are not found in urban areas close to the concentrated sources of its precursors, but rather in suburban and rural areas downwind of these sources (EPA, 2013b). Accurate and meaningful models do not exist to predict how local increases in ozone precursor emissions affect regional ozone concentrations and any resulting health effects Therefore, the potential health effects associated with ozone exposure are outside the scope of this analysis.

3.5.2 NITROGEN DIOXIDE (NO_2)

3.5.2.1 Source Contributions

The main source contributions of NO_2 differ among the pollutant measurement categories (1-hour federal, 1-hour state, annual) and project scenarios. For both federal and state 1-hour NO_2, the main source contributions to the maximum modeled concentration in all Benchmark Years for the Project and the Reduced Project scenarios are non-SCIG tenant (as noted on Chapter 2, associated with the Alternate Business Locations) CHE and non-SCIG tenant on-site and off-site trucks, and to a much lesser degree, SCIG on-site trucks. For the No Project scenario, the main source contributions of 1-hour NO_2 in all Benchmark Years are non-SCIG tenant CHE and on-site and offsite trucks, and to a much lesser degree, Hobart trucks (i.e., trucks going to and from the Hobart intermodal facility using the I-710 freeway that would, under the Project, go to and from the much closer SCIG facility). The Hobart trucks would produce emissions along the I-710 freeway on their routes between the Ports and the Hobart facility.

For annual NO_2 under the Project and Reduced Project scenarios, non-SCIG tenant CHE and non-SCIG tenant on-site trucks are the main source contributions at the maximum receptor until 2023, but after 2023 the location of the maximum impact changes to be nearer the SCIG site, and SCIG

on-site and off-site trucks become the main contributing source. For the No Project scenario, the main source contributions to the maximum modeled annual NO_2 concentration in all Benchmark Years are non-SCIG tenant CHE, non-SCIG tenant locomotives, and non-SCIG tenant trucks (all sources on-site).

For the Project and Reduced Project scenarios, 1-hour and annual NO_2 concentrations would change over time in response to two separate groups of emissions sources. Non-SCIG tenant emissions would decrease as trucks and CHE turn over and are replaced with cleaner and more efficient vehicles. At the same time, traffic to the SCIG site would increase as cargo throughput rises. These two processes result in smaller areas of significant impacts over time near the non-SCIG tenant sites, with some small increases in later years near the SCIG site, especially along the southern border of the site. Overall, maximum concentrations generally decrease over time and the significant impact areas shrink and shift slightly north and closer to the SCIG site.

Emissions from non-SCIG tenant sources in later years would be higher under the No Project scenario than under the Project because non-SCIG tenants would handle a larger share of Port throughput under the No Project scenario than under the Project.

3.5.2.2 Geographic Distribution of NO_2 SCAQMD Threshold Exceedances

The geographic extent of the NO_2 exceedances of SCAQMD thresholds and the locations of the maximum total ground level concentrations (i.e., the MEIs) for the 1-hour federal, 1-hour state, and annual concentrations of NO_2 for the Project, No Project, and Reduced Project scenarios in all Benchmark Years are shown on the contour diagrams identified in Table 3-3 and included at the end of Section 3.5.2.2; the maximum total ground level concentrations of NO_2 (i.e., the MEIs) for the federal 1-hour, state 1-hour, and annual standards are also provided in Table 3-4. In the discussion below, the geographic distribution of exceedances, and thus of significant impacts, is discussed separately for each Benchmark Year; the discussion also discloses the temporal pattern of exceedances. The contour diagrams show the areas outside the Project site where exceedances of significance thresholds may occur. Each figure shows the location of the MEI, as well as a green contour line corresponding to the value of the relevant SCAQMD significance threshold. The area within the contour line represents locations outside the Project site where modeled total concentrations would exceed the SCAQMD thresholds. The areas closer to the inner edge of the contour line have concentrations closer to the threshold, while the areas closer to the MEI would have higher concentrations.

Table 3-3: Summary of Contour Diagrams Showing Geographic Extent of NO_2 Exceedances of Applicable Thresholds for Project, No Project, and Reduced Project Scenarios

Pollutant	Applicable SCAQMD Threshold	Benchmark Year	Project	No Project	Reduced Project
NO_2	1-hour federal 188 µg/m^3	2016	**Figure 3-1**	**Figure 3-16**	**Same as Project**
		2020	**Figure 3-2**	**Figure 3-17**	**Same as Project**
		2023	**Figure 3-3**	**Figure 3-18**	**Same as Project**
		2030	**Figure 3-4**	**Figure 3-19**	**Figure 3-28**
		2035	**Figure 3-5**	**Figure 3-20**	**Figure 3-29**
		2046/2066	**Figure 3-6**	**Figure 3-21**	**Figure 3-30**
	1-hour state 338 µg/m^3	2016	Figure 3-7	**Figure 3-22**	Same as Project
		2020	Figure 3-8	**Figure 3-23**	Same as Project
		2023	Figure 3-9	**Figure 3-24**	Same as Project
		2030	Figure 3-10	**Figure 3-25**	Figure 3-31
		2035	Figure 3-11	**Figure 3-26**	Figure 3-32
		2046/2066	Figure 3-12	**Figure 3-27**	Figure 3-33
	Annual 57 µg/m^3	2016	Figure 3-13	No exceedances	Same as Project
		2020	No exceedances	No exceedances	No exceedances
		2023	No exceedances	No exceedances	No exceedances
		2030	No exceedances	No exceedances	No exceedances
		2035	Figure 3-14	No exceedances	No exceedances
		2046/2066	Figure 3-15	No exceedances	Figure 3-34

Bold text indicates Benchmark Years in which at least one contour diagram shows significant impacts to sensitive receptors and/or residential areas.

Figures of Pollutant-Threshold-Benchmark Year combinations without exceedances can be found in Annex 4 of the Technical Appendix.

Table 3-4: NO_2 Maximum Offsite Ground-Level Concentrations Associated with the Project, No Project, and Reduced Project Scenarios for Each Benchmark Year (CEQA Significant Impacts)

SCAQMD Threshold	Benchmark Year	Maximum Total Ground-Level Concentration (aka MEI) ($\mu g/m^3$)			Sensitive Receptors or Residential Areas Affected?		
		Project	No Project	Reduced Project	Project	No Project	Reduced Project
1-hour federal 188 $\mu g/m^3$	2016	**799**	**877**	**799**	Multiple sensitive receptors and some small residential areas	Numerous sensitive receptors and large residential areas	Multiple sensitive receptors and some small residential areas. In 2016, 2020 and 2023, impacts would be the same as the Project.
	2020	**743**	**791**	**743**			
	2023	**700**	**727**	**700**			
	2030	**536**	**673**	**529**			
	2035	**418**	**635**	**407**			
	2046/2066	**423**	**646**	**411**			
1-hour state 338 $\mu g/m^3$	2016	**902**	**980**	**902**	None	Multiple sensitive receptors and some small residential areas	None
	2020	**846**	**894**	**846**			
	2023	**803**	**830**	**803**			
	2030	**639**	**776**	**632**			
	2035	**521**	**738**	**510**			
	2046/2066	**526**	**749**	**514**			
Annual 57 $\mu g/m^3$	2016	**58.2**	56.1	**58.2**	None	None	None
	2020	56.6	54.7	56.6			
	2023	55.4	53.7	55.4			
	2030	57.0	53.5	52.5			
	2035	**63.4**	53.4	55.7			
	2046/2066	**66.2**	53.6	**57.6**			

Note: **Bold text** indicates exceedance of a significance threshold

Summary of Geographic and Temporal Impacts

Project: In general, as the contour diagrams show, the significant impacts of the Project scenario related to NO_2 would be largely confined to industrial areas adjacent to the Project site and along local roads. However, exceedances of the 1-hour NO_2 federal standard would result in significant impacts to a small area of residential uses as well as sensitive receptors in West Long Beach. In all Benchmark Years, impacts from the Project to those areas would be less, both in intensity and geographic area, than under the No Project scenario. This is partially because under the Project, non-SCIG tenant sources would be relocated to the Alternate Business Locations, which are farther

away from residential areas and sensitive receptors than the Project site is from those areas. For the state 1-hour NO_2 and annual NO_2 standards, significant impacts would be limited to industrial uses in the vicinity of the Project site, particularly surrounding the Alternate Business Locations, and the Project would not have significant impacts on residential areas or sensitive receptors.

No Project: The No Project scenario's significant impacts related to NO_2 would be widespread, particularly in the earlier Benchmark Years, due to exceedances of the 1-hour NO_2 federal standard. At their maximum, in 2016, those impacts would extend west of the facility over much of Wilmington, including several sensitive receptors and a substantial area of residential uses; south to cover most of the Port of Long Beach; east to include West Long Beach and much of the City of Long Beach south of Willow Street and west of Cherry Avenue (with a narrow extension to the Traffic Circle area); and north to include the Upper Westside of Long Beach and along the I-710 freeway roughly to Del Amo Boulevard (which could include limited residential areas adjacent to the highway) due to increased truck traffic traveling to the Hobart railyard that otherwise would be diverted to the closer SCIG site under the Project scenario.

Exceedances of the 1-hour NO_2 state standard would not affect Wilmington in any Benchmark Year but would have significant impacts on a few sensitive receptors and a small residential area in West Long Beach in every Benchmark Year.

The No Project scenario would not result in exceedances of the annual NO_2 standard in any of the Benchmark Years.

Reduced Project: The Reduced Project scenario would have the same impacts as the Project through 2023 when throughput would be the same (lower cargo volumes would only come into play for years 2030 and later); thereafter the impacts would be somewhat smaller than those of the Project in both intensity and geographical extent.

More detailed information about the geographic extent of the impacts over time is presented in the descriptions of the Benchmark Years below.

2016 NO_2 Impacts

Project: As shown in Figure 3-1, the maximum total ground-level concentration of 798.8 $\mu g/m^3$ (the MEI) for the 1-hour federal standard in 2016 would occur at the southern edge of the Alternate Business Locations, reflecting that the main source contributions at the MEI would be non-SCIG tenant CHE and trucks relocated from the Project site. The area of exceedance of the standard would predominantly lie in the industrial region south of the Project site down to Channel Two in the Port of Long Beach. However, the contour plot shows exceedances extending eastward a short distance into West Long Beach, affecting residential areas and sensitive receptors (i.e., Century Villages at Cabrillo and Bethune Transitional Center) immediately to the east of the southeast edge of the Project site. These residential areas and sensitive receptors are relatively near the edge of the contour line and away from the MEI, indicating concentrations closer to the threshold level. The area of significant impacts also extends westward to affect residential areas and sensitive receptors (Wilmington Park Elementary School and a daycare facility) on the east side of Wilmington. In those areas, which are near the edge of the area of exceedance, concentrations would be marginally above the standard.

Modeling shows that no exceedances of the 1-hour state standard would occur in areas containing residences or sensitive receptors in 2016. The Project's exceedances of the 1-hour state standard (MEI = 901.8 µg/m^3) would be confined to industrial areas adjacent to the Alternate Business Locations up to the southwestern edge of the facility, reflecting that the main source contributions at the MEI would be non-SCIG tenant CHE and on-site trucks (Figure 3-7).

The annual NO_2 standard would be slightly exceeded (MEI = 58.2 µg/m^3) in a small industrial area at the east border of the Alternate Business Location (Figure 3-13). No residential areas or sensitive receptors would experience significant impacts.

No Project: As Figure 3-16 shows, the maximum total ground-level concentration of 877.4 µg/m^3 (the MEI) for the 1-hour federal standard in 2016 would occur at the south border of the facility, with non-SCIG tenant CHE and non-SCIG tenant onsite trucks being the largest contributors to the MEI. The significant impacts of the No Project scenario would extend west of the facility to include much of Wilmington (with an extension along Harry Bridges Boulevard as far west as I-110), south to cover much of the Port of Long Beach, east to include much of the City of Long Beach south of Willow Street and west of Cherry Avenue (with a narrow extension along PCH to the Traffic Circle area), and north along the I-710 freeway, including the Upper Westside of Long Beach. Accordingly, most residences and sensitive receptors in West Long Beach and numerous residences and some sensitive receptors in Wilmington would experience significant impacts related to concentrations exceeding the 1-hour federal standard. The modeled 1-hour federal NO_2 concentrations of the No Project scenario for 2016 are substantially larger than those of the Project, and a large portion of them are attributed to non-SCIG tenant off-site trucks, which have different routes than the SCIG trucks in the Project.

Exceedances of the 1-hour state standard in 2016 would be substantially less extensive in area than in the case of the federal standard, although the MEI would be somewhat higher (980.4 µg/m^3). As Figure 3-22 shows, a small residential area and sensitive receptors (i.e., Century Villages at Cabrillo and Bethune Transitional Center) in West Long Beach would experience significant impacts. No significant impacts would occur along I-710.

The No Project scenario would not result in any exceedances of the annual NO_2 standard in 2016.

Reduced Project: In 2016, the Reduced Project would be identical to the Project and would have the same MEI and geographic impacts, as described above and as depicted in Figures 3-1, 3-7 and 3-13.

2020 NO_2 Impacts

Project: As shown in Figure 3-2, the maximum total ground-level concentration of 742.6 µg/m^3 (the MEI) for the 1-hour federal standard in 2020 would again occur at the south edge of the Alternate Business Locations. The area of exceedance of the standard would continue to be largely confined to the industrial region south of the Project site. However, the contour diagram shows exceedances extending eastward a short distance into West Long Beach and westward into Wilmington, although not as far in either direction as in 2016. Impacts would continue to affect a few residential areas and sensitive receptors in West Long Beach and Wilmington, although not as many as in 2016. As in 2016, concentrations in those areas would be marginally above the standard. The main emission contributors at the MEI would continue to be non-SCIG tenant CHE

and trucks. The decrease in the extent and severity of impacts from 2016 is due to reduced emissions from non-SCIG tenant trucks as a result of fleet turnover driven by anticipation of CARB's Truck and Bus Rule slated to take effect in 2023.

Modeling for the 1-hour state standard shows that the MEI of 845.55 µg/m^3 would, as in 2016, occur in the area of the Alternate Business Locations. No exceedances of the 1-hour state standard would occur in areas containing residences or sensitive receptors. The Project's exceedances of the state standard would be confined to industrial areas adjacent to the Alternate Business Locations and in the southwestern edge of the facility, reflecting that the main source contributions at the MEI would continue to be non-SCIG tenant CHE and trucks (Figure 3-8).

The Project would not cause any exceedances of the annual standard at any location in 2020.

No Project: As Figure 3-17 shows, the maximum total ground-level concentration of 791.5 µg/m^3 (the MEI) for the 1-hour federal standard in 2020 would occur at the south border of the SCIG facility, with non-SCIG tenant CHE and non-SCIG tenant onsite trucks being the largest contributors to the MEI. The area experiencing a significant impact would be smaller than in 2016, but numerous residences and sensitive receptors in West Long Beach, the western half of the City of Long Beach east of the Los Angeles River, and in approximately half of Wilmington would continue to experience significant impacts related to exceedances of the 1-hour federal standard.

Exceedances of the 1-hour state standard in 2020 would affect a less extensive area than in the case of the federal standard, although the MEI would be somewhat higher (894.46 µg/m^3). As Figure 3-23 shows, a small residential area and a number of sensitive receptors in West Long Beach, including several schools, would continue to experience significant impacts. No significant impacts would occur along I-710.

The No Project scenario would not result in any exceedances of the annual NO_2 standard in 2020.

Reduced Project: In 2020, the Reduced Project would be identical to the Project and would have the same MEI and geographic impacts as described above and as depicted in Figures 3-2 and 3-8.

2023 NO_2 Impacts

Project: As shown in Figure 3-3, the maximum total ground-level concentration of 700.4 µg/m^3 (the MEI) for the 1-hour federal standard in 2023 would, as in previous years, occur at the south edge of the Alternate Business Locations. Most of the area of exceedance of the standard would lie in the industrial region south of the Project site because, as in 2016 and 2020, the main sources contributing to the MEI would be non-SCIG tenant CHE and trucks. However, the contour diagram shows exceedances extending eastward a short distance into West Long Beach and westward into Wilmington, although not as far in either direction as in 2016 or 2020. Impacts would continue to affect a few residential areas and sensitive receptors in West Long Beach and a very small residential area in Wilmington between Young and Grant streets and Alameda Street and Blinn Avenue. As in previous Benchmark Years, concentrations in those areas would be marginally above the standard. The decrease in the extent and severity of impacts compared to 2016 and 2020 is due to continued reductions in emissions for non-SCIG tenant trucks as a result of fleet turnover driven by CARB's Truck and Bus Rule taking effect in 2023.

Modeling for the 1-hour state standard shows that the MEI of 803.4 µg/m^3 would, as in previous years, occur in the area of the Alternate Business Locations (Figure 3-9). No exceedances of the 1-hour state standard would occur in areas containing residences or sensitive receptors in 2023; rather, the Project's exceedances would be confined to industrial areas in the vicinity of the Alternate Business Locations, and the area of exceedance would be substantially smaller than in previous years, reflecting the decreasing emissions of main source contributors: non-SCIG tenant CHE and trucks.

The Project would not cause any exceedances of the annual standard at any location in 2023.

No Project: As Figure 3-18 shows, the maximum total ground-level concentration of 727 µg/m^3 (the MEI) for the 1-hour federal standard in 2023 would occur at the south border of the SCIG facility. Non-SCIG tenant CHE and non-SCIG tenant onsite trucks would be the largest contributors to the MEI. The area experiencing a significant impact would be smaller than in previous years. However, significant impacts would continue to occur in approximately one-third of Wilmington, all of West Long Beach, and the portion of Long Beach between the Los Angeles River and approximately Long Beach Boulevard, including residential areas and sensitive receptors in these areas.

Exceedances of the 1-hour state standard in 2023 would be substantially less extensive in area than in the case of the federal standard, although the MEI would be somewhat higher (830 µg/m^3). As Figure 3-24 shows, a small residential area and several sensitive receptors in West Long Beach, including two schools, the Century Villages at Cabrillo, and Bethune Transitional Center, would continue to experience significant impacts. No significant impacts would occur along I-710. The decrease in the geographical extent of exceedances from 2020 to 2023 is due to decreasing emissions from trucks, which in turn is a result of fleet turnover driven by CARB's Truck and Bus Rule slated to begin in 2023.

As in previous years, the No Project scenario would not result in any exceedances of the annual NO_2 standard in 2023.

Reduced Project: In 2023, the Reduced Project would be identical to the Project and would have the same MEI and geographic impacts, as described above and as depicted in Figures 3-3 and 3-9.

2030 NO_2 Impacts

Project: As shown in Figure 3-4, the maximum total ground-level concentration of 535.6 µg/m^3 (the MEI) for the 1-hour federal standard in 2030 would occur on the south lead tracks running between two Alternate Business Locations, a short distance north of its location in previous years. Most of the area of exceedance of the standard would lie in the industrial region south of the Project site. However, a small residential area and several sensitive receptors in West Long Beach would continue to experience significant impacts. In those areas, concentrations would be marginally above the standard, given the proximity to the edge of the area of exceedance. This pattern is similar to the case in previous years, but in 2030 even fewer residential and sensitive receptors would experience concentrations above the threshold. The area of exceedance depicted in Figure 3-4 is slightly different in shape compared to 2023 due to the changes in emissions sources, wherein source contributions from non-SCIG tenant CHE would be declining, related to natural

equipment turnover, while SCIG truck emissions would begin to increase as the Project's cargo throughput increases.

Modeling for the 1-hour state standard shows that the MEI of 638.6 µg/m^3 would, as in previous years, occur in the area of the Alternate Business Locations (Figure 3-10). The Project's exceedances of the 1-hour state standard would be confined to industrial areas in the vicinity of the Alternate Business Locations, and no exceedances would occur in areas containing residences or sensitive receptors. The area of exceedance would be smaller than in previous years, reflecting the continued decrease in emissions of the main source contributors: non-SCIG tenant CHE and trucks.

The Project would not cause any exceedances of the annual standard at any location in 2030.

No Project: As Figure 3-19 shows, the maximum total ground-level concentration of 673.1 µg/m^3 (the MEI) for the 1-hour federal standard in 2030 would occur at the south border of the SCIG facility, with non-SCIG tenant CHE and non-SCIG tenant onsite trucks the largest contributors to the MEI. The area experiencing a significant impact would be very similar to 2023, only somewhat smaller in extent. Accordingly, fewer residences and sensitive receptors in Long Beach and in Wilmington would experience significant impacts related to exceedances of the federal 1-hour standard. A larger area of significant impacts along the I-710 freeway compared to previous years reflects the increasing emissions of Hobart trucks handling increasing Port throughput.

Exceedances of the 1-hour state standard in 2030 would be substantially less extensive in geographic extent than in the case of the federal standard, although the MEI would be somewhat higher (776.1 µg/m^3). As Figure 3-25 shows, essentially the same small residential area and sensitive receptors in West Long Beach would experience significant impacts as in previous years.

As in previous years, the No Project scenario would not result in any exceedances of the annual NO_2 standard in 2030.

Reduced Project: As shown in Figure 3-28, the maximum concentration (the MEI) for the 1-hour federal standard in 2030 (529 µg/m^3) would be somewhat smaller in magnitude, and the geographical extent of exceedances of the standard would be less, than in the case of the Project. The maximum concentration would be located at the Alternate Business Locations.

Similarly, for the 1-hour state standard, the maximum concentration in 2030 (632 µg/m^3) would be located on the south edge of the Alternate Business Locations (Figure 3-31). This reflects that the main sources contributing to the maximum concentration in 2030 would be non-SCIG tenant CHE and trucks. No residential areas or sensitive receptors would experience significant impacts.

The Reduced Project scenario would not result in any exceedances of the annual NO_2 standard in 2030.

2035 NO_2 Impacts

Project: As shown in Figure 3-5, the maximum total ground level concentration of 418 µg/m^3 (the MEI) for the 1-hour federal standard in 2035 would occur on the south lead tracks between two Alternate Business Locations, as was the case in 2030. Most of the area of exceedance of the standard would lie in industrial regions south of the Project site between, approximately, Alameda Street and Santa Fe Avenue. However, exceedances would also extend eastward a short distance

into West Long Beach, having significant impacts on a small residential area and several sensitive receptors, including schools, the Century Villages at Cabrillo, and Bethune Transitional Center. Concentrations in that area would be marginally above the standard, given the proximity to the edge of the area of exceedance. In addition, changes in source contributions due to reduced non-SCIG tenant CHE emissions (related to natural equipment turnover) and increased SCIG truck emissions (related to increasing throughput) would result in small areas of exceedances near the south end of the I-710 freeway, in the Port of Long Beach. No residential areas or sensitive receptors would experience significant impacts in these areas.

Modeling for the 1-hour state standard (Figure 3-11) shows that the MEI of 521 $\mu g/m^3$ would, as in previous years, occur in the area of the Alternate Business Locations; exceedances of the standard would occur there and at the south edge of the SCIG facility. No exceedances of the 1-hour state standard would occur in areas containing residences or sensitive receptors in 2035. Compared to previous years, the areas of exceedance around the Alternate Business Locations would decrease in size while those near the SCIG facility would increase slightly, reflecting the continued decrease in emissions of non-SCIG tenant CHE and trucks and the increased contribution of SCIG onsite trucks.

In 2035, unlike in previous years, the annual standard would be exceeded (MEI = 63.4 $\mu g/m^3$) (Figure 3-14), but the exceedance would be limited to small area along the Project site's western boundary in the Dominguez Channel, and a small area at the south edge of the SCIG facility. No residences or sensitive receptors would be affected.

No Project: As Figure 3-20 shows, the maximum total ground level concentration of 634.7 $\mu g/m^3$ (the MEI) for the 1-hour federal standard in 2030 would occur at the south border of the SCIG facility. Non-SCIG tenant CHE and non-SCIG tenant onsite trucks would be the largest contributors to the MEI. The area of exceedance would be smaller than in previous years. However, residences and sensitive receptors in West Long Beach, Long Beach east of the Los Angeles River, and Wilmington would continue to experience significant impacts related to the federal 1-hour NO_2 standard. Significant impacts would continue to occur in small areas along the I-710 freeway, possibly including a few residences adjacent to the freeway; in addition, increasing numbers of Hobart truck trips would cause the exceedances to spread northward along the freeway as far as Artesia Boulevard/SR 91.

Exceedances of the 1-hour state standard in 2035 would be substantially less extensive in area than in the case of the federal standard, although the MEI would be somewhat higher (737.7 $\mu g/m^3$). As Figure 3-26 shows, unlike with the Project, a small residential area and possibly other sensitive receptors in West Long Beach in the vicinity of the Century Villages at Cabrillo and Bethune Transitional Center would experience significant impacts. No significant impacts would occur along I-710.

The No Project scenario would not result in any exceedances of the annual NO_2 standard in 2035.

Reduced Project: As shown in Figure 3-29, the Reduced Project scenario's maximum concentration (the MEI) for the 1-hour federal standard in 2035 (406.6 $\mu g/m^3$) would be somewhat smaller in magnitude than in the case of the Project. The MEI would be located at the Alternate Business Locations. The geographical extent of exceedances of the standard would be less than in the case of the Project, but the Reduced Project scenario's exceedances of the 1-hour federal

standard would nevertheless have significant impacts on a small residential area and a few sensitive receptors in the vicinity of the Century Villages at Cabrillo and Bethune Transitional Center.

For the 1-hour state standard, the Reduced Project scenario's MEI (509.6 µg/m^3) would be located on the south edge of the Alternate Business Locations (Figure 3-32). This reflects the fact that the main sources contributing to the maximum concentration in 2035 would be non-SCIG tenant CHE and trucks. No residential areas or sensitive receptors would experience significant impacts related to the 1-hour state standard.

The Reduced Project scenario would not result in any exceedances of the annual NO_2 standard in 2035.

2046/2066 NO_2 Impacts

Project: As shown in Figure 3-6, the maximum total ground level concentration of 423 µg/m^3 (the MEI) for the 1-hour federal standard in 2046 (and thereafter until the end of the project in 2066) would occur on the south lead tracks between two Alternate Business Locations. Most of the area of exceedance of the standard would lie in the industrial region south of the Project site between, approximately Alameda Street and Santa Fe Avenue. However, as in all previous years exceedances would extend eastward a short distance into West Long Beach, affecting a small residential area and sensitive receptors (including Century Villages at Cabrillo and Bethune Transitional Center). Concentrations in that area would be marginally above the standard, given the proximity to the edge of the area of exceedance. The areas of exceedance in 2046 expand slightly compared to previous years due to the changes in source contributions, specifically reduced non-SCIG tenant CHE as result of natural equipment turnover, and increased SCIG truck emissions as Project throughput reaches capacity, which is reflected by larger areas of exceedances near the south end of the I-710 freeway in the Port of Long Beach. However, no residential areas or sensitive receptors would experience significant impacts in these areas.

For the 1-hour state standard, the MEI of 526.1 µg/m^3 would, as in previous years, occur entirely in the industrial areas of the Alternate Business Locations and the south edge of the SCIG site (Figure 3-12). No exceedances of the 1-hour state standard would occur in residential areas or at sensitive receptors in 2046. Minor changes in the size and configuration of the areas of exceedance, compared to previous years, reflect the continue decrease in emissions of non-SCIG tenant CHE and trucks, and the increased contribution of SCIG onsite trucks.

Similar to 2035, the annual standard would be exceeded (66.23 µg/m^3). As Figure 3-15 shows, exceedances would only occur in a small area along the Project site's western boundary in the Dominguez Channel, and the south edge of the facility. No residences or sensitive receptors would be affected.

No Project: As Figure 3-21 shows, the maximum total ground level concentration of 645.7 µg/m^3 (the MEI) for the 1-hour federal standard in 2046 would, as in previous years, occur at the south border of the main SCIG facility. Non-SCIG tenant CHE and non-SCIG tenant onsite trucks would be the largest contributors to the MEI. The area experiencing a significant impact would be essentially unchanged in an east-west direction from 2035, but the north-south extent would be greater, with areas of exceedance extending farther northward beyond SR-91 and farther

southward in the Port of Long Beach. Accordingly, impacts on residential areas and sensitive receptors in Long Beach and Wilmington would be similar to those in 2035, but significant impacts could affect additional small areas along I-710 north of the Project area than in 2035. As in 2035, the increasing exceedance areas along the I-710 freeway in later years reflects the increasing emissions of Hobart trucks, tied to increasing throughput at the Ports.

Exceedances of the 1-hour state standard in 2035 would be substantially less extensive in area than in the case of the federal standard, although the MEI would be somewhat higher (748.7 $\mu g/m^3$). As Figure 3-27 shows, unlike the Project, a small residential area and a few sensitive receptors in West Long Beach, including the Century Villages at Cabrillo and Bethune Transitional Center, would experience significant impacts. No significant impacts would occur along I-710.

The No Project scenario would not result in any exceedances of the annual NO_2 standard in 2046 to 2066.

Reduced Project: As shown in Figure 3-30, the MEI for the 1-hour federal standard (411.3 $\mu g/m^3$) and the geographical extent of exceedances in 2046 and thereafter would be essentially the same as in 2035. This would occur because the Reduced Project scenario would reach maximum capacity in 2035, meaning that throughput, and hence activity levels, would not increase in subsequent years. The same small residential area and sensitive receptors in West Long Beach would experience significant impacts as in 2035.

Similarly, the MEI for the 1-hour state standard in 2046 and thereafter (514.3 $\mu g/m^3$) and the area of exceedance would closely resemble the situation in 2035 because activity levels of the Reduced Project scenario would closely resemble those in 2035 (Figure 3-33). As in previous Benchmark Years, no residential areas or sensitive receptors would experience significant impacts related to exceedances of the 1-hour state standard.

In 2046, for the first time since 2016, the annual standard would be exceeded just slightly above the threshold (MEI = 57.6 $\mu g/m^3$; Figure 3-34). However, the exceedance would be a single point at the south edge of the SCIG facility, and no residential areas or sensitive receptors would experience significant impacts.

