Crawford High School and Mann Middle School Athletic Facility Upgrade and Modernization Project Final Environmental Impact Report

Volume III—Appendices

Prepared for:

San Diego Unified School District
Contact: Kathryn Ferrell, Environmental Coordinator

Prepared by:

ICF International
9775 Businesspark Avenue, Suite 200
San Diego, California 92131
Contact: Jim Harry

May 2015

Appendix A
Notice of Preparation/Initial Study

NOTICE OF PREPARATION

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT
and
NOTICE OF A PUBLIC SCOPING MEETING

CRAWFORD HIGH SCHOOL AND MANN MIDDLE SCHOOL
MODERNIZATION AND ATHLETIC STADIUM PROJECT

March 1, 2013

The San Diego Unified School District (District) is the Lead Agency requesting input regarding the preparation of an Environmental Impact Report (EIR) for the proposed Crawford High School and Mann Middle Modernization Project pursuant to the California Environmental Quality Act (CEQA). This Notice of Preparation (NOP) serves to solicit input as to the scope and content of the Draft EIR for the repair and renovation of various district school facilities as a result of Proposition S (San Diego School Repair and Safety Measure), including construction of a new stadium and sports facility, a new softball field, and a new baseball field.

Project Title: Crawford High School and Mann Middle School Modernization and Athletic Stadium Project

Project Applicant: San Diego Unified School District

Project Description: The District proposes an upgrade to the school and athletics facilities of Crawford High School and an upgrade to the school facilities of Mann Middle School within the Eastern Community of the City of San Diego.

Whole Site Modernization:
Proposition S bond funds would be used for a whole site modernization of both Crawford High School and Mann Middle School. The whole site modernization listed in the bond language placed before voters for both schools would include various renovation or repair to the classrooms, restrooms, communications facilities, heating, air conditioning, food service, security lighting and building interiors. Whole site modernization improvements would also include improvements to the parking and pedestrian circulation. The whole site modernization improvements required as a part of the bond language would be addressed in the Draft EIR.

Athletic Stadium and Facilities Upgrades:
The proposed project also includes the following athletic facilities upgrades:

- Replace existing baseball field, six tennis courts, the administration building, building 100, and building 200, and 75 visitor parking spaces with a new athletic stadium;
- Install a new stadium lighting for the football field area;
- Replace football/soccer field and track with a new baseball/softball complex;
- Construct a new press box with an elevator for football field area;
- Construct bleachers at new football, baseball, and softball fields;
- Replace existing track and field with turf and an all-weather track; and
- Provide accessible weight room/fitness space.

Project Location: The proposed project site is located within the Eastern Community Planning Area of the City of San Diego, California on the campuses of Crawford High School and Mann Middle School, located at 4191 Colts Way and 4345 54th Street, San Diego, CA 92115, respectively. The proposed project will occur entirely within the existing boundary of the existing school campuses and within the current location of the athletic facilities. Figure 1 depicts the location of the school sites.

Probable Environmental Effects: The District has determined that an EIR will be prepared for the proposed project through the preparation of an initial study (CEQA Guidelines §15063[a]). As a result, probable environmental impacts that will be analyzed as part of the EIR include: aesthetics/lighting, air quality, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology/water quality, noise, and transportation/traffic/parking.

Pursuant to CEQA Guidelines Section 15082(b), your comments regarding the scope and content of the environmental analysis must be submitted no later than 30 days after receipt of this notice. The public review period is from March 1, 2013, to April 1, 2013. Please send your comments directly to James Harry, senior project manager, ICF International, 9775 Businesspark Avenue, Suite 200, San Diego, CA 92131; or e-mail james.harry@icfi.com.

The district will also hold a public scoping meeting at 6 p.m. Monday, March 4, 2013, at Crawford HS Auditorium. The meeting will provide a public forum for information dissemination, identification of issues, and the scope of review to be included in the EIR.

For more information on the project, contact Michael Hernandez, project manager for San Diego Unified, at 858-637-3689 mhernandez15@sandi.net.

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Figure 1
Project Location Map
Crawford High School & Mann Middle School Modernization Project

EXTENSION OF REVIEW PERIOD, NOTICE OF PREPARATION

EXTENSION OF REVIEW PERIOD
NOTICE OF PREPARATION OF A ENVIRONMENTAL IMPACT REPORT
CRAWFORD HIGH SCHOOL AND MANN MIDDLE SCHOOL MODERNIZATION AND ATHLETIC STADIUM PROJECT

March 23, 2013

The San Diego Unified School District (District) is the Lead Agency requesting input regarding the preparation of an Environmental Impact Report (EIR) for the proposed Crawford High School and Mann Middle Modernization and Athletic Stadium Project pursuant to the California Environmental Quality Act (CEQA). This notice serves as notification that the review period for the Notice of Preparation (NOP) issued for the project on March 1 is being extended to April 22, 2013. Additional project information is also being provided by the District for consideration by the public. The additional project information is available for review at the District Offices at 4860 Ruffner St., Annex 2, San Diego, CA 92111 and at https://fpcprojects.sandi.net/Pages/Reports.aspx?SchoolName=9334.

For more information on the project, contact Kathryn Ferrell, Environmental Coordinator and Project Manager, kferrell@sandi.net or 858-627-7298.

Please submit comments regarding the scope and content of the environmental analysis no later than April 22. Please send your comments directly to:

Jim Harry, Senior Project Manager
ICF International
9775 Businesspark Avenue Suite 200
San Diego, CA 92131
or via email to: james.harry@icfi.com

A summary of the information included in the NOP advertisement/public notice issued on March 1 is presented below.

Project Title: Crawford High School and Mann Middle School Modernization and Athletic Stadium Project

Project Applicant: San Diego Unified School District

Project Description: The District proposes an upgrade to the school and athletics facilities of Crawford High School and an upgrade to the school facilities of Mann Middle School within the eastern Mid-City community of the City of San Diego.
Whole Site Modernization: Proposition S bond funds would be used for a whole site modernization of both Crawford High School and Mann Middle School. The whole site modernization listed in the bond language placed before voters for both schools would include various renovation or repair to the classrooms, restrooms, communications facilities, heating, air conditioning, food service, security lighting and building interiors. Whole site modernization improvements would also include improvements to the parking and pedestrian circulation. The whole site modernization improvements required as a part of the bond language would be addressed in the Draft EIR.

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entirely within the existing boundary of the school campuses and within the current location of the athletic facilities.

Probable Environmental Effects: The District has determined that an EIR will be prepared for the proposed project through the preparation of an initial study (CEQA Guidelines §15063[a]). As a result, probable environmental impacts that will be analyzed as part of the EIR include: aesthetics/lighting, air quality, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology/water quality, noise, and transportation/traffic/parking.

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EMAILS AND LETTERS

April 18, 2013

James Harry
Senior Project Manager
ICF International
9775 Businesspark Avenue, Suite 200
San Diego, CA 92131

Sent via email 4/18/13
Hard copy photos sent via US Mail 4/18/13

Re: Scope and Content of the Environmental Impact Report (EIR) for Crawford High School and Mann Middle School Modernization and Athletic Stadium Project

Dear Mr. Harry:

First, I would like to say that I am a 40-year resident of San Diego, once lived in the area near Crawford, and I have lived directly adjacent to a high school athletic field for the last 15 years. My residential neighborhood has many similarities to the layout at Crawford. I have a wealth of knowledge as to the impacts of athletic field events, since by virtue of my location ***I live it***. I have attended many public meetings conducted by either SDUSD board members or administration. For over a decade I worked in management for a major local real estate developer/general contractor, and am very familiar with the environmental issues and neighborhood impacts of development. Please include the following in your scope of work:

1) **Athletic Field Use** Using Point Loma High School (PLHS) as one example, a SDUSD board member has publicly, and very unaplogetically, stated that he wants the athletic field used "24/7", and "the community" supports that (though he failed to identify what "the community" is exactly, or who was polled). Yes, an apparent exaggeration, however well-publicized PLHS newsletters available for reading by students, parents and the community alike state that if lights were installed, they would only be in use "five nights a year" for football games. This is a complete and blatant misrepresentation – a lie. Additionally, another SDUSD board member, at another public meeting, said it's all about maximizing food concession sales during athletic events at our schools, i.e. "we need them to survive" – that meaning the athletic fields must all be transformed to maximum use, day and night, with concession stands open selling snacks to provide funding for the schools. Mini "Petco Parks", if you will. Given the wild swing between "24/7" and "five nights", the stated goal of maximizing concession sales, and obvious opportunities for abuse, it is imperative that any EIR pertaining to general use of the Crawford High athletic field be highly specific and detailed as to event type, scope, timing, use of lights, and impacts of same. "Gray areas" of interpretation are totally unacceptable when dealing with SDUSD. There is a complete loss of trust, they can't be allowed any leeway, given their history of deceiving the public. For instance:

   a) A clear and accurate definition of permissible events, including but not limited to school-related, local community, SD county, school-hosted, for lack of a better term "outside" (such as when PLHS allowed out-of-state teams to use the field), non-profit, for profit, adult teams, alumni groups, competitive events, "special" events, just to name a few. It is imperative to prevail upon SDUSD to list and clearly define any and all potential users they envision, now or in the future.

b) Size, number of participants, and projected maximum allowable attendance are key factors to pin down. It is critically important, when conducting studies, that a max capacity event be examined, for this is the goal of SDUSD at their events. If you want a true study, then their stated maximum capacity for the stadium must be a known commodity, and is the only study to use. To envision a maximum capacity night event, you would be wise to attend a Lincoln High School night football game, one between arch rivals that would be well-attended, to understand fully the neighborhood consequences. Crawford presently doesn't have lights, so the only true and fair way to understand a night event would be to attend one and stay for the duration.

c) School academic calendar timing needs to be accurately spelled out, and the various time periods clearly distinguished. For instance: school in session weekday vs. weeknight, school in session weekend day vs. weekend night, breaks during academic year when school would otherwise be in session ("in service" days, etc.), holidays (MLK Day, Thanksgiving, Christmas, Spring Break, etc.), summer vacation, prospects for year-round school, etc. It is noteworthy that PLHS opened the campus gates (normally locked) and the gymnasium on Thanksgiving Day 2012, and also allowed students/alumni unrestricted unsupervised access, including to the PA system. That meant during Thanksgiving dinner, a typically solemn occasion, we were forced to dine by blaring pop music from both the athletic field and the PLHS gym PA system. An EIR must include a statement from SDUSD what their use policy is, if what I have described, indeed, is acceptable facility policy on a holiday – *that national holidays are no different from a regular school day* - if that is the case. Their intentions for use of the field in these various time frames must be clearly defined, including number of days, hours of use, etc.

d) Based on "c" above, the EIR needs to clearly address under what conditions and at what times the lights may be used, what lighting needs may arise, now or in the future. This is imperative. Why? One simple example of many: After a night football game at PLHS, where the clearly stated/promised "end time" for lights was 10 p.m. to allow for fans to fully exit the stadium (reasonable request), the lights still remained on **until 11:45 p.m.,** which meant bright lights shining into our homes and miles beyond. The excuse given by school administration was that clean up equipment was in operation to prepare the field for an early morning event the next day. As such, an extremely loud motorized "sweeper" sucking up trash was in operation until 11:45 p.m., under the lights. As you can see, Mr. Harry, without exacting details to dictate the timing of lights, and restrictions, opportunities for abuse abound. There can be no "gray areas". If there are loopholes, it's pretty much guaranteed SDUSD will find them, and use them to their advantage.

e) In the event that SDUSD represents that they will not be renting athletic fields, this needs to be clearly stated in the EIR. However, sir, any such denial should be met with a healthy dose of skepticism, given that SDUSD, by their own past admissions, is counting on a stream of income coming in from these fields being heavily used year-long at the expense of the neighborhoods. (In four words, "concession income" ; "rental fees".)

2) **Parking:** Neighborhoods, like Crawford, already impacted by tight street parking must be protected from the influx of vehicles public events bring. Providing only an increase of 20 parking spaces at Crawford is woefully inadequate and places an unnecessary burden on the adjoining streets. The stance of SDUSD, by their own admission at public meetings, is that residential neighborhoods surrounding their athletic fields are intended to "absorb" overflow parking. This stance is entirely contrary to the strict codes private developers are required to meet. Case in point: At a public meeting re: the development of additional athletic fields adjoining Correia Middle School, and to enable the public to view the proposed design drawings and ask questions, a parent directly questioned SDUSD representatives about the woefully inadequate proposed parking lot to service these fields. The answer he received was that there was no room on the site for additional off street parking, and the surrounding streets could be used for parking. The main surrounding street is Worden Street, San Diego 92110. Mr. Harry, if you or anyone on your staff has knowledge of Worden Street, then you are painfully aware that street, and those surrounding it, are an unending snake of tightly parked vehicles, 24/7, much like one finds on the ridiculously jammed streets of Ocean Beach. For SDUSD to continually view our 100-year-old fragile neighborhoods - many with winding narrow streets and crumbling concrete, with many homes having only a single or no useable garage forcing residents to use street parking - as the panacea and "absorbent sponge" for school event parking is irresponsible, unsafe and environmentally unsound. It is an ignorant and unenlightened approach, contrary to all measures of public schools within our neighborhoods being "good citizens and neighbors". The explosion of more vehicles, and oversize vehicles, in modern society needs to be addressed as it pertains to the huge influx of vehicles we know are generated by events on school campuses. Participants and fans alike, anxious to find ANY place to park, hem in or even block residential driveways, double park, causing residents to be at risk when attempting to back out of their own driveways or even drive to/from their homes. When conducting studies, the bleacher capacity, effects of sold-out games, and range of parked vehicles into the outlying neighborhood must be known. Exactly how many parking spaces are needed must be identified, and compared to what minimal parking may be available on the streets. *It's not at all unusual* for the player, mom, and dad, grandparents, often with busy disparate schedules, **to bring 3 vehicles to an event.** Any parking studies need to identify streets by name and not be generalized.

3) **Traffic and Safety**: While doing a field visit in the blocks surrounding Crawford I was stunned to see vehicles traveling at such a high rate of speed whizzing through the neighborhood. Again, from my years of personal experience, excessive speed, reckless driving, alcohol consumption in parked vehicles, excessively loud audio emanating from vehicles, jay walking, crowds of revelers oblivious to their surroundings gathering in the middle of streets, and "wanderers" clearly under the influence stumbling about are just a few of the traffic hazards brought to bear by these events, particularly at night. "Party Atmosphere" and "Night Event" go hand-in-hand. At the PLHS night game, a significant number of people gather outside the stadium on adjoining streets, *often with no intention of ever entering the stadium*, or they leave the stadium early, hang around and loiter. The effects of these groups on the level of perceived safety in the neighborhood cannot be ignored. They intimidate residents, use our private property as public toilets, leave liquor bottles behind to break on our sidewalks/streets, vandalize yards, and revel long into the night, among other things. Widows, single women, and elderly residents feel trapped in

their own homes, reluctant to encounter these individuals. Traffic studies **must** include a detailed analysis of a night time scenario involving a maximum capacity event to be relevant. As I said, your staff should visit Lincoln High, and its adjoining streets, during a night football game to get a true feel for this type of event. Loitering before, during and after events on nearby streets, at local businesses and their parking lots must be examined. Also, secondary streets and arteries must be studied as these are impacted as well, as fans look for 1) "short cuts" to exit the area, 2) clandestine areas to engage in illegal activity (underage drinking and drug use). The bottom line on safety is this: 1) SDUSD does not have funding to provide the proper level of safety to match their grand plans for events, and 2) they will not provide or fund the level of SDPD presence, and duration, necessary to control night events. Any traffic studies need to identify streets by name and not be generalized.

4) **Lights**: The negative impacts of athletic field lights in a neighborhood such as Crawford are many, as they are in other vintage neighborhoods where homes directly meet school properties with no buffer. Obstructive tall poles block views, intense light creates glare, lights intrude directly into homes. Light effects often reach for miles, depending on topography. Pole lights permanently, and negatively, change the character of a neighborhood, particularly a long-established vintage one, and Crawford is no exception. Where once graceful trees were the tallest natural objects the eye sees, surrounding neighbors are now forced to look at many over-sized ugly metal posts with heavy clusters of lights, even during lengthy daylight hours when their blight upon the neighborhood, and blockage of natural views, serves no useful purpose.

5) **Aesthetics (Graffiti and Blight in General)**:

Proposed or modified buildings and facilities, as part of any entire whole site modernization, should blend in to the existing neighborhood, not stick out in a glaring way via size, style or paint colors chosen. Currently, Crawford has what I would term "extreme" unchecked graffiti. SDUSD and the Crawford administration has, by allowing this, permitted a long standing blight upon the neighborhood. It's shameful. Who is to say it won't be worse in the future, particularly under the cover of darkness at the conclusion of night events on the athletic field? Night events, in my neighborhood, are known for the vandalism that occurs afterward, including such destructive behaviors as the spray painting of cars. SDUSD needs to address in writing, for purposes of the EIR, how they plan to mitigate the certainty of graffiti (the only acceptable measure is ongoing immediate removal), deal with the current blight that exists, and preclude it from recurrence. From personal experience, PLHS does not promptly and dependably address graffiti. Obviously Crawford does not, either.

6) **Noise**: Given the "hollow" that the Crawford campus sits in, the potential for loud noise to carry not only up the hillsides, but way out into the night sky is a huge consideration and must be addressed in the EIR. The late night cleaning equipment previously mentioned above, fans parading their loud vehicle stereos, school drum corps, air horns, marching bands with drums, fans loudly screaming, PA systems, and amplified music are just a few examples of activities that will very likely violate allowable noise levels. Clearly, they

already do in some cases. At PLHS, students have been allowed unchecked, unsupervised access to PA systems, to use or abuse as they see fit. Football players blared unchecked rap music during practice over the PA system. The type, volume, duration, and true necessity of PA system use, including voice and "music", must be addressed in the EIR. For example, a "pee wee" football league using the PLHS athletic field has proclaimed at a public meeting that every play, including the child's name involved in that play, must be called over the PA system to "promote self-esteem". The league mothers indicated that hearing their children named over loud speakers is critical. One would think the overall game, sportsmanship and athleticism is important, but apparently not. Given the attitude of field users, who seemingly have unchecked access to the PA systems, SDUSD must explicitly state what is appropriate, or inappropriate, PA system use for all the various entities using the fields, the stated rules, and how they intend to enforce those rules.

For some reason, the playing of blaring "music" has become inextricably entwined with academics and school campuses. It's as if nothing can happen, or be enjoyed or participated in, without the blaring of "music" anymore. As an example, I visited my high school in Ohio and had a chance to talk to the football coach during practice. He advised me that they never play music, they just practice. Same for other team sports at that school; they manage to practice "as is". They don't force noise upon the neighborhood. To me, this is a huge issue in our youth culture, and something that needs to be in the spotlight of an EIR. *The noise pollution forced upon our society*, and which is part and parcel of high school life has gotten to be quite ridiculous, and no one seems to care, or ask why that has to be so. School administrations are very accepting of noise pollution, and oblivious to the effects within their neighborhoods.

Just as:

- Coastal areas in California are afforded specific protections due to their sensitive nature;
- We, as humans, have our personal space evermore protected by our government from the known dangers of cigarettes and second hand smoke;
- Liquor-serving establishments and their negative affects on nearby areas are under ever more scrutiny and government regulation, so neighborhoods are not blighted and abused by their operations;
- etc.

it is evermore important that neighborhood residents and homeowners, like those surrounding Crawford-Mann, are also afforded a vigorous, extensive, wide-ranging and appropriately detailed EIR as one central means of protecting them against the specific intentions (both known and unknown) and future actions by a very determined SDUSD to impute its narrowly-focused values/development plans onto the existing neighborhood *no matter what*.

Thank you for considering our public input on this very serious investigative report.

Sincerely,

Beverly Klose
3515 Xenophon St.
San Diego, CA 92106
619-222-1438
michaelnbev@yahoo.com

Sent via US Mail under separate cover:

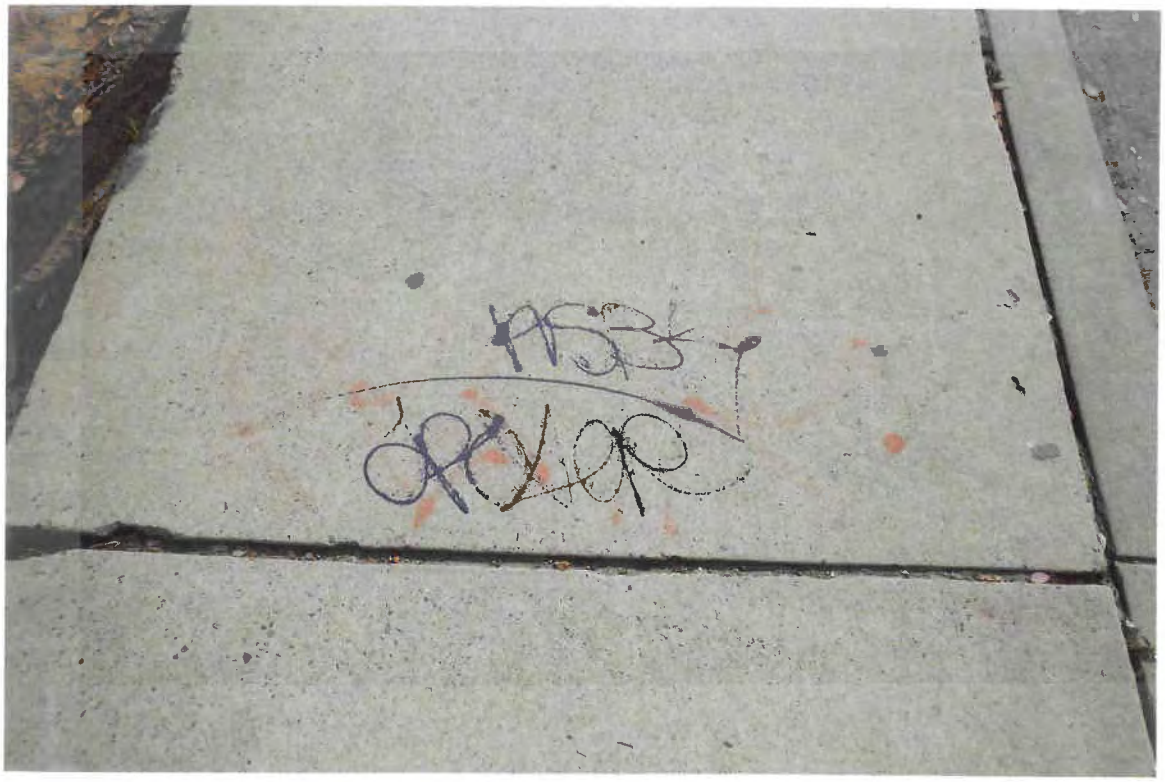
Photographs 1817, 1825, 1828, 1829, 1833
Evidence of the rampant graffiti at Crawford High

Photograph 1806
Evidence of the tight proximity of homes to the Crawford High campus, and the "tiered" arrangement of homes surrounding the campus, which means far more homes are impacted by this development than if the topography was simply flat.

photo exhibits to my
4/18/13 letter sent via email

Beverly Klose
619-222-1438

LOWRS



Harry, James

From: Kim Soto <ksoto@sdhumane.org>
Sent: Thursday, March 21, 2013 8:11 AM
To: Harry, James
Subject: Crawford Stadium project comment form
Attachments: SKMBT_75113032108000.pdf

We received the neighborhood alert this morning and wanted to add our comments as residents of Vale Way which is directly adjacent to the proposed stadium site. Please contact me for additional information if necessary.