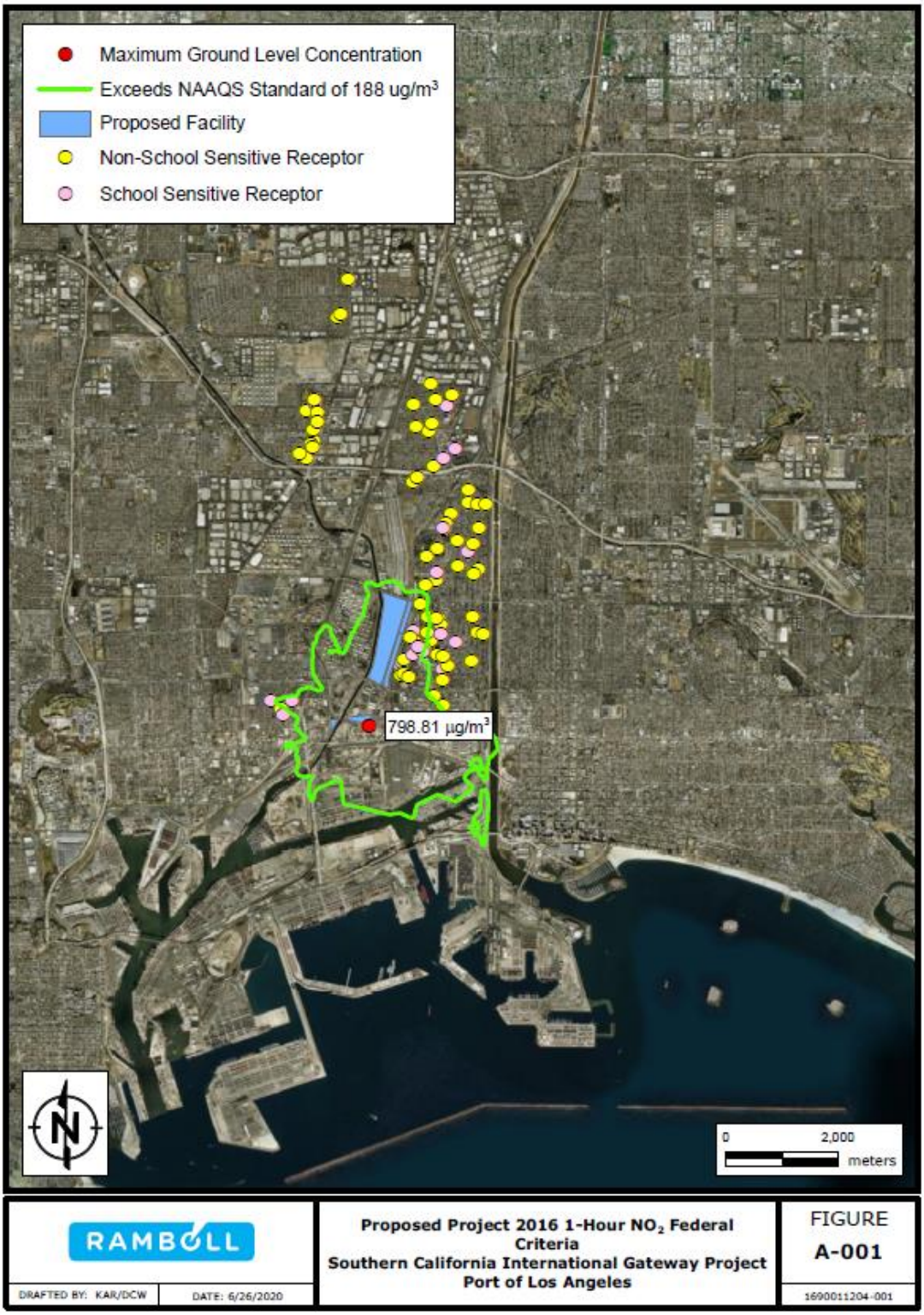


Figure 3-1: Project and Reduced Project 2016 1-Hour NO_2 Federal Standard

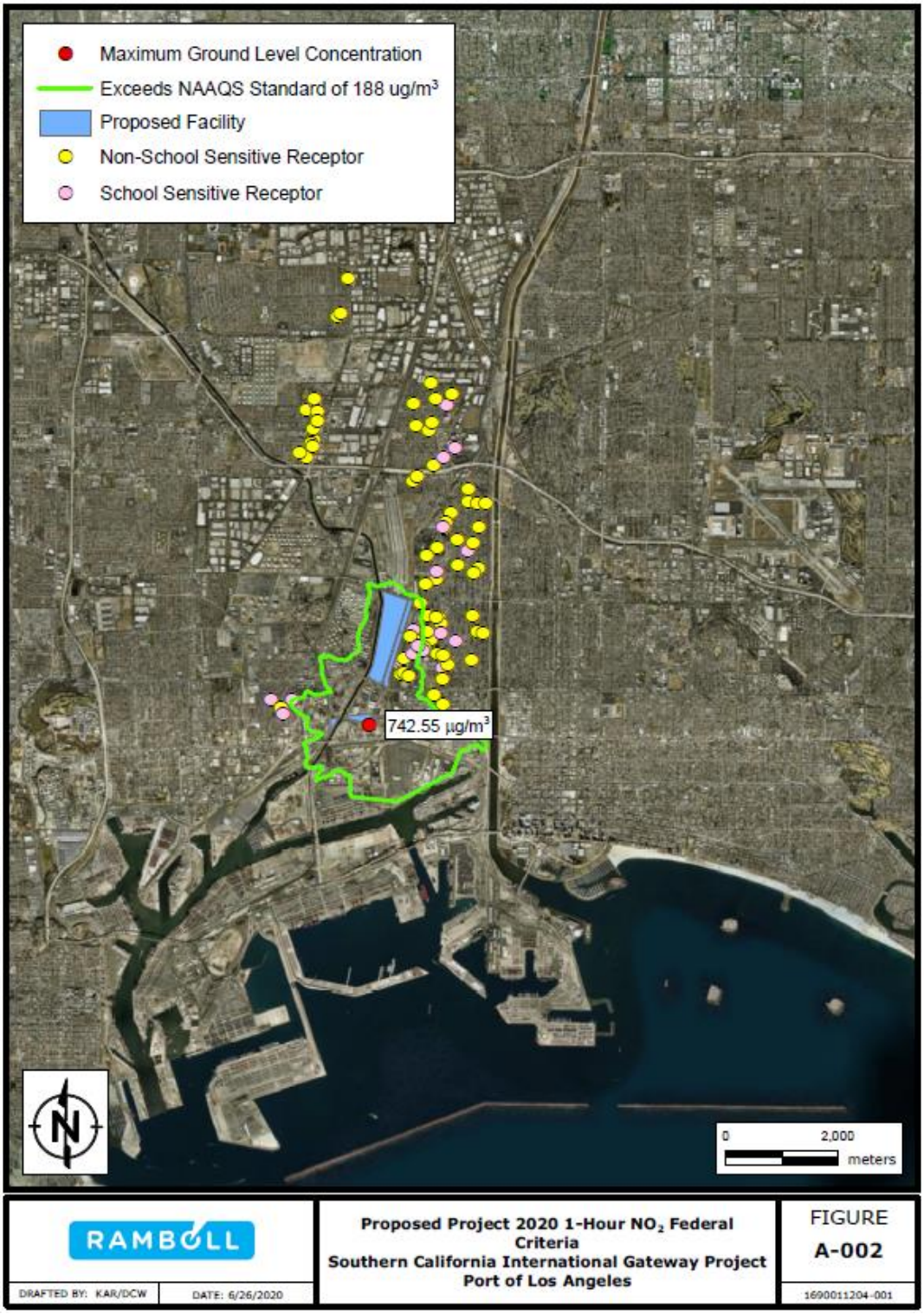


Figure 3-2: Project and Reduced Project 2020 1-Hour NO_2 Federal Standard

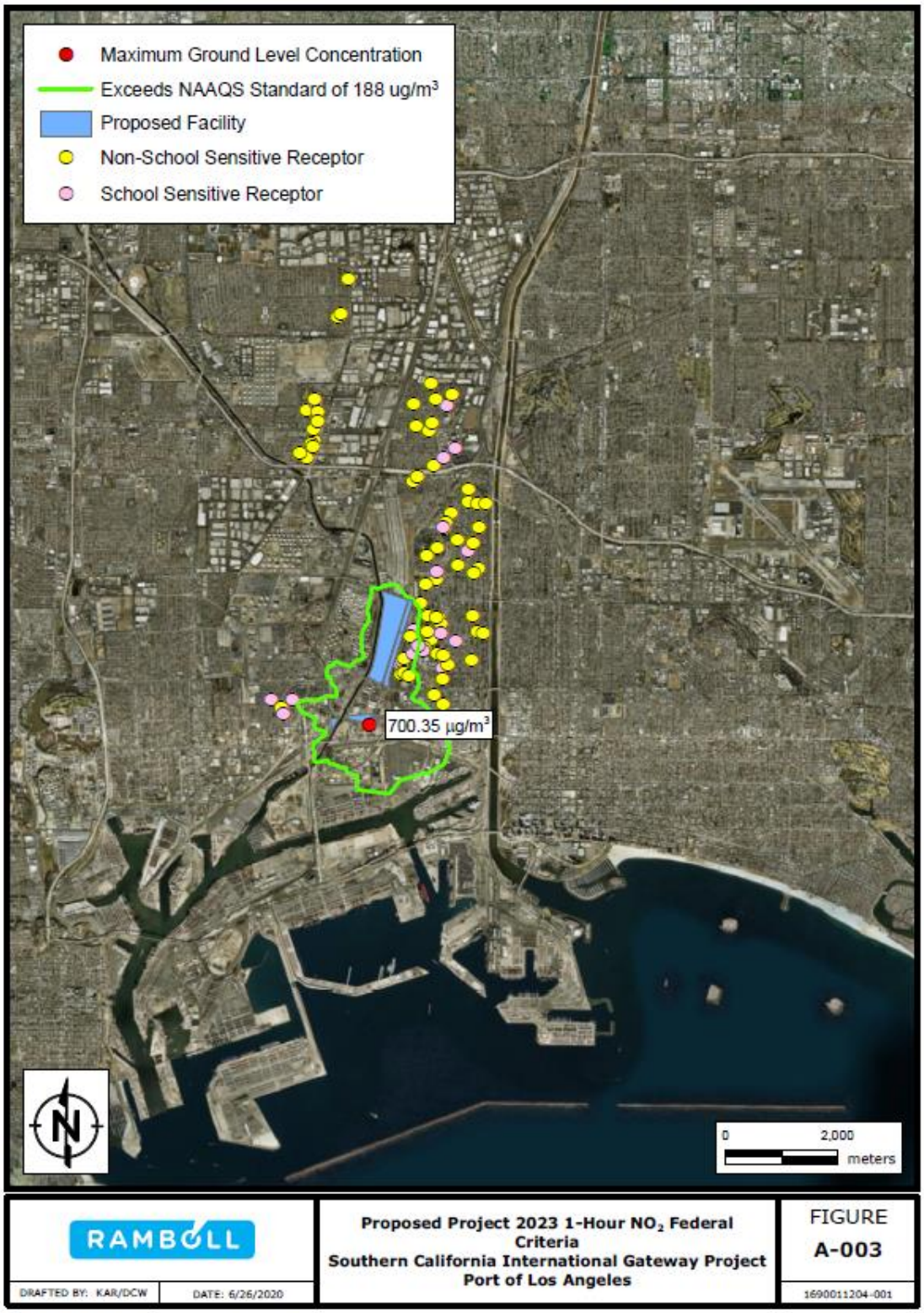


Figure 3-3: Project and Reduced Project 2023 1-Hour NO_2 Federal Standard

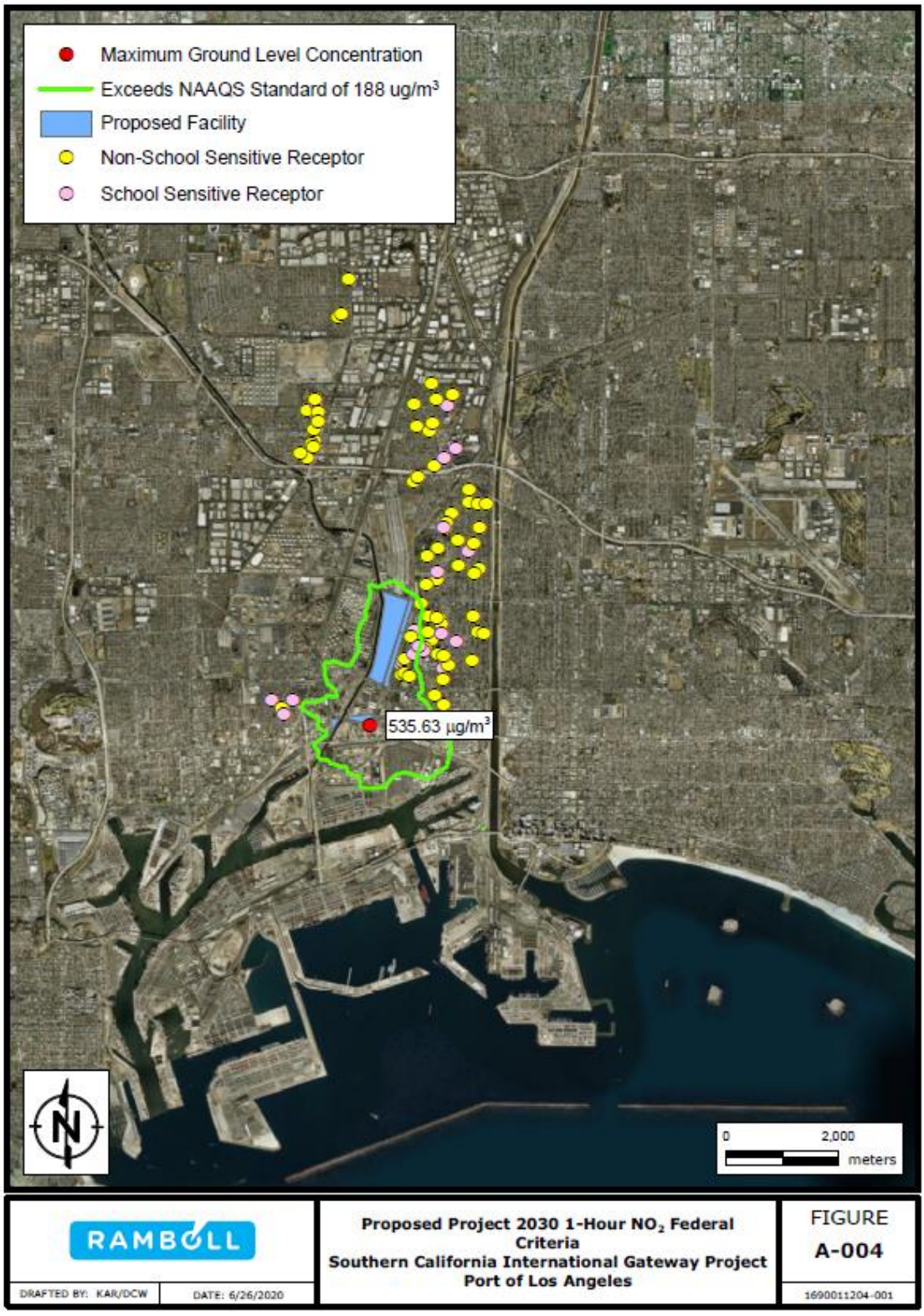


Figure 3-4: Project 2030 1-Hour NO_2 Federal Standard

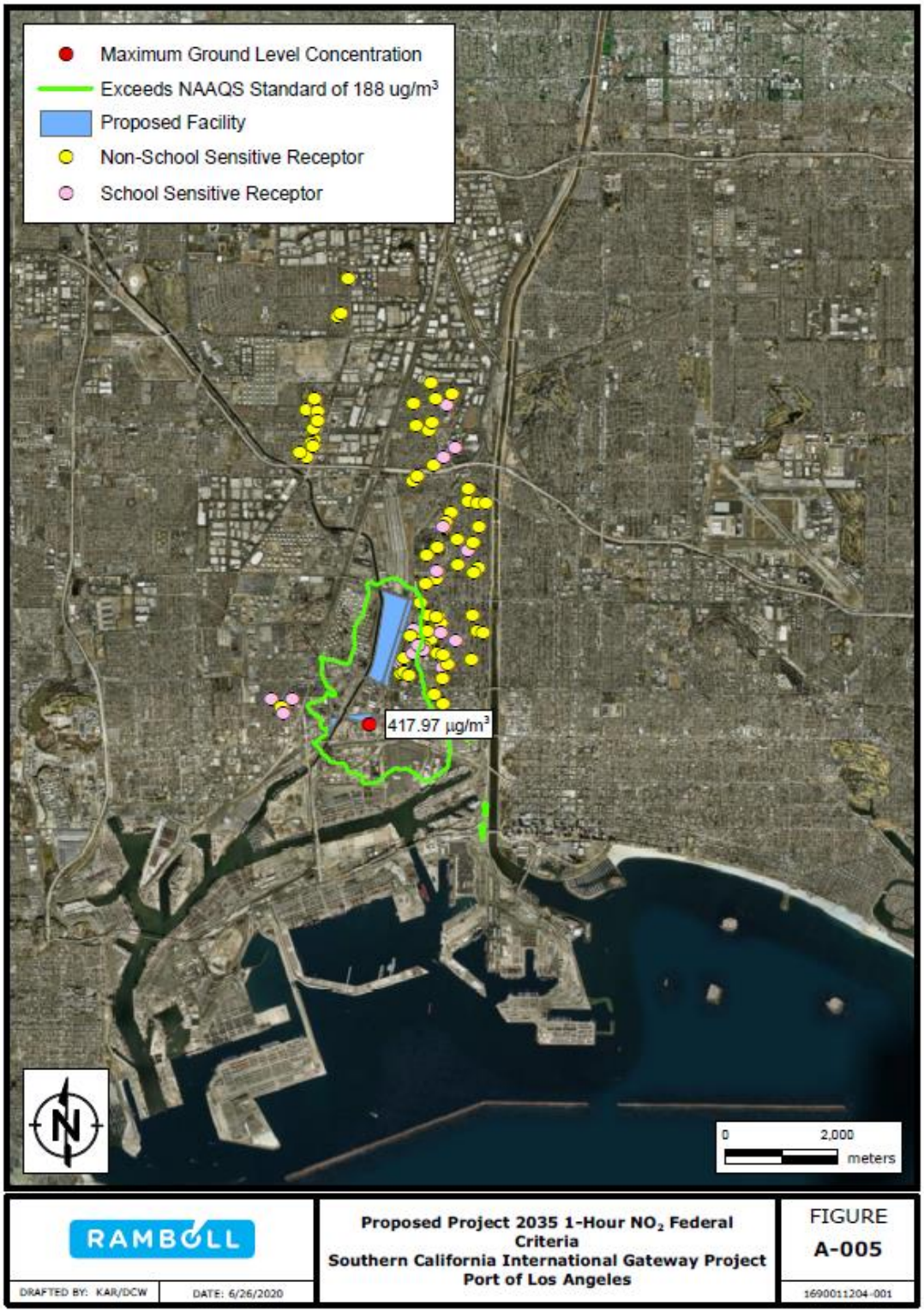


Figure 3-5: Project 2035 1-Hour NO_2 Federal Standard

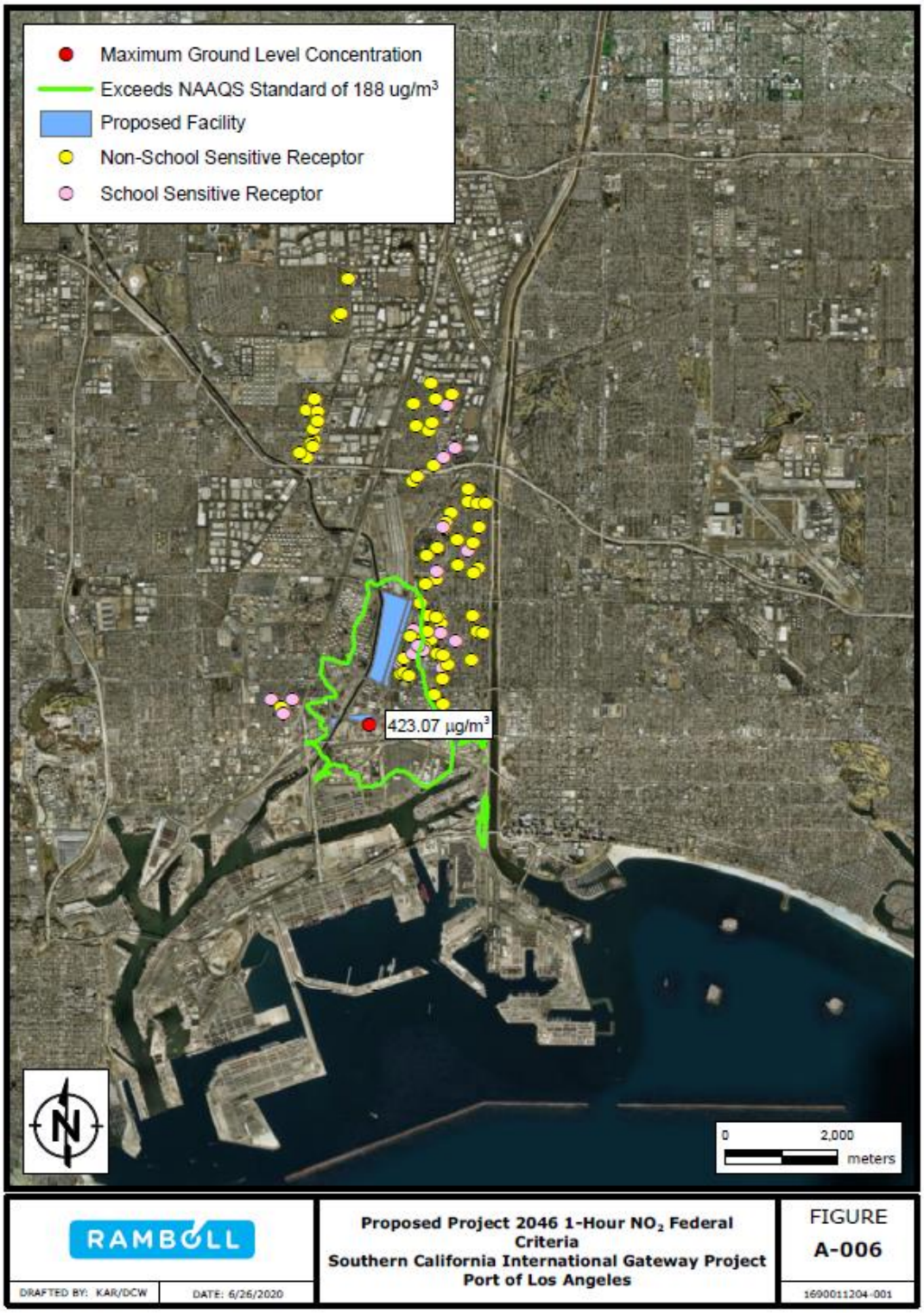


Figure 3-6: Project 2046 1-Hour NO_2 Federal Standard

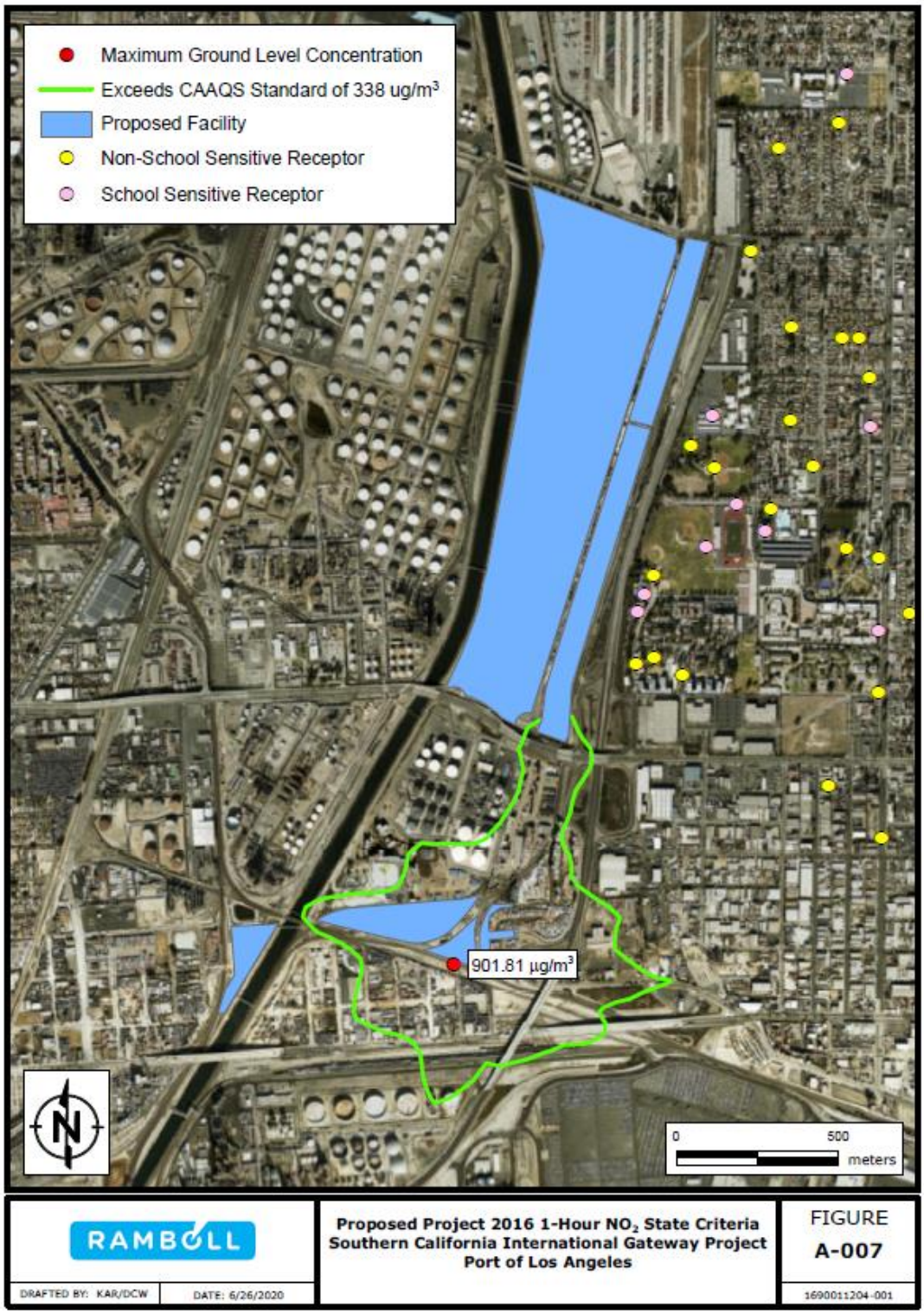


Figure 3-7: Project and Reduced Project 2016 1-Hour NO_2 State Standard

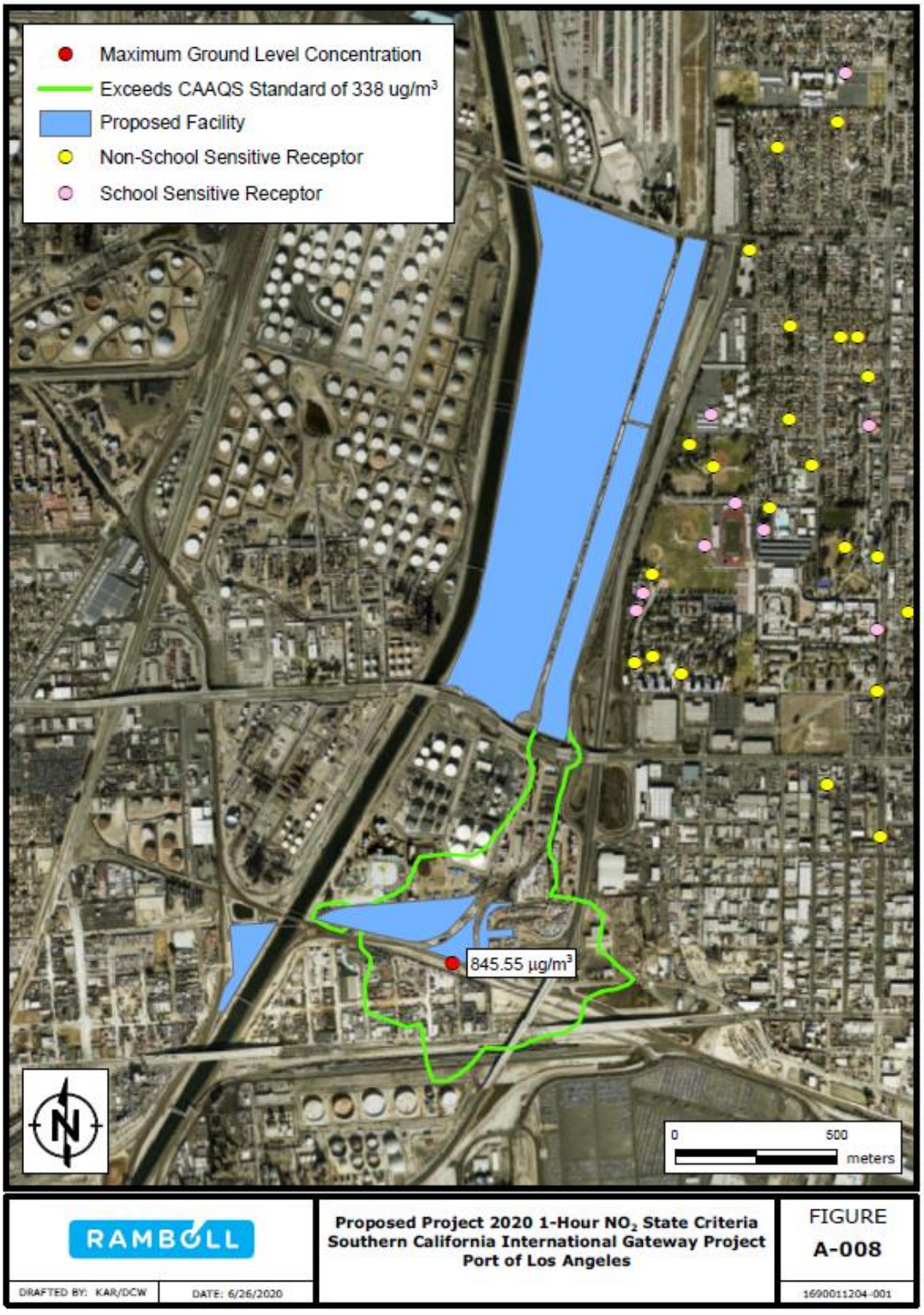


Figure 3-8: Project and Reduced Project 2020 1-Hour NO_2 State Standard

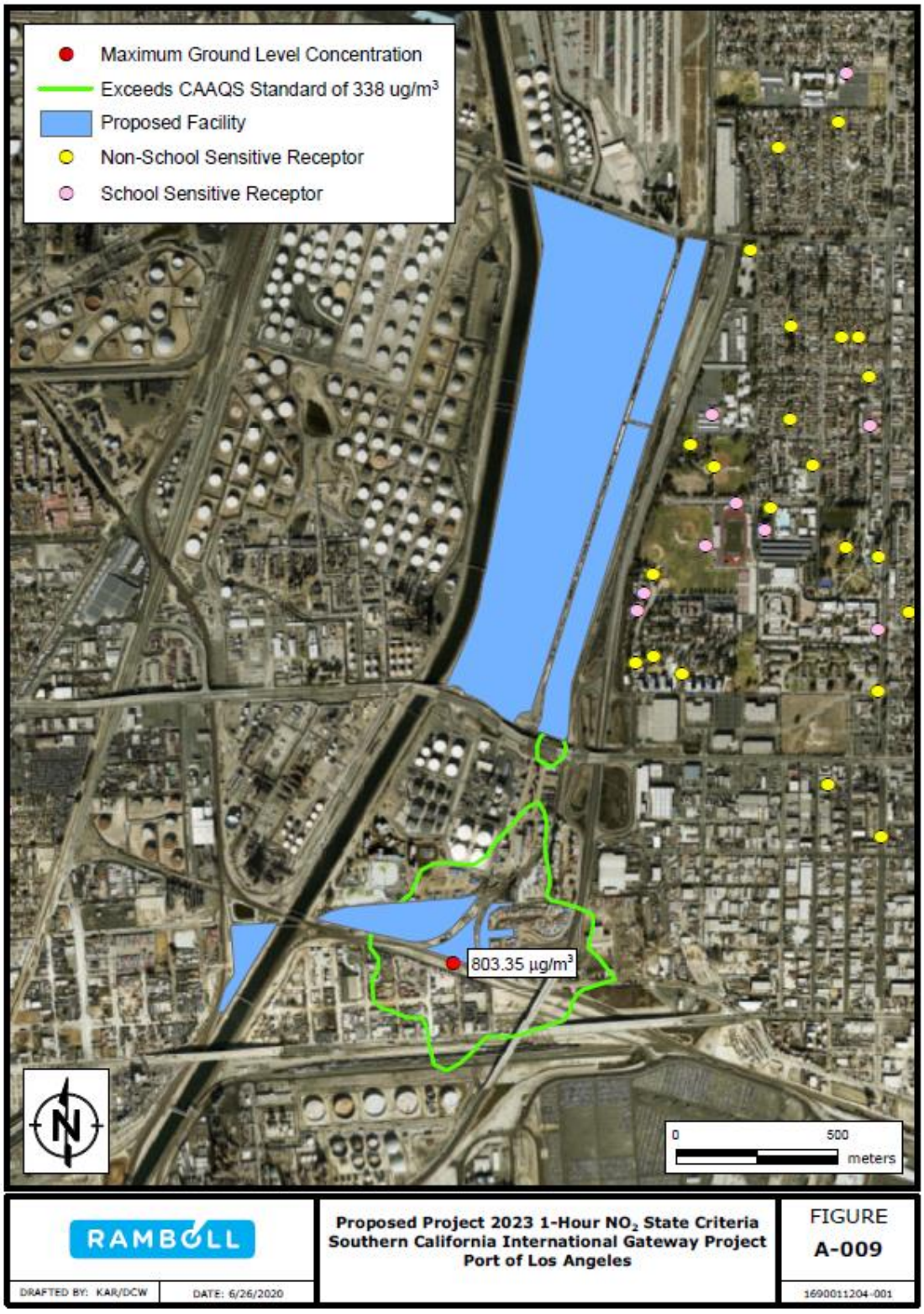


Figure 3-9: Project and Reduced Project 2023 1-Hour NO_2 State Standard

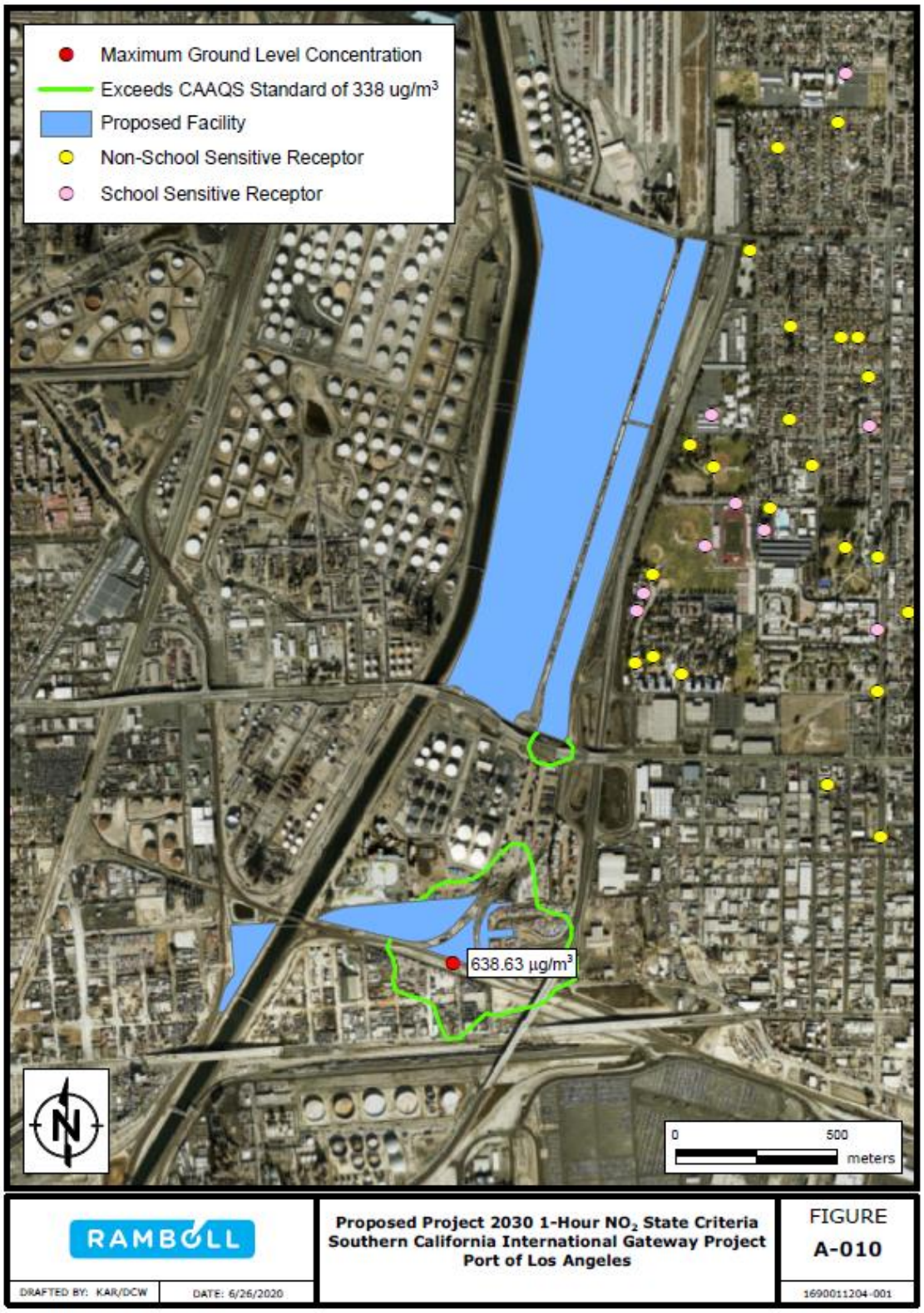


Figure 3-10: Project 2030 1-Hour NO_2 State Standard

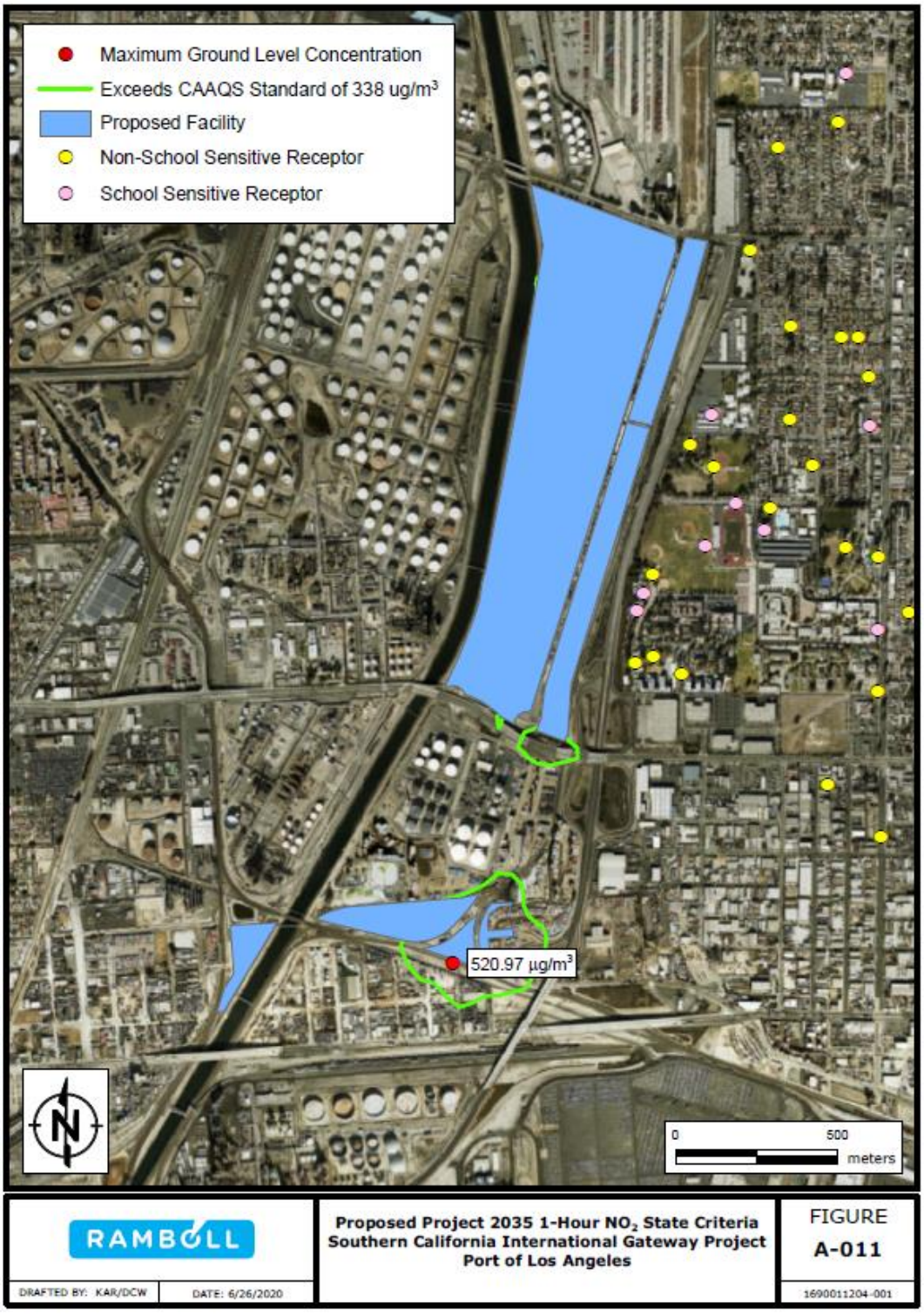


Figure 3-11: Project 2035 1-Hour NO_2 State Standard

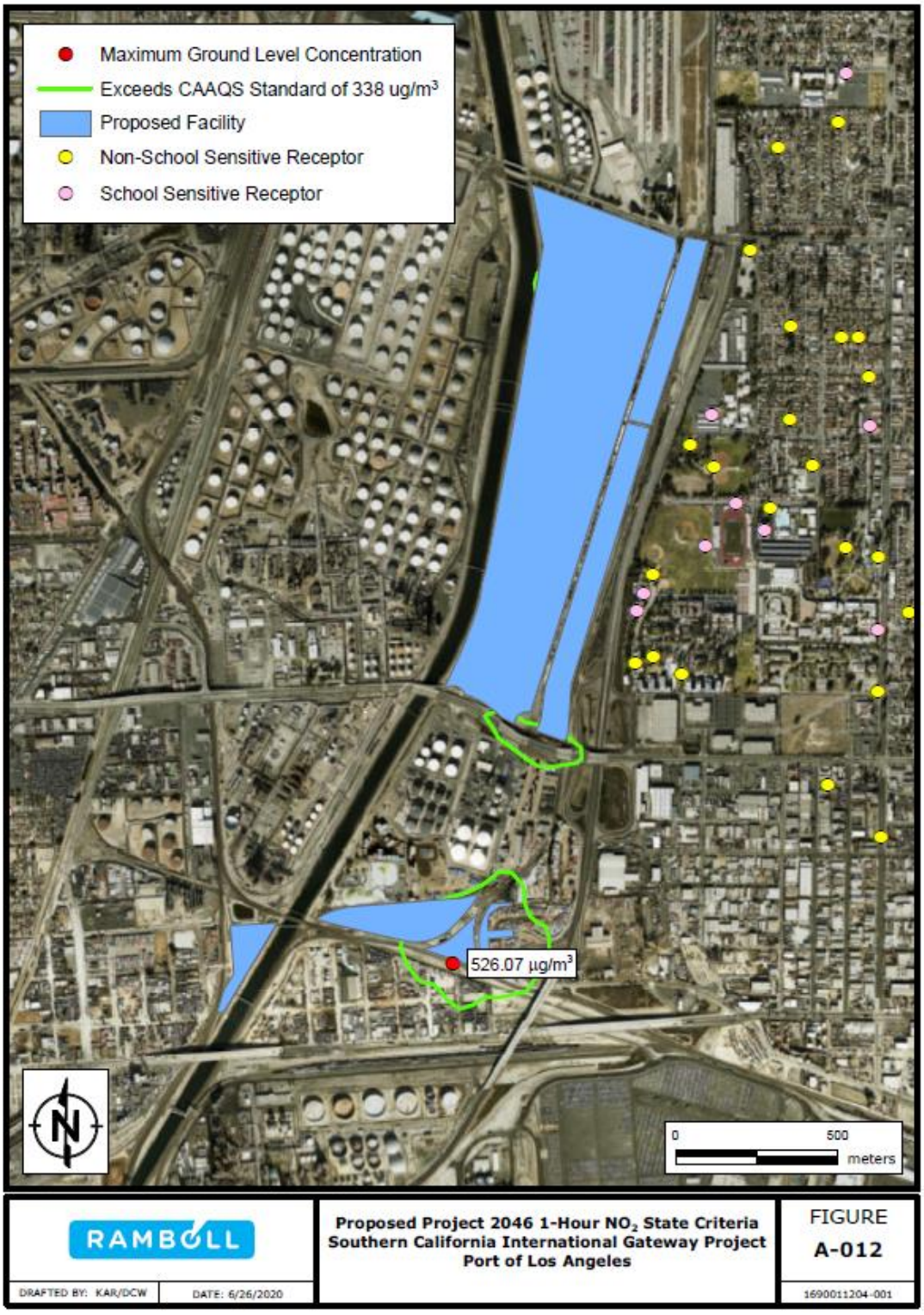


Figure 3-12: Project 2046 1-Hour NO_2 State Standard

Figure 3-13: Project and Reduced Project 2016 Annual NO_2 Standard

Figure 3-14: Project 2035 Annual NO_2 Standard

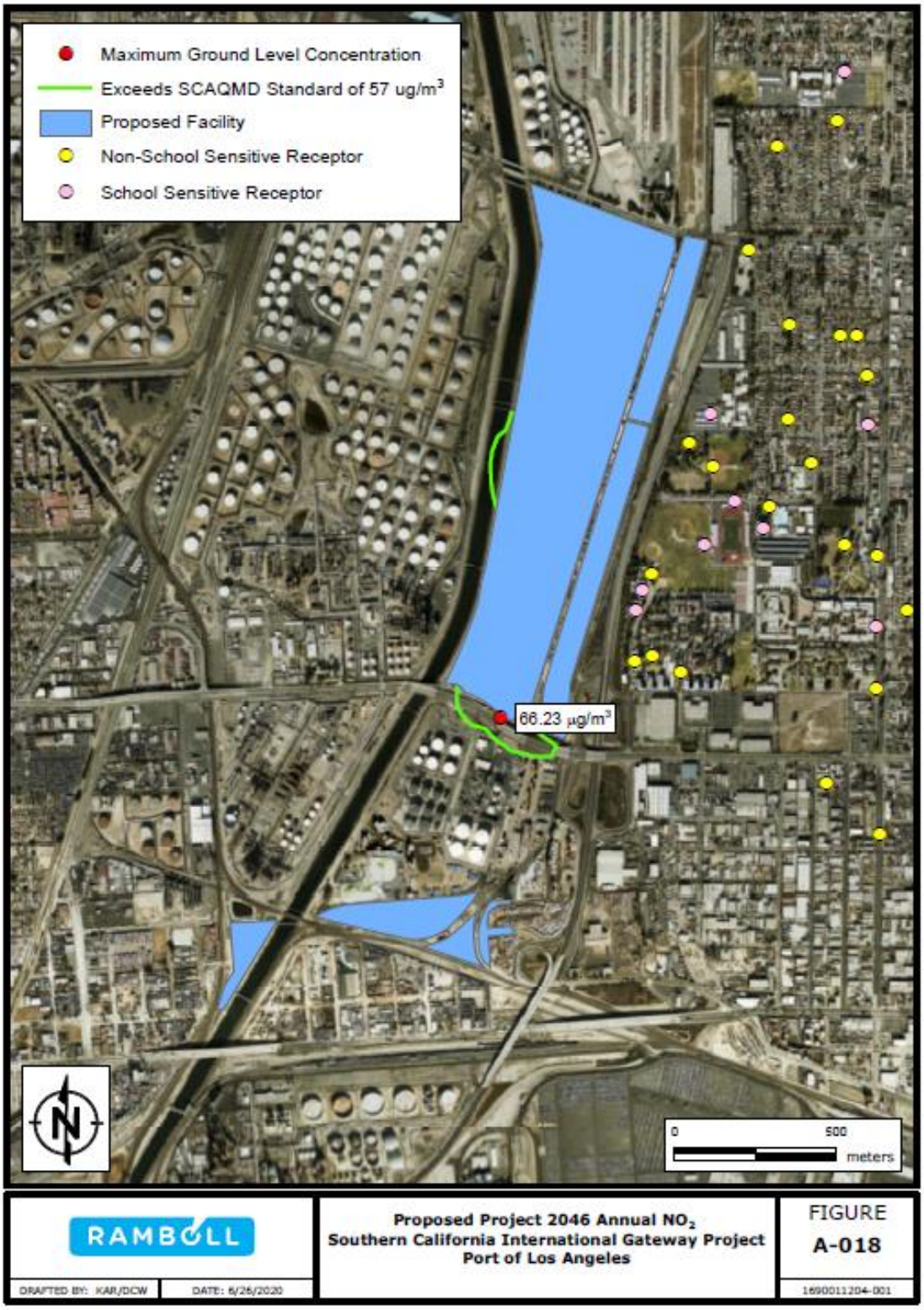


Figure 3-15: Project 2046 Annual NO_2 Standard

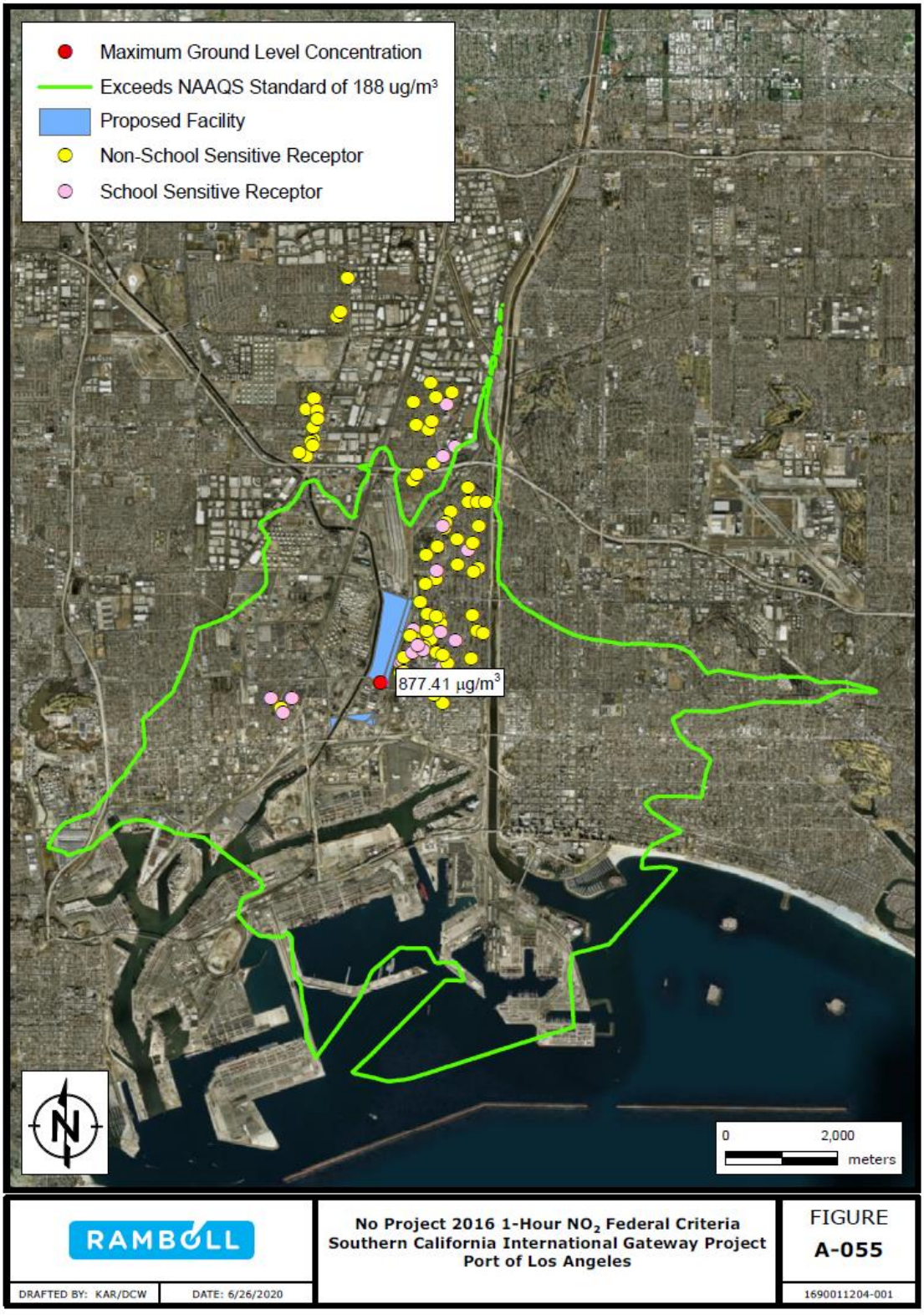


Figure 3-16: No Project 2016 1-Hour NO_2 Federal Standard

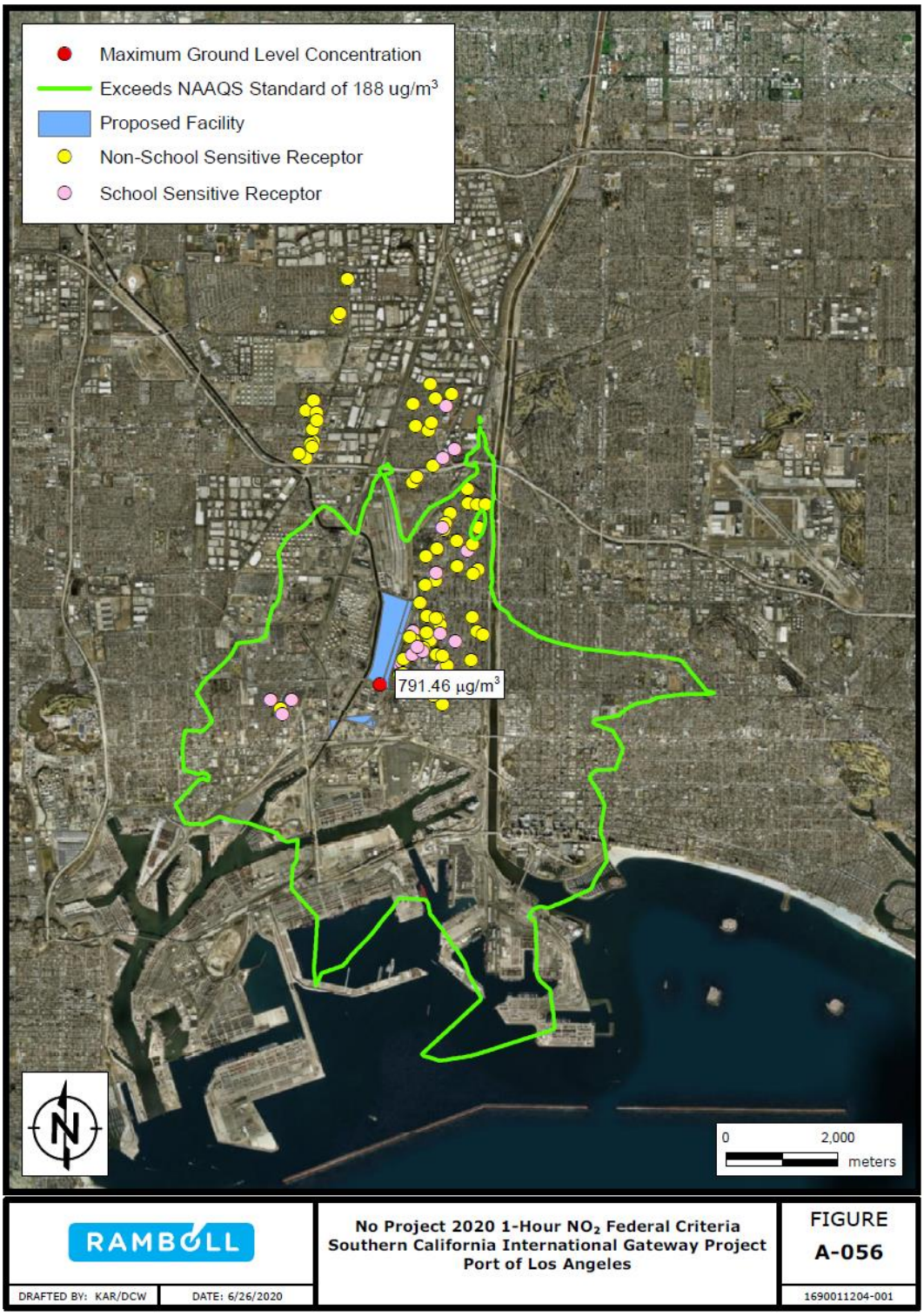


Figure 3-17: No Project 2020 1-Hour NO_2 Federal Standard

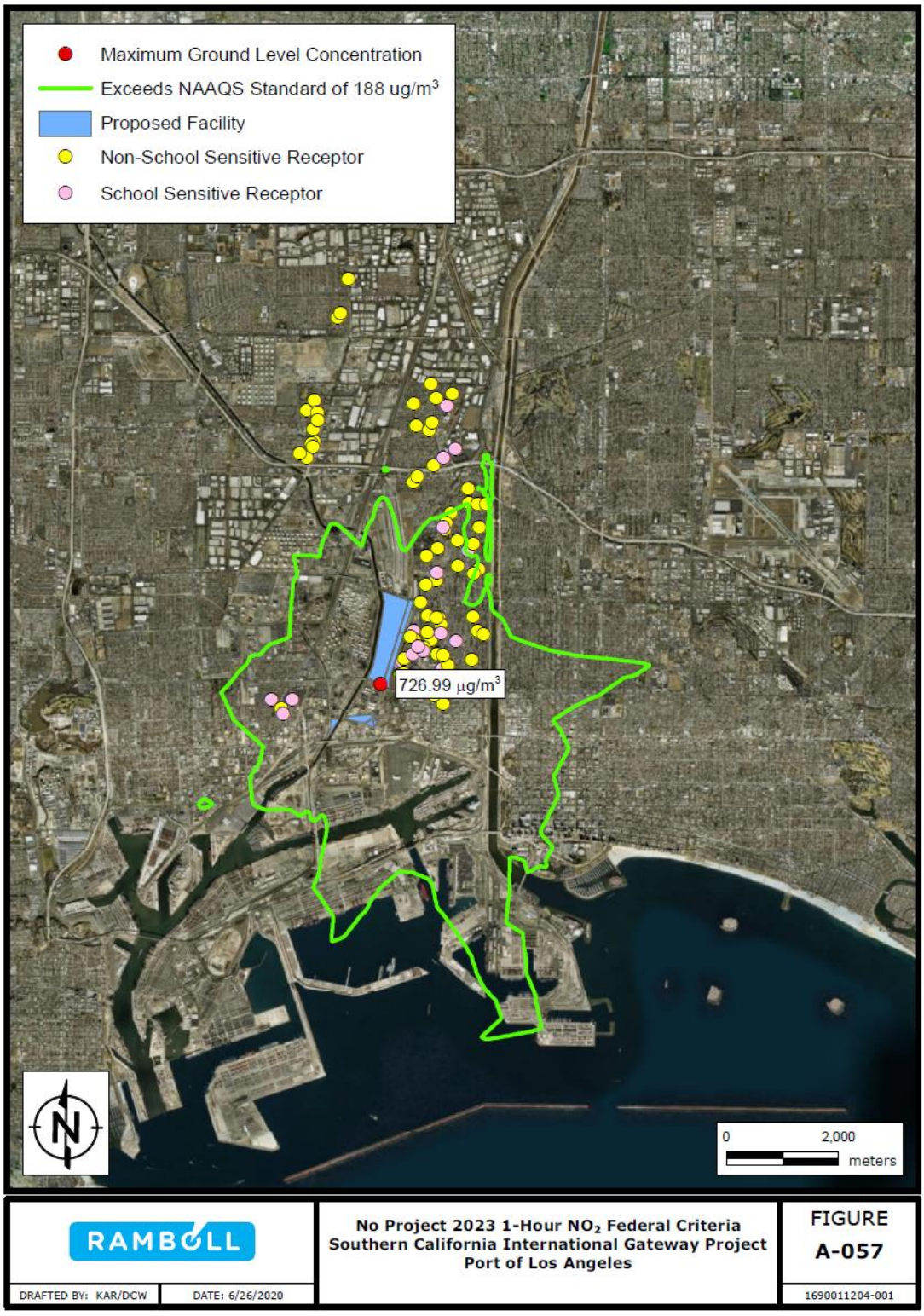


Figure 3-18: No Project 2023 1-Hour NO_2 Federal Standard

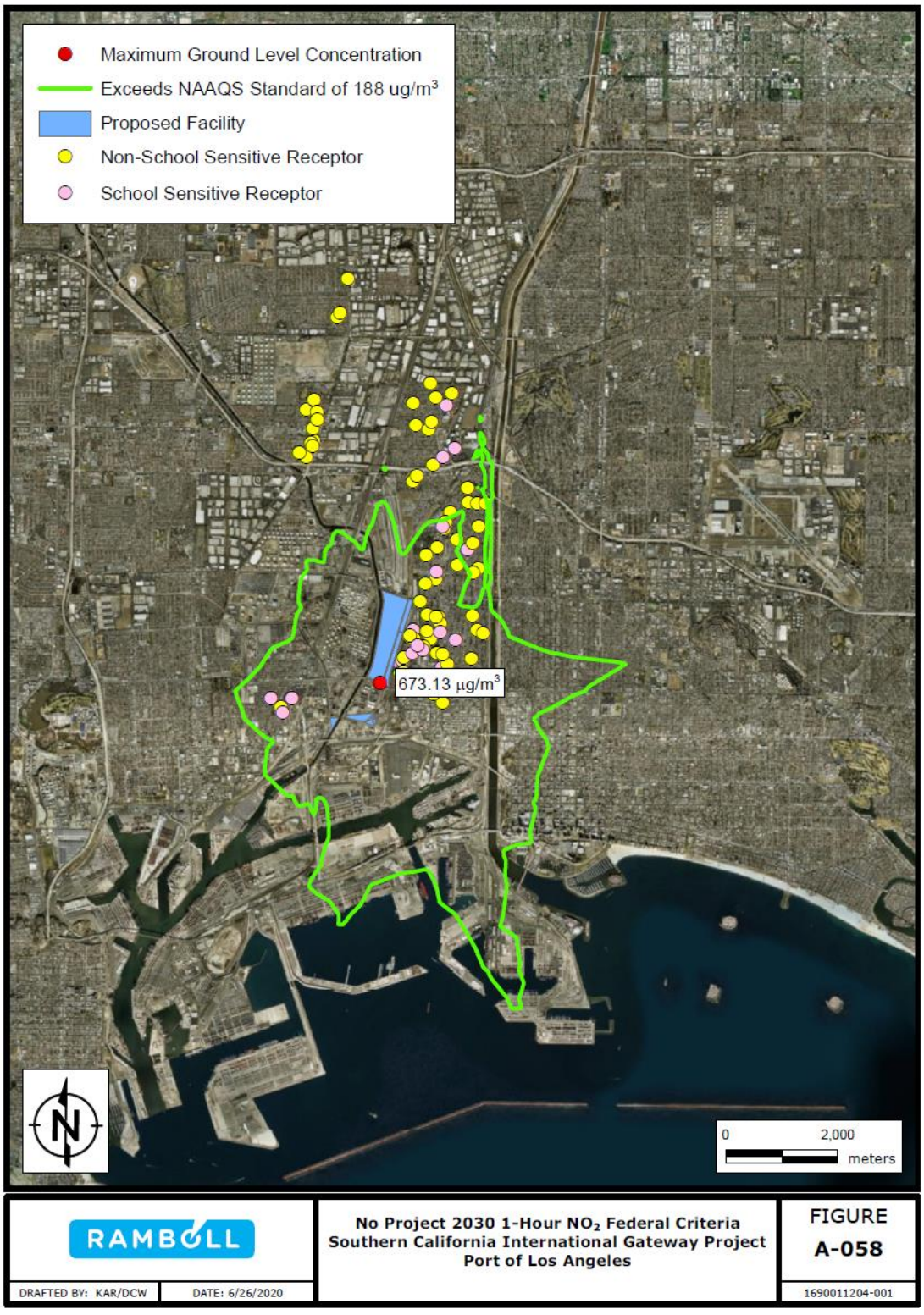


Figure 3-19: No Project 2030 1-Hour NO_2 Federal Standard

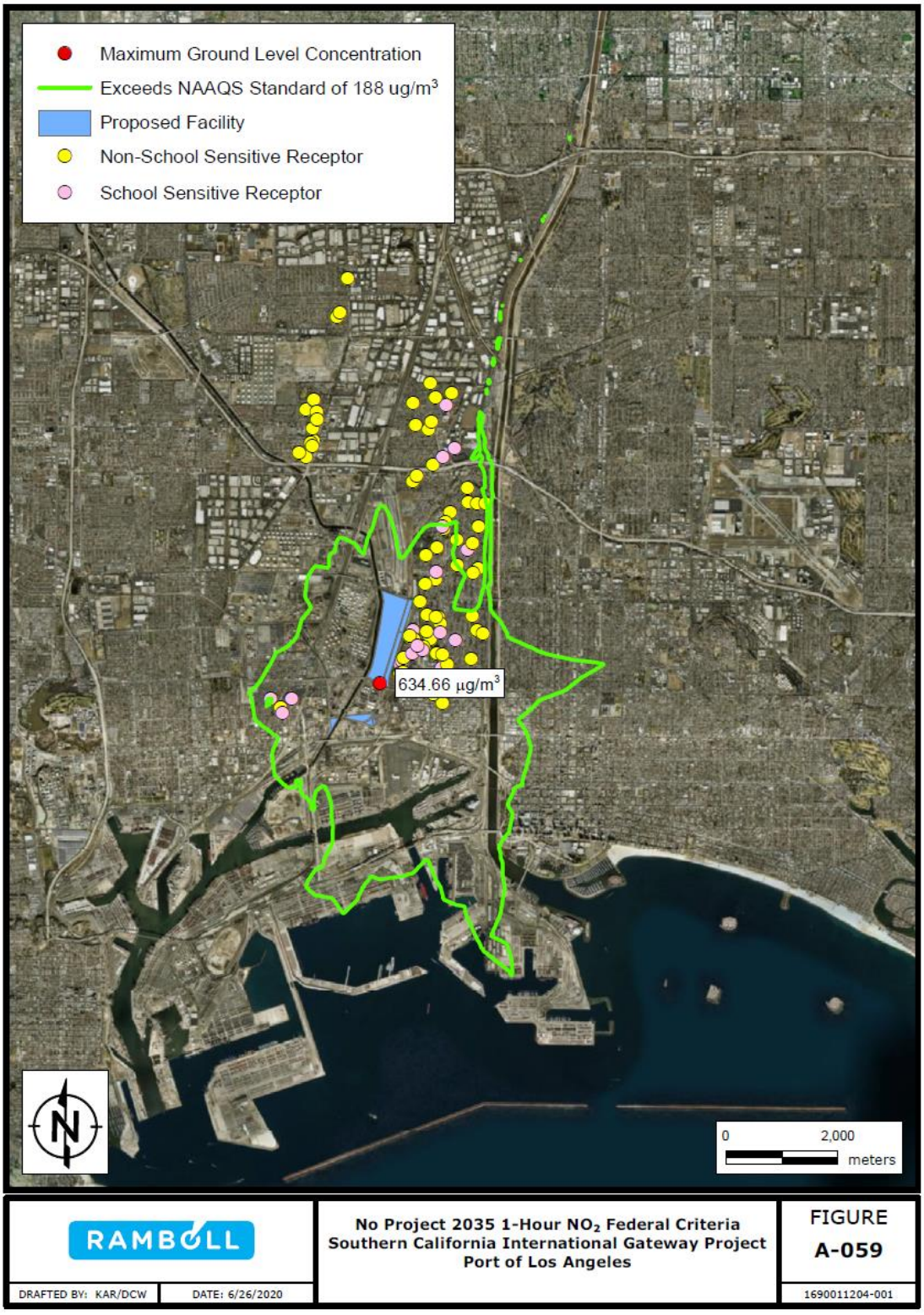


Figure 3-20: No Project 2035 1-Hour NO_2 Federal Standard

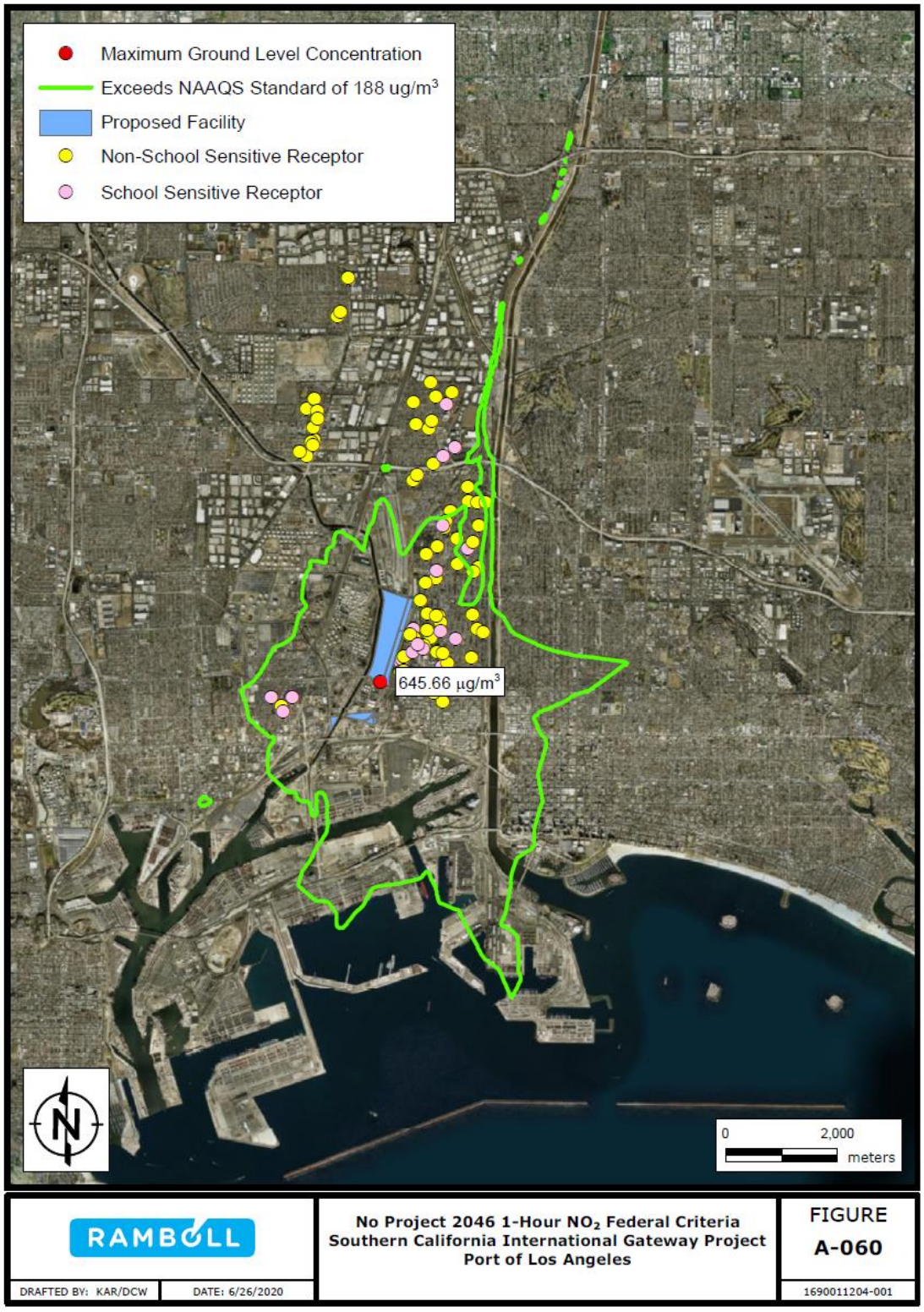


Figure 3-21: No Project 2046 1-Hour NO_2 Federal Standard

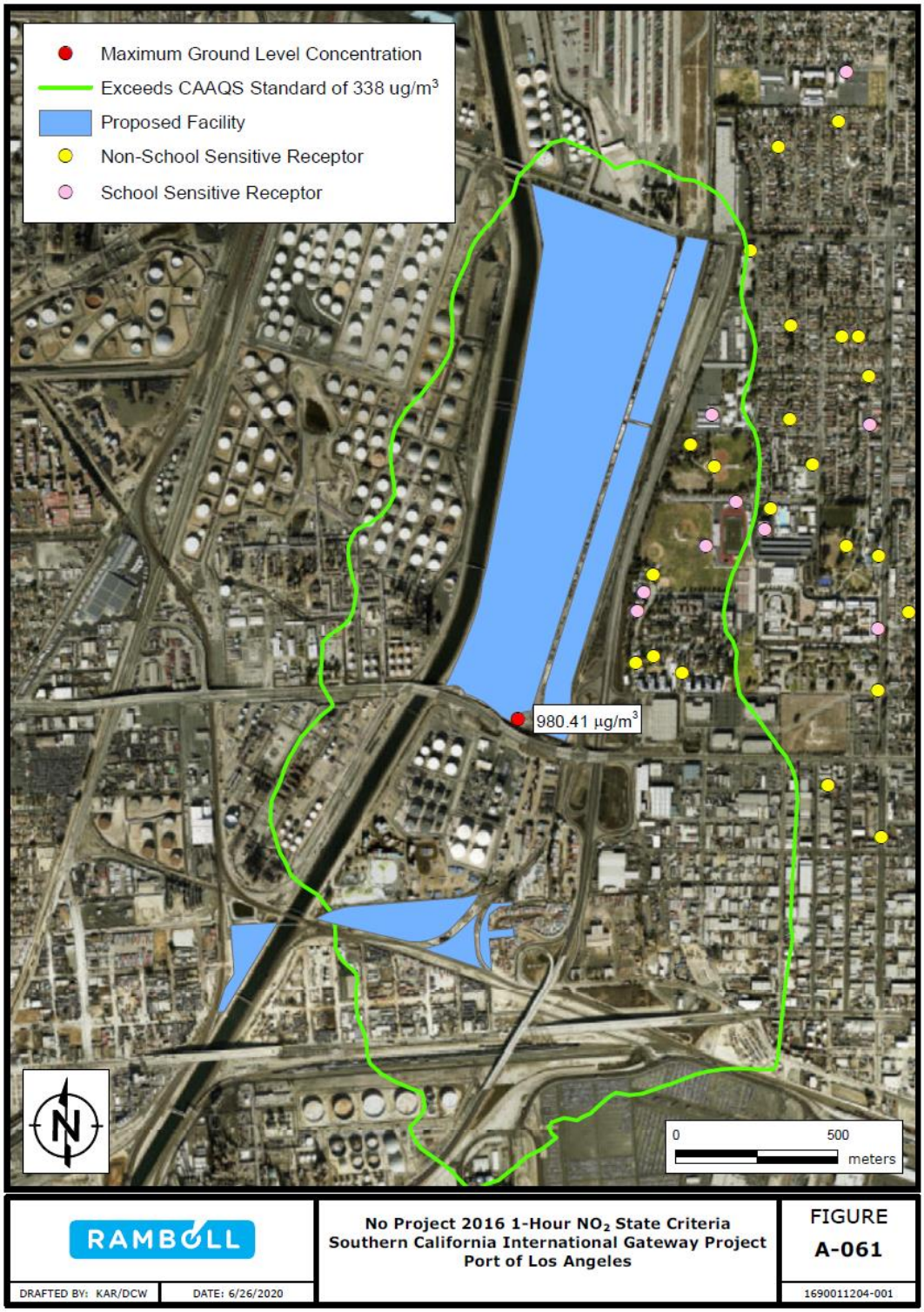


Figure 3-22: No Project 2016 1-Hour NO_2 State Standard

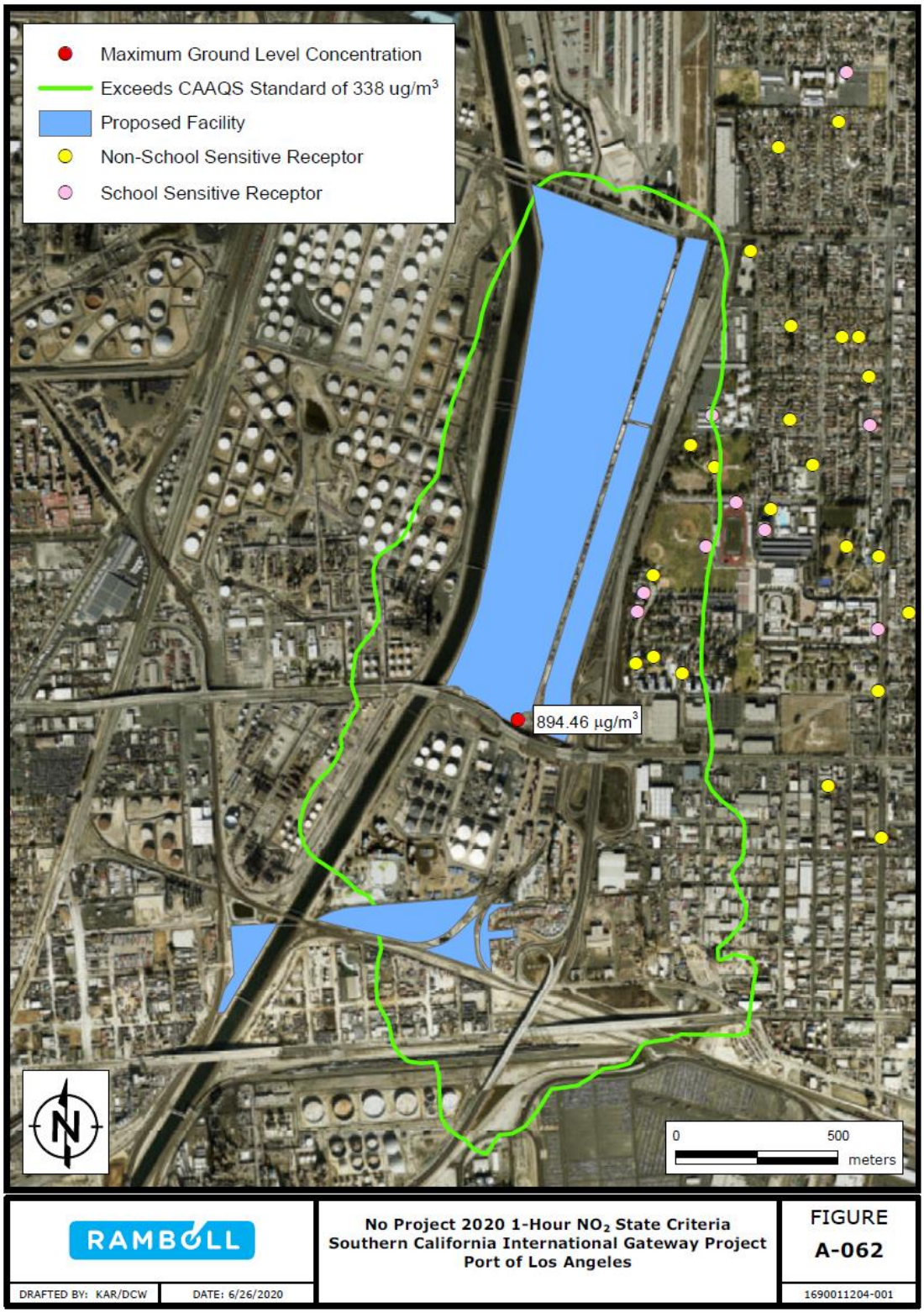


Figure 3-23: No Project 2020 1-Hour NO_2 State Standard

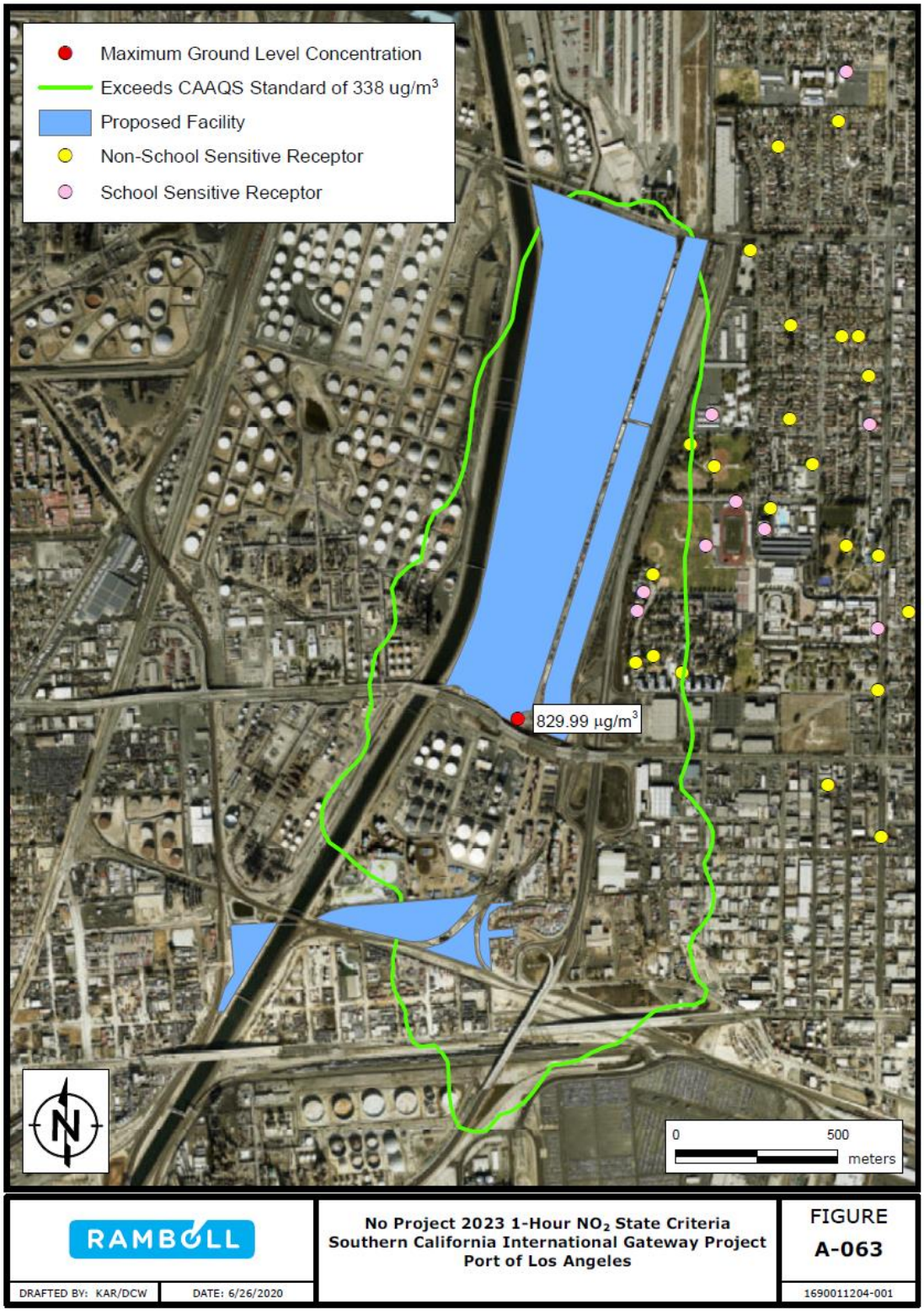


Figure 3-24: No Project 2023 1-Hour NO_2 State Standard

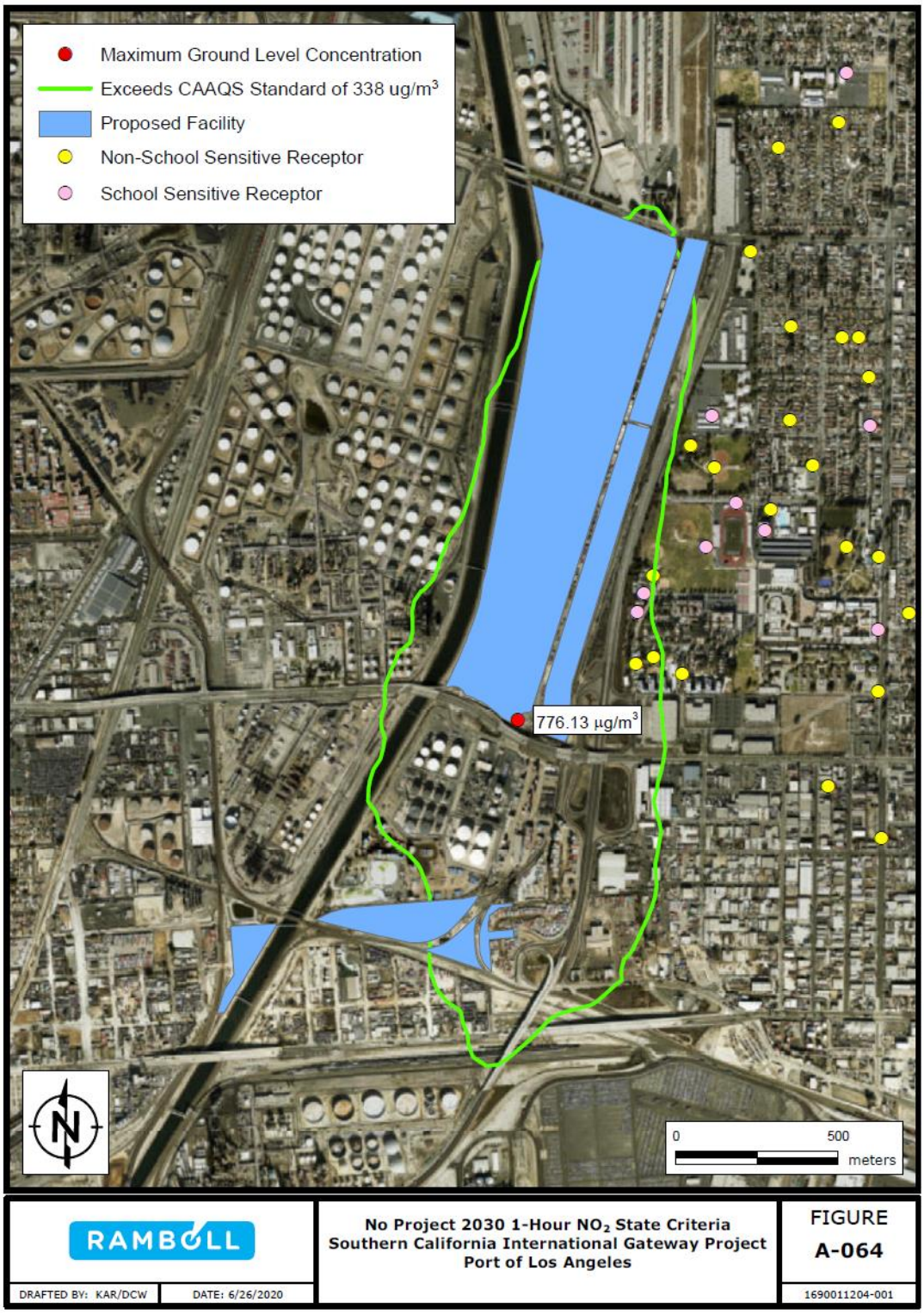


Figure 3-25: No Project 2030 1-Hour NO_2 State Standard

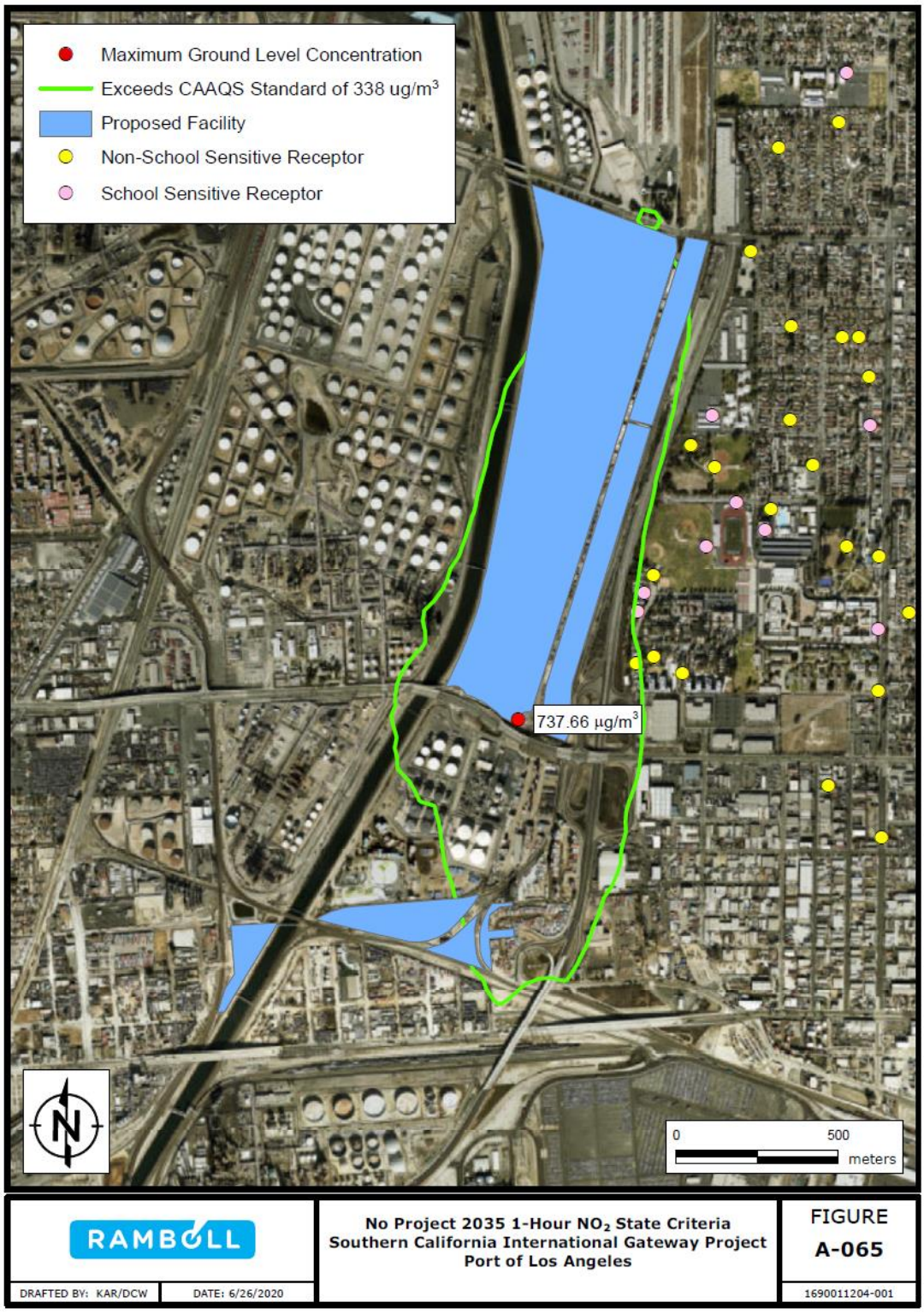


Figure 3-26: No Project 2035 1-Hour NO_2 State Standard

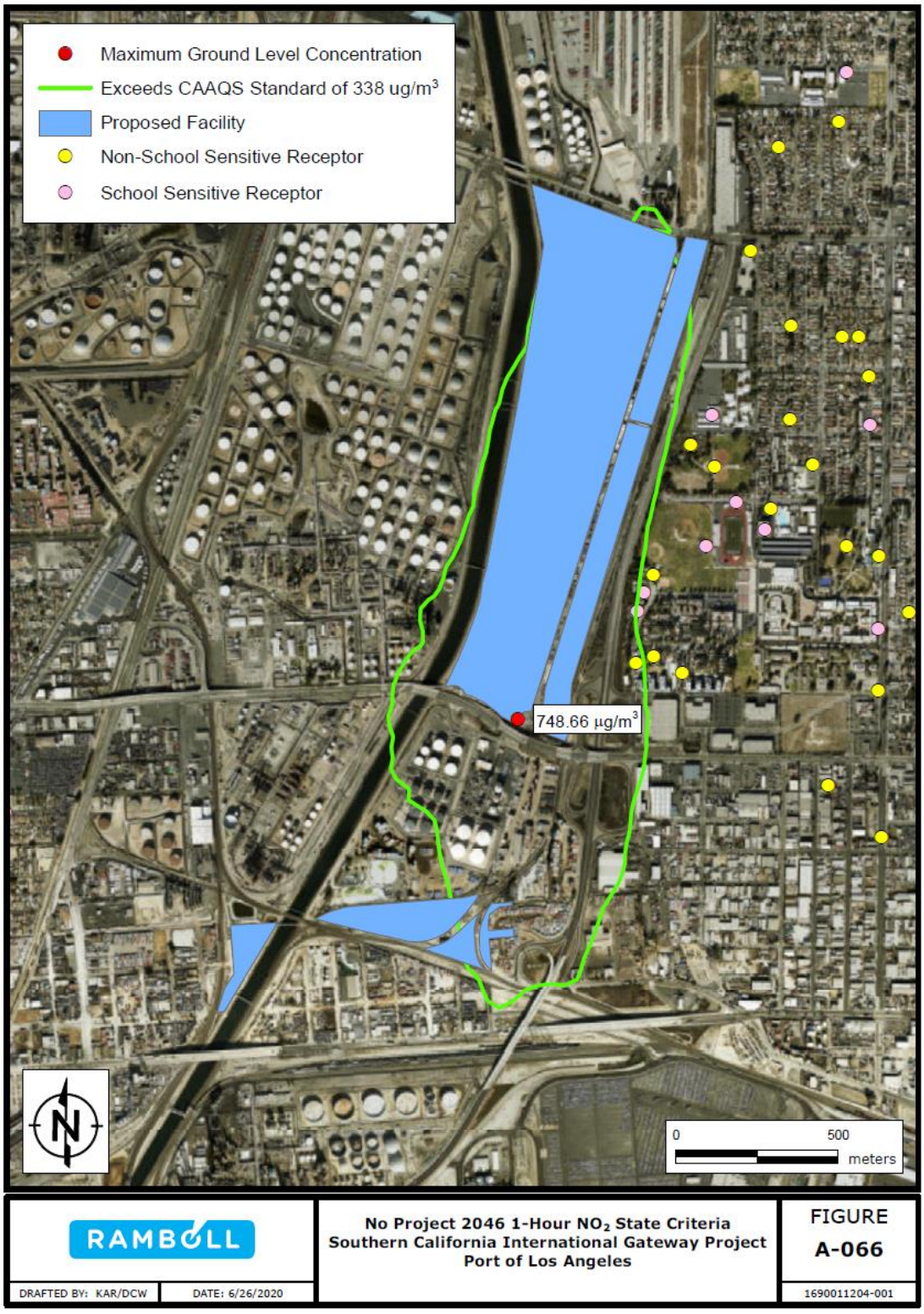


Figure 3-27: No Project 2046 1-Hour NO_2 State Standard

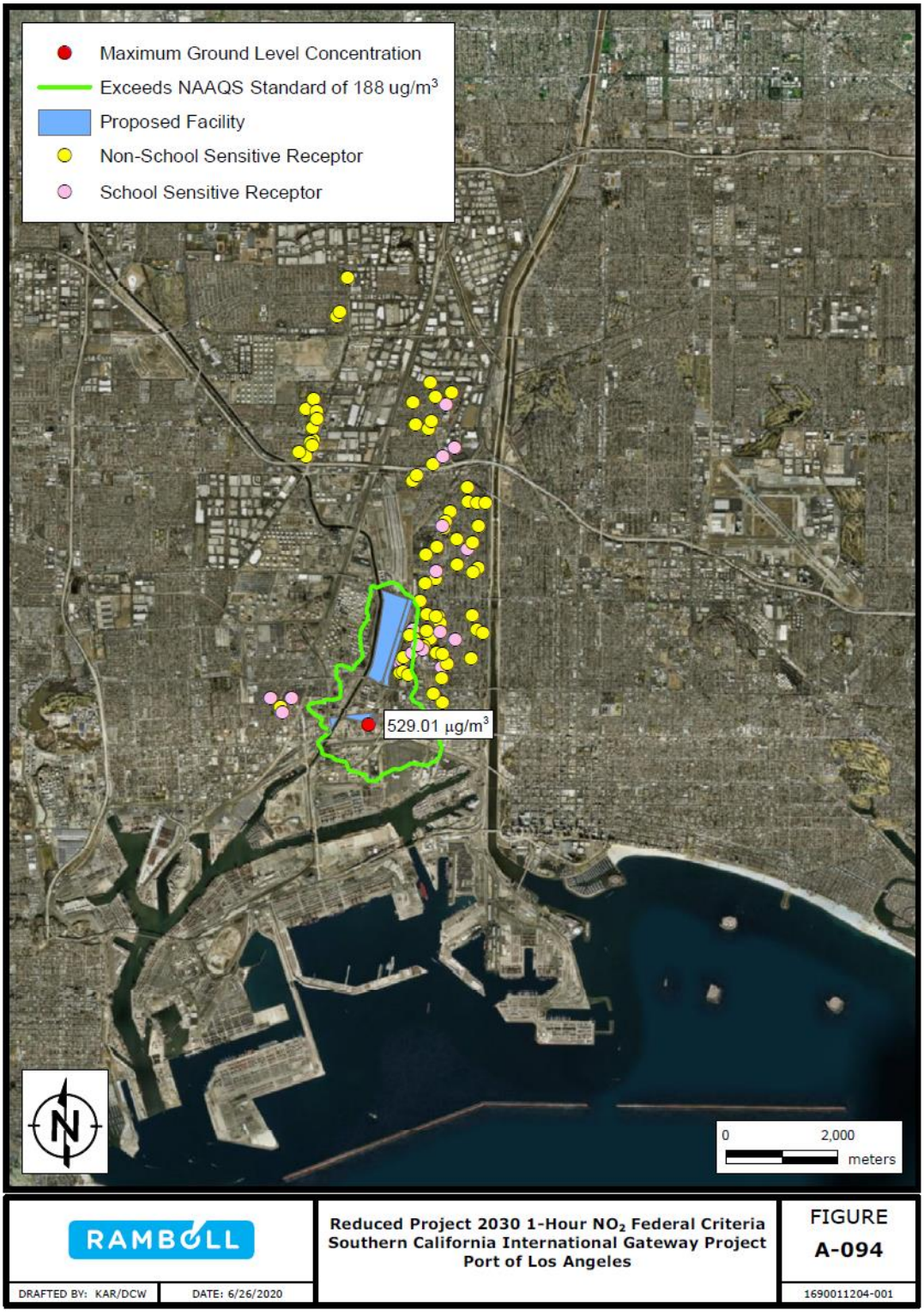


Figure 3-28: Reduced Project 2030 1-Hour NO_2 Federal Standard

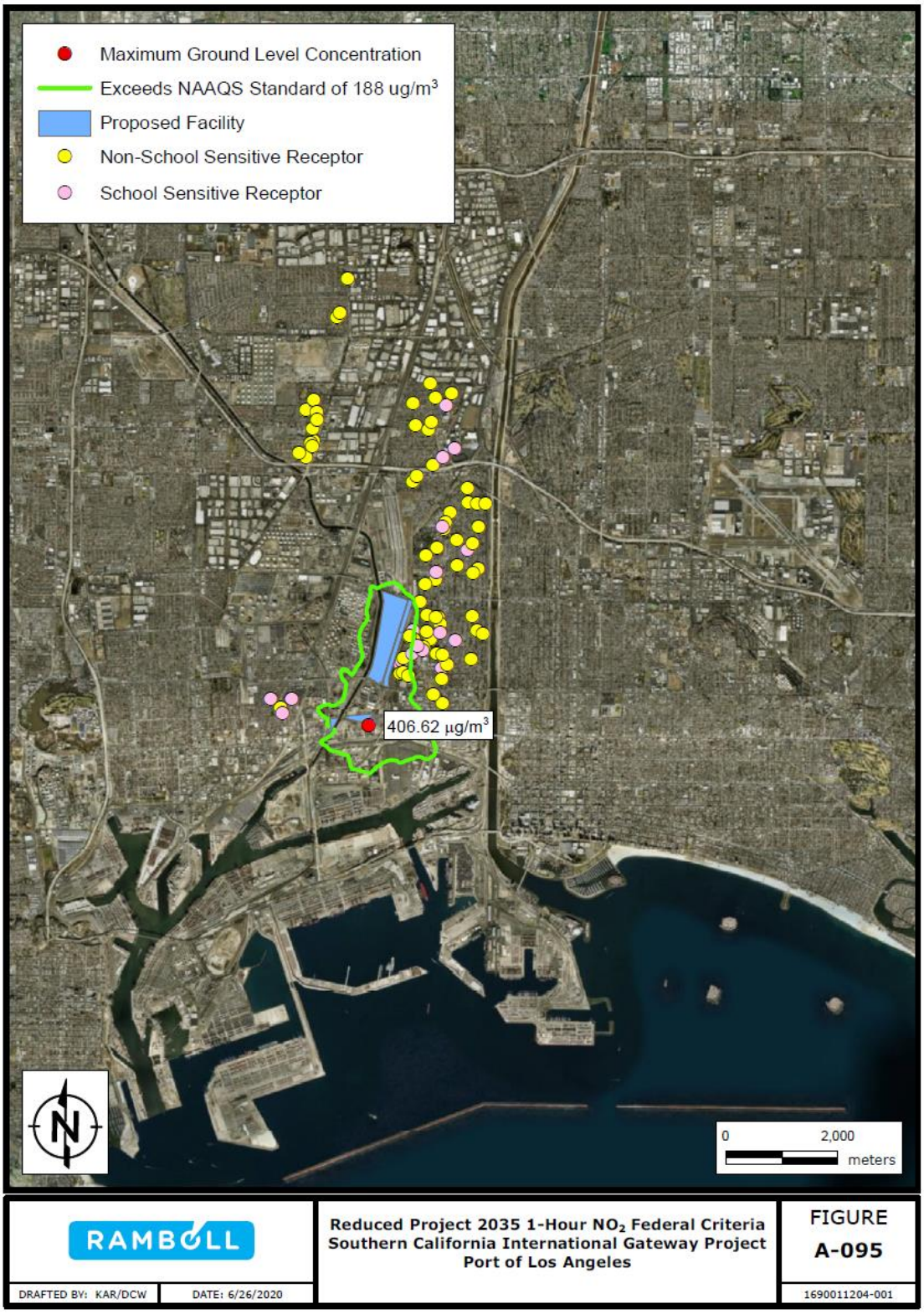


Figure 3-29: Reduced Project 2035 1-Hour NO_2 Federal Standard

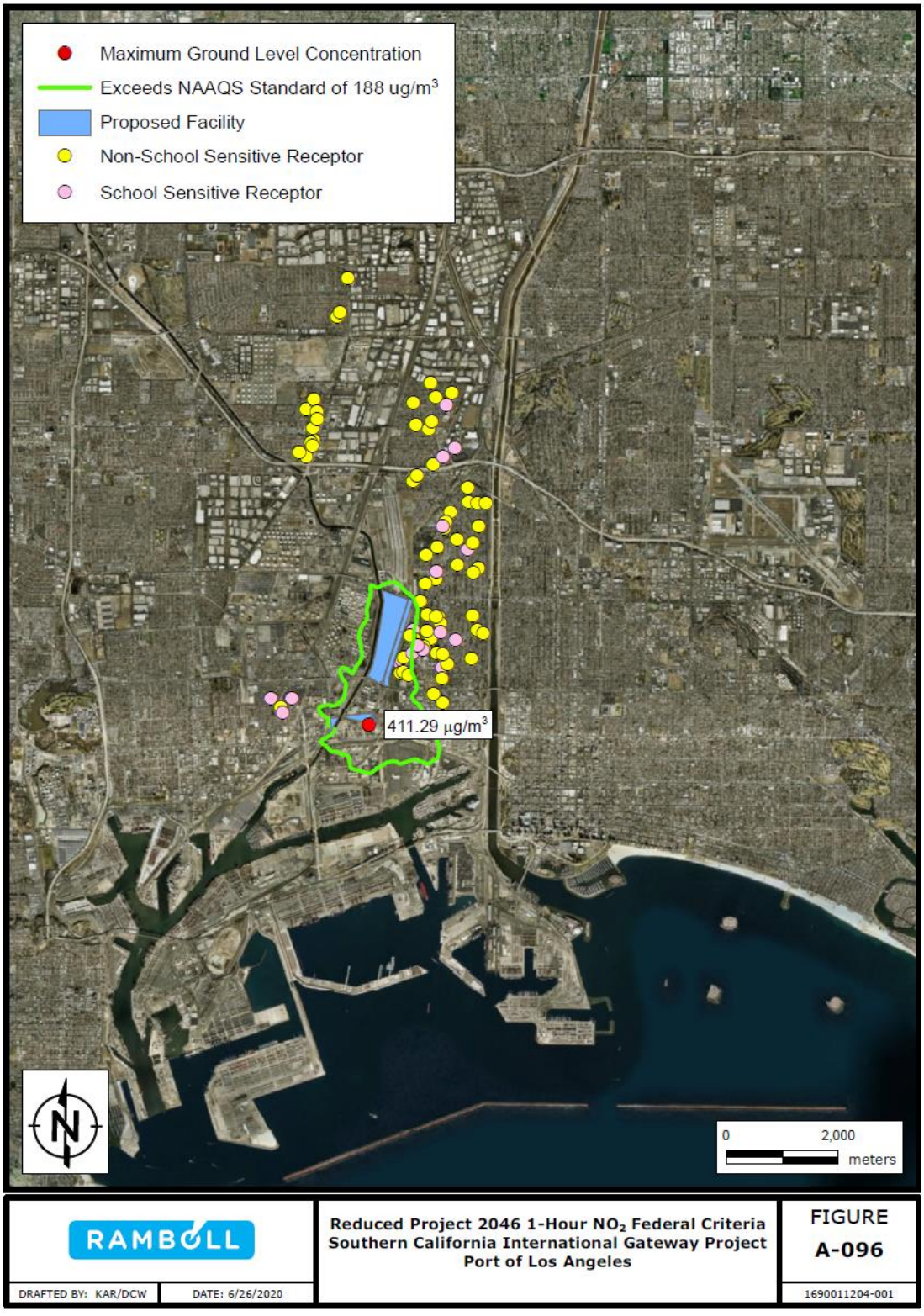


Figure 3-30: Reduced Project 2046 1-Hour NO_2 Federal Standard

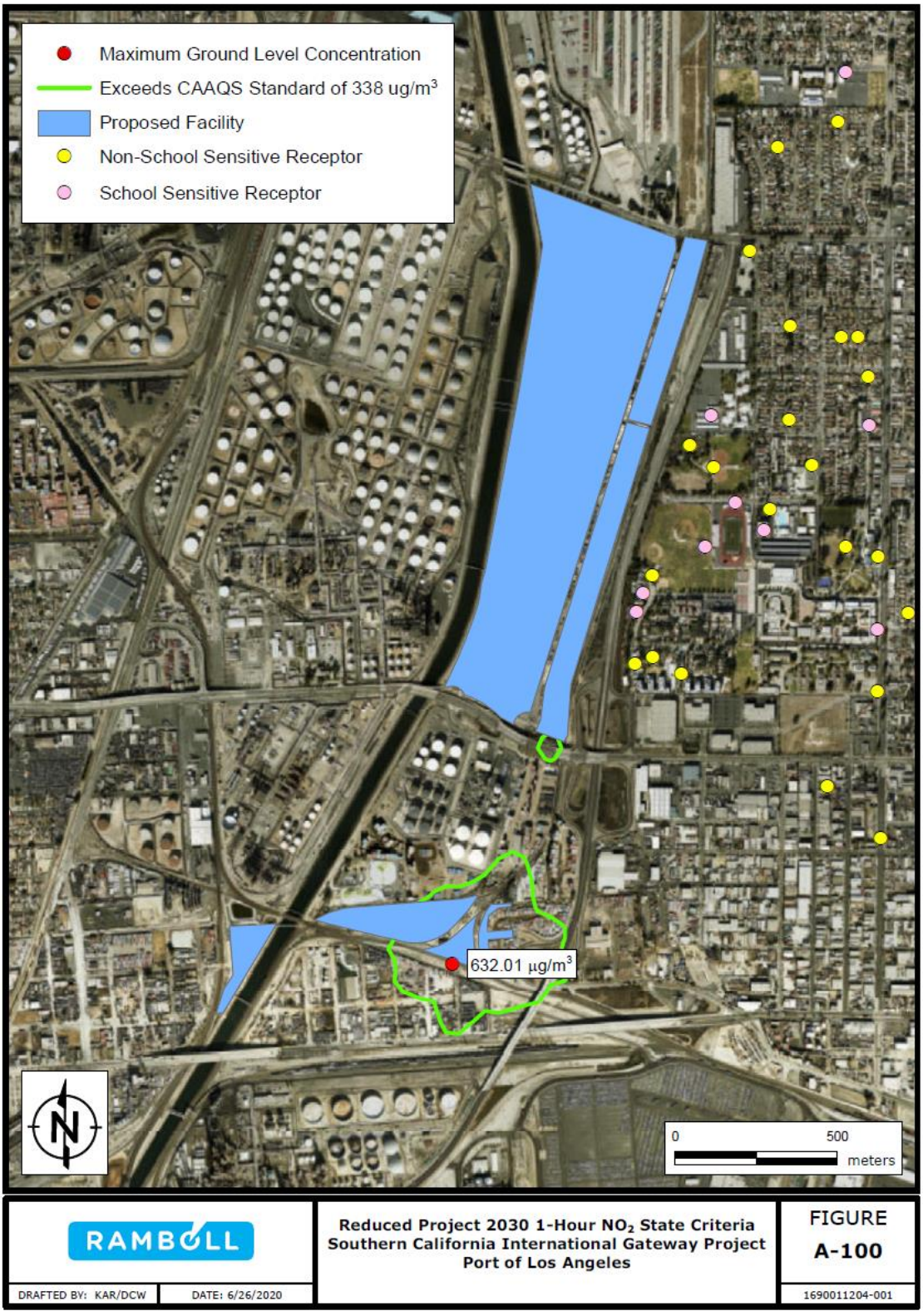


Figure 3-31: Reduced Project 2030 1-Hour NO_2 State Standard

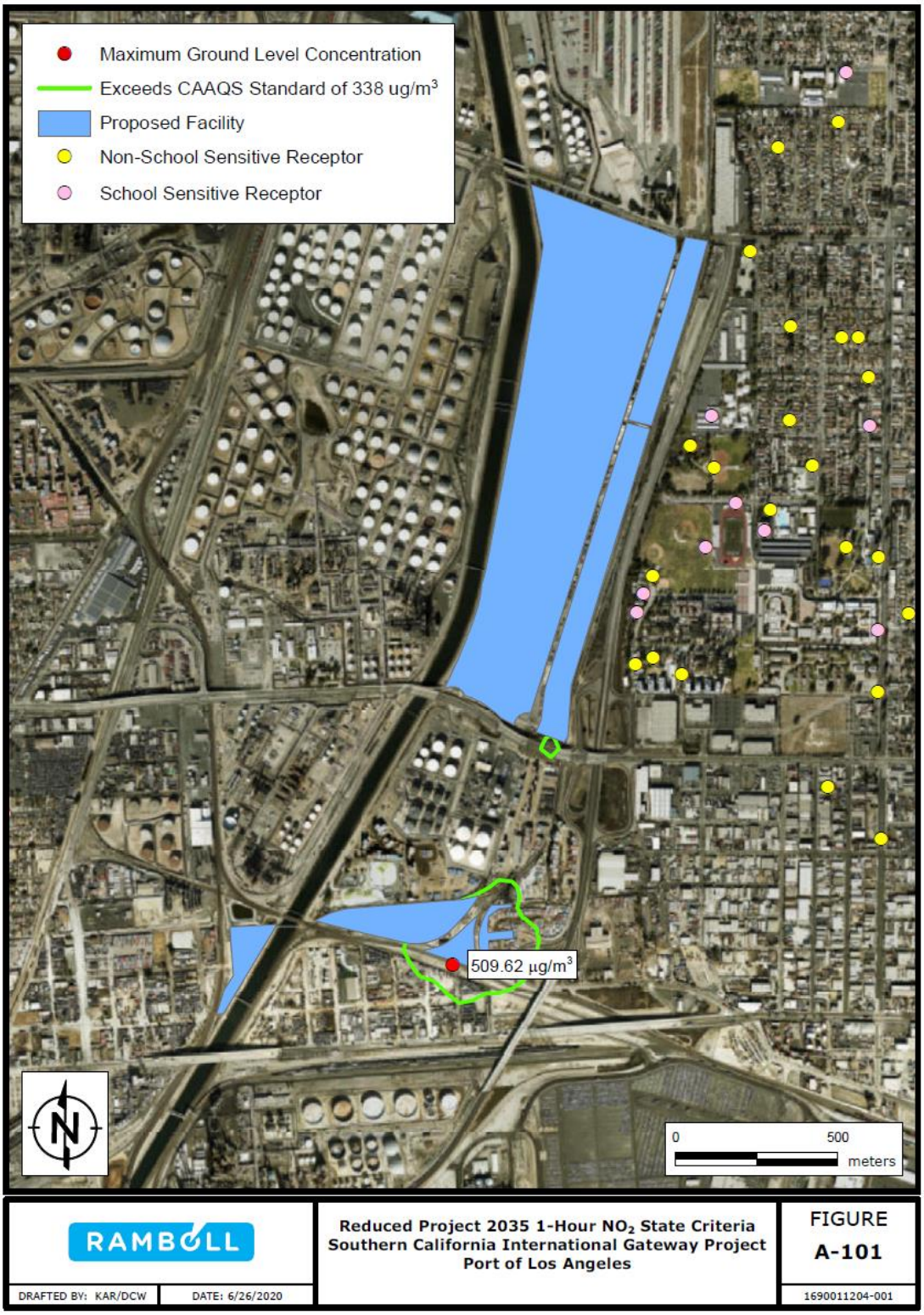


Figure 3-32: Reduced Project 2035 1-Hour NO_2 State Standard

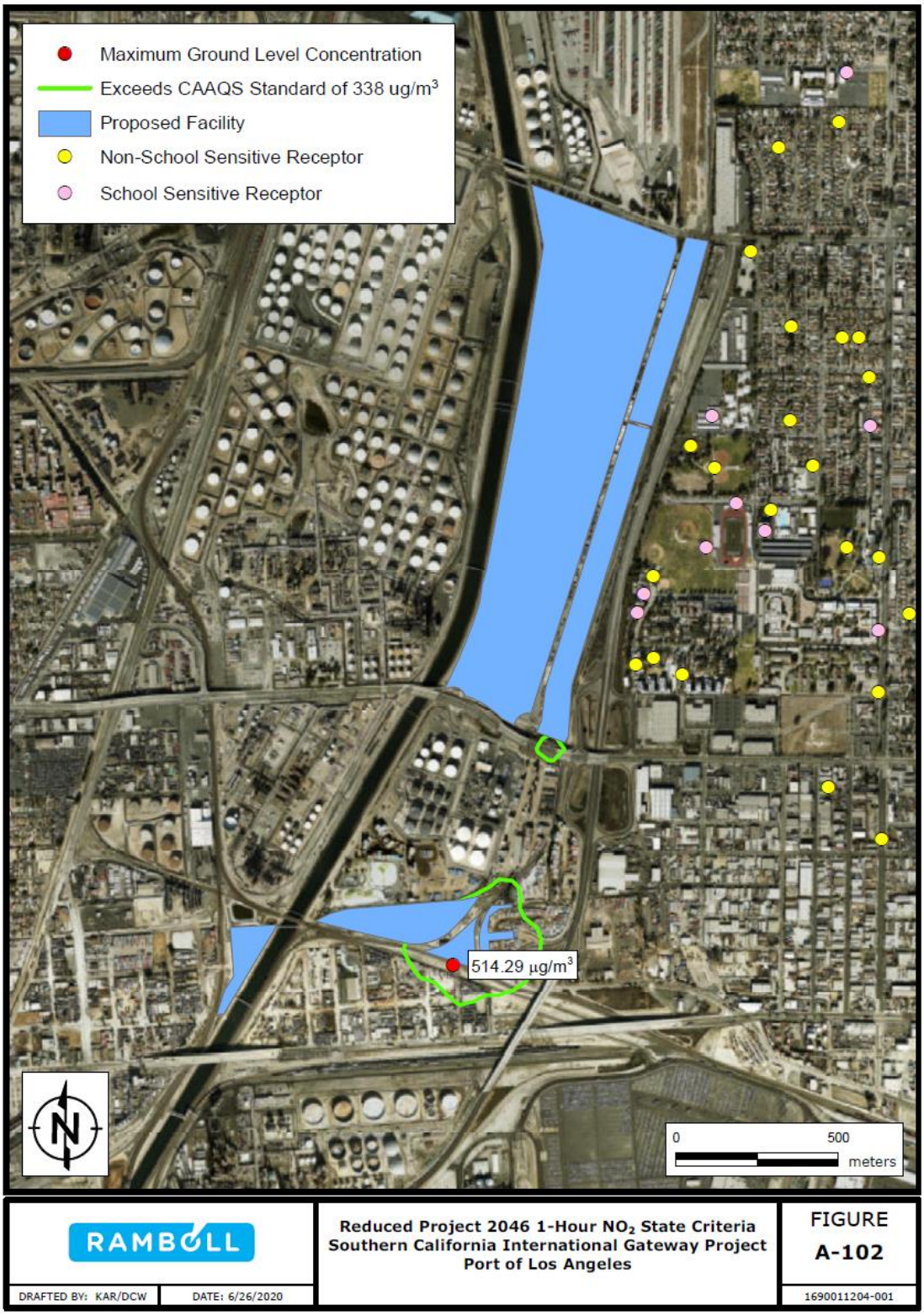


Figure 3-33: Reduced Project 2046 1-Hour NO_2 State Standard

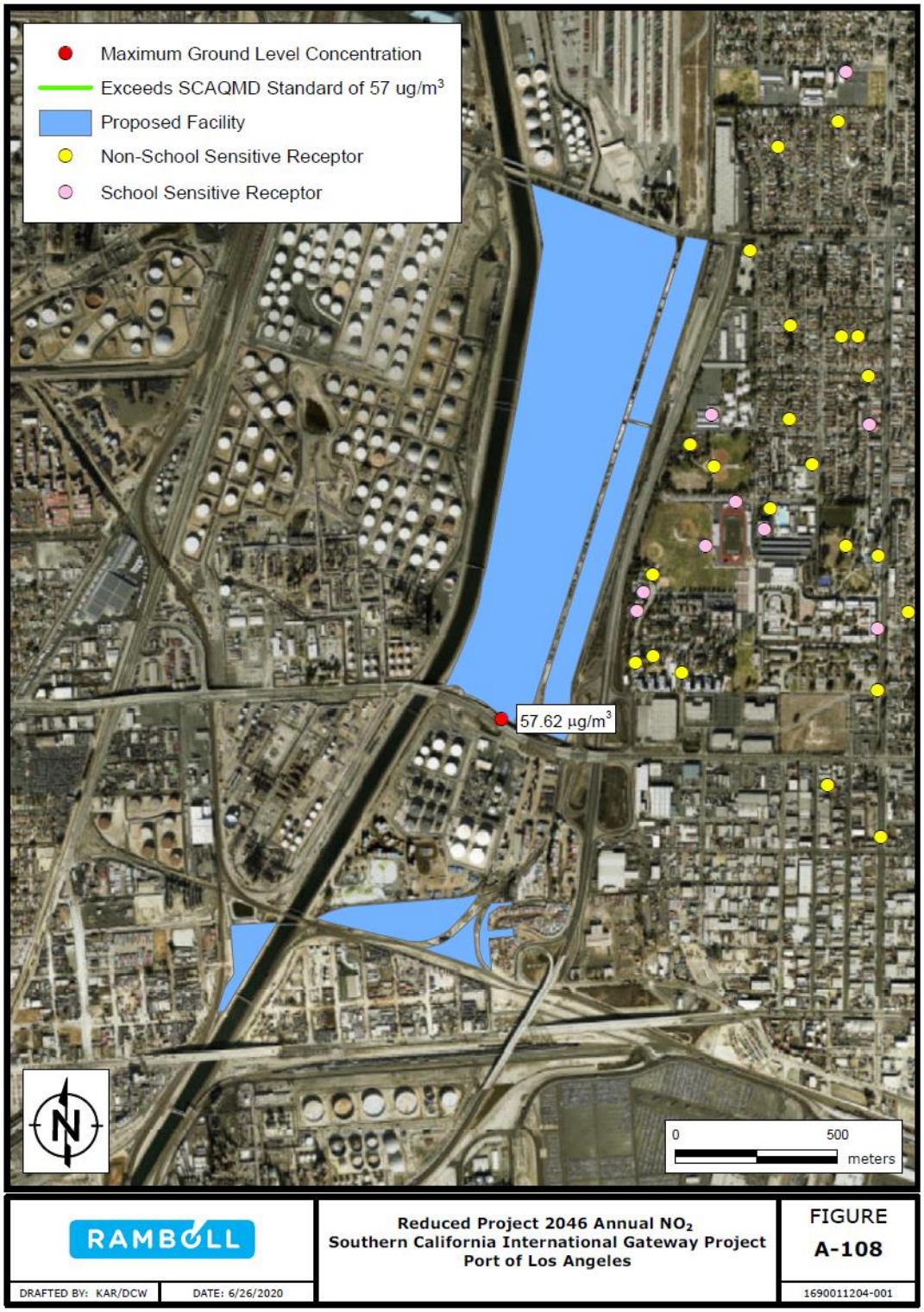


Figure 3-34: Reduced Project 2046 Annual NO_2 Standard

3.5.2.3 Duration of Impacts on Sensitive Receptors and/or Residential Areas

As described above, the Project scenario's only area of local impact on residential areas and sensitive receptors related to NO_2 concentrations would be a narrow strip of West Long Beach immediately east of the Project site and the Terminal Island Freeway, in the general vicinity of the Century Villages at Cabrillo and Bethune Transitional Center. That area would experience exceedances of the 1-hour NO_2 federal standard in all Benchmark Years, meaning that the affected area would experience significant impacts for the entire 50-year life of the Project. Because the affected area is at the edge of the area of exceedance of the standard represented by the green lines in the contour figures, NO_2 concentrations in that area would not be substantially greater than the significance threshold. Accordingly, residents and sensitive receptors in those small areas could be exposed to concentrations of NO_2 at or marginally above significant levels. There would be no impacts to residential areas or sensitive receptors related to the 1-hour or annual state standards in any Benchmark Year for the Project.

The No Project scenario would result in exceedances of the 1-hour federal standard in every Benchmark Year. The areas of local impacts would include numerous residential areas and sensitive receptors in West Long Beach, Long Beach, and Wilmington. The extent of the affected area would decrease from its maximum in 2016 to 2046 and thereafter, but essentially all of West Long Beach, a portion of Long Beach east of the Los Angeles River, and a portion of Wilmington just west of Alameda Street would experience significant impacts for the entire 50-year analysis period. More distant areas, including much of Wilmington and much of Long Beach south of I-405 and west of Cherry Street, would experience significant impacts for fewer years. The No Project scenario would also result in exceedances of the 1-hour NO_2 state standard in every Benchmark Year. Unlike the Project, exceedance of the state standard under the No Project scenario would have a significant impact on residential areas and sensitive receptors in West Long Beach over the entire 50-year analysis period.

The Reduced Project scenario's only area of significant impact on residential areas and sensitive receptors would include a narrow strip of West Long Beach immediately east of the Project site, in the general vicinity of the Century Villages at Cabrillo and Bethune Transitional Center. That area would experience exceedances of the 1-hour NO_2 federal standard in all Benchmark Years, with a few residential areas and sensitive receptors immediately east of the Project site experiencing NO_2 concentrations at or marginally above significant levels. Accordingly, small areas of residences and sensitive receptors would be exposed to concentrations of NO_2 at or marginally above significant levels of the 1-hour NO_2 federal standard for the 50-year life of the Project.

3.5.2.4 Health Effects of NO_2 Impacts

As explained in Section 3.5.1, there is currently no accepted methodology available that can accurately quantify local health effects from ambient NO_2 concentrations associated with an individual project. Therefore, this analysis is limited to qualitatively describing the types of adverse health effects associated with exposure to NO_2 concentrations exceeding SCAQMD significance thresholds. In developing the NO_2 standards, the EPA (2016) and CARB (2007b) have prepared comprehensive reports on the possible health effects associated with NO_2 exposure. The main conclusions of these agencies are:

- EPA (2016) concluded that a causal relationship exists between short-term NO_2 exposure and respiratory effects such as asthma attacks. There is likely to be a causal relationship between long-term NO_2 exposure and respiratory effects based on the evidence for development of asthma. For short-term and/or long-term NO_2 exposure, evidence is suggestive of, but not sufficient to imply, a causal relationship with cardiovascular effects, diabetes, mortality, birth outcomes, and cancer. Children, older adults, and people with asthma are at increased risk for NO_2-related health effects.
- CARB (2007b) concluded that, in controlled human exposure studies, asthmatics appear to be especially sensitive to NO_2. Asthmatic volunteers have experienced short-term effects at concentrations as low as 0.26 ppm (approximately 489 ug/m^3). There is evidence that a subset of asthmatics may experience increased airway reactivity at concentrations of 0.2 to 0.3 ppm (376 - 564 ug/m^3) for 30 minutes to 2 hours. Generally, no clinical effects are reported in non-asthmatic volunteers in conditions below 1 ppm (1,888 ug/m^3). Epidemiological studies have shown an association between NO_2 and both hospital admissions and emergency room visits for asthma at 24-hour average concentrations ranging from 0.018 to 0.036 ppm (34 – 68 ug/m^3). Less robust evidence suggests associations with mortality, hospitalization for cardiovascular disease, and low birth weight.

3.5.3 PARTICULATE MATTER (PM_{10} AND $PM_{2.5}$)

As described in Section 3.4.1, ambient air concentrations for PM_{10} (24-hour and annual) and $PM_{2.5}$ (24-hour) are evaluated for significance under CEQA as increments. In this analysis, the ground-level concentration increment at each receptor is determined by subtracting the 2010 Baseline modeled concentration at the receptor from the modeled concentration (for a 24-hour or annual period, as applicable) at the same receptor. In a particular Benchmark Year, the maximum value of this subtraction amongst all receptors represents the maximum CEQA increment (i.e., MEI), which is evaluated against the threshold for the CEQA significance determination.

The maximum increments for the unmitigated Project, No Project, and unmitigated Reduced Project are identified for CEQA significance determination. The unmitigated Project and Reduced Project (hereinafter "Project" and "Reduced Project") results do not include the effects of mitigation measure MM AQ-7 (on-site sweeping), which would decrease emissions of particulate matter related to paved road dust. The effects of MM AQ-7 on the mitigated Project and mitigated Reduced Project are described in Section 3.5.3.3.

3.5.3.1 Source Contributions

PM_{10}. For the Project scenario, modeled increments would exceed the 24-hour PM_{10} standard in all Benchmark Years and exceed the annual PM_{10} standard in every Benchmark Year except 2016 (Table 3-5). The Project's main source contributors to the maximum increment (i.e., MEI) for 24-hour PM_{10} in early Benchmark Years 2016 through 2023 would be non-SCIG tenant CHE and non-SCIG tenant onsite trucks. Accordingly, maximum impacts of the Project in these years would result largely from activities at the Alternate Business Locations; in the later years (2030, 2035, 2046), however, the MEI would move to the southern edge of the SCIG facility and would be

associated primarily with truck activity in the SCIG facility and to a lesser extent with SCIG off-site truck routes to and from the marine terminals. For annual PM_{10} increments, the largest contributors to maximum impacts would be SCIG onsite and off-site trucks throughout all Benchmark Years. Similar to NO_2 concentrations, changes in PM_{10} impacts over time would result from decreases in non-SCIG tenant emissions due to the turnover of older vehicles in combination with increases in traffic to the SCIG site. Because PM_{10} emissions partially result from fugitive road dust, which is not reduced by the use of newer vehicles, the increases in emissions near the SCIG site are sufficient to cause the maximum receptor to shift north. Mitigation measures for particulate matter, which incorporate street sweeping on the SCIG site, would partially counteract these emission increases.

For the No Project scenario, modeled increments would exceed the 24-hour and annual PM_{10} standards in Benchmark Years 2035 and 2046. The major source contributors to the maximum increment for both standards in these Benchmark Years would be Hobart off-site trucks. Trucks traveling between the Hobart intermodal facility and the marine terminals would cause emissions to be concentrated along I-710, particularly in later years as growth in cargo volumes would cause the number of trucks to increase.

For the Reduced Project scenario, the main source contributions to the maximum increment for 24-hour and annual PM_{10} concentrations would be very similar to those of the Project: non-SCIG tenant onsite trucks and CHE in the early years and SCIG on-site and off-site trucks in the later years.

$PM_{2.5}$. For the Project scenario, modeled increments would exceed the 24-hour $PM_{2.5}$ standards in Benchmark Years 2016, 2020, and 2023. The main source contributors to the maximum increment would be non-SCIG tenant CHE and onsite trucks.

For the No Project scenario, no exceedances of the 24-hour $PM_{2.5}$ standards would occur in any Benchmark Year.

For the Reduced Project scenario, the major source contributors to the maximum concentration increments would be very similar to those of the Project.

3.5.3.2. Geographic Distribution of PM_{10} and $PM_{2.5}$ SCAQMD Threshold Exceedances

The geographic extent of the exceedances of the applicable SCAQMD thresholds for PM_{10} and $PM_{2.5}$ for the Project, No Project, and Reduced Project scenarios are shown on the contour diagrams identified in Table 3-5 and included at the end of Section 3.5.3.2, and the maximum concentration CEQA increments (i.e., the MEIs) for the 24-hour and annual concentrations of PM_{10} and the 24-hour concentration of $PM_{2.5}$ are provided in Table 3-6. As additional information, the location of the maximum modeled concentration (in addition to the maximum increments) is also included in the contour diagrams. The maximum modeled concentration is simply the highest modeled concentration, with no consideration of the baseline concentration.

Table 3-5: Summary of Contour Diagrams Showing Geographic Extent of PM_{10} and $PM_{2.5}$ Exceedances of Thresholds for Unmitigated Project, No Project, and Unmitigated Reduced Project Scenarios

Pollutant	Applicable SCAQMD Threshold	Benchmark Year	Unmitigated Project	No Project	Unmitigated Reduced Project
PM_{10}	24-hour 2.5 $\mu g/m^3$	2016	Figure 3-35	No exceedances	Same as Project
		2020	Figure 3-36	No exceedances	Same as Project
		2023	Figure 3-37	No exceedances	Same as Project
		2030	Figure 3-38	No exceedances	Figure 3-53
		2035	Figure 3-39	Figure 3-49	Figure 3-54
		2046/2066	Figure 3-40	Figure 3-50	Figure 3-55
	Annual 1.0 $\mu g/m^3$	2016	No exceedances	No exceedances	No exceedances
		2020	Figure 3-41	No exceedances	Same as Project
		2023	Figure 3-42	No exceedances	Same as Project
		2030	Figure 3-43	No exceedances	Figure 3-56
		2035	**Figure 3-44**	**Figure 3-51**	Figure 3-57
		2046/2066	**Figure 3-45**	**Figure 3-52**	Figure 3-58
$PM_{2.5}$	24-hour 2.5 $\mu g/m^3$	2016	Figure 3-46	No exceedances	Same as Project
		2020	Figure 3-47	No exceedances	Same as Project
		2023	Figure 3-48	No exceedances	Same as Project
		2030	No exceedances	No exceedances	No exceedances
		2035	No exceedances	No exceedances	No exceedances
		2046/2066	No exceedances	No exceedances	No exceedances

Bold text indicates figures in which at least one contour diagram shows impacts to residential areas and/or sensitive receptors. As discussed on Section 3.5.3.3, all impacts to residential areas and/or sensitive receptors under the Project scenario are eliminated after MM-AQ-7 is considered.

Figures of Pollutant-Threshold-Benchmark Year combinations without exceedances can be found in Annex 4 of the Technical Appendix.

Table 3-6: PM_{10} and $PM_{2.5}$ Maximum Offsite Ground-Level Concentration CEQA Increments Associated with the Unmitigated Project, No Project, and Unmitigated Reduced Project Scenarios for Each Benchmark Year

Pollutant and SCAQMD Threshold	Benchmark Year	Maximum Concentration CEQA Increment (i.e. MEI) ($\mu g/m^3$)			Sensitive Receptors or Residential Areas Affected?		
		Unmitigated Project	No Project	Reduced Project	Unmitigated Project	No Project	Unmitigated Reduced Project
PM_{10} 24-hour 2.5 $\mu g/m^3$	2016	**4.92**	0.39	**4.92**	None	None	None
	2020	**5.25**	0.43	**5.25**			
	2023	**5.50**	0.46	**5.50**			
	2030	**5.84**	1.78	**3.91**			
	2035	**8.90**	**2.92**	**5.43**			
	2046/2066	**8.90**	**2.91**	**5.44**			
PM_{10} Annual 1.0 $\mu g/m^3$	2016	0.95	0.13	0.95	None	None	None
	2020	**1.02**	0.14	**1.02**			