Thank you!

Kim Soto, CVA | *Director, Volunteer Engagement*
San Diego Humane Society and SPCA | 619.243.3406 | sdhumane.org

"Environmental" issues (examples):

1. Insufficient parking for up to 2500 people at events
2. Traffic increased throughout neighborhood
3. Increased noise with loudspeakers + soundsystems
4. Public urination
5. Litter nuisance
6. Insufficient bathroom facilities
7. Increased crime
8. Loss of neighborhood character

Comment Form

San Diego Unified School District
Crawford High School and Mann Middle School
Modernization and Athletic Stadium Project
Environmental Impact Report

PUBLIC SCOPING MEETING
March 4, 2013, 6:00 pm

On the lines provided below, please list the environmental issues or concerns you feel need to be addressed in the Environmental Impact Report (EIR) for the Crawford High School and Mann Middle School Modernization and Athletic Stadium Project. Please be as specific and detailed as possible so that the EIR may address all of your concerns or issues. If necessary, please attach additional pages. Once completed, please submit your written comments to: Jim Harry, ICF International, 9775 Businesspark Ave., Suite 200, San Diego, CA 92131, 858-444-3921, fax: 858-578-0573, email: james.harry@icfi.com. Your comments must be postmarked by **April 1, 2013**. (please print legibly)

Our home is on the alley that runs along the current tennis courts, we are concerned about:

- increased traffic on Trojan, Vale & alley
- lack of privacy - bleachers will be looking in our windows
- alley becoming a public urination concern
- increased noise so close to our home
- loss of quiet evenings
- increased crime, graffiti, prostitution
- insufficient parking on Vale Way

Currently when there are afternoon games we see an increase in theft, litter, noise, and we lose our ability to park as our home does not have a driveway, street parking is total

Submitted by (please print legibly):

Name: Kim Soto	Agency/business/group name (if applicable):
Address: 5610 Vale Way	Phone number: 619 843-5872
City/state/zip: San Diego CA 92115	Date: 3/21/13

Harry, James

From: Dawn Anderson <dawn-ron@cox.net>
Sent: Sunday, March 17, 2013 4:45 PM
To: Harry, James
Cc: Taxpayers For Acccountable School Bond Spending; dawn-ron@cox.net; 'Anderson, Ronald L CIV SPAWARSYSCEN-PACIFIC, 41440'
Subject: Submitted comments regarding the EIR Scoping at Crawford High School
Attachments: Comment Form for EIR Scoping for Crawford High.pdf; Public Comment_TFASBS_Crawford Public Scoping Meeting_4 March 2013 (2).docx; NOP_Crawford-Mann_3-4-13_English.pdf; EIR Scoping Mtg - EIR Input.doc

Mr. Harry,

Attached (and also copied below) are our comments to the Scoping of the Crawford High School EIR. Please respond with a quick e-mail back stating that you have received this e-mail.

Thank-you,

Dawn and Ron Anderson

March 17, 2013

James Harry
Senior Project Manager
ICF International
9775 Businesspark Avenue, Suite 200
San Diego, CA 92131
james.harry@icfi.com

Re: Scope and Content of the Environmental Impact Report (EIR)
For Crawford High School and Mann Middle School
Modernization and Athletic Stadium Project

Mr. James Harry,

The following is input that should be addressed in the subject Environmental Impact Report:

Lights:

- The height of the light poles will block views, including elevated sunset views. It was discussed at the EIR Scoping meeting that either 4 poles or 6 poles would be used to light the field. Both field lighting pole applications need to be analyzed and the effects of each weighed against each other and published in the EIR. Effects of the additional lighting needs to be analyzed near and far.
- Glare of lighting on homes near and far. With field lighting (even Musco brand field lighting) installed this close to a residential neighborhood, it may not be possible to reduce the lighting impact to a less than significant level on residential homes.
- Light poles with banks of lights a-top will change the character of the community.
- Change of field use from current daytime use to proposed night use.
- Removable lights should be looked at as an option rather than permanent lights.
- The EIR has to be specific in the conditions in which the lights will be illuminated, e.g., school night events, night practices, hosted events, and basically any condition in which the lights will be illuminated.

Parking:

- It was presented at the March 4th EIR Scoping meeting that there would be a net increase of 20 parking spaces after the projects were completed and that street parking would be utilized for field events. This is totally unacceptable!! With a larger stadium being built with a capacity far exceeding what is currently in place, the district needs to accommodate the parking of spectators within its own property which is one parking space per every 3 attendees. Additionally the parking study needs to include existing parking conditions on all residential streets that surround the school at the time of a typical Friday night event – 6:00 pm to 10:00 pm.
- The parking study needs to be completed with car numbers associated with a sold out event. The actual number of what constitutes a sold out event needs to be disclosed and included in the parking study. Obviously, not all attendees or field use participants will be occupying a seat. It has already been put on record that some school board members want to maximize the use of the fields for day and night use so a sold out event needs to be your study case, not a 1/3 capacity event. The study should not be based on past attendance numbers. It should be based on the intended outcome which is a sold out stadium event.
- A parking study needs to be conducted to show where the onsite parking is located. It was mentioned at the EIR Scoping meeting that the parking would be scattered throughout the campus. That would mean an event attendee would have to hunt for parking throughout the campus rather than be directed to a specific lot. This excess driving has an environmental and safety impact. Additionally a patron will take the easier route and choose on-street parking rather than hunt for off street campus parking.

Traffic:

- Traffic studies need to include 'all' residential streets surrounding the school, not just the main streets that feed the area. All streets need to be listed by name in the EIR.
- Existing and proposed school safety plans need to be analyzed to ensure they sufficiently address the safety of all patrons (pedestrians and drivers) and residents that will be affected with this increased traffic. Taking the school's word that existing safety procedures will be used is not sufficient and are unacceptable. It has been shown that the school site safety plans at district schools have been and continue to be noncompliant in many areas.
- The traffic study needs to be completed with the traffic impact of a sold out event. Since not all attendees will be sitting in a seat at a field event, the actual number of what constitutes a sold out event needs to be disclosed and included in the parking study. It has already been stated on record by several of the SDUSD Board members that the district wants to maximize the use of the fields (day and night) so a sold out event should be your study case. The study should not be based on past attendance numbers since one of the main reasons the district is installing new fields and larger stadiums is to increase attendance. Additionally,

maximizing the use of the field means more uses of the field for school and non-school related events. The EIR needs to divulge the district's intention of using the field for non-school related events or functions. In fact the EIR needs to clearly state that the district is building a venue, not just a new field and stadium w/lights for school only events. The EIR should state what has already been stated by SDUSD Board members that the district plans to maximize the field use. If the district has no intentions of renting the field out to other outside venues, sports clubs, etc. then the EIR needs to be very specific and include verbiage in the EIR clarifying that fact. The EIR also needs to include the maximum number of events, day and night that the school will host at the field so the impact on the residential community can be accurately analyzed.
- Staging of school buses before, during, and after a game need to be addressed. The school can not use residential streets to park team buses while at the same time, blocking one lane of traffic. This continues to be an issue at Hoover High night events even when it was brought to the school's attention.

Noise:

- Since one of the reasons the school district is installing new fields and stadiums are to increase attendance and use of SDUSD High School fields, noise studies need to be based on the number of patrons of a sold out field event. Additionally, the sound of a school band with drums needs to be included in the study as well. The study can not end at the boundary of the football stadium. It needs to extend into the surrounding areas. Sound reflection off of buildings and canyons also need to be included.
- At the planned location of the new football field adjacent to the residential community, the only mitigation measure possible to reduce noise to a less than significant number would be to install a dome over the field which would be cost prohibitive.
- A multi-channel PA system needs to be installed and included in the Mitigation Monitoring and Reporting Program (MMRP). The MMRP needs to state how the PA system will be used with limitations/restrictions on how loud the PA system can be set. Additionally, restrictions need to be included in the MMRP of what can not be stated over the PA system. Example of this would be to restrict play action announcing such as what you hear on broadcast radio/television. Amplified music would be another restriction.

Crime:

- With the introduction of night use under lights, the stage has been set for increased crime under the cover of darkness in the surrounding neighborhood.
- Security needs to be addressed on and off the school property. The school is responsible for the safety of every hosted event, on and off the field, and needs to have existing procedures in place to ensure the safe execution of day and night events. An excerpt from the school site safety plan needs to be included in the EIR addressing this issue.
- After-event trash pick-up is another concern since the school is not currently engaged in community clean-up of trash discarded by field event patrons.

We look forward to all items included in this letter to be addressed in the EIR.

Respectfully,

Ronald and Dawn Anderson
4583 Highland Ave

San Diego, CA 92115

March 4th, 2013

James Harry
Senior Project Manager
ICF International
9775 Businesspark Avenue, Suite 200
San Diego, CA 92131
james.harry@icfi.com

Re: Submitted comment at the Scoping meeting for the Environmental Impact Report (EIR) For Crawford High School and Mann Middle School Modernization and Athletic Stadium Project

In the meeting notice sent out to the surrounding El Cerrito community on March 1st, the district makes reference to the projects that are listed being included in the bond language placed before the voters. That being said a person needs to reflect back on a proposition passed in the year 2000. That was Prop 39, which reduced the current 2/3 majority to pass a school bond down to a 55% majority. Prop 39 also required that any new school bond measure had to provide a detailed project list that would show the voters what the money would be spent on so they could make an informed decision at the ballot box. Prop 39 also required the establishment of an Independent Citizens Oversight Committee (ICOC). Now let's discuss Prop S. It established an ICOC and included the required project lists that bond money was to be spent on but the district didn't spend the money just on the listed projects. It used some clever language and catch all phrases in the bond language that the district claims as full disclosure. A good example of this is one of the projects for Crawford under the heading *"Projects to Improve School Accessibility, Code Compliance Upgrades"*. Every one of the projects listed under this heading in the bond measure is linked to ADA and Code Compliance. This is the section which includes all verbiage dealing with upgrading the Athletic Facilities, but once again, this is for ADA and Code Compliance. This happened to be a standard entry on most of the High Schools. The district is leveraging the ADA and Code Compliance upgrades to the football stadium, to install permanent stadium lighting at many of the 8 high schools that didn't currently have them. Stadium lighting is not required for a stadium to be ADA compliant. Additionally, the cost for the implementation of field lights is not an incidental cost. At Hoover High School alone the costs associated with field lighting was in upwards of $800,000 and does not include the increased cost of paying off the bond which will probably quadruple that number. So you would think that such an expensive project being implemented at 8 high schools would be called out on the project list for each of these schools. But no such luck. In fact, there is only a single mention of field lighting in the whole 97 page Prop S bond measure and it is on page 96. But even that one mention of field lighting is prefaced with the following: Each project listed is assumed to include its share of costs of the election and bond issuance and other construction related costs such as construction management, architectural, engineering, inspection and other planning costs, legal, accounting and similar fees, independent annual financial and performance audits, a

customary construction contingency, **and other costs incidental to and necessary for completion of the listed projects.** But once again as I discussed earlier, the only listed projects that were anywhere close to Athletic Facility Upgrades were ADA and Code Compliance related. Now let's also look at another project that was on the project list for most schools – air conditioning for the classrooms. Being on the project list you would think that project would have been implemented first. You would be wrong. My 5th grader who attends one of the year round elementary schools is still sweltering in close to 100 degree temperatures on hot days.

One other issue to mention is that the district improperly exempted themselves by using California Government Code Section 53094. This law does allow the school district to exempt classroom facilities but it does not allow them to exempt everything. The law is very specific about that. The following is an excerpt of the law:

> *The governing board of the school district may NOT take this action when the proposed use of the property by the school district is for nonclassroom facilities, including, but not limited to, warehouses, administrative buildings, and automotive storage and repair buildings.*

Questioning the wisdom of the district this action was brought to the San Diego City Attorney's attention. They analyzed the action by the district but not surprising, their conclusion was the following:

> *Whether the listed Projects fall within the education facilities category in California Government Code section 53094 cannot be determined based on the information provided. Such a determination would be based on the proposed used of the Projects. The District is not exempt from CEQA, however, the District may determine that specific projects are exempt from CEQA. Finally, a vote to exempt itself from the City's local zoning ordinances includes the coastal height limit.*

On closing I would ask that the district be honest with the citizens that will be affected by the projects that will inevitably move forward and include provisions to limit the use of the field to non-school related activities. Additionally I request that you increase the commenting period of the Draft EIR until after hearing the results of the Appeal between Taxpayers for Accountable School Bond Spending (TFASBS) versus the San Diego Unified School District which took place on Feb 13th. It would be shameful to waste additional taxpayer money if TFASBS wins their Appeal and the district would have to find another source of funds to build their field of dreams.

Ron Anderson, President
Taxpayers for Accountable School Bond Spending
http://www.tfasbs.org

March 17, 2013

James Harry
Senior Project Manager
ICF International
9775 Businesspark Avenue, Suite 200
San Diego, CA 92131
james.harry@icfi.com

Re: Scope and Content of the Environmental Impact Report (EIR)
For Crawford High School and Mann Middle School
Modernization and Athletic Stadium Project

Mr. James Harry,

The following is input that should be addressed in the subject Environmental Impact Report:

Lights:

- The height of the light poles will block views, including elevated sunset views. It was discussed at the EIR Scoping meeting that either 4 poles or 6 poles would be used to light the field. Both field lighting pole applications need to be analyzed and the effects of each weighed against each other and published in the EIR. Effects of the additional lighting needs to be analyzed near and far.
- Glare of lighting on homes near and far. With field lighting (even Musco brand field lighting) installed this close to a residential neighborhood, it may not be possible to reduce the lighting impact to a less than significant level on residential homes.
- Light poles with banks of lights a-top will change the character of the community.
- Change of field use from current daytime use to proposed night use.
- Removable lights should be looked at as an option rather than permanent lights.
- The EIR has to be specific in the conditions in which the lights will be illuminated, e.g., school night events, night practices, hosted events, and basically any condition in which the lights will be illuminated.

Parking:

- It was presented at the March 4th EIR Scoping meeting that there would be a net increase of 20 parking spaces after the projects were completed and that street parking would be utilized for field events. This is totally unacceptable!! With a larger stadium being built with a capacity far exceeding what is currently in place, the district needs to accommodate the parking of spectators within its own property which is one parking space per every 3 attendees. Additionally the parking study needs to include existing parking conditions on all residential streets that surround the school at the time of a typical Friday night event – 6:00 pm to 10:00 pm.

- The parking study needs to be completed with car numbers associated with a sold out event. The actual number of what constitutes a sold out event needs to be disclosed and included in the parking study. Obviously, not all attendees or field use participants will be occupying a seat. It has already been put on record that some school board members want to maximize the use of the fields for day and night use so a sold out event needs to be your study case, not a 1/3 capacity event. The study should not be based on past attendance numbers. It should be based on the intended outcome which is a sold out stadium event.
- A parking study needs to be conducted to show where the onsite parking is located. It was mentioned at the EIR Scoping meeting that the parking would be scattered throughout the campus. That would mean an event attendee would have to hunt for parking throughout the campus rather than be directed to a specific lot. This excess driving has an environmental and safety impact. Additionally a patron will take the easier route and choose on-street parking rather than hunt for off street campus parking.

Traffic:

- Traffic studies need to include 'all' residential streets surrounding the school, not just the main streets that feed the area. All streets need to be listed by name in the EIR.
- Existing and proposed school safety plans need to be analyzed to ensure they sufficiently address the safety of all patrons (pedestrians and drivers) and residents that will be affected with this increased traffic. Taking the school's word that existing safety procedures will be used is not sufficient and are unacceptable. It has been shown that the school site safety plans at district schools have been and continue to be noncompliant in many areas.
- The traffic study needs to be completed with the traffic impact of a sold out event. Since not all attendees will be sitting in a seat at a field event, the actual number of what constitutes a sold out event needs to be disclosed and included in the parking study. It has already been stated on record by several of the SDUSD Board members that the district wants to maximize the use of the fields (day and night) so a sold out event should be your study case. The study should not be based on past attendance numbers since one of the main reasons the district is installing new fields and larger stadiums is to increase attendance. Additionally, maximizing the use of the field means more uses of the field for school and non-school related events. The EIR needs to divulge the district's intention of using the field for non-school related events or functions. In fact the EIR needs to clearly state that the district is building a venue, not just a new field and stadium w/lights for school only events. The EIR should state what has already been stated by SDUSD Board members that the district plans to maximize the field use. If the district has no intentions of renting the field out to other outside venues, sports clubs, etc. then the EIR needs to be very specific and include verbiage in the EIR clarifying that fact. The EIR also needs to include the maximum number of events, day and night that the school will host at the field so the impact on the residential community can be accurately analyzed.
- Staging of school buses before, during, and after a game need to be addressed. The school can not use residential streets to park team buses while at the same time, blocking one lane of traffic. This continues to be an issue at Hoover High night events even when it was brought to the school's attention.

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- After-event trash pick-up is another concern since the school is not currently engaged in community clean-up of trash discarded by field event patrons.

We look forward to all items included in this letter to be addressed in the EIR.

Respectfully,

Ronald and Dawn Anderson
4583 Highland Ave
San Diego, CA 92115

Harry, James

From: Harry, James
Sent: Monday, March 11, 2013 10:12 AM
To: 'Greg Broderick'
Subject: RE: crawford project

Thank you Mr. Broderick

We will include this email in the public record for the environmental document and address your questions in the environmental document

Jim Harry | Senior Environmental Planner/Project Manager| 858-444-3921 (o) | james.harry@icfi.com ICF INTERNATIONAL | 9775 Businesspark Avenue, Suite 200 San Diego, CA 92131 | 619-218-5867 (m) Connect with us on social media.

-----Original Message-----
From: Greg Broderick [mailto:greg_broderick@yahoo.com]
Sent: Thursday, March 07, 2013 8:25 AM
To: Harry, James
Subject: crawford project

James,
i live near the proposed project for crawford high. great project, please make sure that parking is addressed. Also, you may want to put something more usefull in the handball courts. I I would suggest a roller hockey rink that could bring revenue to the city. if you do a survey, or drive by the courts, you will see no one plays handball, it was an game in the 1950's.

Greg Broderick
858-997-5710

Harry, James

From: Harry, James
Sent: Wednesday, March 06, 2013 9:49 AM
To: 'Greg R Estep'
Cc: 'Reed-Porter Cynthia'; 'Ferrell Kathryn'
Subject: RE: Crawford High School and Mann Middle School Modernization and Athletic Stadium Project EIR

Thank you Mr. Estep

We will include this email in the public record for the environmental document and address your questions/comments in the environmental document

Jim Harry | Senior Environmental Planner/Project Manager| 858-444-3921 (o) | james.harry@icfi.com
ICF INTERNATIONAL | 9775 Businesspark Avenue, Suite 200 San Diego, CA 92131 | 619-218-5867 (m)
Connect with us on social media.

From: Greg R Estep [mailto:grestep@cox.net]
Sent: Monday, March 04, 2013 8:24 PM
To: Harry, James
Subject: Crawford High School and Mann Middle School Modernization and Athletic Stadium Project EIR

Thank you for this opportunity to provide comment.

- I am concerned on how water drainage from the new Stadium location will be handled into the existing storm drain system. The current grass field doesn't drain into the storm drains, but the new synthetic turf field will require some connection to the storm drains system.
- I am concerned on the relocation of the women's softball field that the new proposed location may not be conducive to late afternoon play as the sun will be in the batter's eyes.

Greg R Estep
5621 Spartan Dr
San Diego, CA 92115
619-501-2399
Spartan is the street that is the Gymnasium entrance to Crawford High School.

Harry, James

From: Isaac Etchamendy <ietchamendy@gmail.com>
Sent: Sunday, March 31, 2013 9:02 PM
To: Harry, James
Subject: Crawford High School and Mann Middle School Modernization and Athletic Stadium Project CEQA Comment
Attachments: CEQA Comment.docx

Mr. Harry,

Attached you will find my comments regarding the scope and content of the Draft EIR. Once the EIR is prepared would it be possible to receive a digital copy of the draft EIR for review? Should any part of my letter not be clear or should you need additional clarification please feel free to contact me.

Sincerely,

Isaac Etchamendy

Sent Via E-Mail

James Harry
Senior Project Manager
ICF International
9775 Buisnesspark Avenue Ste. 200
San Diego CA 92131

Isaac Etchamendy
4222 Bernadine Place
San Diego CA 92115

RE: Crawford High School and Mann Middle School Modernization and Athletic Stadium Project, Notice of Preparation of draft EIR

Mr. Harry,

Per the letter dated March 1, 2013 issuing notice of preparation of a draft Environmental Impact Report (EIR) for the afore mentioned project you will find my comments based on the scope of the project provide in the letter and concerns regarding the content of the draft EIR.

Zoning, Planning, Architecture and Form:
On May 10, 2011 the school board voted for that the facilities planned for the project would be exempt from the City of San Diego's Zoning Ordinance. This would mean that findings associated with the zoning ordinance do not apply to this project. Therefore the draft EIR should establish new findings for the project so the project will not become incompatible with any future expansions that may be subject to the City's Zoning Ordinance.

Architecturally the existing schools could be perceived as out-dated with little to no current aesthetic value. The proposed project scope as outlined in the received letter includes upgrades to current classroom facilities, structures as well as the addition of several new classroom facilities. The draft EIR should address the existing architectural deficiencies and provide ways of integrating the old buildings with the new buildings. It is hoped that the EIR will propose ways in which the existing facilities and structures may be integrated utilizing various perspectives, heights, lighting techniques, screenings, landscaping, and facade treatments so as to not to become visually offensive to the surrounding neighborhood. An institutional facility upgrade such as the one proposed by the project is an outstanding way to encourage the community's continued growth and gentrification as an architectural highlight.

The current locations of Horace Mann Middle School and Crawford High School exist within the SANDAG Smart Growth Areas of SD CH-5 and SD CH-6 and take traffic from the Smart Growth corridors of SD NP-2 and SD EA-3 (See Enclosed). The EIR should take into account the principals of Smart Grow in its proposed project. While the project did render the City Zoning Ordinances inapplicable, it is my understanding that regional planning guidelines and requirements must still be met. Any findings within the EIR should be consistent with the SANDAG Regional Comprehensive Plan (RCP) for San Diego County as well as any other applicable regional planning documents.

Noise, Lighting and Utilities:
Sporting events inertly carry a certain level of noise that will be generated by them. The EIR should address the noise generated and have established guidelines for the noise limits that will potentially affect the surrounding neighborhoods. Mitigation of noise of the sporting events should also be addressed in the EIR.

The proposed project would create a field space that is lit at night for games. The current field are does not have lights. The potential for accumulating light pollution, increased greenhouse gas emissions, and increased noise at night due to the new lighting will need to be investigated. Additionally I hope that new directional

lighting techniques are investigated to limit the impacts to the surrounding homes that will be impacted more directly.

The visual impacts of any upgraded utilities should be addressed within the EIR. Currently the community has overhead lines that serve the community. The City of San Diego has a comprehensive plan to underground all overhead facilities. Currently there are areas adjacent to Horace Mann Middle School and Crawford High School have been targeted for undergrounding. The areas along Trojan Avenue have been approved for design and construction. Dependant on where the School pulls its power from it would be unfortunate if additional lines are required to be placed overhead causing possible complications or delays in the undergrounding of the neighborhoods utility facilities.

Traffic, Circulation and Safety:
The letter received indicated that the project will include pedestrian and parking improvements. As part of those improvements it is hoped that the EIR will provide a multi-modal level of service analysis for the proposed project and its alternatives. As the densification of El Cajon Boulevard and University Avenue continues the integration of the schools various traffic patterns and parking requirements will become more important.