	2023	**1.20**	0.15	**1.20**			
	2030	**3.94**	0.88	**2.47**			
	2035	**6.18**	**1.43**	**3.64**	A few sensitive receptors and a small residential area	No sensitive receptors. Possibly small residential areas adjacent to I-710	
	2046/2066	**6.18**	**1.42**	**3.64**			
$PM_{2.5}$ 24-hour 2.5 $\mu g/m^3$	2016	**3.21**	0.03	**3.21**	None	None	None
	2020	**3.48**	0.04	**3.48**			
	2023	**3.68**	0.05	**3.68**			
	2030	1.99	0.55	1.90			
	2035	2.27	0.94	1.36			
	2046/2066	2.29	0.93	1.36			

Bold text indicates exceedance of SCAQMD threshold and significant impact

Summary of Geographic and Temporal Impacts

Project: The Project scenario would result in steadily increasing concentration increments of PM_{10} over the analysis period (Table 3-6). The increases would be the result of increasing SCIG truck traffic into and out of the SCIG railyard until 2035, when the railyard would reach capacity. In all Benchmark Years, the Project scenario's maximum increment (i.e., the MEI) for the 24-hour standard would be confined to industrial areas adjacent to and south of the Project site and along local roads in the vicinity of the Alternate Business Locations. For the annual PM_{10} standard, however, exceedances would extend eastward a short distance into West Long Beach starting in 2035 and continuing to 2046/2066. These significant impacts could affect a small residential area and a few sensitive receptors in the vicinity of the Century Villages at Cabrillo and Bethune Transitional Center.

Exceedances of the 24-hour $PM_{2.5}$ standard for the Project scenario would occur in Benchmark Years 2016 through 2023, but no significant impacts would occur in residential areas or to sensitive receptors (Table 3-6). No exceedances would occur after 2023. As SCIG onsite and off-site trucks become a larger source contributor, there would be a shift in the location of the receptor with the maximum increment in Benchmark Year 2030 and thereafter to near the SCIG facility

No Project: The No Project scenario would result in steadily increasing concentration increments of PM_{10} over the analysis period (Table 3-6). This trend would be the result of increasing truck traffic between the marine terminals and the Hobart intermodal railyard near downtown Los Angeles as cargo volumes through the ports increase over time, traffic that would not occur under the Project or Reduced Project. Significant impacts would only occur in the later Benchmark Years 2035 and thereafter for 24-hour PM_{10} and annual PM_{10}. The significant impacts related to PM_{10} would occur only along the I-710 freeway north of I-405. The exceedances of the annual standard would be very limited in extent, being largely restricted to the roadway, and would be marginally above the significance threshold. Although no identified sensitive receptors would be affected, significant impacts are assumed to affect a few residences immediately adjacent to the freeway in the Coolidge Triangle and Freeway Circle neighborhoods. No exceedances of the $PM_{2.5}$ 24-hour standard would occur in any Benchmark Year.

The maximum for 24-hour PM_{10} and annual PM_{10} increments in 2016 through 2023 would occur at the junction of Alameda Street and Sepulveda Boulevard, while from 2030 to 2046/2066, it would occur near the I-710/SR-91 junction.

Reduced Project: The increments for 24-hour and annual PM_{10} concentrations related to the Reduced Project scenario would be the same as the Project through 2023 because throughput would be the same; thereafter, the increments and any impacts would be somewhat smaller in both intensity and geographical extent because cargo volumes of the Reduced Project would be less than those of the Project.

The maximum increment exceedances for 24-hour $PM_{2.5}$ would be the same as the Project scenario through 2023; thereafter, the increments and any impacts would be somewhat smaller in both intensity and geographical extent because cargo volumes of the Reduced Project scenario would be less than those of the Project scenario. No residential areas or sensitive receptors would experience significant impacts over the life of the Reduced Project.

2016 PM_{10} and $PM_{2.5}$ Impacts

Project: As shown in Figure 3-35, the maximum increment (the MEI) of 4.9 µg/m^3 would exceed the 24-hour PM_{10} standard in 2016. The MEI would occur within the Alternate Business Locations, reflecting the fact that the main source contributions in 2016 would be non-SCIG tenant CHE and trucks. Exceedances of the standard would be confined to a very small industrial area near the Alternate Business Locations, and no residential areas or sensitive receptors would experience significant impacts. No location would experience an exceedance of the annual PM_{10} standard in 2016.

As Figure 3-46 shows, exceedances of the 24-hour $PM_{2.5}$ standard (MEI of 3.2 µg/m^3) would also be confined to the industrial area in and immediately adjacent to the Alternate Business Locations. No residential areas or sensitive receptors would experience significant impacts from exceedances of the $PM_{2.5}$ standard.

No Project: The No Project scenario would not result in exceedances of any PM standard in 2016.

Reduced Project: The Reduced Project scenario's maximum increments would be identical to those of the Project and would occur in the same location as depicted in Figures 3-35 and 3-46.

2020 PM_{10} and $PM_{2.5}$ Impacts

Project: As in 2016 and as shown in Figure 3-36, the maximum increment (the MEI) of 5.2 µg/m^3 would exceed the 24-hour PM_{10} standard in 2020, and the area of exceedance would be confined to a very small industrial area within and immediately adjacent to the Alternate Business Locations due to the activity of non-SCIG tenant trucks and CHE. As shown in Figure 3-41, the maximum increment for annual PM_{10} (1.0 µg/m^3) would exceed the standard and would occur in exactly the same place as the 24-hour maximum increment. No residential areas or sensitive receptors would experience significant impacts related to either the 24-hour or the annual PM_{10} standard.

As Figure 3-47 shows, the maximum increment for 24-hour $PM_{2.5}$ of 3.5 µg/m^3 would exceed the standard and the areas of exceedances would occur within and immediately adjacent to the Alternate Business Locations due to the activity of non-SCIG tenant trucks and CHE. No residential areas or sensitive receptors would experience significant impacts from exceedances of the $PM_{2.5}$ standard.

No Project: The No Project scenario would not result in exceedances of any PM standard in 2020.

Reduced Project: The Reduced Project scenario's maximum increments would be identical to those of the Project and would occur in the same locations depicted in Figures 3-36, 3-41, and 3-47.

2023 PM_{10} and $PM_{2.5}$ Impacts

Project: As in previous years, the maximum increment (the MEI) of 5.5 µg/m^3 would exceed the 24-hour PM_{10} standard in 2023, and the area of exceedance would be confined to a very small industrial area within and immediately adjacent to the Alternate Business Locations (Figure 3-37) due to non-SCIG tenant activities.

The maximum increment for annual PM_{10}, 1.2 µg/m^3, would occur in industrial areas adjacent to the southwestern corner of the SCIG site, and significant impacts would be confined to that

immediate area (Figure 3-42). No residential areas or sensitive receptors would experience significant impacts from exceedances of either the 24-hour or the annual PM_{10} standard.

As Figure 3-48 shows, the Project 's maximum increment for 24-hour $PM_{2.5}$ of 3.7 $\mu g/m^3$ would exceed the standard, and the area of exceedance would be confined to a very small industrial area within and immediately adjacent to the Alternate Business Locations. No residential areas or sensitive receptors would experience significant impacts from exceedances of the $PM_{2.5}$ standard.

No Project: The No Project scenario would not result in exceedances of any PM standard in 2023.

Reduced Project: The maximum increment would be identical to those of the Project and would occur in the same locations depicted in Figures 3-37, 3-42 and 3-48.

2030 PM_{10} and $PM_{2.5}$ Impacts

Project: As shown in Figure 3-38, the maximum increment (the MEI) of 5.8 $\mu g/m^3$ would exceed the PM_{10} 24-hour standard near the southwestern corner of the SCIG site, and significant impacts would be confined to that area and along the SCIG site's western edge (i.e., the Dominguez Channel), as well as a small area immediately adjacent to the Alternate Business Locations.

The maximum increment for annual PM_{10} of 3.9 $\mu g/m^3$ would exceed the standard along Pacific Coast Highway (PCH) at the south end of the SCIG site (Figure 3-43). The area of exceedance would be larger than in 2023, covering industrial areas along the western edge of the SCIG site and near the Alternate Business Locations, as well as areas to the southeast around the intersections of the Terminal Island Freeway with PCH and East I Street. The shifts in MEI locations from 2023 to 2030 reflect the increasing contributions of SCIG onsite trucks activity with increasing Project throughput. No residential areas or sensitive receptors would experience significant impacts from exceedances of either the 24-hour or the annual PM_{10} standard.

Unlike in previous years, in 2030 the Project scenario would not result in exceedances of the 24-hour $PM_{2.5}$ standard.

No Project: The No Project scenario would not result in exceedances of any PM standard in 2030.

Reduced Project: As shown in Figure 3-53, the maximum increment for the 24-hour PM_{10} standard in 2030 (3.9 $\mu g/m^3$) would be somewhat smaller in magnitude, and the area of exceedance would be smaller in geographical extent, than those of the Project. The maximum increment would be located on the southwestern edge of the SCIG site.

The maximum increment for annual PM_{10} in 2030 (2.5 $\mu g/m^3$) would occur on the south edge of the SCIG site, and exceedances of the standard would be limited to a small area immediately adjacent to the southern and western edges of the SCIG site (Figure 3-56). No residential areas or sensitive receptors would experience significant impacts from exceedances of either the 24-hour or the annual PM_{10} standard.

The Reduced Project scenario would not result in exceedances of the 24-hour $PM_{2.5}$ standard.

2035 PM_{10} and $PM_{2.5}$ Impacts

Project: As in 2030, the maximum increment (the MEI) of 8.9 $\mu g/m^3$ would exceed the 24-hour PM_{10} standard at the south edge of the SCIG site (Figure 3-39). The exceedance areas would

increase in size compared to 2030, to include areas to the southeast around the intersections of the Terminal Island Freeway with PCH and East I Street. This increase represents the first year that exceedances of the 24-hour standard reach the general vicinity of residential areas or sensitive receptors, since the contour delineating the edge of the area of exceedance is close to (but does not include) the Century Villages at Cabrillo. Thus, no residential areas or sensitive receptors would experience significant impacts from exceedances of the 24-hour PM_{10} standard in 2035.

For the PM_{10} annual standard, the maximum increment (the MEI) of 6.2 $\mu g/m^3$ would occur along PCH at the south end of the SCIG site (Figure 3-44). The exceedance area would increase in size compared to 2030 to cover industrial areas across the Dominguez Channel from the western edge of the SCIG site and an expanded area around the intersections of the Terminal Island Freeway with PCH and East I Street, with an eastward extension along I Street. In addition, exceedances would extend eastward a very short distance into West Long Beach. Concentration increments in this area would be marginally above the standard, given the proximity to the edge of the area of exceedance, but are assumed to represent a significant impact on a small residential area along San Gabriel Avenue and a few sensitive receptors including the Century Villages at Cabrillo and Bethune Transitional Center.

In 2035, the Project scenario would not result in exceedances of the 24-hour $PM_{2.5}$ standard.

No Project: Unlike previous years, in 2035 the No Project scenario would result in exceedances of the 24-hour and annual PM_{10} standards. As shown in Figures 3-49 and 3-51, the maximum concentration increments (MEIs = 2.9 $\mu g/m^3$ and 1.4 $\mu g/m^3$, respectively) would be located at a receptor near the junction of I-710 and SR-91, approximately 1.5 miles north of the Project site. Exceedances of the 24-hour PM_{10} standard would be limited to the immediate area of the MEI, but for the annual increment, numerous pockets of exceedances would be strung out along I-710 from I-405 to just north of SR-91. This pattern would result from the increased truck traffic, compared to the Project, between the marine terminals and the Hobart intermodal facility as cargo volumes through the Ports increase in future years. Although no sensitive receptors would experience significant impacts from exceedances of the 24-hour and annual PM_{10} standards, small areas of exceedance along I-710 are assumed to result in significant impacts on small residential areas in the Coolidge Triangle and Freeway Circle neighborhoods immediately adjacent to I-710.

The No Project scenario would not result in exceedances of the 24-hour $PM_{2.5}$ standard at any location in 2035.

Reduced Project: As shown in Figure 3-54, the maximum increment for the 24-hour PM_{10} standard in 2035 (5.4 $\mu g/m^3$) would continue to be on the southwest edge of the SCIG site. The geographical extent of the area of exceedance would be smaller than that of the Project, and would continue to be located along the western and southern borders of the SCIG site.

Similarly, for the annual PM_{10} standard, the Reduced Project scenario's maximum increment in 2035 (3.6 $\mu g/m^3$) would be located on the south edge of the SCIG site (Figure 3-57). Main sources contributing to the Reduced Project scenario's maximum increment in 2035 would be SCIG onsite trucks. No residential areas or sensitive receptors would experience significant impacts from exceedances of either the 24-hour or the annual PM_{10} standard.

The Reduced Project scenario would not result in exceedances of the 24-hour $PM_{2.5}$ standard.

2046/2066 PM_{10} and $PM_{2.5}$ Impacts

Project: The maximum increment for the 24-hour PM_{10} standard is nearly identical in magnitude and location to the case in 2035, as would be the geographic extent of exceedances of the standard (Figure 3-40). The patterns of the annual standard (Figure 3-45) would also be the same as in 2035; accordingly, exceedances would extend eastward a very short distance into West Long Beach, likely affecting a small residential area along San Gabriel Avenue and a few sensitive receptors in the vicinity of the Century Villages at Cabrillo and Bethune Transitional Center.

In 2046/2066, the Project scenario would not result in exceedances of the 24-hour $PM_{2.5}$ standard.

No Project: In 2046/2066, the No Project scenario would result in exceedances of the 24-hour PM_{10} and the annual PM_{10} standard that would be almost identical to those in 2035 (24-hour MEI = 2.9 $\mu g/m^3$; annual MEI = 1.4 $\mu g/m^3$, respectively; Figures 3-50 and 3-52). Accordingly, exceedances of the annual PM_{10} standard are assumed to result in significant impacts on a small residential area in the Coolidge Triangle and Freeway Circle neighborhoods immediately adjacent to I-710.

The No Project scenario would not result in exceedances of the 24-hour $PM_{2.5}$ standard at any location in 2046.

Reduced Project: As shown in Figures 3-55 and 3-58, the unmitigated Reduced Project scenario's maximum increments and areas of exceedances for all three PM standards would be essentially identical to the case in 2035; accordingly, no residential areas or sensitive receptors would experience significant impacts from exceedances of PM standards.