Safe pedestrian paths of travel with regards to a school are always of paramount importance to parents but also to local drivers. Providing mitigation options within the EIR, for safe pedestrian paths of travel within the Right of Way, should also be encouraged as the public notice dated March 1, 2013 mentioned the scope of the project to include the removal of 75 visitor parking spaces. Removals of on-site parking will inevitably create more demand for street parking which is fine so long as appropriate signage and safe pedestrian paths of travel are provided from the public right-of-way to the school sites.

Thank you for your time in reading my comments and for all the efforts that are going into this project to assure that it is one that the whole community can be proud of. I am excited for a successful project to move forward and appreciate all the ongoing public outreach. Should you have any questions or comments feel free to contact me at (760) 964-5047 or via e-mail at ietchamendy@gmail.com.

Sincerely,

Isaac Etchamendy

Harry, James

From: Harry, James
Sent: Wednesday, March 06, 2013 9:55 AM
To: 'Nona Marsh'
Cc: 'Reed-Porter Cynthia'; 'Ferrell Kathryn'
Subject: RE: CrawfordHS stadium project

Thank You Ms. Marsh

We will include this email in the public record for the environmental document and address your questions/comments in the environmental document

Jim Harry | Senior Environmental Planner/Project Manager| 858-444-3921 (o) | james.harry@icfi.com
ICF INTERNATIONAL | 9775 Businesspark Avenue, Suite 200 San Diego, CA 92131 | 619-218-5867 (m)
Connect with us on social media.

From: Nona Marsh [mailto:nonamarsh@yahoo.com]
Sent: Tuesday, March 05, 2013 7:34 PM
To: Harry, James
Subject: CrawfordHS stadium project

I attended the public scoping meeting last night at Crawford High and was astounded and dismayed at the animosity of people. It was difficult for a sustainable discussion to occur. But I just wanted to add my thoughts.

The only parts of it EIR that I even feel remotely qualified to comment on are the noise and traffic components. While I support a new staudium etc. for Crawford and feel it's long overdue, I think some of the residents had valid complaints. My main two concerns are traffic. First, it appears to be a two-year project during which time the drop off and admin will be located near the 800 building which is well inside the housing area. That will greatly impact those residents for quite a while as buses, parents and visitors enter and exit. The streets are narrow and not made for a continual flow of traffic. Secondly, the plan to eliminate the current parking lot and relocate parking spaces across the street seems counter productive as there appear to be fewer spaces available. That will create a bigger bottleneck on the street than already exists on busy days (i.e. weekends when community groups are playing). With a new venue, attendance at games will probably increase along with the traffic.

The other concern is noise and lights. I'm not too concerned about noise since I feel it goes with the territory of living next to a school. Likewise, the lights. But both, theoretically, will only be utilized for a few hours on Fri. nights with which I can certainly live. However, once again, I feel the homeowners had a legitimate complaint about the lights. By relocating the football field to the current parking lot, it will esssentially be within 20 yards of many homes. Those lights are bright and could be a nuisance. Likewise the noise.

Personally, I don't see why you couldn't just leave the football and baseball stadiums where they are and upgrade and refurbish them with new turf, new tracks, new bleachers, a press box, etc. The current football field is in a more open area further from the nearest homes so the lights and noise shouldn't be as bothersome and we're already used to them. Baseball is usually a daytime sport so could be left where it is without any further bother to the residents. I would also think it would be far cheaper that way. You could just use the vacant lot on the corner of 56th and Trojan for further parking or relocate the tennis courts there and use that area now occupied by tennis for parking. I think that would allow for more spaces anyway.

Since this is an older community, streets are more narrow and the school practically butts right up against the houses so they will be more impacted by the noise and lights. Please consider an alternative plan that might also prove cheaper.

Thank you,
Nona Marsh

Harry, James

From:	Dawn Anderson <dawn-ron@cox.net>
Sent:	Sunday, March 17, 2013 4:45 PM
To:	Harry, James
Cc:	Taxpayers For Acccountable School Bond Spending; dawn-ron@cox.net; 'Anderson, Ronald L CIV SPAWARSYSCEN-PACIFIC, 41440'
Subject:	Submitted comments regarding the EIR Scoping at Crawford High School
Attachments:	Comment Form for EIR Scoping for Crawford High.pdf; Public Comment_TFASBS_Crawford Public Scoping Meeting_4 March 2013 (2).docx; NOP_Crawford-Mann_3-4-13_English.pdf; EIR Scoping Mtg - EIR Input.doc

Mr. Harry,

Attached (and also copied below) are our comments to the Scoping of the Crawford High School EIR. Please respond with a quick e-mail back stating that you have received this e-mail.

Thank-you,

Dawn and Ron Anderson

March 17, 2013

James Harry
Senior Project Manager
ICF International
9775 Businesspark Avenue, Suite 200
San Diego, CA 92131
james.harry@icfi.com

Re: Scope and Content of the Environmental Impact Report (EIR)
For Crawford High School and Mann Middle School
Modernization and Athletic Stadium Project

Mr. James Harry,

The following is input that should be addressed in the subject Environmental Impact Report:

Lights:

- The height of the light poles will block views, including elevated sunset views. It was discussed at the EIR Scoping meeting that either 4 poles or 6 poles would be used to light the field. Both field lighting pole applications need to be analyzed and the effects of each weighed against each other and published in the EIR. Effects of the additional lighting needs to be analyzed near and far.
- Glare of lighting on homes near and far. With field lighting (even Musco brand field lighting) installed this close to a residential neighborhood, it may not be possible to reduce the lighting impact to a less than significant level on residential homes.
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- It was presented at the March 4th EIR Scoping meeting that there would be a net increase of 20 parking spaces after the projects were completed and that street parking would be utilized for field events. This is totally unacceptable!! With a larger stadium being built with a capacity far exceeding what is currently in place, the district needs to accommodate the parking of spectators within its own property which is one parking space per every 3 attendees. Additionally the parking study needs to include existing parking conditions on all residential streets that surround the school at the time of a typical Friday night event – 6:00 pm to 10:00 pm.
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- Traffic studies need to include 'all' residential streets surrounding the school, not just the main streets that feed the area. All streets need to be listed by name in the EIR.
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maximizing the use of the field means more uses of the field for school and non-school related events. The EIR needs to divulge the district's intention of using the field for non-school related events or functions. In fact the EIR needs to clearly state that the district is building a venue, not just a new field and stadium w/lights for school only events. The EIR should state what has already been stated by SDUSD Board members that the district plans to maximize the field use. If the district has no intentions of renting the field out to other outside venues, sports clubs, etc. then the EIR needs to be very specific and include verbiage in the EIR clarifying that fact. The EIR also needs to include the maximum number of events, day and night that the school will host at the field so the impact on the residential community can be accurately analyzed.

- Staging of school buses before, during, and after a game need to be addressed. The school can not use residential streets to park team buses while at the same time, blocking one lane of traffic. This continues to be an issue at Hoover High night events even when it was brought to the school's attention.

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- With the introduction of night use under lights, the stage has been set for increased crime under the cover of darkness in the surrounding neighborhood.
- Security needs to be addressed on and off the school property. The school is responsible for the safety of every hosted event, on and off the field, and needs to have existing procedures in place to ensure the safe execution of day and night events. An excerpt from the school site safety plan needs to be included in the EIR addressing this issue.
- After-event trash pick-up is another concern since the school is not currently engaged in community clean-up of trash discarded by field event patrons.

We look forward to all items included in this letter to be addressed in the EIR.

Respectfully,

Ronald and Dawn Anderson
4583 Highland Ave

San Diego, CA 92115

Harry, James

From: SDUSD Facilities Info <sdusdfacilitiesinfo@sandi.net>
Sent: Tuesday, March 26, 2013 2:36 PM
Subject: EIR scoping process for San Diego Unified' s Crawford HS and Mann MS Modernization and Athletic Stadium Project
Attachments: NOP_Crawford-Mann_extended review period_03222013.pdf; Figure 1_project location.pdf; Crawford_Mann_illustrative graphic_rev 4.pdf

Recently a Notice of Preparation (NOP) was issued as part of the scoping process for the Environmental Impact Report (EIR) on San Diego Unified School District's Crawford High School and Mann Middle School Modernization and Athletic Stadium Project. The NOP "scoping" process began March 1, 2013. The process included a 30-day public review period and a public meeting, which was held on March 4, 2013, at Crawford High School. As a result of the concerns voiced by the community at the scoping meeting, **the public review period has been extended to April 22, 2013**; and new documents have been developed to provide clarifying information.

San Diego Unified has contracted ICF International to lead the scoping process, as well as develop a Draft EIR and Final EIR, for its Crawford High School and Mann Middle School Modernization and Athletic Stadium Project. ICF International provides professional services and technology solutions in many areas including environmental studies. On behalf of the district, ICF's environmental consultant has provided below a summary on the scoping process, the circulation and content requirements for the NOP, clarifying project information, and a summary on community outreach.

Summary of Scoping Process
The San Diego Unified will be preparing a full California Environmental Quality Act (CEQA) EIR to address any potential environmental impacts associated with the Crawford High School and Mann Middle School Modernization and Athletic Stadium Project (proposed project). An early step in the process is the issuance of a NOP, which CEQA requires to be given to specified government agencies. The district has also included the public in this scoping process to ensure that all environmental issues are addressed in the EIR. Project plans are still in preliminary form at this time, and the information gathered through the scoping process will be used to prepare the full plans that will be evaluated in the Draft EIR. The district held a well-attended scoping meeting with the public on March 4, 2013; and has extended the time for comments until April 22, 2013. Information about the project is available at the district's Physical Plant Operations Center and on the district website. The district welcomes public input as it moves forward with this important community project.

Notice of Preparation (NOP) Circulation and Content Requirements
To comply with CEQA Guidelines Section 15082, the district sent the NOP to the California Office of Planning and Research and each responsible and trustee agency, to provide "sufficient information describing the project and potential environmental effects to enable the responsible agencies to make a meaningful response." In addition, the district published the NOP in two newspapers (in English and in Spanish), and mailed it to residents near the project site.

The NOP occurs early in the EIR process, and is intended to generate comments concerning the issues that the environmental analysis should address. Common practice is for a general description of the project to be provided. A detailed and comprehensive description (and plans or exhibits) will be made available later in the CEQA process as part of the Draft EIR, which is subject to agency and public review.

The mailed NOP, which also provided notice of the time and place of the scoping meeting, referenced a vicinity map (Figure 1) that was to depict the location of the school sites. Unfortunately, the map itself was not attached, but the location was given. The notice of the extended comment period with information directing interested parties to an online version of Figure 1 was included in two local newspapers. A notice of the extended comment period will also be emailed and/or mailed to those that attended the March 4 scoping meeting.

CEQA does not contain requirements related to the timing or content of scoping meeting notifications. It does indicate the NOP may be used to provide such notification, and notification of the scoping meeting was included with the March 1 advertisement/public notice of the NOP and mailed to residents near the project site. No Board of Education business was to be transacted at the meeting; therefore, the 72-hour Brown Act noticing provisions did not apply.

EXTENSION OF REVIEW PERIOD
NOTICE OF PREPARATION OF A ENVIRONMENTAL IMPACT REPORT
CRAWFORD HIGH SCHOOL AND MANN MIDDLE SCHOOL MODERNIZATION AND ATHLETIC STADIUM PROJECT

March 23, 2013

The San Diego Unified School District (District) is the Lead Agency requesting input regarding the preparation of an Environmental Impact Report (EIR) for the proposed Crawford High School and Mann Middle Modernization and Athletic Stadium Project pursuant to the California Environmental Quality Act (CEQA). This notice serves as notification that the review period for the Notice of Preparation (NOP) issued for the project on March 1 is being extended to April 22, 2013. Additional project information is also being provided by the District for consideration by the public. The additional project information is available for review at the District Offices at 4860 Ruffner St., Annex 2, San Diego, CA 92111 and at https://fpcprojects.sandi.net/Pages/Reports.aspx?SchoolName=9334.

For more information on the project, contact Kathryn Ferrell, Environmental Coordinator and Project Manager, kferrell@sandi.net or 858-627-7298.

Please submit comments regarding the scope and content of the environmental analysis no later than April 22. Please send your comments directly to:

Jim Harry, Senior Project Manager
ICF International
9775 Businesspark Avenue Suite 200
San Diego, CA 92131
or via email to: james.harry@icfi.com

A summary of the information included in the NOP advertisement/public notice issued on March 1 is presented below.

Project Title: Crawford High School and Mann Middle School Modernization and Athletic Stadium Project

Project Applicant: San Diego Unified School District

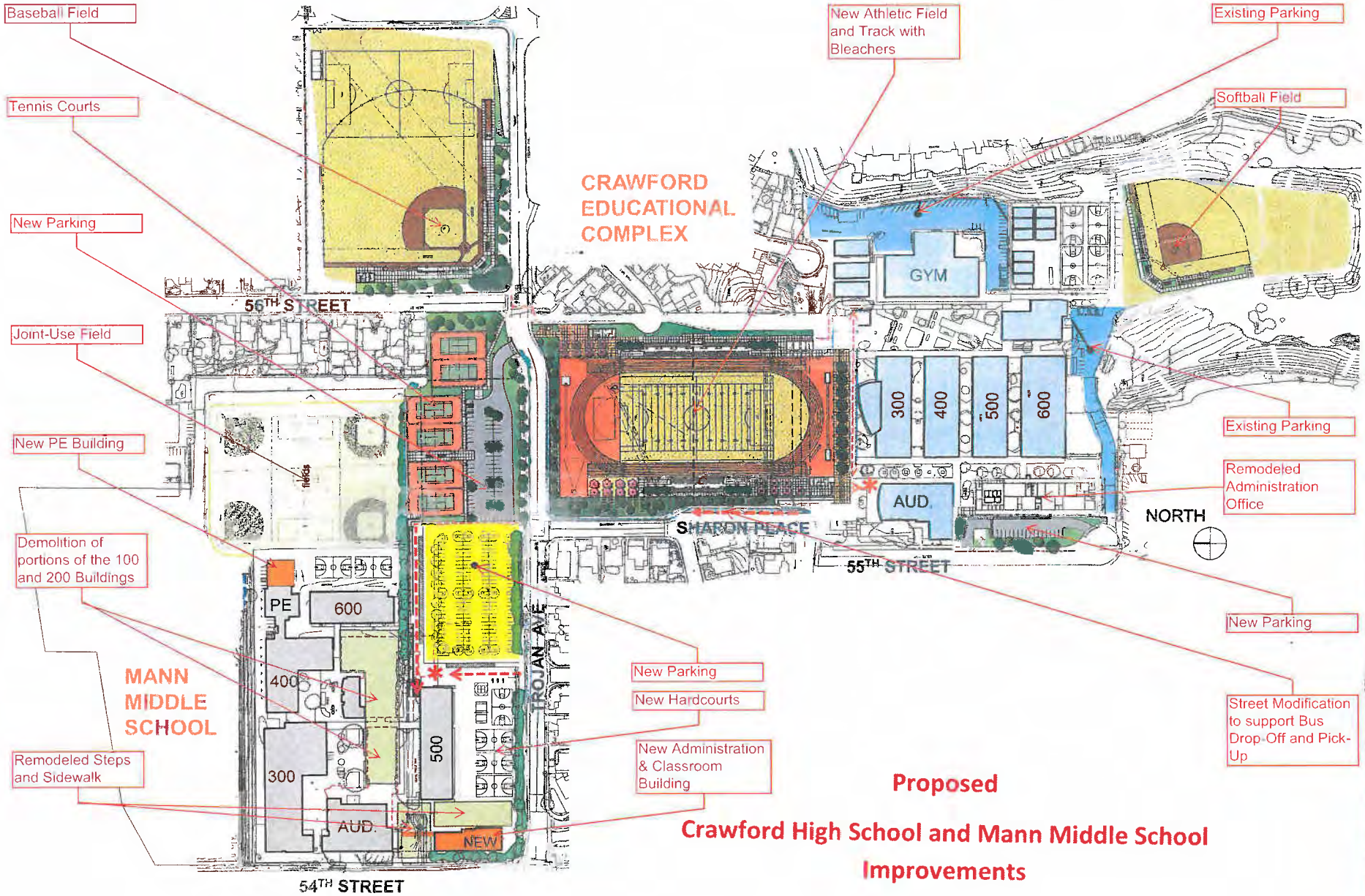
Project Description: The District proposes an upgrade to the school and athletics facilities of Crawford High School and an upgrade to the school facilities of Mann Middle School within the eastern Mid-City community of the City of San Diego.

Whole Site Modernization: Proposition S bond funds would be used for a whole site modernization of both Crawford High School and Mann Middle School. The whole site modernization listed in the bond language placed before voters for both schools would include various renovation or repair to the classrooms, restrooms, communications facilities, heating, air conditioning, food service, security lighting and building interiors. Whole site modernization improvements would also include improvements to the parking and pedestrian circulation. The whole site modernization improvements required as a part of the bond language would be addressed in the Draft EIR.

Athletic Stadium and Facilities Upgrades: The proposed project also includes the following athletic facilities upgrades:

- Replace existing baseball field, six tennis courts, the administration building, building 100, and building 200, and 75 visitor parking spaces with a new athletic stadium;
- Install a new stadium lighting for the football field area;
- Replace football/soccer field and track with a new baseball/softball complex;
- Construct a new press box with an elevator for football field area;
- Construct bleachers at new football, baseball, and softball fields;
- Replace existing track and field with turf and an all-weather track; and
- Provide accessible weight room/fitness space.

Project Location: The proposed project site is located within the Eastern Area Communities Planning Area of the City of San Diego, California on the campuses of Crawford High School and Mann Middle School, located at 4191 Colts Way and 4345 54th Street, San Diego, CA 92115, respectively. The proposed project will occur

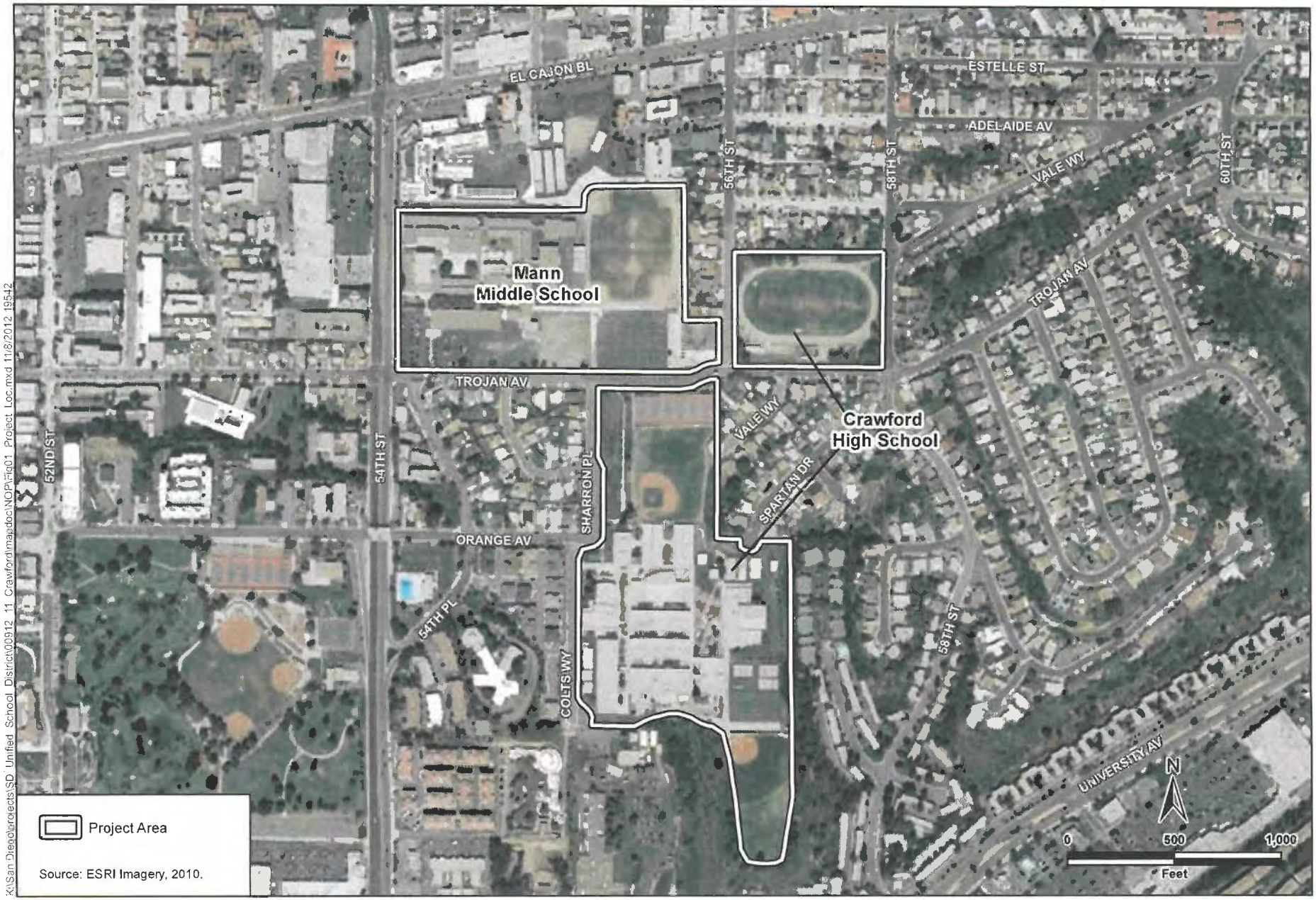


Proposed

Crawford High School and Mann Middle School Improvements

San Diego Unified SCHOOL DISTRICT

LPA



K:\San Diego\projects\SD Unified School District\00912 11 Crawford\mapdoc\NOP\Fig01 Project Loc.mxd 11/8/2012 19:54:2

Figure 1
Project Location Map
Crawford High School & Mann Middle School Modernization Project

Comment Form

San Diego Unified School District
Crawford High School and Mann Middle School
Modernization and Athletic Stadium Project
Environmental Impact Report

PUBLIC SCOPING MEETING
March 4, 2013, 6:00 pm

On the lines provided below, please list the environmental issues or concerns you feel need to be addressed in the Environmental Impact Report (EIR) for the Crawford High School and Mann Middle School Modernization and Athletic Stadium Project. Please be as specific and detailed as possible so that the EIR may address all of your concerns or issues. If necessary, please attach additional pages. Once completed, please submit your written comments to: Jim Harry, ICF International, 9775 Businesspark Ave., Suite 200, San Diego, CA 92131, 858-444-3921, fax: 858-578-0573, email: james.harry@icfi.com. Your comments must be postmarked by **April 1, 2013**. (please print legibly)

MY CONCERNS REVOLVE AROUND LIGHTING, PARKING, NOISE, & TRASH.
I DO NOT WANT THE NEW LIGHTING AS IT WILL INEVITABLY AFFECT THE NIGHT SKY IN RELATION TO THE CLARITY OF THE VIEW I PURCHASED OVER 10 YEARS AGO.
PARKING IS ALREADY A PROBLEM ON MY STREET & CURRENT SCHOOL EVENTS CAUSE ME TO PARK A COUPLE HOUSES DOWN FROM MINE AT TIMES.
I ALREADY DEAL WITH CONSIDERABLE NOISE IN MY HOME W/ DUAL PANED WINDOWS WHEN EVENTS ARE PLAYED AND DON'T WANT THIS TO INCREASE W/THE IMPROVEMENTS. TRASH PICK UP SHOULD BE A PART OF THE PLAN AFTER EVENTS.
FINALLY - WHY ARE YOU BUILDING A 2000 SEAT STADIUM WHEN YOU SAY ONLY 300 HAVE ATTENDED IN THE PAST SO IT SHOULDN'T FURTHER IMPACT PARKING - BUILD A STADIUM FOR 300 & USE THE EXTRA REAL ESTATE FOR PARKING.