Figure 3-35: Unmitigated Project and Unmitigated Reduced Project 2016 24-Hour PM_{10} Standard

Figure 3-36: Unmitigated Project and Unmitigated Reduced Project 2020 24-Hour PM_{10} Standard

Figure 3-37: Unmitigated Project and Unmitigated Reduced Project 2023 24-Hour PM_{10} Standard

Figure 3-38: Unmitigated Project 2030 24-Hour PM_{10} Standard

Figure 3-39: Unmitigated Project 2035 24-Hour PM_{10} Standard

Figure 3-40: Unmitigated Project 2046 24-Hour PM_{10} Standard

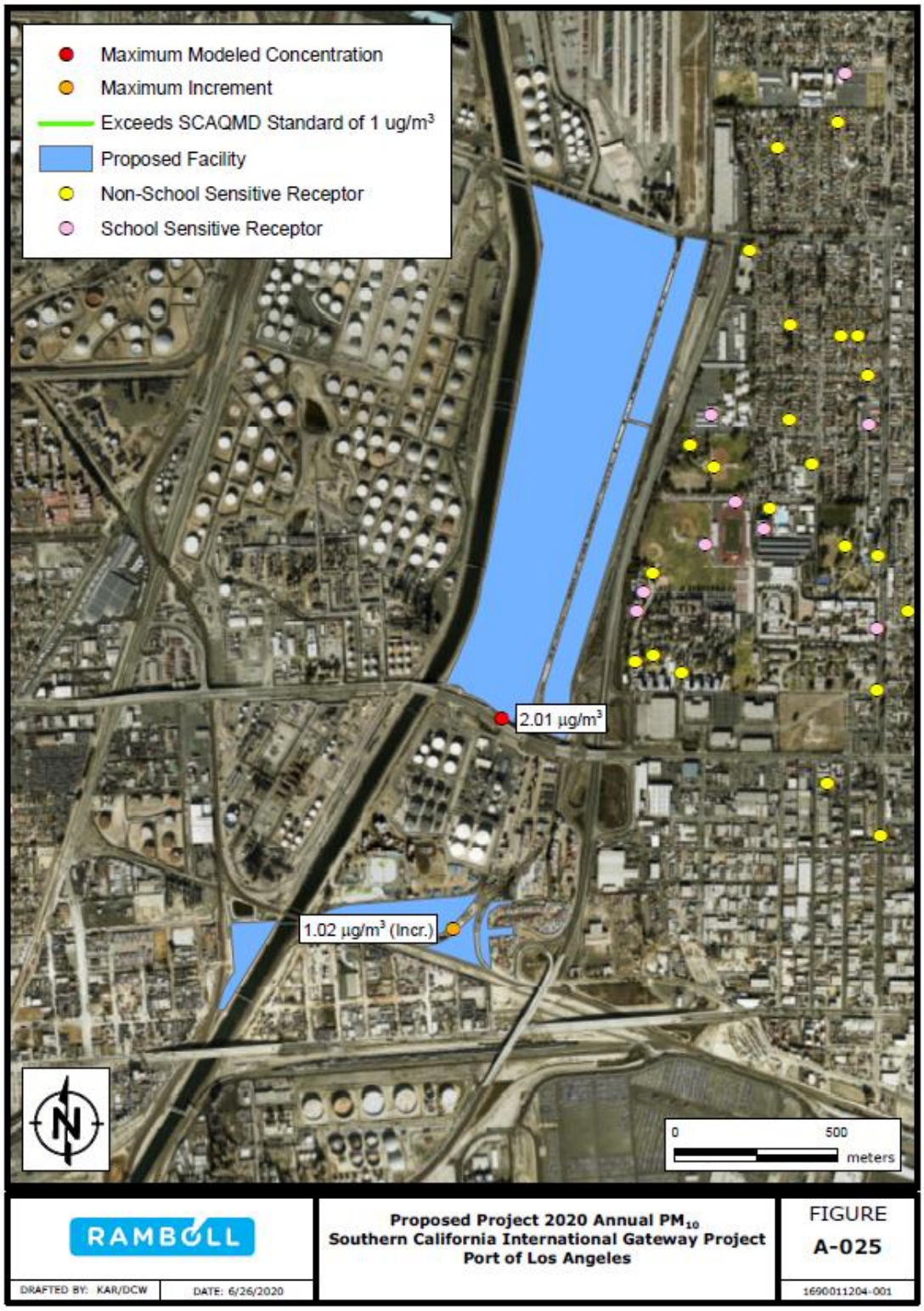


Figure 3-41: Unmitigated Project and Unmitigated Reduced Project 2020 Annual PM_{10} Standard

Figure 3-42: Unmitigated Project and Unmitigated Reduced Project 2023 Annual PM_{10} Standard

Figure 3-43: Unmitigated Project 2030 Annual PM_{10} Standard

Figure 3-44: Unmitigated Project 2035 Annual PM_{10} Standard

Figure 3-45: Unmitigated Project 2046 Annual PM_{10} Standard

Figure 3-46: Unmitigated Project and Unmitigated Reduced Project 2016 24-Hour $PM_{2.5}$ Standard

Figure 3-47: Unmitigated Project and Unmitigated Reduced Project 2020 24-Hour $PM_{2.5}$ Standard

Figure 3-48: Unmitigated Project and Unmitigated Reduced Project 2023 24-Hour $PM_{2.5}$ Standard

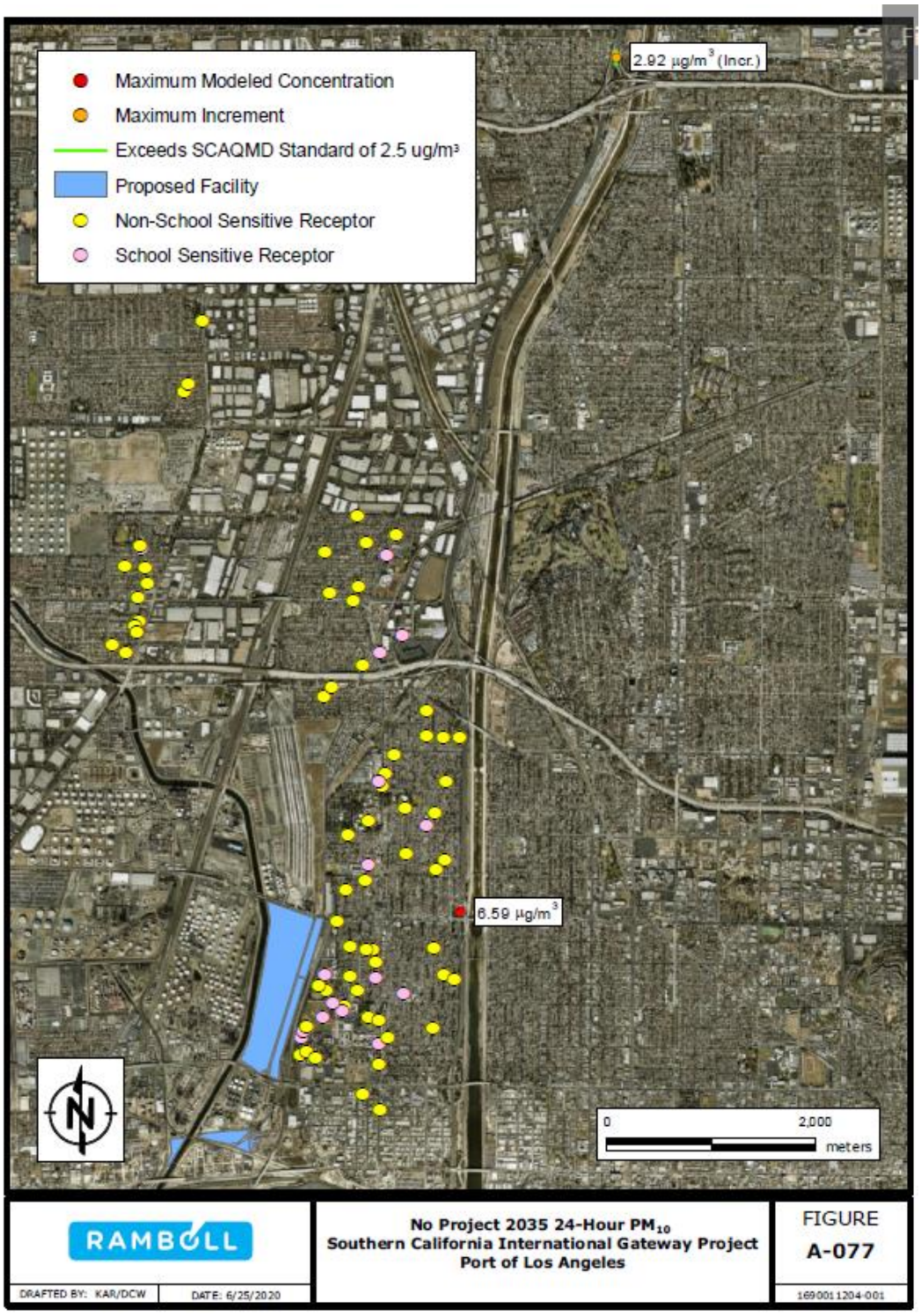


Figure 3-49: No Project 2035 24-Hour PM_{10} Standard

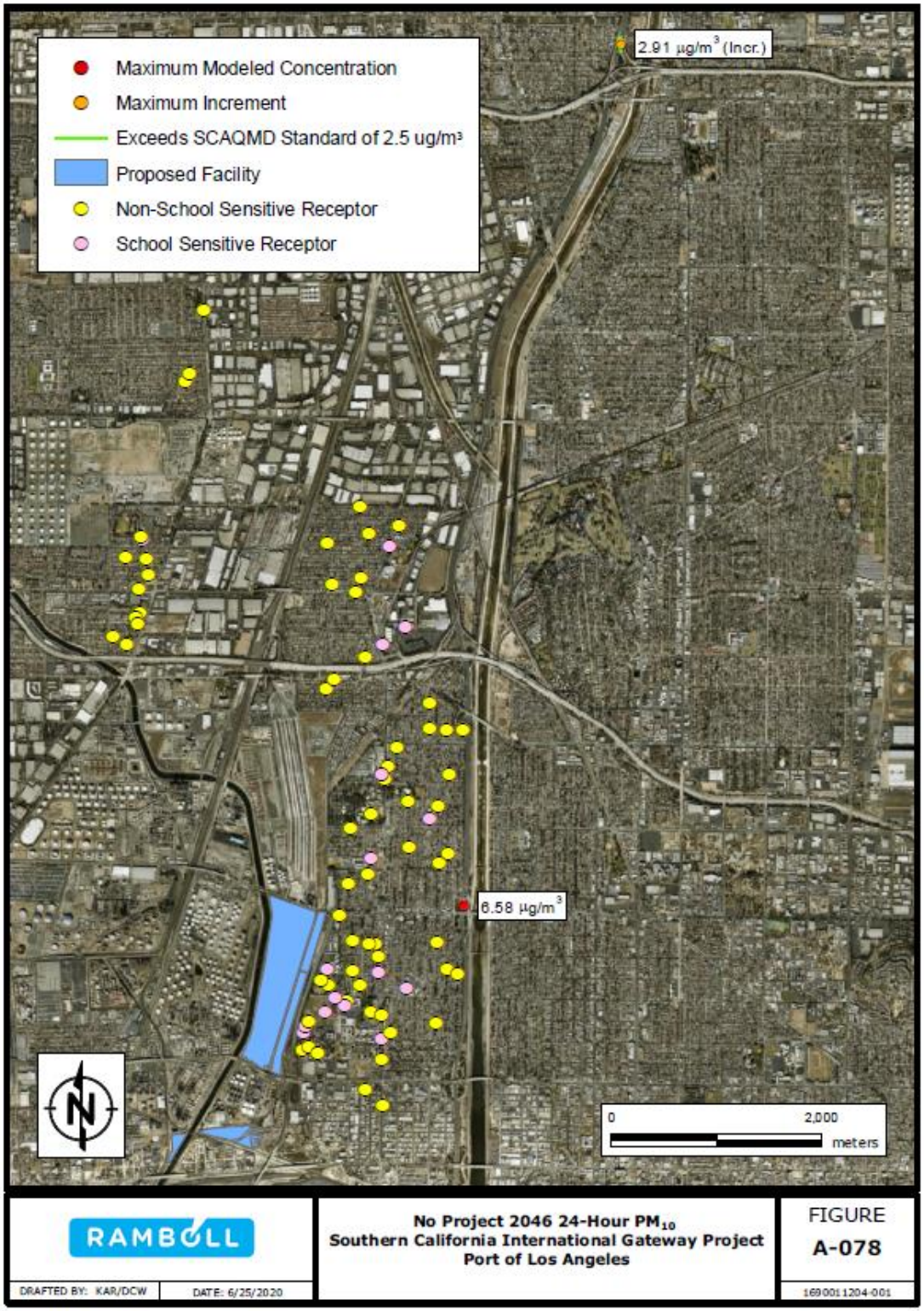


Figure 3-50: No Project 2046 24-Hour PM_{10} Standard

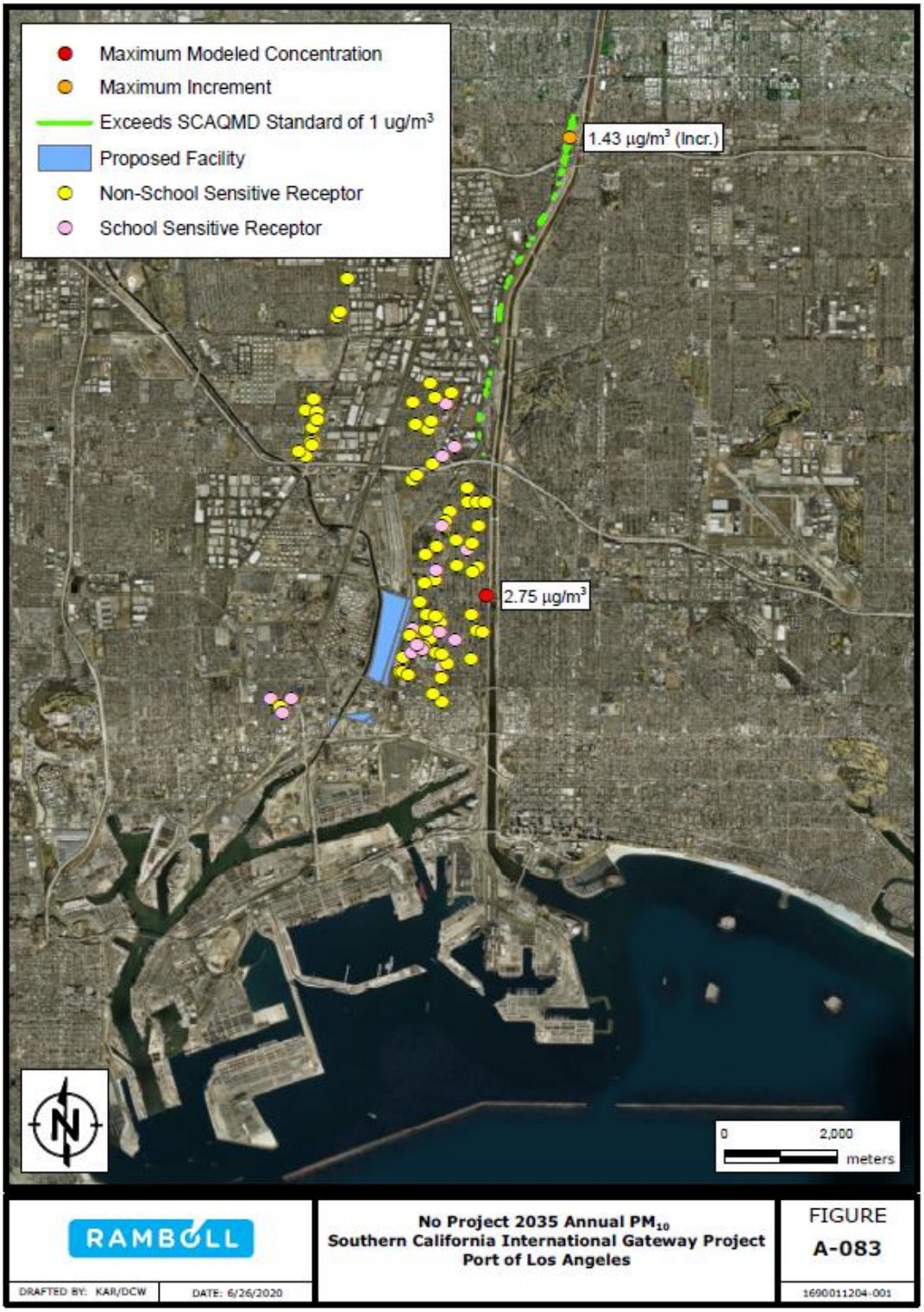


Figure 3-51: No Project 2035 Annual PM_{10} Standard

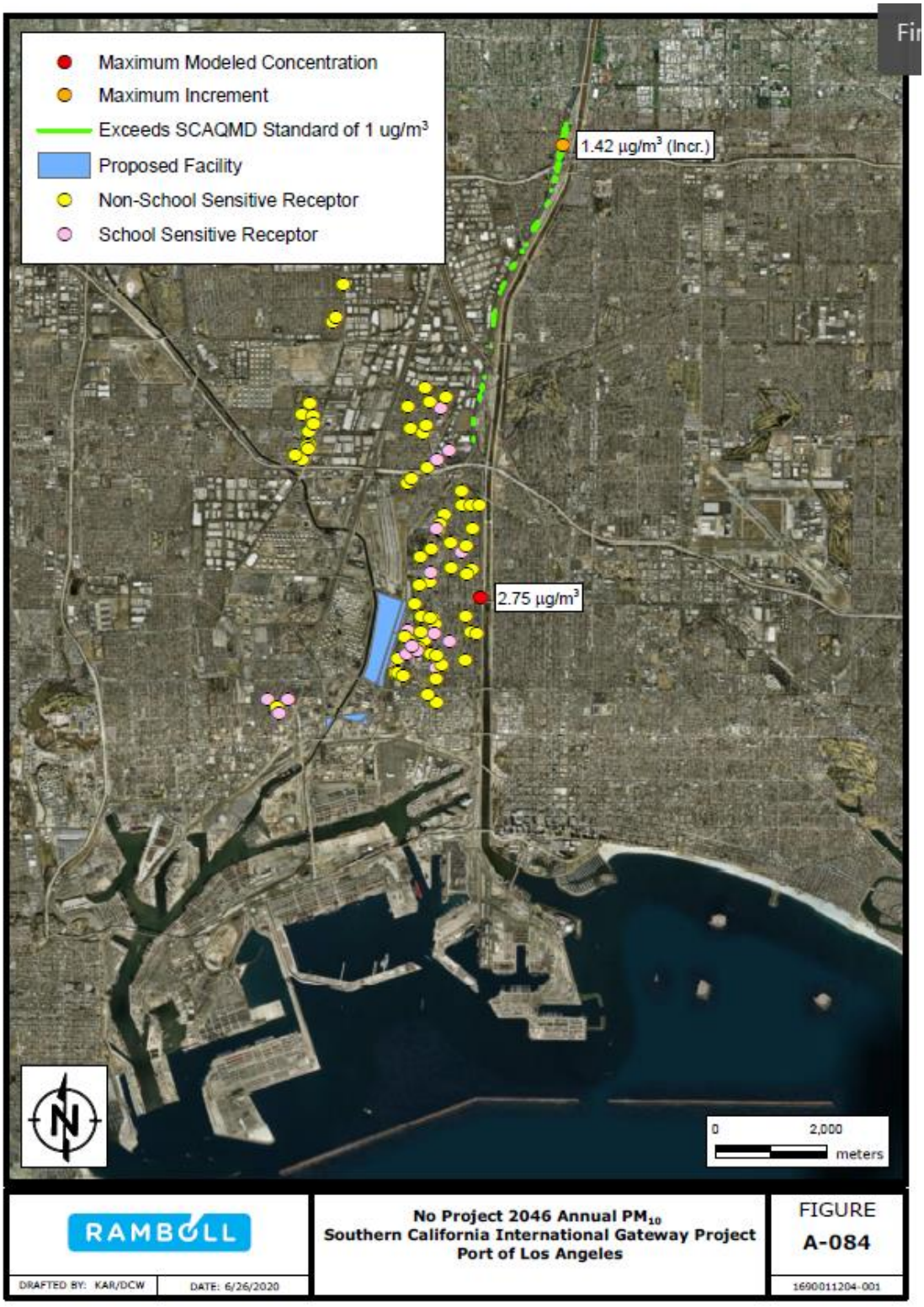


Figure 3-52: No Project 2046 Annual PM_{10} Standard

Figure 3-53: Unmitigated Reduced Project 2030 24-Hour PM_{10} Standard

Figure 3-54: Unmitigated Reduced Project 2035 24-Hour PM_{10} Standard

Figure 3-55: Unmitigated Reduced Project 2046 24-Hour PM_{10} Standard

Figure 3-56: Unmitigated Reduced Project 2030 Annual PM_{10} Standard

Figure 3-57: Unmitigated Reduced Project 2035 Annual PM_{10} Standard

Figure 3-58: Unmitigated Reduced Project 2046 Annual PM_{10} Standard

3.5.3.3 Effects of MM AQ-7 (On-Site Sweeping at SCIG Facility Mitigation) on SCIG Project and Reduced Project Scenarios Particulate Matter Concentrations

Mitigation measure MM AQ-7 (On-Site Sweeping at SCIG Facility), as set forth in the 2013 Final EIR, would reduce dust emissions, expressed as PM_{10} and $PM_{2.5}$, from vehicles driving within the SCIG Facility. Accordingly, PM concentrations would be reduced in the mitigated Project and Reduced Project scenarios. As shown in the last column of Table 3-7, MM AQ-7 would reduce emissions and, consequently, particulate matter increments in all Benchmark Years.

Table 3-7: Effects of Mitigation Measure AQ-7 on the Project and the Reduced Project Scenarios

Pollutant and SCAQMD Threshold	Benchmark Year	Maximum Ground-Level Concentration Increment (i.e., at the MEI)				% Reduction from MM AQ-7 (Project)
		Unmitigated Project	Mitigated Project	Unmitigated Reduced Project	Mitigated Reduced Project	
PM_{10} 24-hour 2.5 μg/m^3	2016	**4.9**	**4.9**	**4.9**	**4.9**	-1%
	2020	**5.3**	**5.2**	**5.3**	**5.2**	-1%
	2023	**5.5**	**5.5**	**5.5**	**5.5**	-1%
	2030	**5.8**	**4.3**	**3.9**	**3.7**	-26%
	2035	**8.9**	**7.1**	**5.4**	**4.0**	-20%
	2046/2066	**8.9**	**7.1**	**5.4**	**4.0**	-20%
PM_{10} Annual 1.0 μg/m^3	2016	0.95	0.94	0.95	0.94	-1%
	2020	**1.017**	**1.004**	**1.017**	**1.004**	-1%
	2023	**1.20**	**1.05**	**1.20**	**1.05**	-12%
	2030	**3.94**	**3.26**	**2.47**	**1.97**	-17%
	2035	**6.18**	**5.22**	**3.64**	**3.00**	-15%
	2046/2066	**6.18**	**5.22**	**3.64**	**3.00**	-15%
$PM_{2.5}$ 24-hour 2.5 μg/m^3	2016	**3.2**	**3.2**	**3.2**	**3.2**	-0.2%
	2020	**3.5**	**3.5**	**3.5**	**3.5**	-0.2%
	2023	**3.7**	**3.7**	**3.7**	**3.7**	-0.2%
	2030	2.0	2.0	1.9	1.9	-1%
	2035	2.3	1.8	1.4	1.1	-23%
	2046/2066	2.3	1.8	1.4	1.1	-23%

Bold text indicates exceedance of SCAQMD threshold and significant impact

Although maximum increments would continue to exceed standards after mitigation, the areas of exceedance would be reduced. Those reductions would be consistent with the reductions in maximum increments. Accordingly, there would be no discernible changes in early years for any PM standard but reductions would be apparent in later years, as the examples in Figures 3-59 through 3-63 show for the Project and Figure 3-64 shows for the Reduced Project. Indeed, for annual PM_{10} in 2035 and 2046/2066 (Figures 3-62 and 3-63), the impacts on residential areas and sensitive receptors would be eliminated by MM AQ-7 (in a small residential area along San Gabriel Avenue and a few sensitive receptors in the vicinity of the Century Villages at Cabrillo and Bethune Transitional Center). Thus, under the mitigated Project scenario, there would be no impacts to residential areas and/or sensitive receptors for PM over the lifespan of the Project.

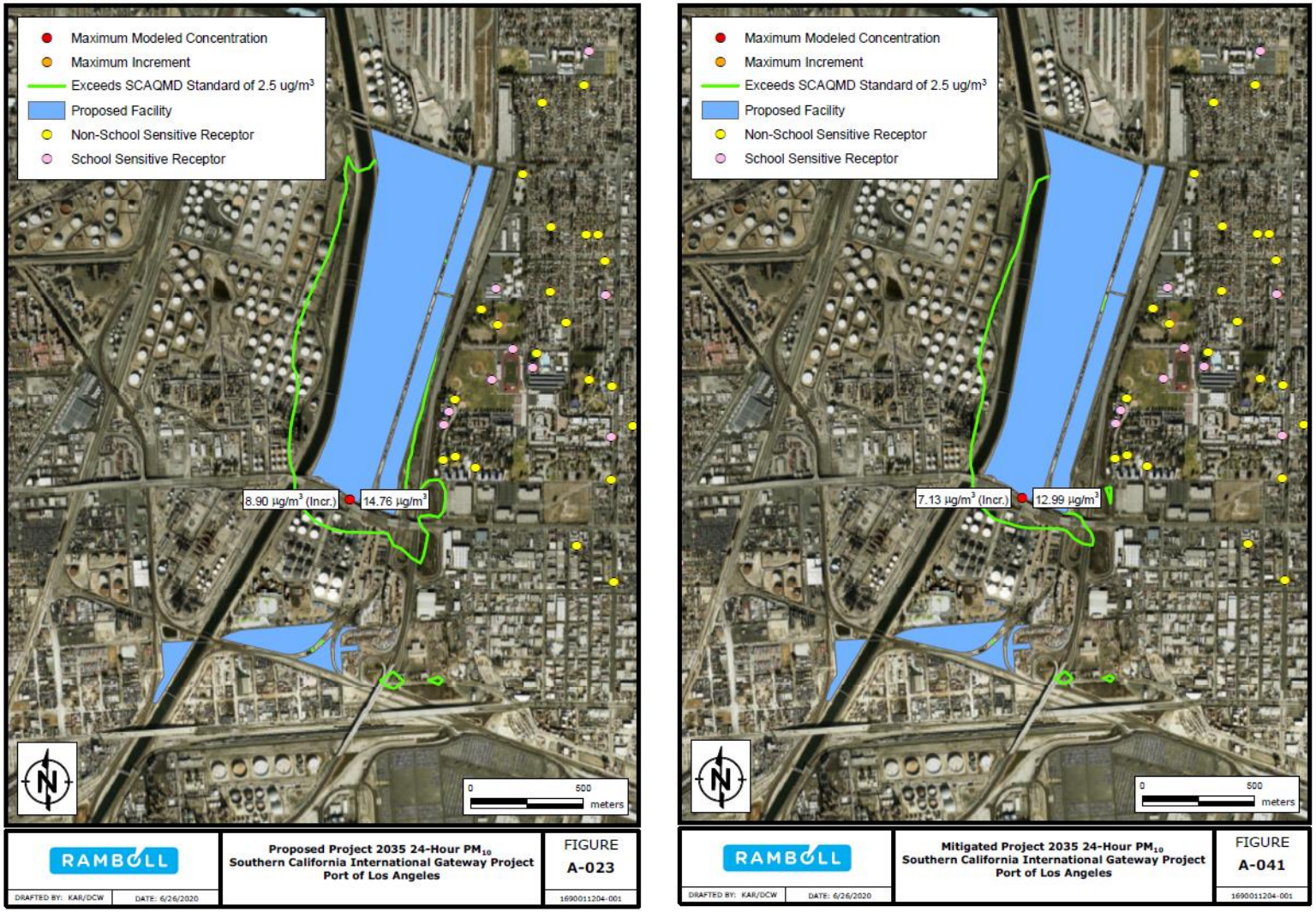
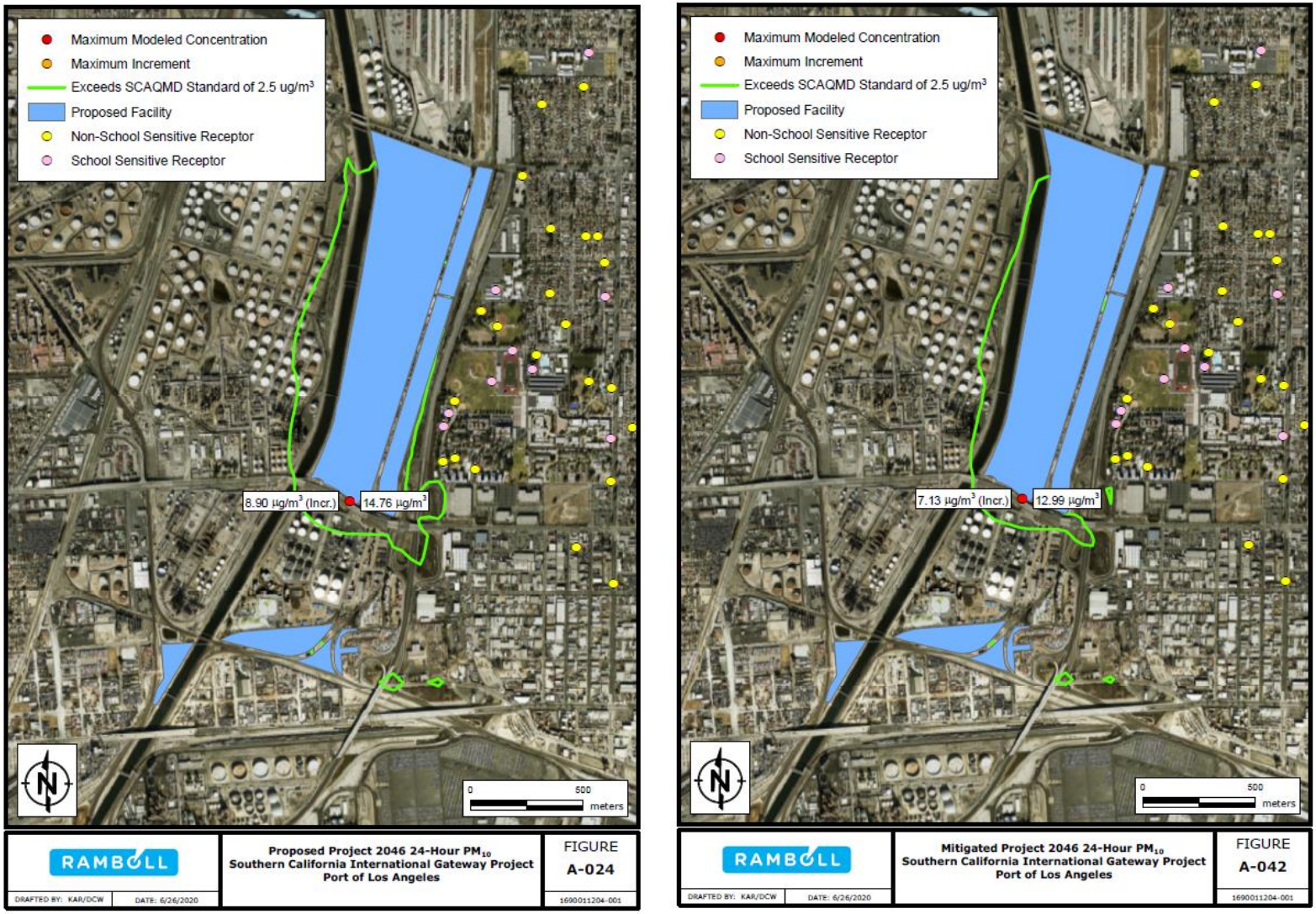


Figure 3-59. 2035 24-Hour PM_{10} Standard Unmitigated Project (left) vs Mitigated Project (right)



1 **Figure 3-60. 2046 24-Hour PM_{10} Standard Unmitigated Project (left) vs Mitigated Project (right)**

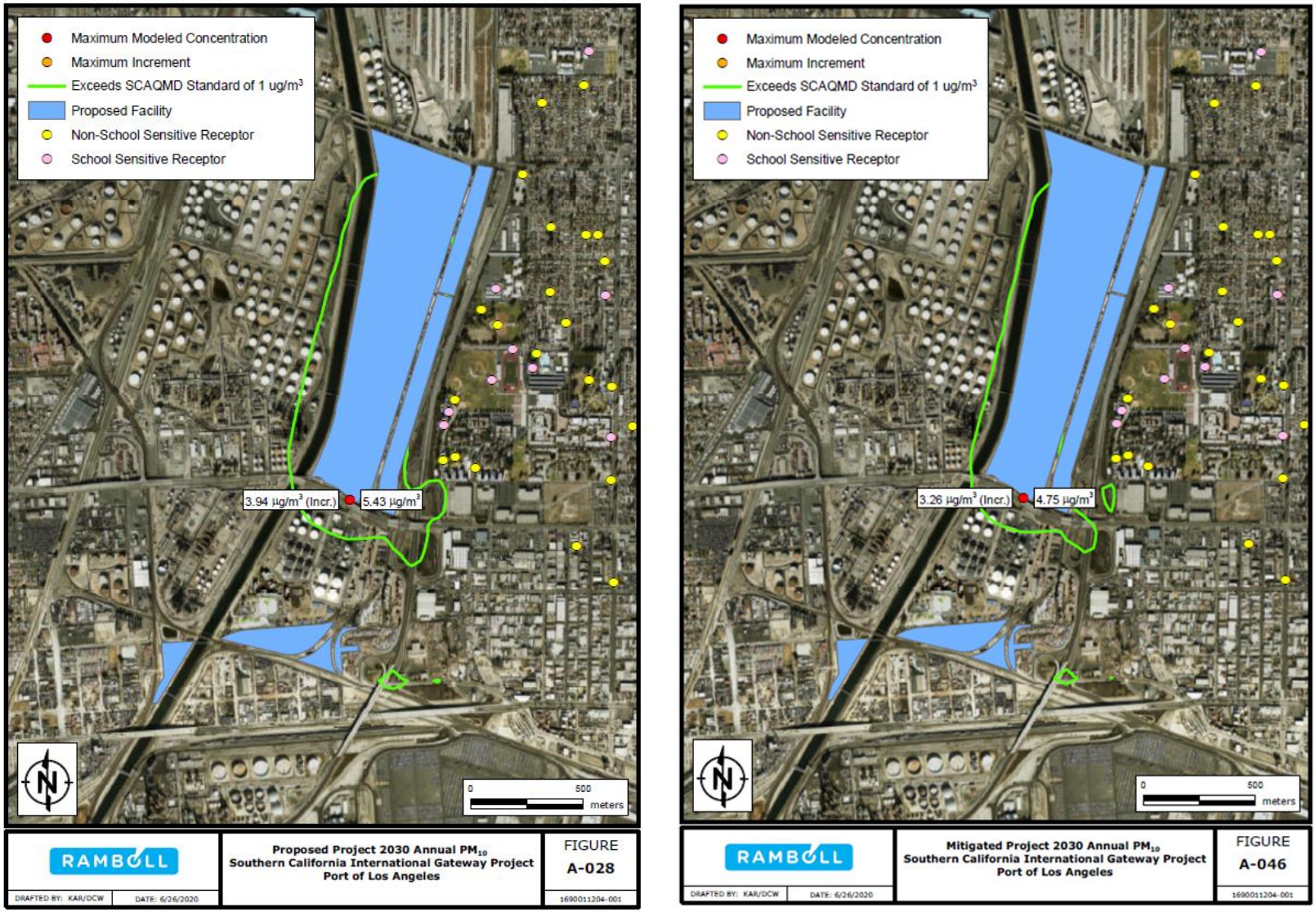


Figure 3-61: 2030 Annual PM_{10} Standard Unmitigated Project (left) vs Mitigated Project (right)

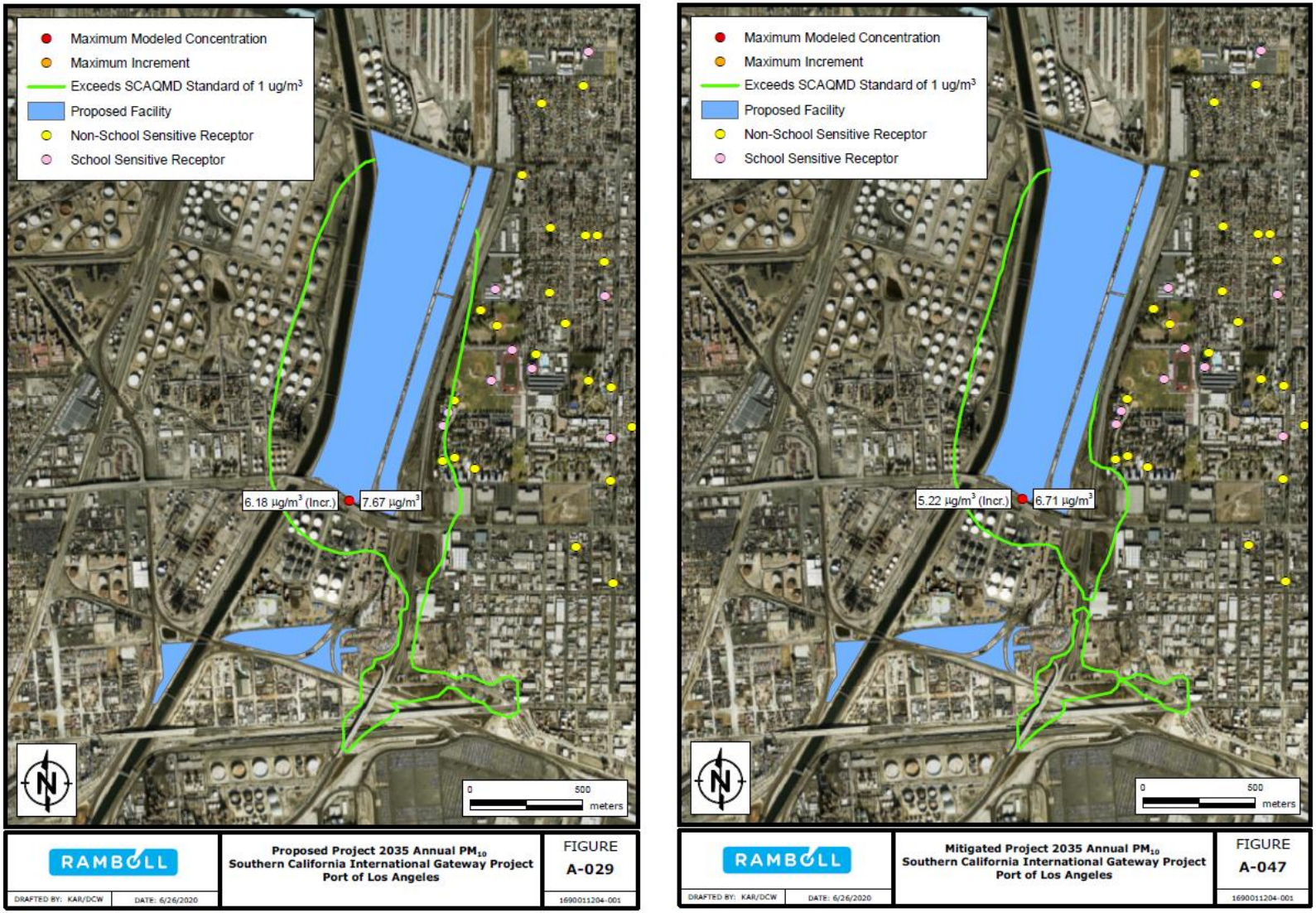
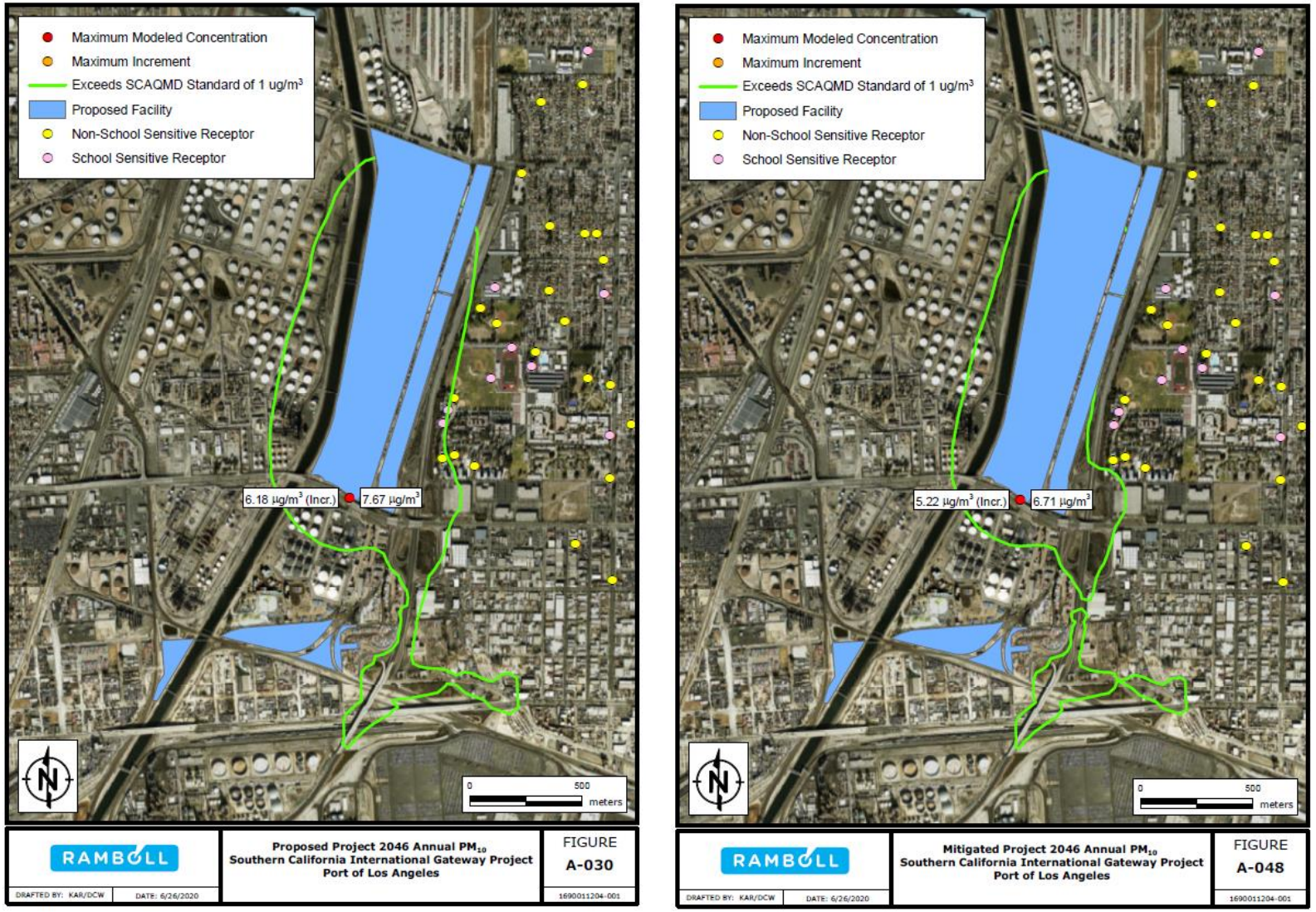


Figure 3-62: 2035 Annual PM_{10} Standard Unmitigated Project (left) vs Mitigated Project (right)



1 **Figure 3-63: 2046 Annual PM_{10} Standard Unmitigated Project (left) vs Mitigated Project (right)**

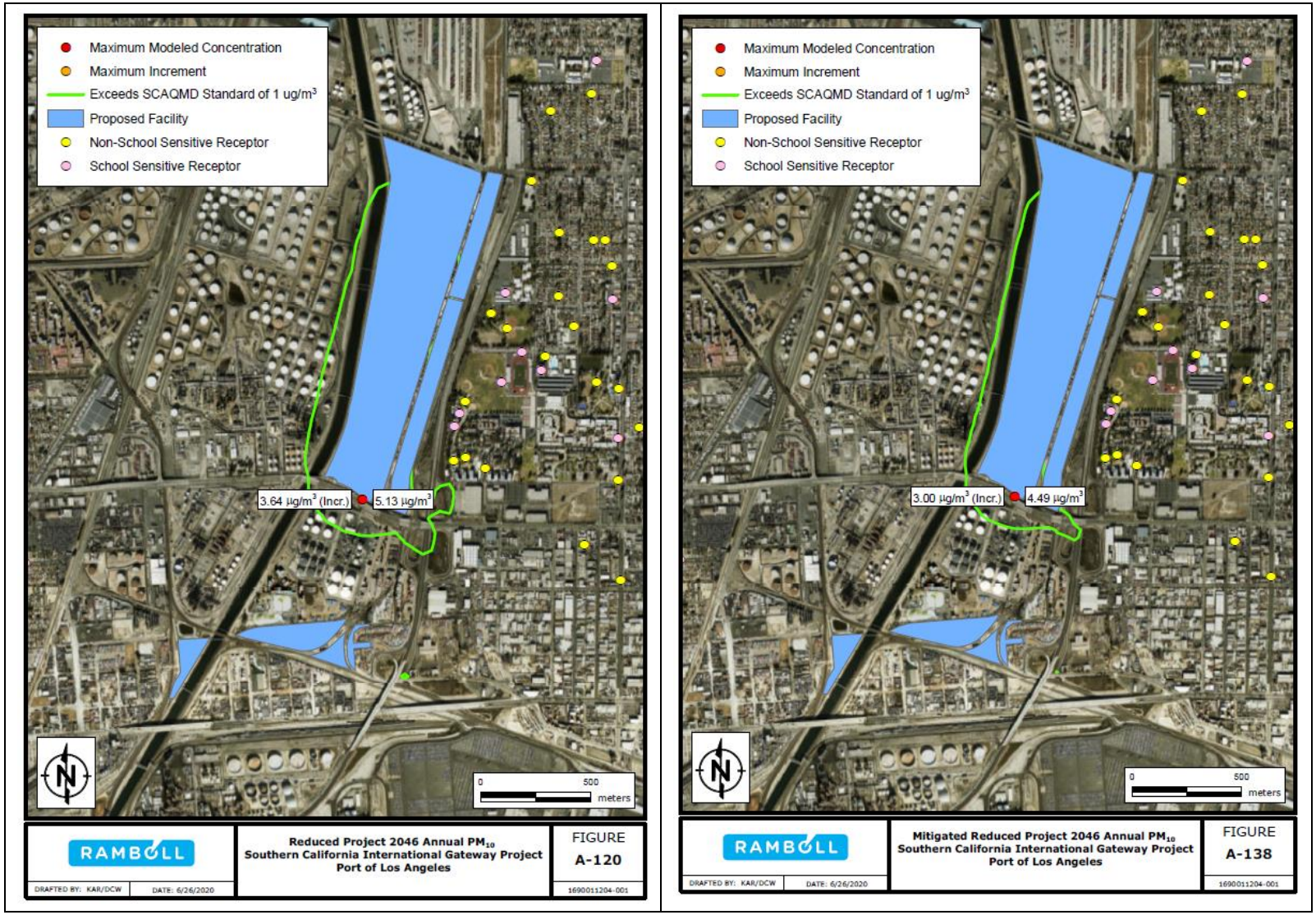


Figure 3-64: 2046 Annual PM_{10} Standard Unmitigated Reduced Project (left) vs Mitigated Reduced Project (right)

Table 3-8 reproduces the 2013 Final EIR's information regarding mitigation measure MM AQ-7, including the monitoring and tracking process for implementation of the mitigation measure.

Table 3-8: Mitigation Measure Monitoring for AQ-4

AQ-4: The Project would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance.	
Mitigation Measure	**MM AQ-7: On-Site Sweeping at SCIG Facility.** BNSF shall sweep the SCIG facility on-site, along routes used by drayage trucks, yard hostlers, service trucks and employee commuter vehicles, on a weekly basis using a commercial street sweeper or any technology with equivalent fugitive dust control.
Timing	During Project operations.
Methodology	MM AQ-7 will be required in the lease for the SCIG facility. LAHD will monitor implementation of mitigation measures during operation.
Responsible Parties	LAHD and BNSF.
Residual Impacts	Significant and unavoidable.

3.5.3.4 Duration of Impacts on Sensitive Receptors and/or Residential Areas

As described above, the Project scenario would expose a small residential area and a few sensitive receptors in West Long Beach to exceedances of the annual PM_{10} standard from 2035 onward. Accordingly, those areas would experience significant impacts related to PM for up to 31 years. However, exceedances in this area would be marginally above the threshold of significance, given the proximity of this area to the edge of the area of exceedance. As described in Section 3.5.3.3, all impacts to residential areas and/or sensitive receptors for PM over the lifespan of the Project would be eliminated by MM AQ-7.

The Reduced Project scenario would not expose residential areas and sensitive receptors to concentration increments of particulate matter that would exceed thresholds in any Benchmark Year. Accordingly, there would be no significant local impacts on residential areas or sensitive receptors for the entire life of the Project.

The No Project scenario's area of local impacts on sensitive receptors and residential areas would include a few residential areas immediately adjacent to I-710. These residential areas could experience significant impacts from exceedances of the annual standard from 2035 onward. Accordingly, significant impacts could be experienced by a few small residential areas for up to 31 years.

3.5.3.5 Health Effects of PM_{10} and $PM_{2.5}$ Impacts

With respect to PM, there is currently no accepted methodology available that can accurately quantify local health effects from ambient PM concentrations associated with an individual project.

However, PM is a component of air toxics, and the health risk assessment prepared for the 2013 Final EIR, while not specific to PM, did address local health effects of air toxics.

In developing the PM_{10} standards, the EPA (2016) and CARB (2007b) have prepared comprehensive reports on the possible health effects associated with PM_{10} exposure. The SCAQMD also reviewed PM_{10}-related health effects in Appendix I of its *Final 2016 Air Quality Management Plan* (SCAQMD, 2017b). Most of the health effects findings made by these agencies focus on $PM_{2.5}$, which is a subset of PM_{10}. The main conclusions of these agencies are that health effects associated with PM exposure include mortality, increased hospital admissions for cardiopulmonary causes, acute and chronic bronchitis, asthma attacks and emergency room visits, respiratory symptoms, and days with some restriction in activity. These adverse health effects have been reported primarily in infants, children, the elderly, and those with pre-existing cardiopulmonary disease. CARB and SCAQMD also classify the portion of PM_{10} produced by diesel engine exhaust (diesel particulate matter, or DPM) as a toxic air contaminant exhibiting carcinogenic effects. A quantitative health risk assessment of the Project's emissions of DPM and other toxic air contaminants is presented in the 2013 Final EIR, Impact AQ-7.

3.6. SIGNIFICANT UNAVOIDABLE IMPACTS

Project operations would generate significant unavoidable impacts related to AQ-4 as set forth in Tables 3-4 and 3-6. The Benchmark Year results of significant unavoidable impacts related to AQ-4 identified in this Revised Draft EIR are consistent with the previously identified significant unavoidable impacts in the 2013 Final EIR in that exceedances identified for a particular significance criterion in the 2013 Final EIR have also been identified in the yearly analysis of this Draft Revised EIR. This analysis also confirms that there are no additional exceedances of significance criteria throughout the life of the Project that were not previously identified. The impact results are summarized in Table 3-9.

Table 3-9: Significant Unavoidable Impacts of the Project (after Mitigation)

Benchmark Year	SCAQMD Significance Criteria (impacts on Project Y/N)					
	1-hour NO_2 Federal	1-hour NO_2 State	Annual NO_2	24-hour PM_{10}	Annual PM_{10}	24-hour $PM_{2.5}$
2016	Y	Y	Y	Y	N	Y
2020	Y	Y	N	Y	Y	Y
2023	Y	Y	N	Y	Y	Y
2030	Y	Y	N	Y	Y	N
2035	Y	Y	Y	Y	Y	N
2046/2066	Y	Y	Y	Y	Y	N

CHAPTER 4: CUMULATIVE OFFSITE AMBIENT AIR POLLUTANT CONCENTRATIONS IMPACTS (SCIG AND ICTF EXPANSION PROJECT COMBINED)

4.1. INTRODUCTION

This chapter provides additional information and disclosures about potential of cumulative offsite ambient air pollutant concentration impacts ("Cumulative Impact AQ-4") attributable to the Project in combination with the proposed Intermodal Container Transfer Facility Expansion and Modernization Project ("ICTF Expansion Project"; see Figure 4-1 for the geographical relationship of the two projects), as required by the Superior Court's Writ (see Section 1.1), dated May 18, 2018.

Section 4.3.1 of the Recirculated Draft EIR, as modified by Section 3.2.16 of the Final EIR, sets forth the cumulative air quality analysis for the Project in combination with past, present, and reasonably foreseeable future projects, including the ICTF Expansion Project. As the Writ required disclosure of cumulative AQ-4 impacts "in combination with the prospect proposed Union Pacific Railroad Intermodal Container Facility (ICTF) expansion project," this chapter provides additional disclosures about the potential combined effects of SCIG and the ICTF Expansion Project on ambient air pollutant concentrations in the vicinity of the two projects. Because the remainder of the 2013 Final EIR's cumulative impact evaluations, conclusions, and disclosures were upheld by the Court of Appeal, they remain unchanged and are not addressed in this Revised Draft EIR.

4.1.1 2013 FINAL EIR CUMULATIVE AQ-4 ANALYSIS AND CONCLUSIONS

In Chapter 4 of the 2013 Final EIR, LAHD qualitatively analyzed cumulative impacts in 13 resource areas: Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology, Greenhouse Gases, Hazards & Hazardous Materials, Land Use, Noise, Transportation, Utilities & Public Services, and Water Resources. The analysis identified the proposed ICTF Expansion Project as one of 170 past, present, or reasonably foreseeable future projects considered in the EIR's cumulative analysis (the "related projects"). For Air Quality, in evaluating whether the Project and the related projects would cumulatively result in offsite air pollutant concentrations above SCAQMD thresholds, LAHD did not separately conduct dispersion modeling for the ICTF Expansion Project or any other cumulative project in the Recirculated Draft EIR. Rather, LAHD qualitatively found, based on previous experience, that "operation of the past, present, and reasonably foreseeable future projects, including the proposed Project, would result in a significant cumulative air quality impact related to exceedances of the significance thresholds for NO_X, PM_{10}, and $PM_{2.5}$." Further, because Project operations would have significant impacts on air quality as a result of offsite ambient air pollutant concentrations that would exceed the SCAQMD thresholds for 1-hour and annual NO_2, 24-hour and annual PM_{10}, and 24-hour $PM_{2.5}$, LAHD found that the Project "would result in a cumulatively considerable contribution to a significant cumulative impact" in the area of offsite ambient air pollution concentrations even after the mitigation placed on project-specific AQ-4 impacts was considered.

4.2. REQUIREMENTS FOR CUMULATIVE IMPACT ANALYSIS

The CEQA requirements for cumulative impact analysis are unchanged from those set forth in the 2013 Final EIR (Section 4.1.1 of the Recirculated Draft EIR).

4.3. PROJECTS CONSIDERED IN THE REVISED DRAFT EIR CUMULATIVE AQ-4 ANALYSIS

Consistent with the Writ, only additional information about the potential cumulative AQ-4 impacts of the SCIG Project in combination with the ICTF Expansion Project is disclosed in this chapter; the other related projects considered in the 2013 Recirculated Draft EIR are not included in this analysis. As described in a 2009 Notice of Preparation and Initial Study prepared by the ICTF Joint Powers Authority ("JPA"), the proposed ICTF Expansion Project involves the modernization of an existing railyard approximately four miles from the Port and immediately adjacent to the Project to the north. Like the SCIG Project, the ICTF Expansion Project was assumed to ramp up throughput over time to reach full capacity of 1.5 million lifts (2.8 million TEUs) by 2023. The location of the ICTF Expansion Project in relation to the proposed SCIG facility, as well as the location of the sensitive receptors for both projects, is shown in Figure 4-1.

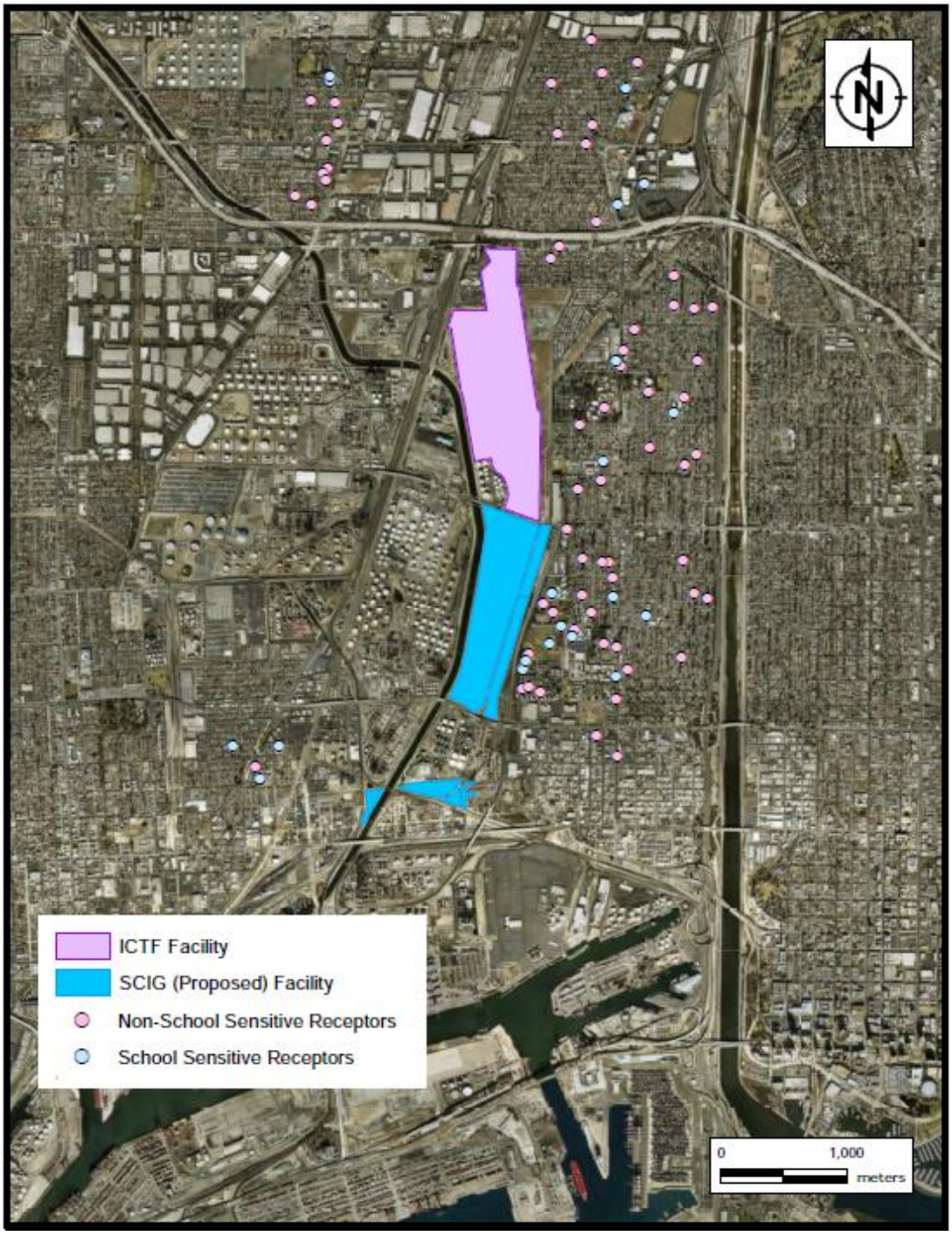


Figure 4-1: Proposed SCIG and ICTF Expansion Facilities

4.3.1 COURT OF APPEAL DECISION AND WRIT

In *City of Long Beach*, 19 Cal.App.5th at 490, the Court of Appeal found it is "likely correct that conducting dispersion monitoring for the ICTF expansion project would be unreasonably time

consuming and impractical, if not already completed for the applicable project EIR." Nonetheless, quoting the trial court, the Court stated "the fact that 'CEQA does not require quantified analyses [ ] does not mean that all meaningful information on a subject can be omitted from an EIR's cumulative impacts analysis." The Court of Appeal also agreed that "the analysis [in the 2013 Final EIR] identifies the potential cumulative impacts of the ICTF expansion project 'in such general terms that the "big picture" — two large railyard expansions located next to one [another] — is missing from the analysis' and that 'when the combined analysis was removed from the Draft EIR, so too was the acknowledgment that the ICTF Expansion Project was not just another land use project in the area.'" Accordingly, the Court of Appeal held that the City "must make a 'good faith and reasonable disclosure' of the cumulative impacts before the Final EIR may be approved."

Subsequently, the Superior Court issued the Writ, ordering the City and LAHD to conduct additional analyses and/or make additional disclosures as follows:

> An analysis of cumulative impact AQ-4 which makes a "good faith and reasonable disclosure" of the potential cumulative impacts of the SCIG Project, in combination with the proposed Union Pacific Railroad Intermodal Container Facility (ICTF) expansion project, in sufficient detail to disclose the potential cumulative impacts of two large railyard expansion projects located next to one another.

4.4. ADDITIONAL INFORMATION REGARDING THE POTENTIAL CUMULATIVE AQ-4 IMPACTS OF THE COMBINED SCIG AND ICTF PROJECTS

4.4.1 METHODOLOGY FOR COMBINED SCIG AND ICTF EXPANSION PROJECT CUMULATIVE AQ-4 ANALYSIS

In 2019, in light of the Court of Appeal's decision in *City of Long Beach*, and in compliance with the Superior Court's Writ, LAHD obtained through the California Public Records Act ("PRA") the latest dispersion modeling performed by the JPA for the ICTF Expansion Project for offsite ambient air concentrations of pollutants associated with ICTF Expansion Project operations ("ICTF Dispersion Modeling"). The LAHD understands that (1) the JPA has not released a draft EIR for the ICTF Expansion Project; (2) the ICTF Expansion Project remains on hold and has not been revised since 2009; and (3) no more recent dispersion modeling data for the proposed ICTF Expansion Project has been developed. Accordingly, the cumulative analysis in this Revised Draft EIR is based on the most recent available information[6].

The ICTF Dispersion Modeling, performed in or before 2015, consisted of modeling of (1) a single "worst-case" composite emissions scenario for a 15-year operational life of the ICTF Expansion Project (from 2020 to 2035), similar to the single composite emissions scenario used in the 2013 Final EIR for the Project, and (2) use of 2010 as the baseline year. Only unmitigated project modeling data for the ICTF Expansion Project was provided by the JPA. The JPA's analysis found that the ICTF Expansion Project would have significant impacts that were estimated from ambient

[6] Data received through email communication by JPA's consultant Castle Environmental Consulting, LLC. August 14th 2019.

pollutant concentrations of annual NO_2, 1-hour NO_2 (federal), and 1-hour NO_2 (state). Given that only a single composite emissions scenario was provided by the JPA, and that the JPA's modeling did not include mitigation measures for the ICTF Expansion Project, the cumulative analysis herein is conservative because it identifies any potential for the ICTF Expansion Project to result in significant concentration impacts that would combine with the significant concentration impacts of the Project.

This Revised Draft EIR presents two analyses of the potential combined cumulative AQ-4 impacts of both projects; the key steps in these analyses are summarized in Table 4-1, and additional technical information regarding the methodology is in the Technical Appendix. LAHD's additional qualitative and quantitative analyses are based on the JPA's 2015 ICTF Dispersion Modeling, and the LAHD's expanded analysis of the SCIG Project's Impact AQ-4 impacts performed for this Revised Draft EIR as described in Chapter 3.

Table 4-1: Key Steps in Methodology for Combined SCIG and ICTF Expansion Project Cumulative AQ-4 Analysis

Obtain ICTF Expansion Project modeling data.	• Through a PRA request, LAHD obtained the ICTF Dispersion Modeling from 2015[7]. • ICTF Dispersion Modeling consisted of a single composite emissions scenario for a 15-year operational life of the ICTF Expansion Project (from 2020 to 2035) and includes a baseline year of 2010. • The Dispersion Modeling was performed using the same receptor grid for all common receptors as was used by LAHD for the SCIG Project. • Note that ICTF used modeling tool, AERMOD version 12345, while 2013 Final EIR analysis used AERMOD version 09292. • Modeling files from PRA request were reviewed for completeness before comparisons to Revised Draft EIR results were made. • Consistent with *City of Long Beach, supra*, 19 Cal.App.4th at 490, no re-modeling of the ICTF Dispersion Modeling was performed by LAHD.
Analysis of individual impacts for SCIG and the ICTF Expansion Project using (1) the AQ-4 dispersion modeling results for SCIG as set forth in Chapter 3 of this Revised Draft EIR and (2) the ICTF Dispersion Modeling. The results of this analysis are described in Section 4.4.2.	• Using the ICTF Dispersion Modeling results, LAHD identified concentrations above SCAQMD significance thresholds to determine the impacts of the ICTF Expansion Project. These ICTF impacts are identified in Table 4-2 (for NO_2) and Table 4-3 (for PM_{10} and $PM_{2.5}$). • For each SCIG Benchmark Year, LAHD compared the (1) the unmitigated significant impacts of the SCIG Project as identified in Chapter 3 of this Revised Draft EIR to (2) the impacts of the ICTF Expansion Project from the ICTF

[7] Data received through email communication by JPA's consultant Castle Environmental Consulting, LLC. August 14th 2019.

	Dispersion Modeling, composite emissions scenario (shown in Table 4-2 (for NO_2) and Table 4-3 (for PM_{10} and $PM_{2.5}$)).
To understand the potential combined impacts of two large railyards located next to each other over time, LAHD identified the overlapping geographic extent of any combined impacts in each Benchmark Year. The geographical coverage of the contours is influenced by the location of major contributing emissions sources for each project, combined with meteorological effects on dispersion. The geographic extent of these potential combined impacts is described in Section 4.4.3 (for NO_2) and Section 4.4.4 (for PM_{10} and $PM_{2.5}$).	• *NO_2:* For each Benchmark Year, LAHD plotted exceedance concentration contours to show the geographic extent of the impacts (i.e., concentrations above the SCAQMD significance thresholds) for both projects. • *PM_{10} and $PM_{2.5}$:* For each Benchmark Year, LAHD plotted concentration contours to show the geographic extent of (1) increments above SCAQMD significance thresholds for the SCIG Project and (2) increments above zero for the ICTF Expansion Project. • For each of the above quantitative analyses, LAHD used (1) the Benchmark Year data described in Chapter 3 of this Revised Draft EIR for SCIG and (2) the single composite emissions scenario disclosed in the ICTF Dispersion Modeling.

Review of Individual Projects Impacts. As a first step, LAHD compared the tabular results of maximum modeled NO_2 concentrations and PM_{10} concentration increments of the two projects, ICTF and SCIG, to the SCAQMD significance thresholds used in Chapter 3 of this Revised Draft EIR. This analysis identified those Benchmark Years in which both projects had overlapping significant impacts for a given pollutant. Because the ICTF concentration analysis is based on a composite value and not a specific year, the ICTF composite results for each pollutant and averaging period were compared to SCIG Project results developed in this Revised Draft EIR for each Benchmark Year. These comparisons, like the analysis in Chapter 3 of this Revised Draft EIR, used the same significance thresholds as in the 2013 Final EIR. The NO_2 thresholds are absolute thresholds; the modeled impacts from Project operations were added to the background concentration for the Project vicinity and presented in this analysis as total ground-level concentrations. The NO_2 ground-level concentrations were then compared to the threshold at each receptor to form the exceedance contours. The PM_{10} and $PM_{2.5}$ ground-level increments were derived by subtracting the modeled 2010 Baseline concentration from the appropriate modeled concentration for each Benchmark Year on a receptor-by-receptor basis, and selecting the maximum value across all receptors. The maximum ground-level increment was compared to the applicable threshold.

Combined Cumulative Impacts. To further evaluate the potential combined cumulative impacts of two large railyard expansion projects located next to one another, LAHD conducted additional quantitative analyses of the ICTF Dispersion Modeling data. For those pollutants and Benchmark Years in which ICTF and SCIG both showed impacts above SCAQMD thresholds, LAHD plotted the geographic extent of ground-level concentration impacts using the SCIG modeling results in Chapter 3 of this Revised Draft EIR and the ICTF Dispersion Modeling composite emissions

scenario, or "worst-case," modeling data. Any overlapping areas inside the exceedance contours for each project would represent a potential significant combined cumulative impact. Although, as shown below (Section 4.4.3), all of the ICTF Expansion Project's increments of PM_{10} and $PM_{2.5}$ above the CEQA baseline were below the applicable SCAQMD significance thresholds, LAHD nevertheless conducted an additional, more conservative analysis of PM_{10} and $PM_{2.5}$ cumulative impacts. This analysis was undertaken because any increment above zero for the ICTF Expansion Project would be in addition to the increments above SCAQMD significance thresholds for the SCIG Project, and thus could represent a significant combined cumulative impact. LAHD used the ICTF Dispersion Modeling data to plot any positive increment of PM_{10} and $PM_{2.5}$ (above zero ug/m^3) for ICTF together with the SCIG incremental significant impacts of PM_{10} and $PM_{2.5}$ identified for each Benchmark Year.

Based on the JPA's ICTF Dispersion Modeling and the LAHD's updated modeling of the SCIG Project's AQ-4 impacts performed for this Revised Draft EIR as described in Chapter 3, LAHD performed additional qualitative and quantitative analyses of the potential combined cumulative AQ-4 impacts of both projects in accordance with the Writ. The key steps in these analyses are summarized in Table 4-1. Additional technical information regarding the methodology used by LAHD is in Technical Appendix, Section 4.

4.4.2 COMBINED SCIG AND ICTF EXPANSION PROJECT IMPACTS ABOVE SCAQMD THRESHOLDS

As described in Chapter 3 of this Revised Draft EIR, LAHD's AQ-4 analysis found that the SCIG Project would result in exceedances of SCAQMD thresholds for NO_2 (1-hour and annual), PM_{10} (24-hour and annual), and $PM_{2.5}$ in one or more of the Project Benchmark Years (i.e., 2016, 2020, 2023, 2030, 2035, 2046/2066). For these pollutants, LAHD compared the SCIG Project impacts in Chapter 3 to the ICTF Expansion Project impacts above SCAQMD thresholds for the composite emissions scenario disclosed in the ICTF Dispersion Modeling data for the unmitigated ICTF Expansion Project. The results of this comparison are shown in Tables 4-2 and 4-3. As described in Table 4-1, the ICTF increments are identical in every figure because they are the result of a single composite analysis, whereas the SCIG increments are different for each Benchmark Year.

Table 4-2: NO_2 Maximum Offsite Ground-Level Concentrations Associated With the SCIG Project and the ICTF Expansion Project

Pollutant	Standard	Benchmark Year	Maximum Modeled Concentration ($\mu g/m^3$)		SCAQMD Threshold ($\mu g/m^3$)	Projects with Concentration Above Threshold?
			Unmitigated Project	ICTF		
NO_2	1-hour federal	2016	**799**	**303**	188	Both
		2020	**743**		188	Both
		2023	**700**		188	Both
		2030	**536**		188	Both
		2035	**418**		188	Both
		2046/2066	**423**		188	Both
	1-hour state	2016	**902**	**378**	338	Both
		2020	**846**		338	Both
		2023	**803**		338	Both
		2030	**639**		338	Both
		2035	**521**		338	Both
		2046/2066	**526**		338	Both
	annual	2016	**58.2**	**76**	57	Both
		2020	56.6		57	ICTF
		2023	55.4		57	ICTF
		2030	57.0		57	ICTF
		2035	**63.4**		57	Both
		2046/2066	**66.2**		57	Both

Bold text indicates exceedance of SCAQMD Threshold.

Note that in these analyses, significance thresholds remain unchanged from the 2013 Final EIR. The NO_2 thresholds are absolute thresholds; the modeled impacts from Project operations were added to the background concentration for the Project vicinity and presented in this analysis as total ground-level concentrations. The total ground-level concentrations were then compared to the threshold at each receptor.