Submitted by (please print legibly):

Name: ALAN SMITH	Agency/business/group name (if applicable):
Address: 4355 W. OVERLOOK DR.	Phone number:
City/state/zip: SAN DIEGO, CA 92115	Date: 3/30/13

Comment Form

San Diego Unified School District
Crawford High School and Mann Middle School
Modernization and Athletic Stadium Project
Environmental Impact Report

PUBLIC SCOPING MEETING
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Neighbor hood facts: Our subdevelopment map is 1942. Our House was bought in 1950. Streets N & E are older.

(Down Spartan) 1. H.S. Traffic is fast and hectic 7-7:30 AM. even near to 8, cars hurry down to the back gate.

2. Afternoon's 2:15-2:45 pm. heavy foot traffic up the hill. Very slow + difficult to get down

NOW 3. Trojan Ave to 54th St. also: Busses and full crosswalks: bad time to drive that

4. Fri afternoon and Saturday when field is used by leagues 1 or 2 cars park in front of our house and all along 58th St. So we come home and have only the garage and driveway. (1 in street usual we park

This neighborhood loves the sunset view - how many lower neighbors will lose it with Stadi

THEN IF a new parking lot is set to exit the back gate up Spartan, that will double or triple the TRAFFIC IMPACT ON our hill through our neighborhood on Game Night

* UNLESS a lane on East edge of the Stadium lets traffic go North to Trojan.

Otherwise I don't relish bumper-to-bumper traffic idling slowly up the hill to the stop sign at 10 PM or later. I'm a gardener - in the city there is black smog soot to wash off fruits and vegetables. That would increase significantly with the traffic just describe

P.S- I taught most of 28 years in Walbert Schools and in Los Angeles and San Diego I was on Building Committees that held meetings like last night for Master Plans, but we alwa had clearly-marked Existing Drawings and complete Future drawings!

Submitted by (please print legibly):

Name: Bruce Laurelin	Agency/business/group name (if applicable): Neighbor
Address: 5737 Spartan Drive	Phone number: 619-286-0816
City/state/zip: San Diego (EL Cerritto)	Date: 3-5-2013

I would have spoken all this last night but there seemed two many speakers as it was

"Environmental" issues (examples):

1. Insufficient parking for up to 2500 people at events
2. Traffic increased throughout neighborhood
3. Increased noise with loudspeakers + soundsystems
4. Public urination
5. Litter nuisance
6. Insufficient bathroom facilities
7. Increased crime
8. Loss of neighborhood character

Comment Form

San Diego Unified School District
Crawford High School and Mann Middle School
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I don't think this should Happen. We The People of the Neighborhood Should Decide, if it Happens Not Money. Most People in the Neighborhood Work Hard All their lifes. This is Not Fair for the people if it Happen. The people in Neighborhood Should get paid Money if it Happens. Why can't they go down to Hoover, or Build their own Stadium By their House, or in their Neighborhood.

Submitted by (please print legibly):

Name: Carl San Berg	Agency/business/group name (if applicable):
Address: 5702 - 58th PL	Phone number: 619) 287-5860
City/state/zip: San Diego CA 92115	Date: March 21, 2013

Charlotte Rule
4220 W Overlook Dr.
San Diego, CA 92115

NO! NO! NO!

no new stadium for Football!
no press box or elevator!
NO stadium lighting with my tax money!!!
These are Kids - High school kids - they don't need these things.

I'm 95 years old. I came to San Diego in 1920. I lived at 4330 Central ave. I went to Central - Wilson + Hoover high.

The kids today do not enjoy the freedom - We did when I was growing up.

Let kid be kids - and spend all that money on education - books, buildings and teachers.

They have a swimming pool. beaches, parks. The football stadium we have is good enough for kids. Charlotte H Rule

"Environmental" issues (examples):

1. Insufficient parking for up to 2500 people at events
2. Traffic increased throughout neighborhood
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Comment Form

San Diego Unified School District
Crawford High School and Mann Middle School
Modernization and Athletic Stadium Project
Environmental Impact Report

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1) INADEQUATE PARKING IN THE RESEDENTIAL NEIGHBORHOODS

2) LOSS OF A NEIGHBORHOOD! THIS SHOULD NOT TURN INTO AN AREA TO HOUSE PUBLIC EVENTS

3) LITTER

4) INCREASED TRAFFIC & POTENTIAL FOR MORE ACCIDENTS

5) INCREASED NOISE IN A RESEDENTIAL NEIGHBORHOOD

Submitted by (please print legibly):

Name: CHRISTINA CONAWAY	Agency/business/group name (if applicable): N/A
Address: 5834 ADELAIDE AVE	Phone number: 619-795.0107
City/state/zip: SAN DIEGO, CA 92115	Date: 25MAR2013

Comment Form

San Diego Unified School District
Crawford High School and Mann Middle Sch
Modernization and Athletic Stadium Projec
Environmental Impact Report

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light pollution
noise - amplified & otherwise
on street parking in neighborhoods
trespass & vandalism on residential pr rty
traffic congestion.
trash in residential neighborhoods

Submitted by (please print legibly):

Name: Craig Clifford	Agency/business/group name (licable):	
Address: 4208 58th ST.	Phone number: 619 889-98	
City/state/zip: San Diego, CA 92115	Date: 3/10/13	

Comment Form

San Diego Unified School District
Crawford High School and Mann Middle School
Modernization and Athletic Stadium Project
Environmental Impact Report

PUBLIC SCOPING MEETING
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light pollution
noise - amplified & otherwise
on street parking in neighborhoods
Trespass & vandalism on residential property
traffic congestion
trash in residential neighborhoods

Submitted by (please print legibly):

Name: Craig Clifford	Agency/business/group name (if applicable):
Address: 4208 58th St.	Phone number: 619 889-9867
City/state/zip: San Diego, CA 92115	Date: 3/10/13

Comment Form

San Diego Unified School District
Crawford High School and Mann Middle School
Modernization and Athletic Stadium Project
Environmental Impact Report

PUBLIC SCOPING MEETING
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I've seen an outstanding video online about the fabulous small high school model working so well at Crawford. How perfect it was for the melting pot neighborhood of City Heights. Then at the Neighborhood Meeting in the paper it says the school is going back to the Big H.S. model; (big school.. with Football lighted field etc. Why? There is so much more research supporting small schools for the radically different world we live in now, when maturity at 16 is not at all the same as in the 60's (the old model). The High School District would have an experimental school in which to improve all the other schools. Not a same old nostalgia high school system only.

Another thing - IF Night-Lighting of Football Fields is always unwanted by Neighbors; there must be a company producing glare-reducing screen, or back boards or umbrella to reduce the light-pollution.

Submitted by (please print legibly):

Name: Johanna Laurelin	Agency/business/group name (if applicable):
Address: 5737 Sporran Dr.	Phone number: 286-0816
City/state/zip: San Diego, CA 92115	Date: 3-28-2013

STATE OF CALIFORNIA Arnold Schwarzenegger, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
ds_nahc@pacbell.net
www.nahc.ca.gov
(916) 657-5390 - Fax

March 11, 2013

Mr. Jim Harry, Project Planner
San Diego Unified School District
9775 Businesspark Avenue, Suite 200
San Diego, CA 92131

RE: SCH# 2013031019 CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) – "**Crawford High School and Mann Middle School Modernization and Athletic Stadium Project);**;" located in the City of San Diego; San Diego County, California

Dear Mr. Harry:

The Native American Heritage Commission (NAHC) has reviewed the CEQA Notice regarding the above referenced project. In the 1985 Appellate Court decision (170 Cal App 3rd 604), the court held that the NAHC has jurisdiction and special expertise, as a state agency, over affected Native American resources impacted by proposed projects, including archaeological places of religious significance to Native Americans, and to Native American burial sites.

The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resources, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA guidelines 15064(b)). To adequately comply with this provision and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

- ✓ Contact the appropriate Information Center for a record search to determine:
  - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources, which we know that it has.
  - The NAHC recommends that known cultural resources recorded on or adjacent to the APE be listed in the draft Environmental Impact Report.
- ✓ If an additional archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey. We suggest that this be coordinated with the NAHC, if possible.
  - The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure pursuant to California Government Code Section 6254.10.
- ✓ Contact has been made to the the Native American Heritage Commission for:
  - A Sacred Lands File Check, and cultural resources have been identified to your agency.
  - A list of appropriate Native American Contacts for consultation concerning the project site has been provided and is attached to this letter.
  - Lack of surface evidence of archeological resources does not preclude their subsurface existence once ground-breaking activity begins. If that occurs, the NAHC suggests that inadvertent discoveries be coordinated with the NAHC;

Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA)

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
ds_nahc@pacbell.net
www.nahc.ca.gov
(916) 657-5390 - Fax

§15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.

- Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
- Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,

Dave Singleton
Program Analyst
(916) 653-6251

CC: State Clearinghouse

Attachment: Native American Contacts list

Native American Contacts
San Diego County
March 11, 2013

Barona Group of the Capitan Grande
Clifford LaChappa, Chairperson
1095 Barona Road Diegueno
Lakeside , CA 92040
sue@barona-nsn.gov
(619) 443-6612
619-443-0681

Sycuan Band of the Kumeyaay Nation
Daniel Tucker, Chairperson
5459 Sycuan Road Diegueno/Kumeyaay
El Cajon , CA 92019
ssilva@sycuan-nsn.gov
619 445-2613
619 445-1927 Fax

La Posta Band of Mission Indians
Gwendolyn Parada, Chairperson
PO Box 1120 Diegueno/Kumeyaay
Boulevard , CA 91905
gparada@lapostacasino.
(619) 478-2113
619-478-2125

Viejas Band of Kumeyaay Indians
Anthony R. Pico, Chairperson
PO Box 908 Diegueno/Kumeyaay
Alpine , CA 91903
jrothauff@viejas-nsn.gov
(619) 445-3810
(619) 445-5337 Fax

Manzanita Band of Kumeyaay Nation
Leroy J. Elliott, Chairperson
PO Box 1302 Diegueno/Kumeyaay
Boulevard , CA 91905
ljbirdsinger@aol.com
(619) 766-4930
(619) 766-4957 Fax

Kumeyaay Cultural Historic Committee
Ron Christman
56 Viejas Grade Road Diegueno/Kumeyaay
Alpine , CA 92001
(619) 445-0385

San Pasqual Band of Mission Indians
Allen E. Lawson, Chairperson
PO Box 365 Diegueno
Valley Center, CA 92082
allenl@sanpasqualband.com
(760) 749-3200
(760) 749-3876 Fax

Campo Band of Mission Indians
Ralph Goff, Chairperson
36190 Church Road, Suite 1 Diegueno/Kumeyaay
Campo , CA 91906
chairgoff@aol.com
(619) 478-9046
(619) 478-5818 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2013031019; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the Crawford High School and Mann Middle School Modernization and Athletic Stadium Project; located in Sna Deigo County

Native American Contacts
San Diego County
March 11, 2013

Jamul Indian Village
Raymond Hunter, Chairperson
P.O. Box 612 Diegueno/Kumeyaay
Jamul , CA 91935
jamulrez@sctdv.net
(619) 669-4785
(619) 669-48178 - Fax

Kumeyaay Cultural Repatriation Committee
Steve Banegas, Spokesperson
1095 Barona Road Diegueno/Kumeyaay
Lakeside , CA 92040
sbenegas50@gmail.com
(619) 742-5587
(619) 443-0681 FAX

Mesa Grande Band of Mission Indians
Mark Romero, Chairperson
P.O Box 270 Diegueno
Santa Ysabel, CA 92070
mesagrandeband@msn.com
(760) 782-3818
(760) 782-9092 Fax

Ewiiaapaayp Tribal Office
Will Micklin, Executive Director
4054 Willows Road Diegueno/Kumeyaay
Alpine , CA 91901
wmicklin@leaningrock.net
(619) 445-6315 - voice
(619) 445-9126 - fax

Kwaaymii Laguna Band of Mission Indians
Carmen Lucas
P.O. Box 775 Diegueno -
Pine Valley , CA 91962
(619) 709-4207

Ipay Nation of Santa Ysabel
Clint Linton, Director of Cultural Resources
P.O. Box 507 Diegueno/Kumeyaay
Santa Ysabel, CA 92070
cjlinton73@aol.com
(760) 803-5694
cjlinton73@aol.com

Inaja Band of Mission Indians
Rebecca Osuna, Chairman
2005 S. Escondido Blvd. Diegueno
Escondido , CA 92025
(760) 737-7628
(760) 747-8568 Fax

Inter-Tribal Cultural Resource Protection Council
Frank Brown, Coordinator
240 Brown Road Diegueno/Kumeyaay
Alpine , CA 91901
frankbrown6928@gmail.com
(619) 884-6437

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Native American Contacts
San Diego County
March 11, 2013

Kumeyaay Cultural Repatriation Committee
Bernice Paipa, Vice Spokesperson
1095 Barona Road Diegueno/Kumeyaay
Lakeside , CA 92040
(619) 478-2113
(KCRC is a Coalituon of 12
Kumeyaay Governments)
bp@lapostatribe.com

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2013031019; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the Crawford High School and Mann Middle School Modernization and Athletic Stadium Project; located in Sna Deigo County

April 21, 2013

James Harry
Senior Project Manager
ICF International
9775 Businesspark Avenue, Suite 200
San Diego, CA 92131
james.harry@icfi.com

Re: Scope and Content of the Environmental Impact Report (EIR)
For Crawford High School and Mann Middle School
Modernization and Athletic Stadium Project

Mr. James Harry,

We are requesting that the above referenced project's Environmental Impact Report address the following concerns:

Lights:

- The height of the light poles will block views, including elevated sunset views. It was discussed at the EIR Scoping meeting that either 4 poles or 6 poles would be used to light the field. Both field lighting pole applications need to be analyzed and the effects of each weighed against each other and published in the EIR. Effects of the additional lighting needs to be analyzed near and far.
- Glare of lighting on homes near and far. With field lighting (even Musco brand field lighting) installed this close to a residential neighborhood, it may not be possible to reduce the lighting impact to a less than significant level on residential homes.
- Light poles with banks of lights a-top will change the character of the community.
- Change of field use from current daytime use to proposed night use.
- Removable lights should be looked at as an option rather than permanent lights.
- The EIR has to be specific in the conditions in which the lights will be illuminated, e.g., school night events, night practices, hosted events, and basically any condition in which the lights will be illuminated.

Parking:

- The use of on street parking for events at these fields is unacceptable. With a larger stadium being built with a capacity far exceeding what is currently in place, the district needs to accommodate the parking of spectators within its own property

which is one parking space per every 3 attendees. Diverting cars into a residential neighborhood increases potential pedestrian v. vehicle accidents as well as congest neighboring streets. Additionally the parking study needs to include existing parking conditions on all residential streets that surround the school at the time of a typical Friday night event – 6:00 pm to 10:00 pm.

- The parking study needs to be completed with car numbers associated with a sold out event. The actual number of what constitutes a sold out event needs to be disclosed and included in the parking study. Obviously, not all attendees or field use participants will be occupying a seat. It has already been put on record that some school board members want to maximize the use of the fields for day and night use so a sold out event needs to be your study case, not a 1/3 capacity event. The study should not be based on past attendance numbers. It should be based on the intended outcome which is a sold out stadium event.
- A parking study needs to be conducted to show where the onsite parking is located. It was mentioned at the EIR Scoping meeting that the parking would be scattered throughout the campus. That would mean an event attendee would have to hunt for parking throughout the campus rather than be directed to a specific lot. This excess driving has an environmental and safety impact. Additionally a patron will take the easier route and choose on-street parking rather than hunt for off street campus parking.

Traffic:

- Traffic studies need to include 'all' residential streets surrounding the school, not just the main streets that feed the area. All streets need to be listed by name in the EIR.
- Existing and proposed school safety plans need to be analyzed to ensure they sufficiently address the safety of all patrons (pedestrians and drivers) and residents that will be affected with this increased traffic. Taking the school's word that existing safety procedures will be used is not sufficient and are unacceptable. It has been shown that the school site safety plans at district schools have been and continue to be noncompliant in many areas.
- The traffic study needs to be completed with the traffic impact of a sold out event. Since not all attendees will be sitting in a seat at a field event, the actual number of what constitutes a sold out event needs to be disclosed and included in the parking study. It has already been stated on record by several of the SDUSD Board members that the district wants to maximize the use of the fields (day and night) so a sold out event should be your study case. The study should not be based on past attendance numbers since one of the main reasons the district is installing new fields and larger stadiums is to increase attendance. Additionally, maximizing the use of the field means more uses of the field for school and non-school related events. The EIR needs to divulge the district's intention of using the field for non-school related events or functions. In fact the EIR needs to clearly state that the district is building a venue, not just a new field and stadium w/lights for school only events. The EIR should state what has already been stated by SDUSD Board members that the district plans to maximize the field use. If the district has no intentions of renting the field out to other outside venues, sports clubs, etc. then the EIR needs to be very specific and include verbiage in the EIR clarifying that fact. The EIR also needs to include the maximum number of events, day and night that the school will host at the field so the impact on the residential community can be accurately analyzed.
- Staging of school buses before, during, and after a game need to be addressed. The school can not use residential streets to park team buses while at the same time, blocking one lane of traffic. This continues to be an issue at Hoover High night events even when it was brought to the school's attention.

Noise:

- Since one of the reasons the school district is installing new fields and stadiums are to increase attendance and use of SDUSD High School fields, noise studies need to be based on the number of patrons of a sold out field event. Additionally, the sound of a school band with drums needs to be included in the study as well. The study can not end at the boundary of the football stadium. It needs to extend into the surrounding areas. Sound reflection off of buildings and canyons also need to be included.
- At the planned location of the new football field adjacent to the residential community, the only mitigation measure possible to reduce noise to a less than significant number would be to install a dome over the field which would be cost prohibitive.
- A multi-channel PA system needs to be installed and included in the Mitigation Monitoring and Reporting Program (MMRP). The MMRP needs to state how the PA system will be used with limitations/restrictions on how loud the PA system can be set. Additionally, restrictions need to be included in the MMRP of what can not be stated over the PA system. Example of this would be to restrict play action announcing such as what you hear on broadcast radio/television. Amplified music would be another restriction.

Crime:

- With the introduction of night use under lights, the stage has been set for increased crime under the cover of darkness in the surrounding neighborhood.
- Security needs to be addressed on and off the school property. The school is responsible for the safety of every hosted event, on and off the field, and needs to have existing procedures in place to ensure the safe execution of day and night events. An excerpt from the school site safety plan needs to be included in the EIR addressing this issue.
- After-event trash pick-up is another concern since the school is not currently engaged in community clean-up of trash discarded by field event patrons.

We await the EIR findings pertaining to the items reviewed above.

Respectfully,

Rafael & Judy Fernandez

Rafael & Judy Fernandez
5143 Bixel Dr.
San Diego, CA 92115

Comment Form

San Diego Unified School District
Crawford High School and Mann Middle School
Modernization and Athletic Stadium Project
Environmental Impact Report

PUBLIC SCOPING MEETING
March 4, 2013, 6:00 pm

On the lines provided below, please list the environmental issues or concerns you feel need to be addressed in the Environmental Impact Report (EIR) for the Crawford High School and Mann Middle School Modernization and Athletic Stadium Project. Please be as specific and detailed as possible so that the EIR may address all of your concerns or issues. If necessary, please attach additional pages. Once completed, please submit your written comments to: Jim Harry, ICF International, 9775 Businesspark Ave., Suite 200, San Diego, CA 92131, 858-444-3921, fax: 858-578-0573, email: james.harry@icfi.com. Your comments must be postmarked by **April 1, 2013**. (please print legibly)

MY COMMENTS
ARE
ATTACHED TO
THIS
FORM

Submitted by (please print legibly):

Name: ROBERT E. DRAKE	Agency/business/group name (if applicable): —
Address: 4328 WEST OVERLOOK DRIVE	Phone number: (619) 501-5173
City/state/zip: SAN DIEGO CA 92115-6115	Date: 26 MARCH, 2013

Robert E. Drake
4328 West Overlook Drive
San Diego, California 92115-6115

March 26, 2013

Jim Harry
ICF International
9775 Businesspark Avenue, Suite 200
San Diego, California 92131

Attachment to the Comment Form
Comments Subsequent to the Public Scoping Meeting
For an EIR for the Crawford/Mann Athletic Facilities Project, March 4, 2013

Dear Mr. Harry:

Below are environmental issues raised by the proposed Crawford/Mann athletic facilities improvement project.

As a benchmark please note that the terrain of the surrounding neighborhood is cause for many concerns. Both the eastern and northern residential neighborhoods bordering the school are significantly higher in elevation than the site of the current athletic facilities. This difference in elevation between the campus and the surrounding homes should be considered in the design of any improvements.

Google Earth shows the current site of the Crawford tennis courts and the proposed location of a new track and field with lighting to be at 188 meters above sea level and my house on West Overlook Drive to be at 142 meters above sea level. That translates into a difference of almost 80 feet and there are many homes below me to the west and between my house and the schools. There also are homes on the northern side that are higher in elevation.

1. Lighting.

At 80 feet above the proposed new football field light posts with high intensity lights would be shining into my windows. There are nights now when it is difficult to be out side in my own yard from the glare of lights in Colina del Sol Park, more than half a mile to the west.

One resident in the house employs a telescope on a regular basis to observe the night sky. I am sure that there never has been nor ever will be any coordination between the occurrences of celestial phenomena and nighttime football games.

More light would at times prevent him from making his observations

I also am under the impression that outdoor lighting in San Diego County is under some sort of obligation to remain at a low aggregate level that does not interfere with the observatory on Palomar Mountain. Is that true?

2. Noise

There is daytime noise from Crawford High School that I can hear any and almost every day. Any nighttime activities, especially involving larger crowds, would extend that at an expanded decibel level into a time of the day when many here wish to rest and spend a peaceful evening at home.

My neighbors and I can often hear noise at night from outdoor concerts at SDSU and from The Last Call bar on El Cajon Boulevard, both good distances from our homes. This is a phenomenon that is in part due to the canyons and mesas that are part of the neighborhood. While that is often tolerable, bringing large sporting and other events in closer proximity to our homes would make our home lives more disrupted.

3.Traffic and Garbage

If you increase the seating capacity and the number of parking spaces for the athletic fields, you will increase the traffic (and also the noise) and the garbage that often litters the streets around the school. Rocket science isn't necessary to arrive at that conclusion. At present there is a lot of noise (heavy bass, revving of engines, loud music etc.) and vehicular activity during games. The streets and ice plants, around the school, following games, are more often than not littered with broken beer bottles, used disposable diapers, plastic cups, used condoms, convenience-store junk food bags and wrappers, human feces, chicken bones and an assortment of fast food packaging debris. I don't see any improvement in this situation by increasing the crowd and vehicular capacity at the school.

4. History

Several original homeowners in the neighborhood have told me that when the schools were built that there was controversy surrounding the location of the fields. Octogenarians, they don't recall many details but this does raise the question of why the fields are located where they are at present. It certainly would be convenient to have the football field in the location that you are proposing but *why is it* currently to the north across Trojan Avenue and a block east? Have there been in the past similar concerns of the neighborhood that we as current neighbors are raising now?

In closing I will say that the majority of residents do not oppose improving the physical plant of the school or the athletic facilities. That is certainly a necessity. What we are concerned about is the type the large-scale expansion that you are proposing: a scheme that appears disruptive and insensitive to the neighborhood, which is already under stress from noise, drugs, traffic and crime.

Thank you for your consideration and I remain,

Respectfully yours,

Robert E. Drake

Comment Form

San Diego Unified School District
Crawford High School and Mann Middle School
Modernization and Athletic Stadium Project
Environmental Impact Report

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PLEASE SEE ATTACHED COPY OF MY LETTER TO YOU OF 3-26-2013. I MISTAKENLY IDENTIFIED THE LIGHT WHICH ARE VISIBLE FROM MY HOME. THEY ARE IN CITY HEIGHT COMUNITY PARK REC. CTR. AND NOT IN COLINA DEL SOL PARK. THEY ARE APPROXIMATELY TWO AND A HALF MILES TO THE WEST AND BLINDING MY VISION AT NIGHT WHEN THEY ARE LIT."

Submitted by (please print legibly):

Name: ROBERT E. DRAKE	Agency/business/group name (if applicable): —
Address: 4328 WEST OVERLOOK DRIVE	Phone number: (619) 929-6128
City/state/zip: SAN DIEGO CA 92115-6115	Date: 21 APRIL 2013

Robert E. Drake
4328 West Overlook Drive
San Diego, California 92115-6115

COPY

March 26, 2013

Jim Harry
ICF International
9775 Businesspark Avenue, Suite 200
San Diego, California 92131

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* SHOULD READ IN CITY HEIGHTS REC. CTR., MORE THAN A MILE TO THE WEST.

One resident in the house employs a telescope on a regular basis to observe the night sky. I am sure that there never has been nor ever will be any coordination between the occurrences of celestial phenomena and nighttime football games. More light would at times prevent him from making his observations

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Thank you for your consideration and I remain,

Respectfully yours,

Robert E. Drake

March 4th, 2013

James Harry
Senior Project Manager
ICF International
9775 Businesspark Avenue, Suite 200
San Diego, CA 92131
james.harry@icfi.com

Re: Submitted comment at the Scoping meeting for the Environmental Impact Report (EIR) For Crawford High School and Mann Middle School Modernization and Athletic Stadium Project

In the meeting notice sent out to the surrounding El Cerrito community on March 1st, the district makes reference to the projects that are listed being included in the bond language placed before the voters. That being said a person needs to reflect back on a proposition passed in the year 2000. That was Prop 39, which reduced the current 2/3 majority to pass a school bond down to a 55% majority. Prop 39 also required that any new school bond measure had to provide a detailed project list that would show the voters what the money would be spent on so they could make an informed decision at the ballot box. Prop 39 also required the establishment of an Independent Citizens Oversight Committee (ICOC). Now let's discuss Prop S. It established an ICOC and included the required project lists that bond money was to be spent on but the district didn't spend the money just on the listed projects. It used some clever language and catch all phrases in the bond language that the district claims as full disclosure. A good example of this is one of the projects for Crawford under the heading *"Projects to Improve School Accessibility, Code Compliance Upgrades"*. Every one of the projects listed under this heading in the bond measure is linked to ADA and Code Compliance. This is the section which includes all verbiage dealing with upgrading the Athletic Facilities, but once again, this is for ADA and Code Compliance. This happened to be a standard entry on most of the High Schools. The district is leveraging the ADA and Code Compliance upgrades to the football stadium, to install permanent stadium lighting at many of the 8 high schools that didn't currently have them. Stadium lighting is not required for a stadium to be ADA compliant. Additionally, the cost for the implementation of field lights is not an incidental cost. At Hoover High School alone the costs associated with field lighting was in upwards of $800,000 and does not include the increased cost of paying off the bond which will probably quadruple that number. So you would think that such an expensive project being implemented at 8 high schools would be called out on the project list for each of these schools. But no such luck. In fact, there is only a single mention of field lighting in the whole 97 page Prop S bond measure and it is on page 96. But even that one mention of field lighting is prefaced with the following: Each project listed is assumed to include its share of costs of the election and bond issuance and other construction related costs such as construction management, architectural, engineering, inspection and other planning costs, legal, accounting and similar fees, independent annual financial and performance audits, a

customary construction contingency, **and other costs incidental to and necessary for completion of the listed projects.** But once again as I discussed earlier, the only listed projects that were anywhere close to Athletic Facility Upgrades were ADA and Code Compliance related. Now let's also look at another project that was on the project list for most schools – air conditioning for the classrooms. Being on the project list you would think that project would have been implemented first. You would be wrong. My 5th grader who attends one of the year round elementary schools is still sweltering in close to 100 degree temperatures on hot days.

One other issue to mention is that the district improperly exempted themselves by using California Government Code Section 53094. This law does allow the school district to exempt classroom facilities but it does not allow them to exempt everything. The law is very specific about that. The following is an excerpt of the law:

> *The governing board of the school district may NOT take this action when the proposed use of the property by the school district is for nonclassroom facilities, including, but not limited to, warehouses, administrative buildings, and automotive storage and repair buildings.*

Questioning the wisdom of the district this action was brought to the San Diego City Attorney's attention. They analyzed the action by the district but not surprising, their conclusion was the following:

> *Whether the listed Projects fall within the education facilities category in California Government Code section 53094 cannot be determined based on the information provided. Such a determination would be based on the proposed used of the Projects. The District is not exempt from CEQA, however, the District may determine that specific projects are exempt from CEQA. Finally, a vote to exempt itself from the City's local zoning ordinances includes the coastal height limit.*

On closing I would ask that the district be honest with the citizens that will be affected by the projects that will inevitably move forward and include provisions to limit the use of the field to non-school related activities. Additionally I request that you increase the commenting period of the Draft EIR until after hearing the results of the Appeal between Taxpayers for Accountable School Bond Spending (TFASBS) versus the San Diego Unified School District which took place on Feb 13th. It would be shameful to waste additional taxpayer money if TFASBS wins their Appeal and the district would have to find another source of funds to build their field of dreams.

Ron Anderson, President
Taxpayers for Accountable School Bond Spending
http://www.tfasbs.org

March 17, 2013

James Harry
Senior Project Manager
ICF International
9775 Businesspark Avenue, Suite 200
San Diego, CA 92131
james.harry@icfi.com

Re: Scope and Content of the Environmental Impact Report (EIR)
For Crawford High School and Mann Middle School
Modernization and Athletic Stadium Project

Mr. James Harry,

The following is input that should be addressed in the subject Environmental Impact Report:

Lights:

- The height of the light poles will block views, including elevated sunset views. It was discussed at the EIR Scoping meeting that either 4 poles or 6 poles would be used to light the field. Both field lighting pole applications need to be analyzed and the effects of each weighed against each other and published in the EIR. Effects of the additional lighting needs to be analyzed near and far.
- Glare of lighting on homes near and far. With field lighting (even Musco brand field lighting) installed this close to a residential neighborhood, it may not be possible to reduce the lighting impact to a less than significant level on residential homes.
- Light poles with banks of lights a-top will change the character of the community.
- Change of field use from current daytime use to proposed night use.
- Removable lights should be looked at as an option rather than permanent lights.
- The EIR has to be specific in the conditions in which the lights will be illuminated, e.g., school night events, night practices, hosted events, and basically any condition in which the lights will be illuminated.

Parking:

- It was presented at the March 4th EIR Scoping meeting that there would be a net increase of 20 parking spaces after the projects were completed and that street parking would be utilized for field events. This is totally unacceptable!! With a larger stadium being built with a capacity far exceeding what is currently in place, the district needs to accommodate the parking of spectators within its own property which is one parking space per every 3 attendees. Additionally the parking study needs to include existing parking conditions on all residential streets that surround the school at the time of a typical Friday night event – 6:00 pm to 10:00 pm.

- The parking study needs to be completed with car numbers associated with a sold out event. The actual number of what constitutes a sold out event needs to be disclosed and included in the parking study. Obviously, not all attendees or field use participants will be occupying a seat. It has already been put on record that some school board members want to maximize the use of the fields for day and night use so a sold out event needs to be your study case, not a 1/3 capacity event. The study should not be based on past attendance numbers. It should be based on the intended outcome which is a sold out stadium event.
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- Security needs to be addressed on and off the school property. The school is responsible for the safety of every hosted event, on and off the field, and needs to have existing procedures in place to ensure the safe execution of day and night events. An excerpt from the school site safety plan needs to be included in the EIR addressing this issue.
- After-event trash pick-up is another concern since the school is not currently engaged in community clean-up of trash discarded by field event patrons.

We look forward to all items included in this letter to be addressed in the EIR.

Respectfully,

Ronald and Dawn Anderson
4583 Highland Ave
San Diego, CA 92115

3/29/13

James Harry
Senior project Manager
ICF International
977 Businesspark Avenue Suite 200
San Diego CA 92131

Dear Mr. Harry

I would like to object to the plan for building lighting structures for the Crawford High School Athletic Field.

The environmental impact report clearly indicates that lighting would cause undue glare and stress on homes surrounding the field.

Parking near the site is obviously not sufficient for many vehicles. Home owners use the street for their cars and other vehicles.

The traffic congestion would impact the entire entire area negatively. Noise late at night, movement of cars and people would disrupt the rest and peace of mind of the neighborhood.

Common sense indicates that this is not the appropriate use of school funds for these three older schools, Crawford, Hover and Point Loma.

Sincerely

Sally Wilson

Sally Wilson
Homeowner

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

Notice of Preparation

March 6, 2013

To: Reviewing Agencies

Re: Crawford High School and Mann Middle School Modernization and Athletic Stadium Project
SCH# 2013031019

Attached for your review and comment is the Notice of Preparation (NOP) for the Crawford High School and Mann Middle School Modernization and Athletic Stadium Project draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Jim Harry
San Diego Unified School District
9775 Businesspark Avenue Ste 200
San Diego, CA 92131

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH#	**2013031019**
Project Title	Crawford High School and Mann Middle School Modernization and Athletic Stadium Project
Lead Agency	San Diego Unified School District

Type	**NOP** Notice of Preparation
Description	The District proposes an upgrade to the school and athletics facilities of Crawford High School and an upgrade to the school facilities of Mann Middle School within the Eastern Community of the City of San Diego.

Lead Agency Contact

Name	Jim Harry		
Agency	San Diego Unified School District		
Phone	619 218 5867	*Fax*	
email			
Address	9775 Businesspark Avenue Ste 200		
City	San Diego	*State* CA	*Zip* 92131

Project Location

County	San Diego			
City	San Diego			
Region				
Cross Streets	4191 Colts Way, San Diego, CA 92115			
Lat / Long				
Parcel No.				
Township		*Range*	*Section*	*Base*

Proximity to:

Highways
Airports
Railways
Waterways
Schools
Land Use

Project Issues

Reviewing Agencies	Resources Agency; Department of Conservation; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Wildlife, Region 5; Native American Heritage Commission; California Highway Patrol; Caltrans, District 11; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 9

Date Received	03/06/2013	*Start of Review*	03/06/2013	*End of Review*	04/04/2013

Print Form

Appendix C

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH 2013031019

Project Title: Crawford High School and Mann Middle School Modernization and Athletic Stadium Project

Lead Agency: San Diego Unified School District — Contact Person: Jim Harry
Mailing Address: 9775 Businesspark Avenue Ste 200 — Phone: 619-218-5867
City: San Diego — Zip: 92131 — County: San Diego

Project Location: County: San Diego — City/Nearest Community: San Diego
Cross Streets: 4191 Colts Way, San Diego, CA 92115 — Zip Code: 92115
Longitude/Latitude (degrees, minutes and seconds): ____° ____′ ____″ N / ____° ____′ ____″ W Total Acres: ____
Assessor's Parcel No.: ____ Section: ____ Twp.: ____ Range: ____ Base: ____
Within 2 Miles: State Hwy #: ____ Waterways: ____
Airports: ____ Railways: ____ Schools: ____

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Document Type:

CEQA:
- [x] NOP
- [ ] Early Cons
- [ ] Neg Dec
- [ ] Mit Neg Dec
- [ ] Draft EIR
- [ ] Supplement/Subsequent EIR (Prior SCH No.) ____
- Other: ____

NEPA:
- [ ] NOI
- [ ] EA
- [ ] Draft EIS
- [ ] FONSI

Other:
- [ ] Joint Document
- [ ] Final Document
- [ ] Other: ____

Local Action Type:

- [ ] General Plan Update
- [ ] General Plan Amendment
- [ ] General Plan Element
- [ ] Community Plan
- [ ] Specific Plan
- [ ] Master Plan
- [ ] Planned Unit Development
- [ ] Site Plan
- [ ] Rezone
- [ ] Prezone
- [ ] Use Permit
- [ ] Land Division (Subdivision, etc.)
- [ ] Annexation
- [ ] Redevelopment
- [ ] Coastal Permit
- [x] Other: School Improve

Development Type:

- [ ] Residential: Units ____ Acres ____
- [ ] Office: Sq.ft. ____ Acres ____ Employees ____
- [ ] Commercial: Sq.ft. ____ Acres ____ Employees ____
- [ ] Industrial: Sq.ft. ____ Acres ____ Employees ____
- [x] Educational: Improvements to existing School
- [ ] Recreational: ____
- [ ] Water Facilities: Type ____ MGD ____
- [ ] Transportation: Type ____
- [ ] Mining: Mineral ____
- [ ] Power: Type ____ MW ____
- [ ] Waste Treatment: Type ____ MGD ____
- [ ] Hazardous Waste: Type ____
- [ ] Other: ____

Project Issues Discussed in Document:

- [ ] Aesthetic/Visual
- [ ] Agricultural Land
- [ ] Air Quality
- [ ] Archeological/Historical
- [ ] Biological Resources
- [ ] Coastal Zone
- [ ] Drainage/Absorption
- [ ] Economic/Jobs
- [ ] Fiscal
- [ ] Flood Plain/Flooding
- [ ] Forest Land/Fire Hazard
- [ ] Geologic/Seismic
- [ ] Minerals
- [ ] Noise
- [ ] Population/Housing Balance
- [ ] Public Services/Facilities
- [ ] Recreation/Parks
- [ ] Schools/Universities
- [ ] Septic Systems
- [ ] Sewer Capacity
- [ ] Soil Erosion/Compaction/Grading
- [ ] Solid Waste
- [ ] Toxic/Hazardous
- [ ] Traffic/Circulation
- [ ] Vegetation
- [ ] Water Quality
- [ ] Water Supply/Groundwater
- [ ] Wetland/Riparian
- [ ] Growth Inducement
- [ ] Land Use
- [ ] Cumulative Effects
- [ ] Other: ____

Present Land Use/Zoning/General Plan Designation:

Project Description: *(please use a separate page if necessary)*
See attached NOP

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

_____ Air Resources Board
_____ Boating & Waterways, Department of
_____ California Emergency Management Agency
_____ California Highway Patrol
_____ Caltrans District # _____
_____ Caltrans Division of Aeronautics
_____ Caltrans Planning
_____ Central Valley Flood Protection Board
_____ Coachella Valley Mtns. Conservancy
_____ Coastal Commission
_____ Colorado River Board
_____ Conservation, Department of
_____ Corrections, Department of
_____ Delta Protection Commission
_____ Education, Department of
_____ Energy Commission
_____ Fish & Game Region # _____
_____ Food & Agriculture, Department of
_____ Forestry and Fire Protection, Department of
_____ General Services, Department of
_____ Health Services, Department of
_____ Housing & Community Development
_____ Native American Heritage Commission

_____ Office of Historic Preservation
_____ Office of Public School Construction
_____ Parks & Recreation, Department of
_____ Pesticide Regulation, Department of
_____ Public Utilities Commission
_____ Regional WQCB # _____
_____ Resources Agency
_____ Resources Recycling and Recovery, Department of
_____ S.F. Bay Conservation & Development Comm.
_____ San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
_____ San Joaquin River Conservancy
_____ Santa Monica Mtns. Conservancy
_____ State Lands Commission
_____ SWRCB: Clean Water Grants
_____ SWRCB: Water Quality
_____ SWRCB: Water Rights
_____ Tahoe Regional Planning Agency
_____ Toxic Substances Control, Department of
_____ Water Resources, Department of

_____ Other: _____
_____ Other: _____

Local Public Review Period (to be filled in by lead agency)

Starting Date _____ Ending Date _____

Lead Agency (Complete if applicable):

Consulting Firm: _____
Address: _____
City/State/Zip: _____
Contact: _____
Phone: _____

Applicant: _____
Address: _____
City/State/Zip: _____
Phone: _____

Signature of Lead Agency Representative: _____ **Date:** _____

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

P Distribution List

County: San Diego

SCH# 2013031019

rces Agency

sources Agency
dell Gayou

Dept. of Boating & Waterways
ple Wong

California Coastal Commission
abeth A. Fuchs

Colorado River Board
ald R. Zimmerman

Dept. of Conservation
abeth Carpenter

California Energy Commission
Knight

Cal Fire
Foster

Central Valley Flood Protection Board
es Herota

Office of Historic Preservation
Parsons

t of Parks & Recreation
ironmental Stewardship
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California Department of ources, Recycling & overy
O'Leary

S.F. Bay Conservation & Dev't. Comm.
ve McAdam

Dept. of Water Resources Resources Agency
dell Gayou

nd Game

Dept. of Fish & Wildlife
ott Flint
vironmental Services Division

Fish & Wildlife Region 1
nald Koch

Fish & Wildlife Region 1E
Laurie Harnsberger

Fish & Wildlife Region 2
Jeff Drongesen

Fish & Wildlife Region 3
Charles Armor

Fish & Wildlife Region 4
Julie Vance

Fish & Wildlife Region 5
Leslie Newton-Reed
Habitat Conservation Program

Fish & Wildlife Region 6
Gabrina Gatchel
Habitat Conservation Program

Fish & Wildlife Region 6 I/M
Brad Henderson
Inyo/Mono, Habitat Conservation Program

Dept. of Fish & Wildlife M
George Isaac
Marine Region

Other Departments

Food & Agriculture
Sandra Schubert
Dept. of Food and Agriculture

Depart. of General Services
Public School Construction

Dept. of General Services
Anna Garbeff
Environmental Services Section

Dept. of Public Health
Jeffery Worth
Dept. of Health/Drinking Water

Delta Stewardship Council
Kevan Samsam

Independent Commissions,Boards

Delta Protection Commission
Michael Machado

Cal EMA (Emergency Management Agency)
Dennis Castrillo

Native American Heritage Comm.
Debbie Treadway

Public Utilities Commission
Leo Wong

Santa Monica Bay Restoration
Guangyu Wang

State Lands Commission
Jennifer Deleong

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Caltrans - Planning
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California Highway Patrol
Suzann Ikeuchi
Office of Special Projects

Housing & Community Development
CEQA Coordinator
Housing Policy Division

Dept. of Transportation

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Marcelino Gonzalez

Caltrans, District 3
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Caltrans, District 12
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Industrial Projects
Mike Tollstrup

State Water Resources Control Board
Regional Programs Unit
Division of Financial Assistance

State Water Resources Control Board
Student Intern, 401 Water Quality Certification Unit
Division of Water Quality

State Water Resouces Control Board
Phil Crader
Division of Water Rights

Dept. of Toxic Substances Control
CEQA Tracking Center

Department of Pesticide Regulation
CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

RWQCB 1
Cathleen Hudson
North Coast Region (1)

RWQCB 2
Environmental Document Coordinator
San Francisco Bay Region (2)

RWQCB 3
Central Coast Region (3)

RWQCB 4
Teresa Rodgers
Los Angeles Region (4)

RWQCB 5S
Central Valley Region (5)

RWQCB 5F
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Fresno Branch Office

RWQCB 5R
Central Valley Region (5)
Redding Branch Office

RWQCB 6
Lahontan Region (6)

RWQCB 6V
Lahontan Region (6)
Victorville Branch Office

RWQCB 7
Colorado River Basin Region (7)

RWQCB 8
Santa Ana Region (8)

RWQCB 9
San Diego Region (9)

Other _____

_____

_____

_____
Conservancy

Last Updated 01/08/2013

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

Memorandum

Date: March 28, 2013

To: All Reviewing Agencies

From: Scott Morgan, Director

Re: SCH # 2013031019

Crawford High School and Mann Middle School Modernization and Athletic Stadium Project

---

Pursuant to the attached letter, the Lead Agency has *extended* the review period for the above referenced project to **April 22, 2013** to accommodate the review process. All other project information remains the same.

cc: Jim Harry
San Diego Unified School District
9775 Businesspark Avenue, Suite 200
San Diego, CA 92131

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

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EXTENSION OF REVIEW PERIOD
NOTICE OF PREPARATION OF A ENVIRONMENTAL IMPACT REPORT
CRAWFORD HIGH SCHOOL AND MANN MIDDLE SCHOOL MODERNIZATION AND ATHLETIC STADIUM PROJECT

March 23, 2013

The San Diego Unified School District (District) is the Lead Agency requesting input regarding the preparation of an Environmental Impact Report (EIR) for the proposed Crawford High School and Mann Middle Modernization and Athletic Stadium Project pursuant to the California Environmental Quality Act (CEQA). This notice serves as notification that the review period for the Notice of Preparation (NOP) issued for the project on March 1 is being extended to April 22, 2013. Additional project information is also being provided by the District for consideration by the public. The additional project information is available for review at the District Offices at 4860 Ruffner St., Annex 2, San Diego, CA 92111 and at https://fpcprojects.sandi.net/Pages/Reports.aspx?SchoolName=9334.

For more information on the project, contact Kathryn Ferrell, Environmental Coordinator and Project Manager, kferrell@sandi.net or 858-627-7298.

Please submit comments regarding the scope and content of the environmental analysis no later than April 22. Please send your comments directly to:

Jim Harry, Senior Project Manager
ICF International
9775 Businesspark Avenue Suite 200
San Diego, CA 92131
or via email to: james.harry@icfi.com

A summary of the information included in the NOP advertisement/public notice issued on March 1 is presented below.

Project Title: Crawford High School and Mann Middle School Modernization and Athletic Stadium Project

Project Applicant: San Diego Unified School District

Project Description: The District proposes an upgrade to the school and athletics facilities of Crawford High School and an upgrade to the school facilities of Mann Middle School within the eastern Mid-City community of the City of San Diego.
Whole Site Modernization: Proposition S bond funds would be used for a whole site modernization of both Crawford High School and Mann Middle School. The whole site modernization listed in the bond language placed before voters for both schools would include various renovation or repair to the classrooms, restrooms, communications facilities, heating, air conditioning, food service, security lighting and building interiors. Whole site modernization improvements would also include improvements to the parking and pedestrian circulation. The whole site modernization improvements required as a part of the bond language would be addressed in the Draft EIR.