For annual NO_2, there were would be overlapping impacts above SCAQMD thresholds for Benchmark Years 2035 and 2046/2066, indicating significant combined cumulative impacts for those years. For 1-hour NO_2 (state and federal), there are combined cumulative impacts for all Benchmark Years, indicating significant combined cumulative impacts for those years. The geographic extent of these potential combined cumulative impacts is disclosed in Section 4.4.3.

Table 4-3: PM_{10} and $PM_{2.5}$ Maximum Offsite Ground-Level Concentration CEQA Increments Associated with the SCIG Project (Without Mitigation) and the ICTF Expansion Project

Pollutant	Averaging Time	Benchmark Year	Maximum Modeled Concentration Increment ($\mu g/m^3$)		SCAQMD Threshold ($\mu g/m^3$)	Projects with Increment Above Threshold?
			Unmitigated Project	ICTF		
PM_{10}	24-hour	2016	**4.9**	1.0	2.5	SCIG Project
		2020	**5.3**		2.5	SCIG Project
		2023	**5.5**		2.5	SCIG Project
		2030	**5.8**		2.5	SCIG Project
		2035	**8.9**		2.5	SCIG Project
		2046/2066	**8.9**		2.5	SCIG Project
	Annual	2016	1.0	0.5	1.0	None
		2020	**1.0**		1.0	SCIG Project
		2023	**1.2**		1.0	SCIG Project
		2030	**3.9**		1.0	SCIG Project
		2035	**6.2**		1.0	SCIG Project
		2046/2066	**6.2**		1.0	SCIG Project
$PM_{2.5}$	24-hour	2016	**3.2**	0.4	2.5	SCIG Project
		2020	**3.5**		2.5	SCIG Project
		2023	**3.7**		2.5	SCIG Project
		2030	2.0		2.5	None
		2035	2.3		2.5	None
		2046/2066	2.3		2.5	None

Bold text indicates exceedance of SCAQMD threshold

Note that in these analyses, significance thresholds remain unchanged from the 2013 Final EIR. The maximum modeled concentration increment is the maximum difference resulting from the subtraction of the 2010 Baseline modeled concentration from the Unmitigated Project modeled concentration on a receptor-by-receptor basis. Background concentrations are not included in the concentration increment. Maximum modeled concentration increments were then compared to the threshold at each receptor.

For PM_{10} and $PM_{2.5}$, the significant incremental impacts above SCAQMD thresholds of the SCIG Project and the ICTF Expansion Project do not overlap in any Benchmark Year because the ICTF Expansion project's identified increments are below the thresholds. As set forth in Section 4.4.4, to further evaluate the potential combined cumulative impacts of PM_{10} and $PM_{2.5}$, LAHD conducted additional quantitative analyses using the ICTF Dispersion Modeling data to determine if there are any overlapping geographical areas of combined cumulative impact in any Benchmark Year.

4.4.3 COMBINED CUMULATIVE NO_2 IMPACTS

To further evaluate the potential combined cumulative impacts of two large railyard expansion projects located next to one another, LAHD has conducted additional quantitative analyses of the ICTF Dispersion Modeling data to determine if there is any overlap in the geographic areas of impacts above SCAQMD thresholds for NO_2 in any Project Benchmark Year. For those pollutants and Benchmark Years with overlapping impacts above SCAQMD thresholds – annual NO_2 (2035, 2046/2066), 1-hour NO_2 federal standard (all years), and 1-hour NO_2 state standard (all years) – LAHD used the SCIG modeling results in Chapter 3 of this Revised Draft EIR and the ICTF Dispersion Modeling composite, or "worst-case," emissions data to plot the geographic extent of the ground-level concentration impacts of both projects. Areas of overlap are identified in Table 4-4 and Figures 4-2 to 4-7. The remaining NO_2 contour diagrams, in which there are no areas of overlap, are included in the Annex 2 of the Technical Appendix. These areas of overlap represent potential areas of combined cumulative impacts for NO_2.

Table 4-4: Summary of Geographic Extent of Overlap of NO_2 Impacts

Pollutant/Period	SCIG Benchmark Years with Areas of Potential Combined Cumulative Impacts	Location of Areas of Overlap of Significant Impacts of SCIG and ICTF Expansion Project
1-hour NO_2 (federal)	2016 (Figure 4-2) 2020 (Figure 4-3) 2023 (Figure 4-4) 2030 (Figure 4-5) 2035 (Figure 4-6) 2046/2066 (Figure 4-7)	Overlap of significant impacts would be limited to areas adjacent to the northwest side of the SCIG Project footprint and the southwest corner of the ICTF Expansion Project footprint, expanding west up to Alameda St and with small area in the northeast corner of SCIG Project and southeast corner of ICTF project that covers the intersection of Sepulveda and Terminal Island Freeway. Areas of overlap of significant impacts are mostly in industrial zones; however, some small residential areas near the intersection of Sepulveda and Terminal Island Freeway may be cumulatively affected. An individual sensitive receptor near the intersection of Sepulveda and Terminal Island Freeway is within any area of overlapping significant impacts in most Benchmark Years except 2023.
1-hour NO_2 (state)	None	N/A
Annual NO_2	None	N/A

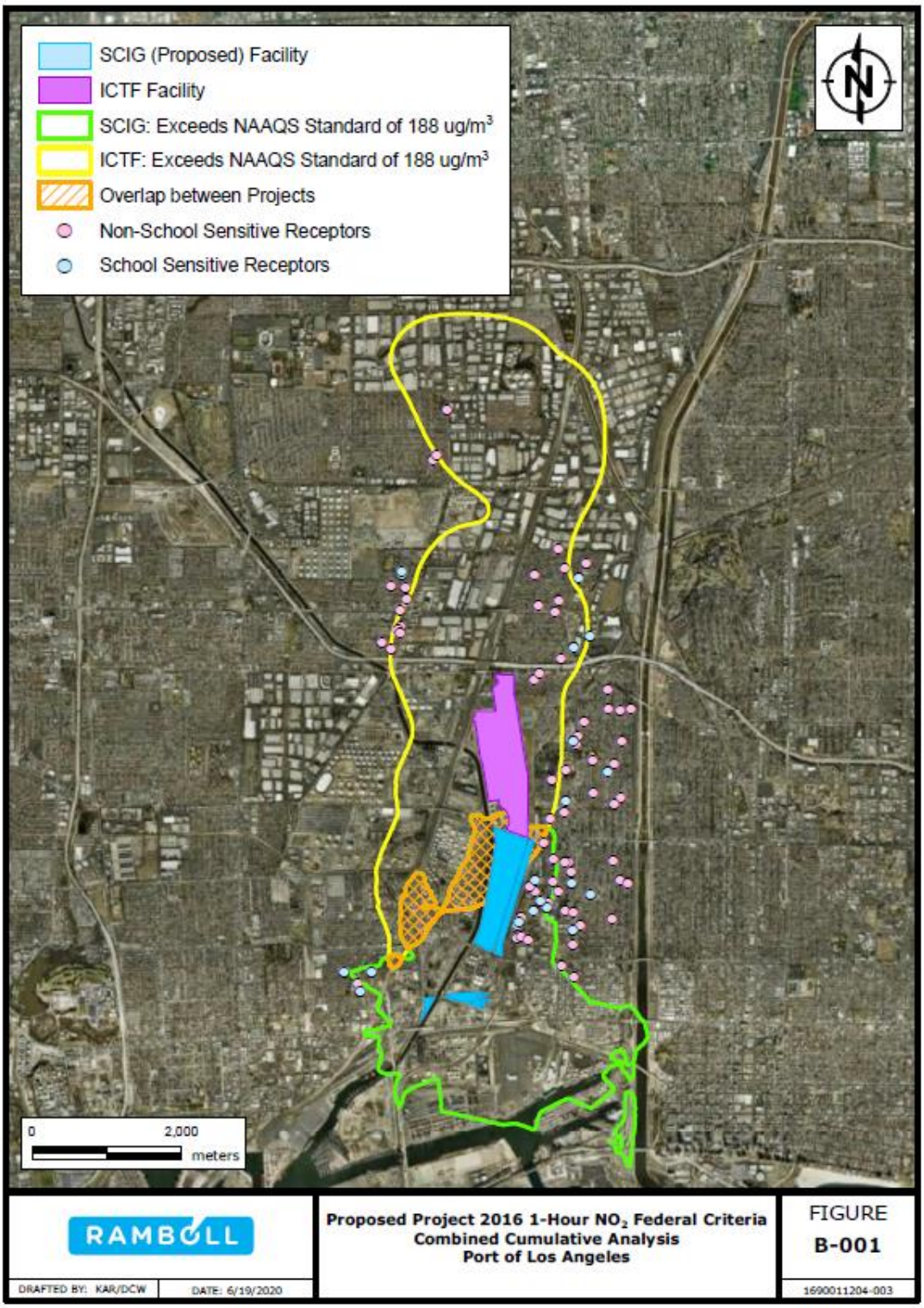


Figure 4-2: SCIG/ICTF 2016 1-Hour NO_2 Federal Standard Combined Cumulative Analysis

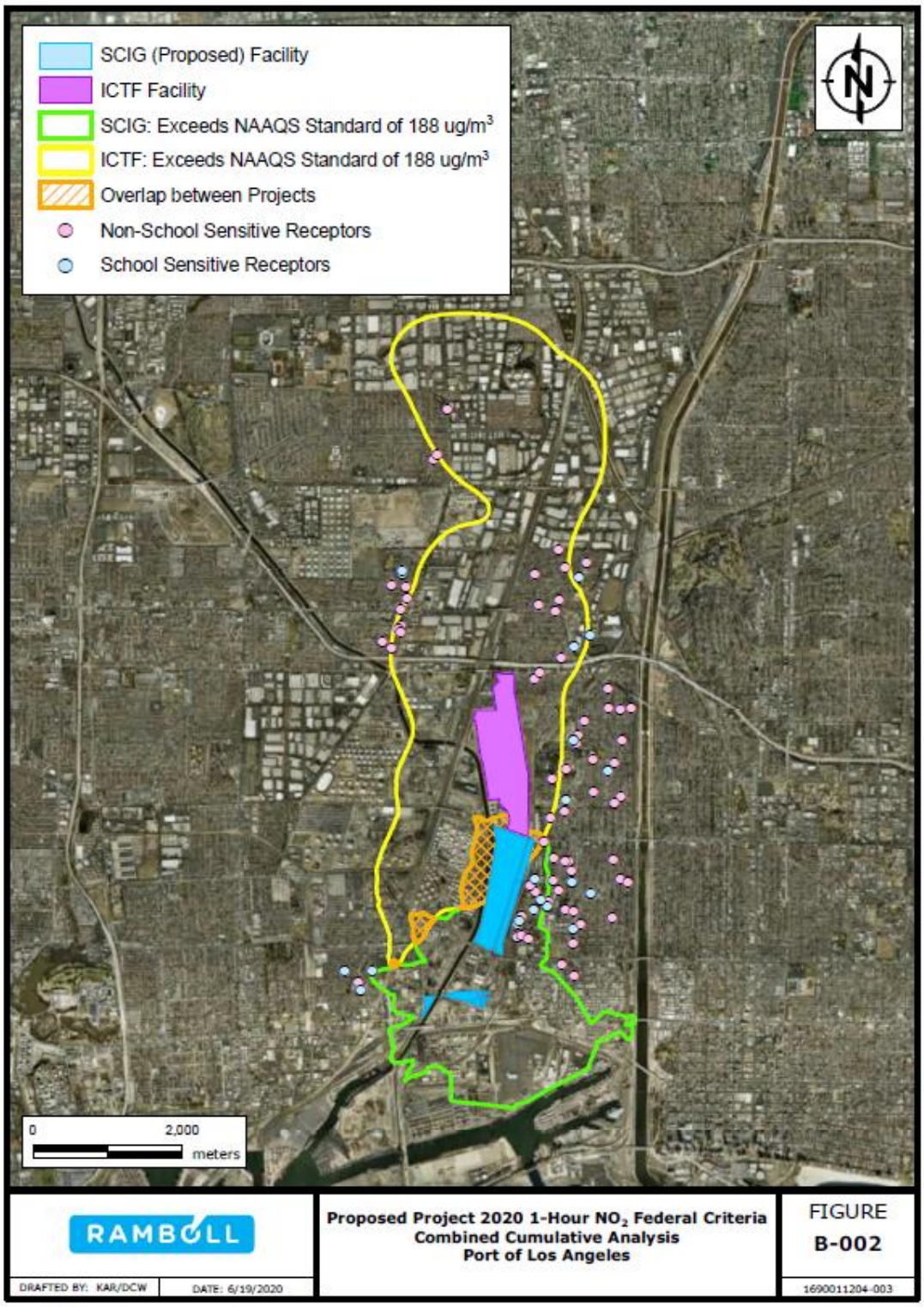


Figure 4-3: SCIG/ICTF 2020 1-Hour NO_2 Federal Standard Combined Cumulative Analysis

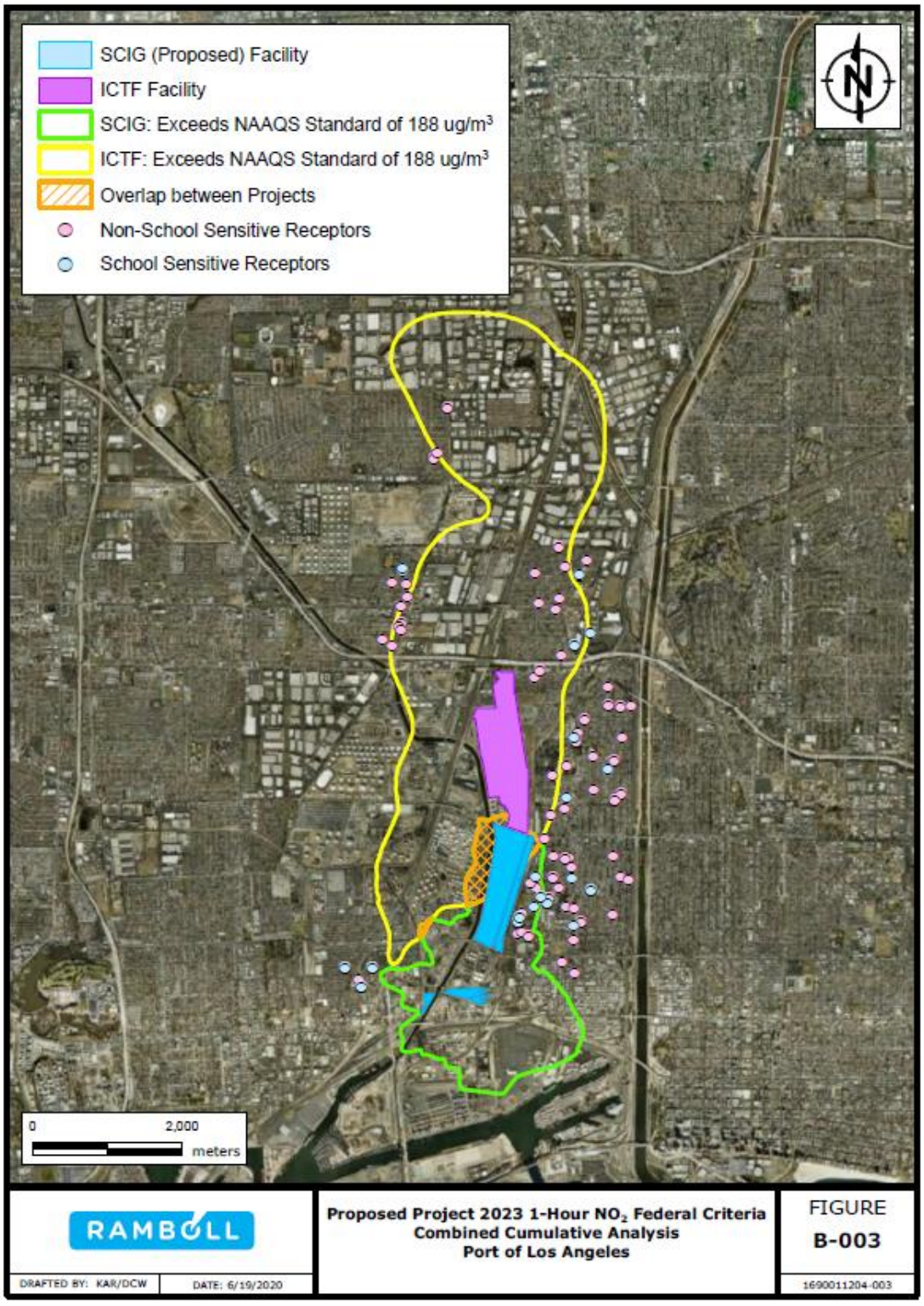


Figure 4-4: SCIG/ICTF 2023 1-Hour NO_2 Federal Standard Combined Cumulative Analysis

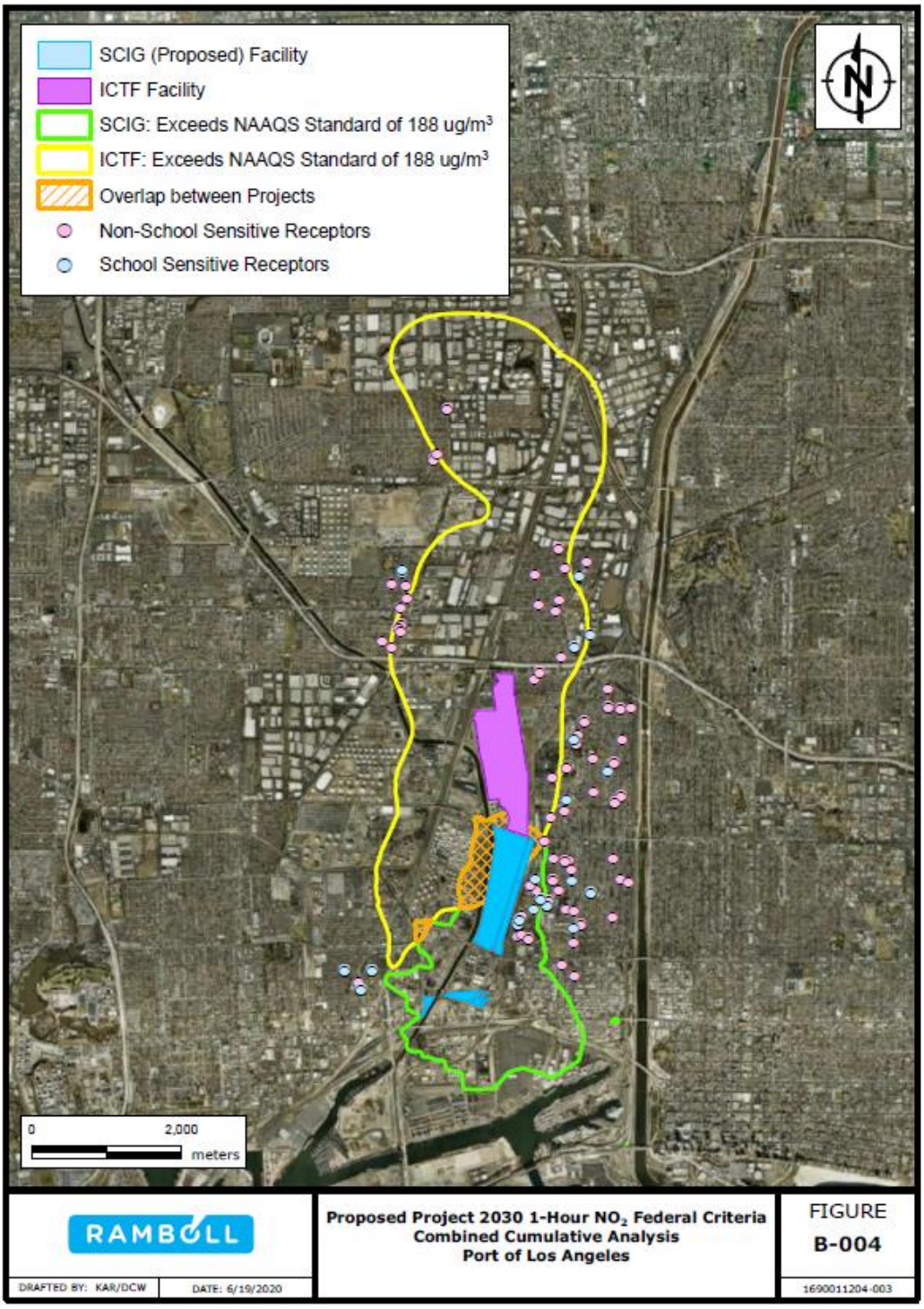


Figure 4-5: SCIG/ICTF 2030 1-Hour NO_2 Federal Standard Combined Cumulative Analysis

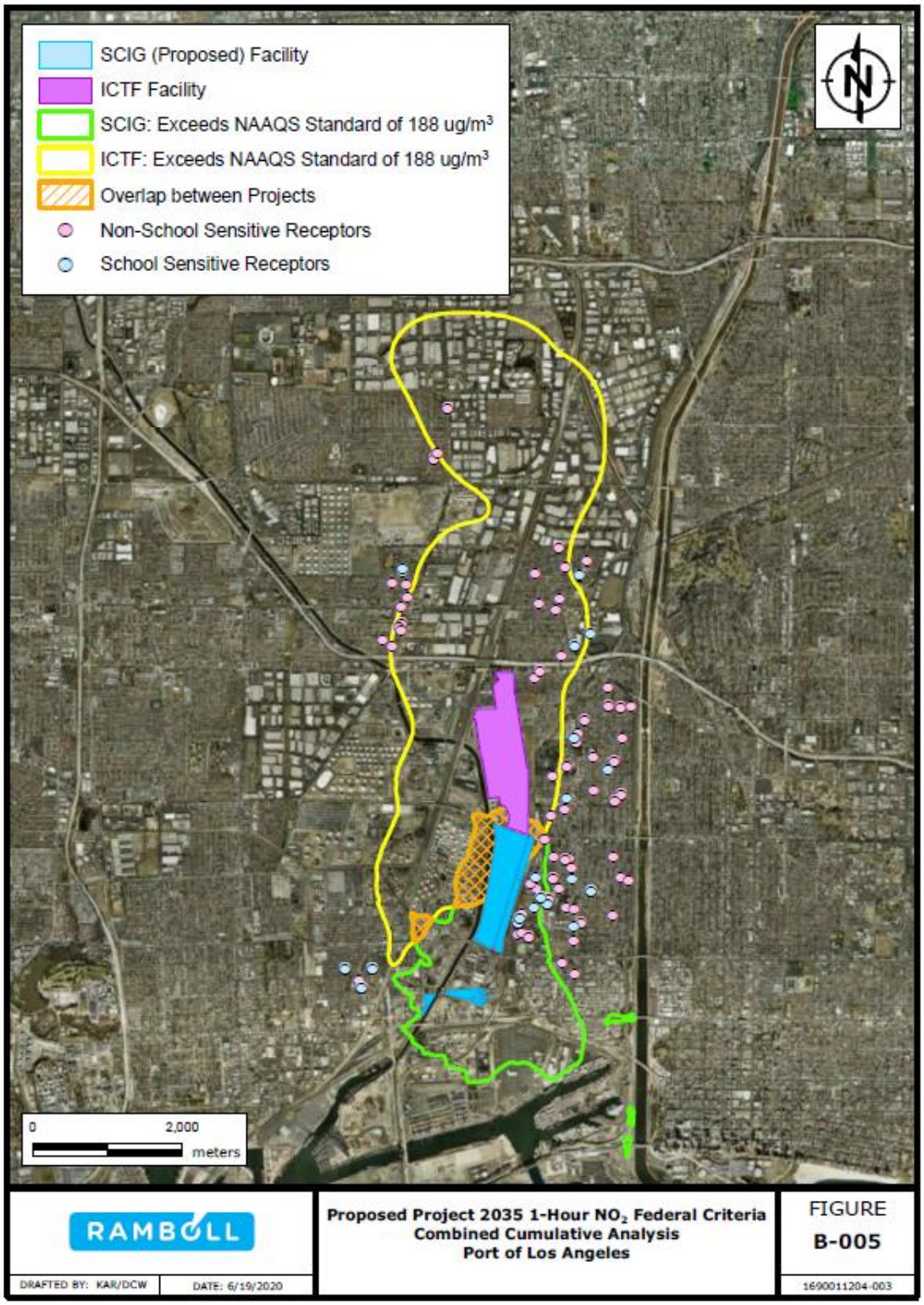


Figure 4-6: SCIG/ICTF 2035 1-Hour NO_2 Federal Standard Combined Cumulative Analysis

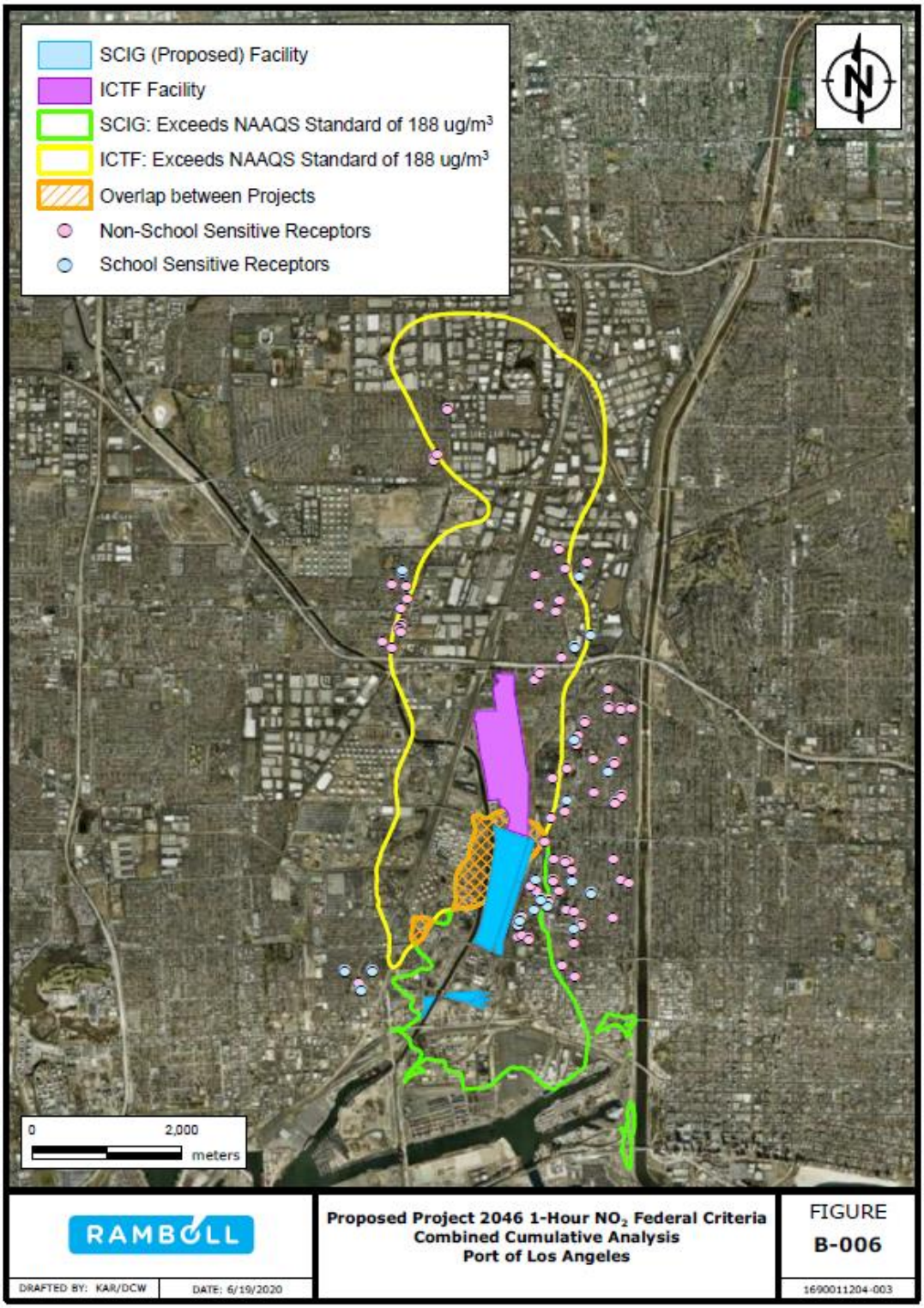


Figure 4-7: SCIG/ICTF 2046/2066 1-Hour NO_2 Federal Standard Combined Cumulative Analysis

4.4.3.1 NO_2 (1-hour)

Overlapping areas were only identified for the more stringent 1-hour NO_2 federal standard. The 1-hour NO_2 state standard contours for each project did not overlap in any Benchmark Year. The contour diagrams show that the overlapping significant impacts of the 1-hour NO_2 federal standard exceedances for the SCIG Project and the ICTF Expansion Project identified in Figures 4-2 through 4-7 are mostly limited to heavy industrial areas immediately adjacent to the northwest boundary of the SCIG Project and the southwest corner of the ICTF Expansion Project site expanding west up to Alameda St. However, overlapping impacts include a small area in the northeast corner of SCIG Project and southeast corner of ICTF project near the intersection of Sepulveda and Terminal Island Freeway where a small residential area along the western side of Webster Avenue and a sensitive receptor (the Buddhist temple) may experience a cumulative impact. There are no overlapping exceedances by both projects of the 1-hour NO_2 state standard. Given that the ICTF Dispersion Modeling data are based on a "worst-case" composite emission scenario, these results are conservative, and no additional analysis of the combined effect of the SCIG Project and the ICTF Expansion Project is required.

For regions outside of the contours for either project, there is a possibility that concentrations below the significance thresholds attributable to the Project and, separately, the ICTF Expansion Project could combine such that, when added to the value of the monitored background, they could give rise to significant cumulative impacts. This is likely to occur in regions where the significant impact contours for the two projects most closely approach one another. For example, in regions of West Long Beach alongside the eastern edge of the SCIG site, impacts of the two projects, while less than significant from a project-specific perspective, could combine to result in significant cumulative impacts. The probability of such impacts combining to produce significant cumulative impacts would decrease slightly over time after the initial years of the Project, as the area of Project impacts would decrease, and then rise again slightly in later years as the Project reaches full capacity. Industrial areas to the southwest of the Project site could also see significant cumulative impacts arising from a combination of less-than-significant impacts of the Project plus less-than-significant impacts of the ICTF Expansion Project, with the probability of these impacts decreasing over time as non-SCIG tenant emissions decrease.

4.4.3.2 NO_2 (Annual)

There are no regions of overlap between the Project's significant impact contours and the ICTF Expansion Project's significant impact contours. The areas outside of the two projects' significant impact contours with the greatest probability of seeing impacts combine to produce significant cumulative impacts are those located where both sets of contours most closely approach one another. These regions would be exclusively in industrial areas on the western side of the SCIG site and would be very limited in extent. Accordingly, it is unlikely that there would be combined cumulative impacts of the SCIG Project and the ICTF Expansion Project with respect to annual NO2 concentrations.

4.4.4 COMBINED CUMULATIVE PM_{10} AND $PM_{2.5}$ IMPACTS

This analysis found no areas of combined cumulative impact in any Benchmark Year for either PM_{10} or $PM_{2.5}$. As an example, Figure 4-8 shows the largest area of exceedance of the annual PM_{10}

standard for the SCIG Project (shown in green), which happens in Benchmark Year 2046, along with the areas of increments of annual PM_{10} above zero ug/m^3 from the ICTF Expansion Project (shown in yellow). The areas do not overlap and are not in close proximity to one another. The geographical coverage of the contours is influenced by the location of major contributing emissions sources for each project, including truck movements, railyard equipment, locomotives, etc., combined with meteorological effects on dispersion.

The ICTF Dispersion Modeling data contains a "worst-case" composite emission scenario. These are, by definition, the only areas where it would be possible for impacts of the SCIG Project to combine with those of the ICTF Expansion Project to produce significant cumulative impacts. Due to distance from the SCIG Project's significant impacts and the conservative nature of the ICTF Expansion Project methodology, there is a low probability of combined cumulative significant impacts in these regions, and any such impacts that occur would be limited in area.

Significant impacts of the SCIG Project related to PM_{10} (24-hour) and $PM_{2.5}$ (24-hour) would be very localized, and there is a very low probability that they would combine with impacts of the ICTF Expansion Project to produce significant cumulative impacts.

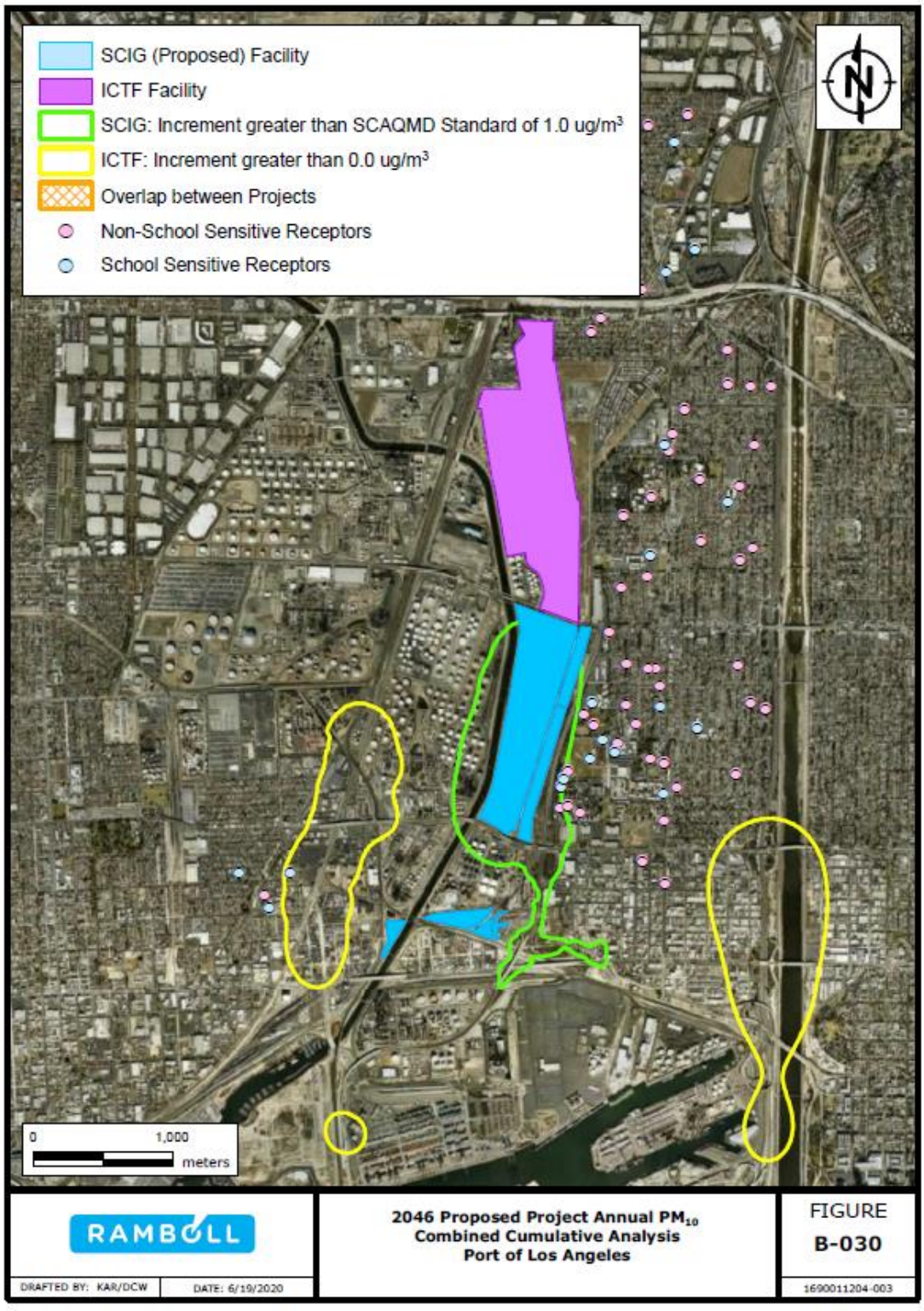


Figure 4-8: SCIG/ICTF 2046/2066 Annual PM_{10} Standard Combined Cumulative Analysis

4.5. REFERENCES

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