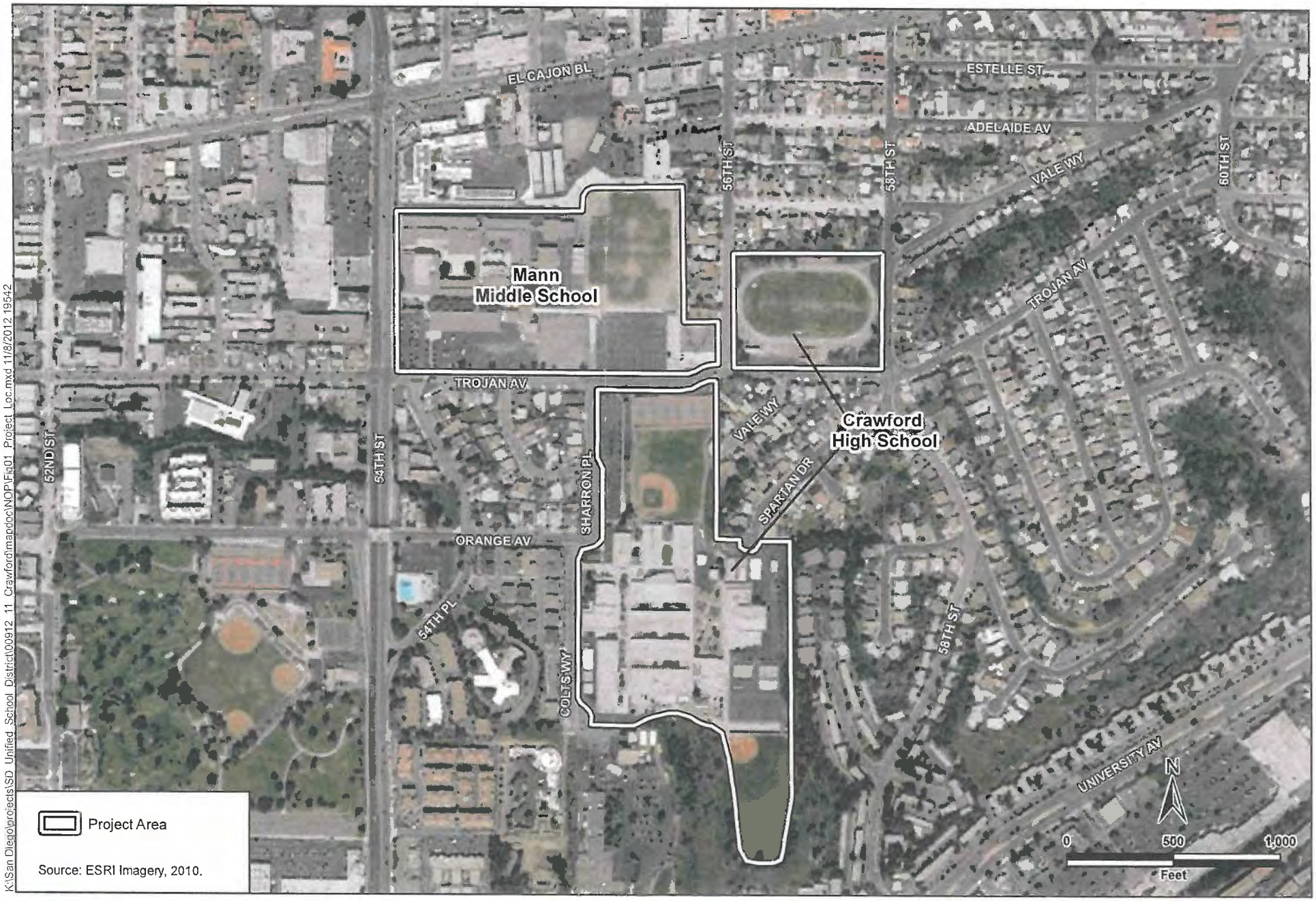
Athletic Stadium and Facilities Upgrades: The proposed project also includes the following athletic facilities upgrades:

- Replace existing baseball field, six tennis courts, the administration building, building 100, and building 200, and 75 visitor parking spaces with a new athletic stadium;
- Install a new stadium lighting for the football field area;
- Replace football/soccer field and track with a new baseball/softball complex;
- Construct a new press box with an elevator for football field area;
- Construct bleachers at new football, baseball, and softball fields;
- Replace existing track and field with turf and an all-weather track; and
- Provide accessible weight room/fitness space.

Project Location: The proposed project site is located within the Eastern Area Communities Planning Area of the City of San Diego, California on the campuses of Crawford High School and Mann Middle School, located at 4191 Colts Way and 4345 54th Street, San Diego, CA 92115, respectively. The proposed project will occur

entirely within the existing boundary of the school campuses and within the current location of the athletic facilities.

Probable Environmental Effects: The District has determined that an EIR will be prepared for the proposed project through the preparation of an initial study (CEQA Guidelines §15063[a]). As a result, probable environmental impacts that will be analyzed as part of the EIR include: aesthetics/lighting, air quality, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology/water quality, noise, and transportation/traffic/parking.



K:\San Diego\projects\SD Unified School District\00912 11 Crawford\mapdoc\NOP\Fig01 Project Loc.mxd 11/8/2012 19542

Figure 1
Project Location Map
Crawford High School & Mann Middle School Modernization Project

NOP Distribution List

County: San Diego

SCH# 2013031019

Resources Agency

- [x] **Resources Agency**
  Nadell Gayou
- [ ] **Dept. of Boating & Waterways**
  Nicole Wong
- [ ] **California Coastal Commission**
  Elizabeth A. Fuchs
- [ ] **Colorado River Board**
  Gerald R. Zimmerman
- [x] **Dept. of Conservation**
  Elizabeth Carpenter
- [ ] **California Energy Commission**
  Eric Knight
- [ ] **Cal Fire**
  Dan Foster
- [ ] **Central Valley Flood Protection Board**
  James Herota
- [ ] **Office of Historic Preservation**
  Ron Parsons
- [x] **Dept of Parks & Recreation**
  Environmental Stewardship Section
- [ ] **California Department of Resources, Recycling & Recovery**
  Sue O'Leary
- [ ] **S.F. Bay Conservation & Dev't. Comm.**
  Steve McAdam
- [x] **Dept. of Water Resources** Resources Agency
  Nadell Gayou

Fish and Game

- [ ] **Dept. of Fish & Wildlife**
  Scott Flint
  Environmental Services Division
- [ ] **Fish & Wildlife Region 1**
  Donald Koch
- [ ] **Fish & Wildlife Region 1E**
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  George Isaac
  Marine Region

Other Departments

- [ ] **Food & Agriculture**
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- [ ] **Depart. of General Services**
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- [ ] **Caltrans, District 12**
  Marlon Regisford

Cal EPA

Air Resources Board

- [ ] Airport/Energy Projects
  Jim Lerner
- [ ] Transportation Projects
  Douglas Ito
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- [ ] **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- [ ] **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- [ ] **State Water Resouces Control Board**
  Phil Crader
  Division of Water Rights
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  CEQA Tracking Center
- [ ] **Department of Pesticide Regulation**
  CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

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  Central Valley Region (5)
  Fresno Branch Office
- [ ] **RWQCB 5R**
  Central Valley Region (5)
  Redding Branch Office
- [ ] **RWQCB 6**
  Lahontan Region (6)
- [ ] **RWQCB 6V**
  Lahontan Region (6)
  Victorville Branch Office
- [ ] **RWQCB 7**
  Colorado River Basin Region (7)
- [ ] **RWQCB 8**
  Santa Ana Region (8)
- [x] **RWQCB 9**
  San Diego Region (9)

- [ ] **Other** _____
  _____
  _____

- [ ] _____
  Conservancy

Last Updated 01/08/2013

"Environmental" issues (examples):

1. Insufficient parking for up to 2500 people at events
2. Traffic increased throughout neighborhood
3. Increased noise with loudspeakers + soundsystems
4. Public urination
5. Litter nuisance
6. Insufficient bathroom facilities
7. Increased crime
8. Loss of neighborhood character

Comment Form

San Diego Unified School District
Crawford High School and Mann Middle School
Modernization and Athletic Stadium Project
Environmental Impact Report

PUBLIC SCOPING MEETING
March 4, 2013, 6:00 pm

On the lines provided below, please list the environmental issues or concerns you feel need to be addressed in the Environmental Impact Report (EIR) for the Crawford High School and Mann Middle School Modernization and Athletic Stadium Project. Please be as specific and detailed as possible so that the EIR may address all of your concerns or issues. If necessary, please attach additional pages. Once completed, please submit your written comments to: Jim Harry, ICF International, 9775 Businesspark Ave., Suite 200, San Diego, CA 92131, 858-444-3921, fax: 858-578-0573, email: james.harry@icfi.com. Your comments must be postmarked by **April 1, 2013**. (please print legibly)

I AGREE WITH ALL THE STATEMENTS ABOVE. I HAVE LIVED IN SAN DIEGO ALL MY LIFE. I WAS AROUND WHEN THEY TOOK DOWN STADIUM LIGHTS AT HOOVER, KEARNY AND SAN DIEGO HIGH. THE REASONS WERE ALL THE ABOVE, PLUS FIGHTING, VANDALISM AND PUBLIC INTOXICATION. THERE IS A OLD SAYING THAT HISTORY REPEATS ITSELF. THE PEOPLE MAKING THESE DECISIONS DO NOT LOOK AT THE PAST. WHY WOULD YOU MAKE A DECISION LIKE THIS, WHEN THIS SCHOOL CAN'T EVEN GET A FULL FOOTBALL TEAM TOGETHER. THIS IS THE FIRST SCHOOL IN THE HISTORY OF SAN DIEGO SCHOOL SYSTEM TO FORFEIT FOOTBALL GAMES BECAUSE THEY DON'T HAVE ENOUGH PLAYERS. CAN YOU SEE THE IRONY HERE. YOU DON'T HAVE ENOUGH FOOTBALL PLAYERS YET YOU WANT TO BUILD A NEW STADIUM. USE THE MONEY FOR UPGRADES THAT MAKE A DIFFERENCE. THIS POLICY MAKES NO SENSE. YOU WOULD THINK THAT US TAXPAYERS WOULD HAVE A SAY IN THIS OUTCOME. IT IS OUTRAGEOUS

Submitted by (please print legibly):

Name: STEPHEN M. COBB	Agency/business/group name (if applicable):
Address: 4360 56TH ST.	Phone number: 619-286-6194
City/state/zip: SAN DIEGO, CA. 92115	Date: MARCH 22, 2013

Thomas and Diane Hartje
4316 W. Overlook Drive
San Diego, CA 92115
(619) 203-9776
Hartje1967@cox.net

April 21, 2013

Sent Via Email and Personal Delivery

James Harry
Senior Project Manager
ICF International
9775 Businesspark Avenue, Suite 200
San Diego, CA 92131
james.harry@icfi.com

Re: Scope and Content of the Environmental Impact Report (EIR)
For Crawford High School and Mann Middle School
Modernization and Athletic Stadium Project

Dear Mr. Harry,

We are 20+ year residents of the El Cerrito neighborhood and live at 4316 West Overlook Drive. Twelve years ago we moved from 4214 East Overlook Drive specifically for the beautiful view afforded on West Overlook. Our house sits up on the hill and our backyard looks directly west and down on Crawford High School. We have an approximate 180° ocean view that spans from Tijuana, Mexico to La Jolla. Our street is a quiet pocket of homes, except for the sounds that drift up from Crawford's current football and baseball fields; school bells and church bells; and police/fire department sirens.

We are in agreement that Crawford High and Mann Middle School both need to have their classrooms, campuses and sports facilities "upgraded", but we do not agree that an entirely "new" sports complex needs to be created by "replacing" existing fields. It is the suggested "new" football stadium and ball fields that will CLEARLY impact our neighborhood on so many levels.

We will not be getting into the purpose and intent of Prop S funds or the recent court decision regarding Hoover High's improper installation of stadium lights, as we are hoping that those plans are off the table and that such lighting will now not be an issue at Crawford High. However, we will still address the stadium lighting issue just to be covered.

The following is our input that we ask to be addressed in the Environmental Impact Report. Also, since Crawford is in a "residential neighborhood" and not bordered by any businesses or industries, we ask that in each issue raised below, that you analyze and conduct your testing throughout our entire neighborhood. That would include, but not be limited to, all streets within the perimeter of 54th Street, El Cajon Blvd., College Avenue

and University Avenue. Since our neighborhood consists of streets on hills, canyons and some flat topography, it is imperative that all areas are considered.

Stadium Lights/Field Lighting:

- Any form of stadium lights would affect the current view. The height of the light poles, the number of poles (4 or 6 were mentioned) as well as how many lights would be affixed and the type of bulbs used would also need to be addressed. We want to see the various lighting scenarios tested from all the hillside homes as well as those streets in the immediate area. (We can currently see VERY bright field lighting at the City Heights Community Center which is 2 ½ miles west of our home, so you can only imagine how bright field lights would be less than one block away.)
- Not only would views be obstructed by the poles, but the glow/illumination from the lights would affect everyone in the area. (i.e. SDSU's field lighting)
- The project would create a new source of substantial light or glare which would adversely affect day and/or nighttime views in the area and should be studied accordingly.
- In addition to the stadium, new ball fields and tennis courts are proposed. Is lighting anticipated to be included for those sites also? Please provide us with all sites that lighting is being proposed.
- What would be the cost for operating stadium and/or field lights and who would be covering that ongoing cost?
- Please be specific as to when the proposed lights would be used (i.e. limited to home football games, stadium rental use, etc).
- Perhaps removable/temporary stadium lights should be considered for limited, special events.

Parking:

- We were informed that only 75 additional parking spaces would be provided with a new stadium that is expected to hold at least 2,000 attendees. Even now when games/events are held at the stadium, cars are parked on our street in addition to all the streets neighboring the field. This is for games that have had far less than 300 people in attendance. Where would another 500+ people park their cars if the stadium is to full capacity? We also need to be informed as to the actual number of people the proposed stadium will accommodate as it is not indicated in any of the plans that were disseminated.
- A parking study needs to be conducted on all residential streets as if the new stadium was to full capacity at the time of a typical event, such as a Friday day/night game, as most residents will be home with their own cars parked in front of their house.
- A parking study should also be conducted regarding an atypical event, such as Homecoming or Graduation where the stadium would probably be over capacity.
- There are currently only four (4) parking lots with very limited parking indicated on the revised, proposed plan. Two lots that are close to the tennis courts and stadium and two lots that are way beyond the classrooms. Unless someone is directing traffic, attendees will have great difficulty locating those sites and will probably just park anywhere on the streets they can possibly find.
- Since the project involves new tennis courts, new ball fields and the joint use field, there will usage of those sites which could be used simultaneously with a stadium event which will create even more parking havoc that needs to be addressed.

- If buses are used for current Crawford students and for visiting sports teams, where will they be loading/unloading and parking during the stadium/sporting event?
- During the construction phase, which they mentioned at the scoping meeting would be in two phases, where will all the construction trucks, bobcats, etc. be parked or housed? Also what is the anticipated length of each phase?
- Unfortunately, with the increase of street parking, also comes the increase of trash in the neighborhood. Currently, there are not any city/school trash cans located on any of the sidewalks near the school and there is already plenty of trash to be found in the ice plant/shrubs, fence lines and streets.

Traffic:

- With the addition of a new stadium, ball fields, joint-use field and tennis courts, all the residential streets (listed by name) in the affected area need to be subject to a traffic study not just the main streets bordering the school(s). The study should be based as if the new stadium was to full capacity at the time of a typical event, such as a Friday day/night game.
- A traffic study should also be conducted regarding an atypical event, such as Homecoming or Graduation where the stadium would probably be over capacity.
- What plans will be in place to ensure the safety of our residents (walking or driving) as well as other drivers with the increase in traffic?
- Please address the issue of traffic during the expected two phases of construction. Will there be streets closed off and detours in the neighborhood?
- The EIR needs to divulge the district's intention of using the field for non-school related events or functions. The EIR needs to clearly state that the district is building a venue, not just a new field and stadium w/lights for school only events. The EIR should state what has already been stated by SDUSD Board members that the district plans to maximize the field use. If the district has no intentions of renting the field out to other outside venues, sports clubs, etc. then the EIR needs to be very specific and include verbiage in the EIR clarifying that fact. The EIR also needs to include the maximum number of events, day and night, that the school will host at the field so the impact on the residential community can be accurately analyzed.

Noise:

- A noise study needs to be conducted based on a full capacity crowd and include Crawford's band, if they have one. The study should also compare different types of bleachers that may be installed.
- A noise study should also include comparing the different PA system options. Will they be installing the most common PA which uses several speakers, high up on a pole outputting very high sound levels, or a Distributed System, where there are many smaller speakers, located closer to the spectators, and operated at a much lower level. It should also include limitations/restrictions on how loud the PA system can be set and what can be broadcast over the PA system.
- Sound reflection off of buildings and canyons also needs to be included.
- Construction noise during the two phases also needs to be considered. What hours of the day will they begin/end working and will it include weekends as well?

Crime:

- Unfortunately, with the increase of people coming to the area to attend sporting events, especially at night, crime and fights will increase in the neighborhood. How

will the security be addressed on and off the school property? Please include this information in the EIR as well.

Tennis Courts/Joint Use Field:

- Will the neighbors/community have access to use the tennis courts? If so, would there be any restrictions? Please explain in detail.
- Will the neighbors/community continue to have access to the Joint Use Field? If so, would there by any restrictions? Please explain in detail.

We thank you for the time to express our concerns regarding the proposed project and look forward to seeing them addressed in the EIR.

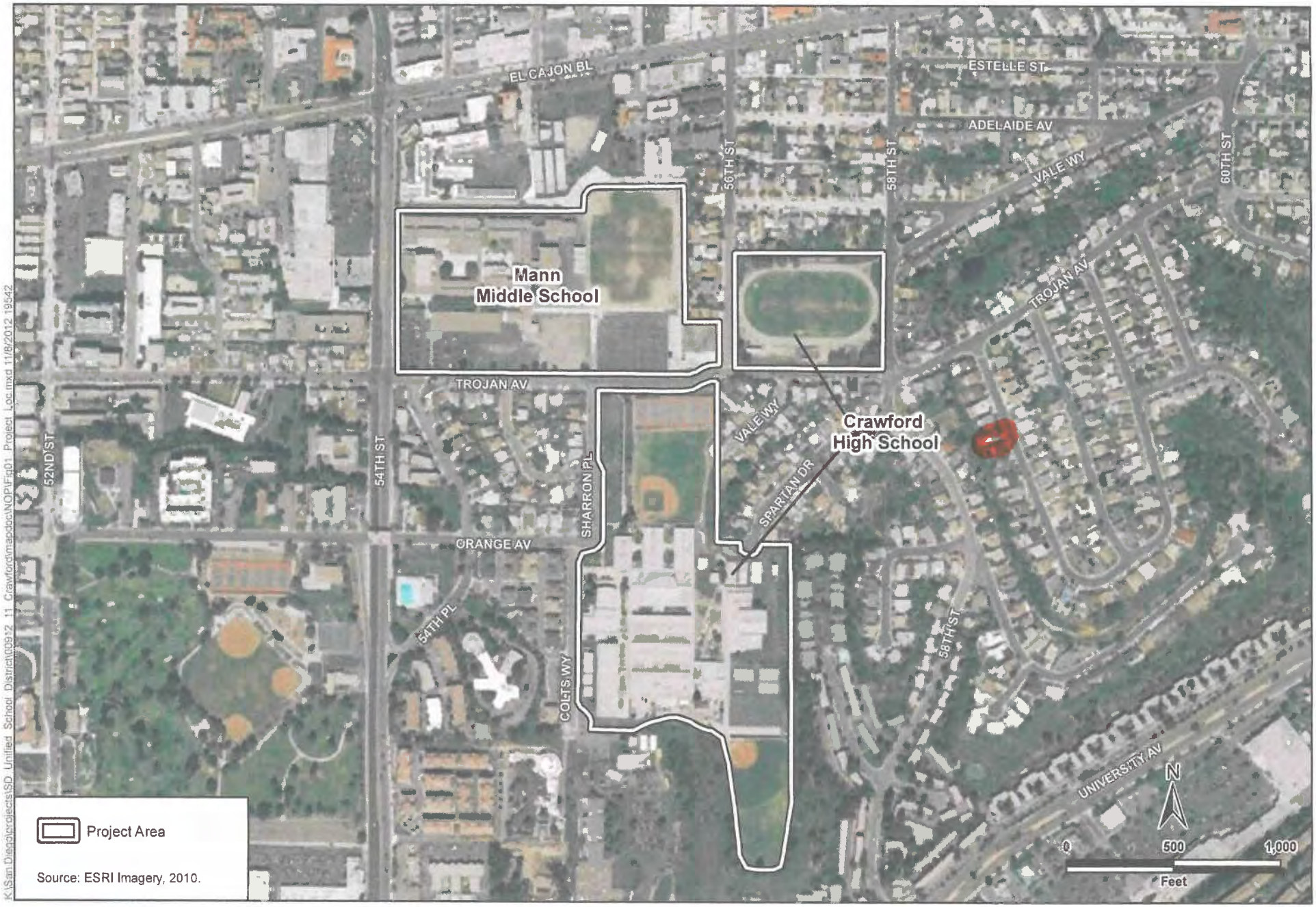
One final note, as we stated at the beginning of our letter, we are in agreement that the improvement and upgrading of the classrooms, fields and campus is necessary. What we are having difficulty processing is the fact that the District is taking on such a huge project, environmentally and financially, to build a new "Sports Complex" by replacing and creating a new stadium and new ball fields. Unfortunately, Crawford's student enrollment has not only steadily declined over the years (last year it was just over 1,200 students) but the students have also had difficulty, maintaining the required GPA to field a team and participate in sports. The priority should be to improve the learning environment first to enable the students to focus on their academics and then the sports will fall into place.

If you have any questions, or need further information, please feel free to contact us.

Respectfully,

Thomas + Diane Hartje

Thomas and Diane Hartje
(619) 203-9776



4316 W. OVERLOOK DRIVE, SAN DIEGO, CA 92115

Figure 1
Project Location Map
Crawford High School & Mann Middle School Modernization Project

INITIAL STUDY

CRAWFORD HIGH SCHOOL AND MANN MIDDLE SCHOOL ATHLETIC FACILITIES UPGRADE AND MODERNIZATION PROJECT DRAFT INITIAL STUDY

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December 2012

ICF International. 2012. Crawford High School and Mann Middle School Athletic Facilities Upgrade and Modernization Project. Draft Initial Study. December. (ICF 00912.11.) San Diego, CA. Prepared for San Diego Unified School District, San Diego, CA.

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Acronyms and Abbreviations

ADA	Americans with Disabilities Act
AIA	Airport Influence Area
ALUC	Airport Land Use Commission
CAL FIRE	California Department of Forestry
CEQA	California Environmental Quality Act
CHAMPS	Community Health and Medical Practices School
EIR	Environmental Impact Report
EIR	Environmental Impact Report
FEMA	Federal Emergency Management Agency
I-8	Interstate 8
IBC	International Building Code
IDEA	Invention and Design Educational Academy
LAB),	Law and Business
MBTA	Migratory Bird Treaty Act
MHPA	Multiple Habitat Planning Area
MND	Mitigated Negative Declaration
MSCP	Multiple Species Conservation Program
MVAS	Multimedia and Visual Arts School
ND	Negative Declaration
NHMP	Natural Hazards Mitigation Plan
project	Mission Bay High School Athletic Facility Upgrade and Modernization Project
SDUSD or District	San Diego Unified School District
SR-94	State Route 94
SWPPP	Storm Water Pollution Prevention Plan
USTs	underground storage tanks
VHFHSZ	Very High Fire Hazard Severity Zones

Chapter 1
Introduction and Overview

Overview

The San Diego Unified School District (SDUSD or District), as the lead agency under the California Environmental Quality Act (CEQA), has prepared this Initial Study to evaluate the potential environmental consequences associated with the proposed Crawford High School and Mann Middle School Athletic Facility Upgrade and Modernization Project (project). The proposed project consists of a collection of proposed improvements at Crawford High School and Mann Middle School, located in the City of San Diego. These proposed improvements can generally be separated into two broad categories:

- Athletic facility improvements for Crawford High School; and
- Modernization improvements for both Crawford High School and Mann Middle School.

Implementation of the proposed project would require approval by the SDUSD Board. As part of the District's discretionary review process, the proposed project is required to undergo an environmental review in accordance with the CEQA.

Authority

The proposed project is subject to the requirements of the California Environmental Quality Act (CEQA). The lead agency is the San Diego Unified School District (District). The purpose of this Initial Study is to provide a basis for deciding whether to prepare an Environmental Impact Report (EIR), a Mitigated Negative Declaration (MND), or a Negative Declaration (ND) for this project. This Initial Study is intended to satisfy the requirements of CEQA (Public Resources Code, Div 13, Sec 21000-21177) and the State CEQA Guidelines (California Code of Regulations, Title 14, Sec 15000-15387). CEQA encourages lead agencies and applicants to modify their projects to avoid significant adverse impacts.

Section 15063(d) of the State CEQA Guidelines states the content requirements of an Initial Study as follows:

> 15063(d) Contents. An Initial Study shall contain in brief form:
>
> (1) A description of the project including the location of the project;
>
> (2) An identification of the environmental setting;
>
> (3) An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
>
> (4) A discussion of the ways to mitigate the significant effects identified, if any;
>
> (5) An examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls;
>
> (6) The name of the person or persons who prepared or participated in the Initial Study.

Scope of the Initial Study

This Initial Study evaluates the proposed Project's effects on the following resource topics:

- aesthetics
- agriculture and forestry resources
- air quality
- biological resources
- cultural resources
- geology/soils
- greenhouse gas emissions
- hazards & hazardous materials
- hydrology/water quality
- land use/planning
- mineral resources
- noise
- population/housing
- public services
- recreation
- transportation/traffic
- utilities/ service systems
- mandatory findings of significance

Impact Terminology

The following terminology is used to describe the level of significance of impacts:

- A finding of *no impact* is appropriate if the analysis concludes that the project would not affect the particular topic area in any way.
- An impact is considered *less than significant* if the analysis concludes that it would cause no substantial adverse change to the environment and requires no mitigation.
- An impact is considered *less than significant with mitigation incorporated* if the analysis concludes that it would cause no substantial adverse change to the environment with the inclusion of environmental commitments or other enforceable measures that have been agreed to by the applicant.
- An impact is considered *potentially significant* if the analysis concludes that it could have a substantial adverse effect on the environment. For the proposed project, no impacts were determined to be potentially significant.

Initial Study Organization

The content and format of this report are designed to meet the requirements of CEQA. This Initial Study identifies the potential environmental impacts of the project to support the decision to prepare an EIR, MND, or ND. The report contains the following sections.

- Chapter 1, "Introduction and Overview," identifies the purpose and scope of the Initial Study and the terminology used in the report.
- Chapter 2, "Project Description," identities the location, background, and planning objectives of the project and describes the proposed project in detail.
- Chapter 3, "Environmental Checklist and Analysis," presents the checklist responses for each resource topic. This section includes a brief setting section for each resource topic and identifies the potential impacts of implementing the proposed Project.
- Chapter 4, "References," identifies all printed references and individuals cited in this Initial Study.
- Chapter 5, "List of Preparers," identifies the individuals who prepared this report and their areas of technical specialty.

Chapter 2
Project Description

Project Overview

The proposed project consists of a collection of proposed improvements at Crawford High School and Mann Middle School, located in the City of San Diego. These proposed improvements can generally be separated into two broad categories:

- Athletic facility improvements for Crawford High School; and
- Modernization improvements for both Crawford High School and Mann Middle School.

The athletic facility improvements are a separate and discrete project from other improvements, which will require specific authorization from the District and separate funding. The proposed athletic facility improvements at Crawford High School would relocate the football field to a new Athletic Stadium which would be developed at the location of the existing baseball fields, tennis courts, parking, and three school buildings on the northern half of the school property. A new baseball field would be constructed at the location of the current football field and additional parking and new tennis courts would be constructed on the Mann Middle School property immediately north of the high school. The existing softball field at the southern end of the Crawford High School campus would also be improved. Design features are proposed by the District to reduce lighting and noise associated with the new Athletic Stadium.

The proposed project also includes modernization improvements for Crawford High School and Mann Middle School, which are both aging facilities. These improvements would provide a safe and contemporary learning environment and include new buildings and major renovations to existing buildings, technology upgrades consistent with the i21 Interactive Classroom Initiative, renovations of various learning environments and support areas, infrastructure repairs and upgrades, and improvements for Americans with Disabilities Act (ADA) compliance. The project would not increase the overall student capacity at the schools. The modernization improvements would be completed over multiple years based on funding, logistics, and other factors, and they are not scheduled to begin until 2015. Specific designs of the individual improvements have not yet been developed by the District.

The primary objectives of the athletic facility upgrade and modernization project is to renovate and upgrade the high school's athletic facilities and to provide safe and modern amenities and to achieve ADA compliance at the high school and middle school.

Project Location

The proposed project involves improvements at two school situated in a predominately residential area in the City of San Diego's El Cerrito neighborhood. As shown on Figure 2-1, regional access to the project site is generally provided by Interstate 8 (I-8) and State Route 94 (SR-94) and local access is provided by El Cajon Boulevard and 54th Street. The schools are located adjacent to one another and are separated by Trojan Avenue, which runs in an east-west direction between 54th and

56th streets. As shown on Figure 2-2, the Crawford High School campus is bordered by Colts Way, Sharron Place, and Trojan Avenue at 4191 Colts Way and Mann Middle School is located north of Trojan Avenue at the intersection with 54th Street (4345 54th Street).

Environmental Setting

The proposed project would be implemented on the school properties of both Crawford High School and Mann Middle School. Separate environmental settings are described for each of the schools below. Please note that the environmental analysis in the following checklist also covers each school site individually.

Crawford High School

Crawford High School is located on a 26.9-acre, District-owned site at 4191 Colts Way in the City of San Diego, California. Access to Crawford High School is provided via Trojan Avenue Boulevard, Sharron Place, and Colts Way (Figures 2-1 and 2-2). Originally opened in 1958, the school was split into four schools in 2004, consisting of the School of Law and Business (LAB), Multimedia and Visual Arts School (MVAS), Invention and Design Educational Academy (IDEA), and the Community Health and Medical Practices School (CHAMPS). Directly north of the school (and west of the stadium) is Mann Middle School. Other existing and proposed surrounding land uses include single-/multi-family residences to the east; the University Care Center, commercial/retail development, and multi-family residences to the south, single- and multi-family residences and the Colina Del Sol Recreation Center to the west. Student enrollment during the 2010-2011 school year at Crawford High School was 1,298 students, which is broken down by school below in Table 2-1 (Ed-data 2012). According to the District's Long Range Facilities Master Plan, student population is expected to increase by the 2016/2017 school year to approximately 1,434 students (SDUSD 2011a).

Table 2-1. Crawford High School Student Population (2010-2011)

School	Population
School of Law and Business	275
Multimedia and Visual Arts School	345
Invention and Design Educational Academy	312
Community Health and Medical Practices School	366
TOTAL STUDENT POPULATION	**1,298**

Source: Ed-Data 2012.

The Crawford High School campus includes 85 classrooms (70 permanent and 15 portable) and 14 permanent office and administrative buildings comprising a total of approximately 176,555 square feet (SDUSD 2011a). Existing recreational facilities include a baseball field and six tennis courts, adjacent and east of the administration building and buildings 100 and 200. An existing stadium (including a football/soccer field and a track) is located adjacent to the high school site, at the southeast corner of Trojan Avenue and 56th Street. There are about 1,000 seats at the existing

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Figure 2-1
Vicinity Map
Crawford High School & Mann Middle School Modernization Project

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Figure 2-2
Project Location Map
Crawford High School & Mann Middle School Modernization Project

stadium, including handicap areas; however, attendance has not exceeded 350 persons. A second baseball field exists south of the gymnasium, in the southeastern corner of the school site. There are no existing lighting improvements for any of the outdoor recreation areas. An overview of current sports schedules is provided below in Table 2-2.

A total of 195 parking spaces at Crawford High School are located throughout the site for faculty and visitors. Faculty parking is located at the eastern project boundary, behind the gymnasium, and includes 76 paved asphalt spaces. The faculty parking area is bordered by single- and multi-family residences to the north and east, respectively, and access is provided via a chain-link gate at the end of Spartan Drive, which dead ends into a cul-de-sac before entering the faculty parking lot. Visitor parking (75 spaces) is located in a lot at the front of the school between Sharron Place and the high school's existing tennis courts/baseball field complex. The remaining spaces are located along the southern school property (38 spaces) and just south of the faculty parking (six spaces). Access to the 38 and six spaces is provided via chain-link gates at cul-de-sacs at the end of Colts Way and Vale Way/56th Street, respectively.

Table 2-2. Crawford High School Athletic Events Schedule

Sport	Hours Played[1]	# of Home Games
Fall (August – December)		
Football	2:15pm – 6:00 pm	5[3]
Cross-Country	2:15pm – 6:00 pm	5
Winter (January – March)		
Boys Soccer	2:15pm – 6:00 pm	5[3]
Girls Soccer	2:15pm – 6:00 pm	5
Spring (April – May)		
Football	2:15pm – 6:00 pm	0
Track and Field	2:15pm – 6:00 pm	5
Boys Lacrosse[2]	2:15pm – 6:00 pm	5
Girls Lacrosse[2]	2:15pm – 6:00 pm	5
Club (March – June)		

1. 6:00 pm is a late time for only a few practices.
2. Beginning Spring.
3. Playoffs are not included in this number.
Source: SDUSD, 2012.

Mann Middle School

Mann Middle School is located on a 24.5-acre, District-owned site at 4345 54th Street in the City of San Diego, California. Access to Crawford High School is provided via El Cajon Boulevard, 54th Street, and Trojan Avenue (Figures 2-1). The school was opened in 1952 and serves grades 6th through 8th. Existing and proposed surrounding land uses include commercial/retail development and single- and multi-family residences to the north; single- and multi-family residences and the Crawford High School football field/stadium to the east; Crawford High School and single-family

residences to the south; and multi-family residences and commercial/ retail development including the San Diego County Family Resource Center to the west. Student enrollment during the 2010-2011 school year at the middle school was 827 students (Ed-data 2012). Student population is expected to decrease by the 2016/2017 school year to approximately 781 students (SDUSD 2011b).

The middle school campus includes 73 permanent classrooms and 16 permanent office and administrative buildings comprising a total of approximately 179,593 square feet. There is an existing recreational area that includes two multi-purpose fields and four backstops at the northeastern corner of the school site, and does not include any lighting improvements. Other recreational improvements at Mann Middle School include an approximately 80,000 square-foot paved asphalt area in the eastern part of the school site with 10 painted multi-purpose courts (i.e., basketball, volleyball, soccer) with basketball hoops and 10 handball backstops/courts and other miscellaneous recreational activities (i.e., four square, hopscotch, etc.). An approximately 37,000 square-foot paved asphalt area with similar recreational activities (i.e., basketball, hopscotch, four square, etc.) occurs further west, near Building 500 along Trojan Avenue.

Parking areas at Mann Middle School include 161 spaces, most of which occur at the corner of 54th Street and Trojan Avenue. Faculty parking includes 30 paved asphalt spaces and access is provided via a driveway along 54th Street at the school's western boundary. A chain-link fence and gate at the driveway restricts after-hours access onto the campus. A total of 124 spaces are provided at the southwestern corner of the school property within two lots separated by an approximately six-foot chain-link fence atop a four-foot tall concrete wall. Access to both lots is achieved from a single-access point along Trojan Avenue. Lastly, there are seven parking spots at the school's southeastern corner. Access to these spaces is provided by a driveway just south of the intersection of Trojan Way and 56th Street, which is also protected by an existing chain-link gate.

Proposed Project

The proposed project consists of a collection of proposed improvements at Crawford High School and Mann Middle School. These proposed improvements can generally be separated into two broad categories:

- Athletic facility improvements for Crawford High School; and
- Modernization improvements for both Crawford High School and Mann Middle School.

As discussed further below, it is currently planned that the athletic facility improvements will occur first and the modernization improvements after. While it is planned that improvements at the two schools would be coordinated and generally on a similar schedule it is possible that they may need to occur separately. Therefore, the proposed improvements for the schools are discussed separately below for each school site.

Crawford High School

Proposed Project actions at Crawford High School include modernization improvements to support student learning and instruction, student health, safety, and security, to upgrade school accessibility and code compliance, building systems repairs and replacements, and new athletic facilities, including a baseball/softball complex and athletic stadium.

Athletic Facility Improvements

The proposed athletic facility improvements at Crawford High School would involve the existing facilities on the northern half of the school property which consists of the existing baseball fields and six tennis courts, and the existing football/soccer field and track at the northeastern corner of 56th Street and Trojan Avenue; and the existing softball field at the southern end of the property. It would also affect the administration building, building 100, building 200, and the 75 visitor parking spaces along Sharron Place on the Crawford High School property; and the existing hard courts and adjacent areas on the Mann Middle School property immediately north of the high school would also be affected. The different components of these improvements are described below.

Athletic Stadium

After substantial coordination with the community, it was determined that the football field should be relocated to be contiguous with the high school campus. Therefore, the proposed project includes the relocation of the existing football/soccer field and track at the northeastern corner of 56th Street and Trojan Avenue to a new Athletic Stadium at the southeastern corner of Sharon Place and Trojan Avenue. The relocation onto the main campus would displace the existing baseball field and 6 tennis courts that are currently in that location. These facilities would be relocated and replaced as discussed further below. Accommodating the Athletic Stadium would require demolition of the administration building, building 100, and building 200. These facilities are not proposed for immediate replacement as there is sufficient space and capacity within the other existing facilities on the high school for the school's current enrollment. The proposed project does require some modernization to building 800, the first floor of which would be used to accommodate the school's administration functions after the project, and the modernization improvements discussed further below include some new classrooms. Lastly, as discussed further below, the project would displace the 75 existing visitor parking spaces along Sharron Place.

Compared to the existing facilities which include 30 year old bleachers and a decomposed granite track, the new Athletic Stadium would significantly improve safety, ADA accessibility, and the overall quality of the facilities for the students and spectators. The Athletic Stadium would include:

- A new artificial turf field
- An all-weather synthetic track
- 1,500 home and 750 visitor bleacher seats with ADA accessibility
- Stadium lighting (six-pole) configuration
- A new press box with an elevator for ADA accessibility
- A new Public Address (PA) announcement system, scoreboard, and goal posts
- New athletic equipment storage facilities, bathrooms, snack bar and ticket booths
- New home and visitor entrance gates
- General site improvements (i.e., grading, drainage, irrigation systems, sidewalks, gates, fences, and landscaping)

The new Athletic Stadium lighting would consist of six 90-foot-tall stadium light poles, with three poles on either side of the complex behind the bleacher seats. To minimize light trespass on the surrounding residential community, the proposed lighting system has been specifically designed

with cutoff devices, highly efficient reflectors, and 14-inch visors that would capture and redirect primary light onto the field and reduce spill light off the field. Additionally, the high mounting height of the luminaires would allow the lamps to be installed with a narrow beam angle to specifically direct light downward, onto the field of play and away from adjacent residential properties.

Baseball and Softball Field

The proposed project includes a new baseball field, which could also accommodate a soccer field, at the location of the existing football/soccer field and track at the northeastern corner of 56th Street and Trojan Avenue. This improvement would offset the loss of the existing baseball field at the southeast corner of Sharron Place and Trojan Avenue to the corner of 56th, while also providing upgrades compared to the existing facilities. To prepare the site for the baseball field the existing football facilities on the site (bleachers, team room/storage building) would be removed and/or demolished. The new field would include new ADA accessible bleacher seating for 120 persons. New dugouts, a new announcer's booth, concessions stand, and ADA accessible restrooms would also be provided. Batting cages also would be installed along the Trojan Avenue side of the complex, near the ticket entrance. Trees and other landscaping improvements would be installed along Trojan Avenue, extending midway down 56th and 58th Streets, and pedestrian access to the site from the main campus will be enhanced for safety and accessibility to the extent feasible. Maintenance access to the fields would be provided along 58th Street towards the middle of the fields.

Tennis Courts

The proposed project includes relocating the six tennis courts from their current location on the Crawford High School site along Trojan Avenue to the north side of Trojan Avenue on the Mann Middle School site. There would be 6 new tennis courts that would be used by the two schools. Access to the tennis courts from the high school would be enhanced with safety and ADA accessibility (Path-of-Travel) improvements.

Softball Field

The proposed project also includes improvements to the existing softball field on the south end of the Crawford High School property. These improvements include a new grass field, dugouts, backstop and fencing, batting cage, and drinking fountains.

Parking

The proposed project includes changes to parking that would result in a total of 211 on-site parking spaces, for a net addition of 16 spaces compared to the existing 195 spaces. As discussed above, the 75 visitor spaces along Sharron Place would be replaced by the new Athletic Stadium. However, to accommodate for these removed spaces, 17 visitor spaces would be constructed west of and adjacent to building 800 and would replace three portable buildings. Also, 72 spaces would be constructed across Trojan Avenue at Mann Middle School which would be used as parking for both Mann Middle School and Crawford High School, and two accessible parking spaces would be provided at the new baseball field. Additional spaces would also be available on the Mann Middle School campus if necessary.

Table 2-3. Crawford High School Parking Summary

Location	Existing Spaces	Proposed Spaces	Net Change
South of Building 600	38	38	0
East of Gymnasium	76	76	0
West of Gymnasium	6	6	0
Along Sharron Place	75	0	-75
West of Building 800	0	17	17
New Baseball Field	0	2	2
West of Trojan Avenue	0	72	72[1]
Total	**195**	**211**	**16**

Source: District (2012).
[1] Parking at Mann Middle School would be used for future parking to serve both schools.

Construction

The new Athletic Stadium and the other athletic facility upgrades would be completed in a single phase of construction over an approximate 18-month construction period. During construction of the project, the construction activities would be limited to 7 a.m. to 7 p.m. to comply with the City of San Diego's noise ordinance. Most of the construction activities would be onsite; however, onsite grading for the Athletic Stadium may involve importing soils to fill 25% of the site. Additionally, minor offsite improvements in already disturbed areas such as utility connections and access improvements are anticipated.

Modernization Improvements

The modernization improvements would be completed over multiple years based on funding, logistics, and other factors. The major physical improvements are not scheduled to begin until 2016. Specific construction phasing for modernization improvements would be determined by the District as specific designs are developed for the improvements. Specific designs for the modernization improvements have not yet been developed by the District. With the exception of a few major building proposals, the modernization tasks would result in little physical change to the existing campus. The various modernization proposals considered for this EIR are described below:

Major Building Systems Repair and Replacement. The proposed project includes the construction of a new 2-3 story classroom building to the south of the gym. There are currently portable classrooms in this location which would be replaced by the approximately 20 classroom building. The new classroom building would also provide some additional replacement capacity to offset the loss of space resulting from the demolition of buildings 100 and 200 with the new Athletic Stadium.

Another new 2-3 story, 28 classroom building is proposed to replace building 800. This building would replace the administrative space and classrooms in the existing building 800 and would also replace some of the classroom space lost when the portables to the west are removed to provide more parking spaces with the Athletic Stadium project.

These two new classroom buildings would not increase student capacity compared to existing conditions. The existing capacity of the high school is approximately 2000 students with 85 classrooms. (However, the school is not currently operating at capacity. Enrollment is approximately 1,222 students with 77 classrooms in use.) With the completion of the Athletic Stadium project which will remove classrooms and the two new classroom buildings which will offset some of the lost classrooms, the capacity of the school would be approximately 1,600 with approximately 83 classrooms.

The proposed project includes major renovations to the existing theater for modernization, to provide improved ADA accessibility, and to provide improved visual and performing arts facilities. The renovations are anticipated to generally conform to the existing footprint of the theater and would not result in an increase in seating capacity.

The proposed project also includes improvement proposals to repair, replace, or upgrade the following, as needed: sidewalks and hardscape areas, including ramps and stairs; building roofing, interiors, exteriors, finishes, fixtures, and windows; outdated heating and ventilation systems; and aging wiring and electrical systems.

Student Learning and Instruction. The proposed project includes 21st century technology upgrades, including audio-visual projection capabilities for all students and a wireless network to support student learning and instruction, as identified in Proposition S and Z.

Student Health, Safety, and Security. Other modernization improvements included in the proposed project consist of:

- Replacing the existing fire alarm and emergency communications system
- Installing security lighting
- Modifying the existing fencing and gates to secure the site against vandals and intruders
- Removing or minimizing risks to potentially hazardous materials on site
- Reconfiguring pedestrian circulation (student drop-off and pick-up areas would be constructed in front of building 800 along Colts Way to increase student safety)
- Upgrading educational spaces with air conditioning
- Renovating food service areas to increase service efficiency and to provide healthier food choices for students
- Multi-use flexible spaces would be created for alternative purposes (e.g., study halls, video rooms, etc.)

School Accessibility and Code Compliance. The proposed project also includes other upgrades to achieve compliance with ADA Titles I and II. These types of improvements would be made to all classrooms, labs, restrooms, and other school facilities.

Mann Middle School

As with Crawford High School, the modernization improvements would be completed over multiple years based on funding, logistics, and other factors. The first major physical improvements are scheduled to begin late 2015. Specific construction phasing for modernization improvements would be determined by the District as specific designs are developed for the improvements. During construction of the project, the construction activities would be limited to 7 a.m. to 7 p.m. to comply with the City of San Diego's noise ordinance.

The various modernization proposals considered are described below:

Major Building Systems Repair and Replacement. The proposed project includes proposals to repair or replace inadequate permanent and portable classrooms and school buildings with permanent cost-effective construction. One and two-story buildings would replace the majority of the existing buildings in a similar footprint. New landscaping and hardscaping improvements would be added throughout the campus.

Performance spaces and multi-purpose rooms (for example, the physical education building) would also be repaired, replaced, or upgraded to meet current needs. Improvements to the existing physical education building would include reconfiguration of the existing locker room to provide for boys' and girls' lockers and restroom facilities, as well as new construction of a multi-purpose divisible activity room, storage areas, and staff facilities (such as restrooms, offices, and a meeting room). Outside the physical education building, new physical education hard courts would be constructed. Landscaping improvements would be provided throughout this area as well.

Student Learning and Instruction. The proposed modernization improvements include 21st century technology upgrades, such as audio-visual projection capabilities for all students and a wireless network to support student learning and instruction. Also, fiber optics in classrooms would be enhanced to increase bandwidth to facilitate multiple concurrent applications. The library, which is within a portion of building 200, would be reconfigured and modernized, and the remaining portions of the building would be demolished and replaced with a new upper level quad, which is an outdoor area with landscape and hardscape improvements.

Student Health, Safety, and Security. Security lighting and modifications to existing fencing and gates and improvements to the site safety communication system would be installed to secure the site against vandals and intruders. Other safety improvements would include removing or minimizing risks to potentially hazardous materials on site. All educational spaces would be upgraded with air conditioning, and food service areas would be renovated to increase service efficiency and provide healthier food choices for students.

A new 160-space parking lot and drop-off area in the southeast corner of the Mann Middle School property would be constructed, in addition to a new "front door" to the campus, promoting safer access for students. Landscaping upgrades are included as part of the proposed project on the northern and southern boundaries of the proposed parking lot. Another "front door" would be located in the southwestern corner of the school property, between the Auditorium, Building 500, and the new classroom building.

School Accessibility and Code Compliance. The proposed project includes provisions to upgrade school sites to achieve compliance with ADA Titles I and II. These types of improvements would be made to all classrooms, labs, restrooms, and other school facilities. Kitchen facilities would be renovated to meet new, stringent health standards.

Parking. Proposed parking improvements at Mann Middle School would result in a net addition of 29 spaces compared to existing conditions, as shown in Table 2-4. As discussed above, 160 new visitor and faculty stalls would be constructed along Trojan Avenue to account for the 124 spaces that would be removed with the construction of the new classroom building at the intersection of 54th Street and Trojan Avenue. Also, 7 existing spaces near the intersection of 56th Street and Trojan Avenue would be removed from the school's parking supply, and 72 new spots would be used as parking for both Mann Middle School and Crawford High School.

Table 2-4. Mann Middle School Parking Summary

Location	Existing Spaces	Proposed Spaces	Net Change
Along Trojan Avenue	0	160	160
Northern Property Line	30	30	0
54th Street/Trojan Avenue Intersection	124	0	-124
Other Parking Areas	7	0	-7
Total	**161**	**190**	**29**[1]

Source: District (2012).

[1] 72 parking spaces at Mann Middle School would be used for future parking to serve both Mann Middle School and Crawford High School but offset the loss of spaces on the high school property and are therefore not included in these numbers.

Discretionary Approvals Required

The SDUSD is the lead agency under CEQA and is responsible for the permitting of the project. The District would also need the approval of compliance with the Office of the Division of State Architect.

Chapter 3
Environmental Checklist

1.	Project Title:	Crawford High School and Mann Middle School Modernization Project
2.	Lead Agency Name and Address:	San Diego Unified School District Facilities Planning & Construction 4860 Ruffner Street San Diego, CA 92111
3.	Contact Person and Phone Number:	Michael Hernandez, Facilities Development Project Manager III, (858) 637-3689
4.	Project Location:	Crawford High School: 4191 Colts Way, San Diego, CA 92115 Mann Middle School: 4345 54th Street, San Diego, CA 92115
5.	Project Sponsor's Name and Address:	San Diego Unified School District Facilities Planning & Construction 4860 Ruffner Street San Diego, CA 92111
6.	General Plan Designation[1]:	Existing School Sites – Institutional Facilities
7.	Zoning[1]:	Crawford High School: Residential-Multiple Unit (RM-1-1) Mann Middle School: Residential--Multiple and Single Unit (RM-1-1, RM-1-3, RS-1-7), Central Urbanized Planned District (CUPD-CU-2-4), and Mid-City Communities Planned District (MCCPD-MR-3000)
8.	Description of Project:	School improvements per Proposition S (see Chapter 2, Project Description)
9.	Surrounding Land Uses and Setting:	Single- and multi-family residential and commercial/retail
10.	Other Public Agencies Whose Approval is Required:	Office of the Division of State Architect

[1] By State law, school facilities can be exempted from local land use development requirements such as General Plans and zoning ordinances. It is expected that the San Diego Unified School District Board or Education will exempt this project from such land use controls. General Plan and zoning information is therefore provided only for reference, as they will not apply to the property.

Environmental Factors Potentially Affected

The environmental factors checked below would potentially be affected by this project (i.e., the proposed Project would involve at least one impact that is a "Potentially Significant Impact"), as indicated by the checklist on the following pages.

☒ Aesthetics	☐ Agriculture and Forest Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Geology/Soils
☒ Greenhouse Gas Emissions	☒ Hazards and Hazardous Materials	☐ Hydrology/Water Quality
☒ Land Use/Planning	☐ Mineral Resources	☒ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☒ Transportation/Traffic	☐ Utilities/Service Systems	☒ Mandatory Findings of Significance

Determination

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have an impact on the environment that is "potentially significant" or "potentially significant unless mitigated" but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards and (2) has been addressed by mitigation measures based on the earlier analysis, as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the project, nothing further is required.

Signature _____ Date _____

Printed Name _____ For _____

Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained if it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. "Less than Significant with Mitigation Incorporated" applies when the incorporation of mitigation measures has reduced an effect from a "Potentially Significant Impact" to a "Less-than-Significant Impact." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level. (Mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced.)
5. Earlier analyses may be used if, pursuant to tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [Section 15063(c)(3)(D)]. In this case, a brief discussion should identify the following:
   a. Earlier Analysis Used. Identify and state where earlier analyses are available for review.
   b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Incorporated," describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, when appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
   a. the significance criteria or threshold, if any, used to evaluate each question; and
   b. the mitigation measure identified, if any, to reduce the impact to a less-than-significant level.

I. Aesthetics	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	☐	☐	☐	☒
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	☒	☐	☐	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☒	☐	☐	☐

Discussion:

Would the Project:

a. Have a substantial adverse effect on a scenic vista?

Crawford High School:

No Impact. There are no scenic vistas within the proposed project vicinity or the greater surrounding areas and no impact would occur. All project activities would occur within the existing school campus. The project site is located within a residential/commercial neighborhood with no scenic vistas in the vicinity of the school. Therefore, there would be no impact.

Mann Middle School:

No Impact. The proposed project would not have a substantial adverse effect on a scenic vista. All project activities would occur within the school property where surrounding uses include single-/multi-family residences and commercial facilities. Additionally, there are no scenic vistas in the vicinity of the school. Therefore, there would be no impact.

b. Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings along a scenic highway?

Crawford High School:

No Impact. There are no scenic highways in the vicinity of the proposed Project (Caltrans 2007). Eligible State Scenic Highways within the City and County of San Diego include: portions of SR-163 and SR-125, none of which are in the vicinity of the proposed Project site. Further, the proposed project site is relatively flat and surrounded by an urban environment. There are no other scenic resources, including trees and rock outcroppings, within or adjacent to the project area. Therefore, there are no potential impacts related to scenic resources within a state scenic highway, and no impact would occur.

Mann Middle School:

No Impact. Implementation of the project would not damage scenic resources. No scenic resources occur in the vicinity of the project site, as it is located in a highly urbanized area. Route 125 is the nearest designated scenic highway; however it is located over four miles east of the school site and cannot be seen from the project site. Therefore, there would be no impact.

c. Substantially degrade the existing visual character or quality of the site and its surroundings?

Crawford High School:

Potentially Significant Impact. The proposed project is not anticipated to substantially degrade the existing visual character or quality of the Crawford High School or the surrounding residential neighborhoods. However, this issue will be further discussed in the EIR to include an analysis of the proposed light poles associated with the stadium improvements.

Mann Middle School:

Less-than-Significant Impact. Implementation of the project would not degrade the existing visual character or quality of the site or its surroundings. The project proposes improvements to an existing school. School uses not only occur onsite, but also within the surrounding neighborhood. Therefore, there impacts would be less than significant.

d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Crawford High School:

Potentially Significant Impact. The proposed project would introduce new sources of light and glare that would increase light levels during nighttime recreational activities at the proposed athletic stadium. A Photometry Study will be prepared and the anticipated environmental impacts of the proposed Project's lighting elements will be disclosed in the EIR.

Mann Middle School:

No Impact. The proposed Mann Middle School improvements would not include any new sources of light or glare and is not anticipated to have any impact on daytime or nighttime views in the area.

II. Agriculture and Forest Resources	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project, the Forest Legacy Assessment project, and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion

Would the project:

a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?

c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

d. Result in the loss of forest land or conversion of forest land to non-forest use?

e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

Crawford High School:

No Impact. Implementation of the school improvements would have no impact on agriculture or forest resources. This school property is in a densely urbanized area where there are no farmlands or forest resources. According to the California Department of Conservation San Diego County Important Farmland 2008 map (California Department of Conservation 2008), the proposed project site is classified as "urban and built-up land," which does not contain any agricultural uses or areas designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Furthermore, there are no Williamson Act contracts or forest lands in the project vicinity (California Department of Conservation 2008b). Therefore, there would be no impact.

Mann Middle School:

No Impact. Implementation of the proposed Mann Middle School improvements would not impact agriculture or forest resources. The project site is currently designated for residential uses by the San Diego General Plan and Zoning Code. The project site has historically been used as a school site and would continue to be used for school purposes. Likewise, the area surrounding the project site is fully developed, and no agricultural land uses and no property under Williamson Act contract exist in the vicinity of the proposed project. The proposed improvements on the project site would not involve other changes in the existing environment that, due to their location or nature, could result in conversion of farmland to non-agricultural use or forest land to non-forest use. No impact would occur.

III. Air Quality	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion

Would the Project:

a. Conflict with or obstruct implementation of the applicable air quality plan?

b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

d. Expose sensitive receptors to substantial pollutant concentrations?

<u>Crawford High School:</u>

Potentially Significant Impact. Air quality emissions associated with construction activities are considered to be potentially significant as a result of implementation of the proposed improvements at Crawford High School. A Greenhouse Gas/Climate Change Analysis will be prepared for the proposed project and the findings will be presented in the EIR.

Mann Middle School:

Potentially Significant Impact. Air quality emissions associated with construction activities are considered to be potentially significant as a result of implementation of the proposed actions at Mann Middle School. A Greenhouse Gas/Climate Change Analysis will be prepared for the proposed Project and the findings will be presented in the EIR.

e. Create objectionable odors affecting a substantial number of people?

Crawford High School:

Less-than-Significant Impact. The proposed project would not create objectionable odors affecting a substantial number of people. Odor emission during construction activities may be evident from construction equipment; however, this would be limited to the immediately surrounding area and on a temporary basis. Potential sources that may emit odors during construction activities include any asphalt paving or painting/coating of buildings. Additionally, an occasional "whiff" of diesel exhaust by nearby receptors could occur due to material deliveries and hauling heavy-duty truck trips. These odors would not affect a substantial number of people, as the scale of construction is small. Standard operation of the school would not produce objectionable odors. Therefore, impacts for this issue would be less than significant.

Mann Middle School:

Less-than-Significant Impact. Operation and construction of the proposed project would not create objectionable odors affecting a substantial number of people. School operations would not produce objectionable odors. Project-related odor emission would be limited to the construction period, where emissions from construction equipment may be evident in the immediately surrounding area on a temporary basis. In addition, material deliveries and hauling heavy-duty truck trips could create an occasional "whiff" of diesel exhaust for nearby receptors; however these odors would not affect a substantial number of people. Therefore, impacts for this issue would be less than significant.

IV. Biological Resources	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☒	☐	☐	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion

Would the project:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Crawford High School:

Potentially Significant Impact. Vegetation occurring on-site provides suitable nesting habitat for migratory birds and raptors protected under the Federal Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code, which prohibit the take or destruction of migratory birds/raptors,

their nests, and/or eggs. Impacts to nesting birds protected by the MBTA and similar provisions of the Fish and Game Code could occur if work is conducted during the breeding season (February 1 through August 15). These impacts will be further discussed in the EIR.

Mann Middle School:

Potentially Significant Impact. Similar to the discussion above, the potential for suitable nesting habitat for migratory birds and raptors to be impacted by the project could result in impacts to nesting birds protected by the MBTA. These impacts will be further discussed in the EIR.

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?

Crawford High School:

Less-than-Significant Impact. The project site is developed as a high school campus and located in a dense urban area. The site includes ornamental and non-native species and impacts are considered to be less than significant.

Mann Middle School:

Less-than-Significant Impact. The project site is developed as a middle school campus and located in a dense urban area. The site includes ornamental and non-native species and impacts are considered to be less than significant.

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Crawford High School:

Potentially Significant Impact. As discussed above under item a, potential impacts on migratory birds and raptors could occur if work is conducted during the breeding season (February 1 through August 15). Impacts will be further discussed in the EIR.

Mann Middle School:

Potentially Significant Impact. As discussed above under item a, potential impacts on migratory birds and raptors could occur if work is conducted during the breeding season (February 1 through August 15). Impacts will be further discussed in the EIR.

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

Crawford High School:

No Impact. A small canyon system identified as Conserved Land under the City of San Diego Multiple Species Conservation Program (MSCP) Multiple Habitat Planning Area (MHPA) and contains coastal sage scrub and chaparral (City of San Diego 1997) is located one-half mile from the high school. Project construction would be far removed from this sensitive vegetation community as all construction activities would be conducted within the existing campus. Therefore, implementation of the project would not result in impacts on any local policies. Ordinances, or conservation plans related to biological resources.

Mann Middle School:

No Impact. A small canyon system identified as Conserved Land under the City of San Diego Multiple Species Conservation Program (MSCP) Multiple Habitat Planning Area (MHPA) and contains coastal sage scrub and chaparral (City of San Diego 1997) is located one-half mile from the middle school. Project construction would be far removed from this sensitive vegetation community as all construction activities would be conducted within the existing campus. Therefore, implementation of the project would not result in impacts on any local policies. Ordinances, or conservation plans related to biological resources.

V. Cultural Resources	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☒	☐	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☐	☒
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐
d. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Discussion

Would the project:

a. ***Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?***

Crawford High School:

Potentially Significant Impact. The proposed project involves the modernization of an existing school site, including the demolition of several school buildings constructed in 1957. Impacts resulting from building demolition would not result in impacts on historical buildings.

Mann Middle School:

Potentially Significant Impact. The proposed project involves the modernization of an existing school site, including the demolition of several school buildings constructed in 1952. Impacts resulting from building demolition could result in impacts on historical buildings. As such, further discussion will be provided in the EIR.

b. ***Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?***

Crawford High School:

No Impact. A records search was performed on the Crawford High School site, which included a review of trinomial and primary site maps by the California Historical Resources Information System Records Search and the results for archaeological resources was negative. As such, no impacts are anticipated to occur.

Mann Middle School:

No Impact. A records search was performed on the Mann Middle School site, which included a review of trinomial and primary site maps by the California Historical Resources Information System Records Search and the results for archaeological resources was negative. As such, no impacts are anticipated to occur.

c. *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

Crawford High School:

Potentially Significant Impact. The project site has been significantly disturbed by grading activities associated with development of the site for the high school in 1957. Any significant archeological or paleontological resources would have likely been disturbed or unearthed during past grading activities. Minimal grading and trenching will be necessary for the proposed modernization effort; however, impacts to unknown archeological or paleontological resources could occur during construction activities and these impacts will be further discussed in the EIR.

Mann Middle School:

Potentially Significant Impact. Similar to the discussion for Crawford High School, the middle school project site has been significantly disturbed by grading activities associated with development of the site for the school in 1952. Any significant historical, archeological, or paleontological resources would have likely been disturbed or unearthed during past grading activities. Minimal grading and trenching will be necessary for the proposed modernization effort; however, impacts to unknown archeological or paleontological resources could occur during construction activities and these impacts will be further discussed in the EIR.

d. *Disturb any human remains, including those interred outside of formal cemeteries?*

Crawford High School:

Less-than-Significant Impact. The Crawford High School site is not a formal cemetery and is not located near a formal cemetery. The project vicinity is fully developed, and there is no record of human remains being identified during development of the area. The site is not known to be located on a burial ground. Therefore, it is highly unlikely the proposed project would disturb any human remains during construction. Should human remains be uncovered during construction, as specified by State Health and Safety Code Section 7050.5, no further disturbance will occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code 5097.98. If such a discovery occurs, excavation or construction will halt in the area of the discovery, the area will be protected, and consultation and treatment will occur as prescribed by law. If the County Coroner recognizes the remains to be Native American, he or she will contact the Native American Heritage Commission, who will appoint the Most Likely Descendent. Additionally, if the bones are determined to be Native American, a plan will be developed regarding the treatment of human remains and associated burial objects, and the plan will be implemented under the direction of the Most Likely Descendent. Impacts are anticipated to be less than significant and no mitigation is required.

Mann Middle School:

Less-than-Significant Impact. Similar to the discussion above for the Crawford High School site, the Mann Middle School site is not located near a formal cemetery and there is no record of human remains recorded on the site during previous development efforts. The site is not known to be a burial ground and it is highly unlikely that the improvements at Mann Middle School would result in the disturbance of human remains.

VI. Geology and Soils	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☒	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Discussion

Would the project:

a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

ii. Strong seismic ground shaking?

Crawford High School:

Less-than-Significant Impact. The project site is located in a known seismically active region where the potential of seismic hazards exist. Although no active or potentially active faults are located within the project site itself, a potentially active fault exists approximately 800 feet west of the project site, generally following 54th Street (City of San Diego 2008). A seismic event on this fault could cause significant groundshaking on the proposed project site and, therefore, the potential exists for onsite health and safety risks associated with a seismic hazard.

Design and construction of the proposed project elements would comply with all seismic-safety development requirements including Title 24 standards of the 2010 California Building Code (based on the 2009 International Building Code (IBC)). Conformance with all applicable seismic-safety development requirements would minimize seismic ground shaking effects in the event of a major earthquake and ensure that the potential seismic or geologic hazard impacts are not significant.

Mann Middle School:

Less-than-Significant Impact. The potential for seismic hazards exists at the project site since, like all of San Diego County, it is located in a known seismically active region. There are no active or potentially active faults located within the project site; however, a potentially active fault exists just west of the school, generally following 54th Street (City of San Diego 2008). A seismic event on this fault could cause significant groundshaking on the proposed project site. Therefore, the potential exists for health and safety risks associated with a seismic hazard on the project site.

School facility improvements, as proposed by the project, would be implemented in conformance with all seismic-safety development requirements including Title 24 standards of the 2010 California Building Code (based on the 2009 International Building Code (IBC)). Compliance with these seismic-safety development requirements would minimize seismic ground shaking effects in the event of a major earthquake and ensure that the potential seismic or geologic hazard impacts are not significant. Therefore, there would be less-than-significant impacts associated with this issue.

a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

iii. Seismic-related ground failure, including liquefaction?

iv. Landslides?

Crawford High School:

Less-than-Significant Impact. See discussion a) i. and ii., above. The project site is located in a known seismically active region where the potential of seismic-related hazards exist. However, all project improvements would occur within the existing school campus, which has a low potential for ground-failure since the site has been previously graded and developed. Additionally, design and construction of all project elements would comply with the applicable seismic-safety development requirements to minimize seismic ground shaking effects and ensure that potential seismic or geologic hazard impacts are not significant.

Mann Middle School:

Less-than-Significant Impact. See discussion a) i. and ii., above. Although the project site is located in a known seismically active region, impacts associated with seismic-related ground failure would not be significant. All project improvements would occur within the existing campus, which is already graded

and developed and, therefore, has a low potential for ground-failure. Additionally, implementation of all project improvements would comply with the applicable seismic-safety development requirements to lessen seismic ground shaking effects and ensure that potential seismic or geologic hazard impacts are not significant. Therefore, impacts associated with this issue would be less than significant.

b. Result in substantial soil erosion or the loss of topsoil?

Crawford High School:

Less-than-Significant Impact. Implementation of the proposed school improvements, including on the stadium site and athletic fields, would not result in substantial soil erosion or the loss of topsoil. Soils under the school site are classified as Huerhuero-Urban land complex on the northern portion of the campus, including the existing stadium site, and Diablo-Urban land complex on the southern portion (USDA 2012). Soils in these groups have been altered through cut and fill operations for development and have low erodibility within development areas (USDA 1973). All construction activities would occur within the existing developed campus and, therefore, would not result in substantial soil erosion. In addition, the site is relatively level, limiting the opportunity to rapid stormwater runoff, which would exacerbate erosion potential. Impacts would therefore be less than significant.

Mann Middle School:

Less-than-Significant Impact. Substantial soil erosion or the loss of topsoil would not occur with implementation of the project since all construction activities would occur within the existing developed campus. The school site is underlain with soils classified as Redding-Urban land complex on the northern portion of the school campus and Diablo-Urban land complex on the southern portion (USDA 2012). Soils in both of these groups have been altered through cut and fill operations for development and have low erodibility within developed areas (USDA 1973). All project improvements would occur within the existing campus and, therefore, would not result in substantial soil erosion. Additionally, the school site is relatively level, which limits the opportunity to rapid stormwater runoff that could intensify erosion potential. Therefore, impacts associated with this issue would be less than significant.

c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Crawford High School:

Less-than-Significant. Implementation of the project is not anticipated to have significant impacts associated with unstable soil, including expansive soils, on- or off-site lateral spreading, subsidence, liquefaction, or collapse. The project site and surrounding area are currently developed on relatively level terrain considered to have a low to moderate risk for geologic hazards (City of San Diego 2008). As identified above, soils that underlay the site are classified as Huerhuero-Urban and Diablo-Urban land complex. The likelihood of liquefaction is low to moderate considering the moderate quantity of sand in these soils (USDA 2012). Also, because of previous onsite grading activities, the potential for near surface expansive soils at the project site is considered low. Furthermore, the construction activities of the proposed project would not require substantial grading or excavation. Therefore impacts would be less than significant.

Mann Middle School:

Less-than-Significant. Significant impacts associated with unstable soil, including expansive soils, on- or off-site lateral spreading, subsidence, liquefaction, or collapse, with implementation of the project would not occur. The project site and surrounding area are currently developed on relatively level terrain considered to have a low to moderate risk for geologic hazards (City of San Diego 2008). As previously described, soils underneath the school are classified as Redding-Urban and Huerhuero-Urban land complex. The likelihood of liquefaction is low to moderate considering the moderate quantity of sand in these soils (USDA 2012). Also, because the site is developed and previously graded, the potential for near surface expansive soils at the project site is considered low. Lastly, the construction activities of the proposed project would not require substantial grading or excavation. Therefore impacts associated with these issues would be less than significant.

e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?

Crawford High School:

No Impact. Implementation of the project would not result in any impacts regarding inadequate soils to support septic systems. Crawford High School uses the existing sewer system for the disposal of wastewater, and would not use septic tanks or alternative wastewater disposal systems. Therefore, there would be no impact.

Mann Middle School:

No Impact. The project would not result in any impacts regarding inadequate soils to support septic systems. The existing sewer system is used for the disposal of wastewater at the middle school; therefore, the project would not use septic tanks or alternative wastewater disposal systems. There would be no impact associated with this issue.

VII.	Greenhouse Gas Emissions	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:					
a.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b.	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐

Discussion

Would the project:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Crawford High School:

Potentially Significant Impact. Greenhouse gas emissions associated with construction activities are considered to be potentially significant as a result of implementation of the Prop S improvements at Crawford High School. A Greenhouse Gas/Climate Change Analysis will be prepared for the proposed project and the findings will be presented in the EIR.

Mann Middle School:

Potentially Significant Impact. Greenhouse gas emissions associated with construction activities are considered to be potentially significant as a result of implementation of the proposed actions at Mann Middle School. A Greenhouse Gas/Climate Change Analysis will be prepared for the proposed project and the findings will be presented in the EIR.

VIII. Hazards and Hazardous Materials	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☒	☐	☐	☐
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☒	☐	☐	☐
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☒	☐	☐	☐
e. Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f. Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

Discussion

Would the project:

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

<u>Crawford High School:</u>

Less-than-Significant Impact. Project construction of the athletic facilities would require the use of typical materials associated with construction activities, e.g., diesel fuel, gasoline, oil, hydraulic fluid, engine exhaust, solvent for welding PVC, asphalt and binders, and paint. Any hazardous materials used

during project construction would be transported, used, and stored in accordance with state and federal regulations regarding hazardous materials.

The modernization activities would not change the on-going operations at the high school. The routine transport, use, or disposal of hazardous materials used on the school site would be conducted in accordance with state and federal regulations regarding hazardous materials. Therefore, construction and operational impacts for these issues would be less than significant.

Mann Middle School:

Less-than-Significant Impact. As discussed above, modernization activities would not change the on-going operations at the middle school. The routine transport, use, or disposal of hazardous materials used on the school site would be conducted in accordance with state and federal regulations regarding hazardous materials. Therefore, construction and operational impacts for these issues would be less than significant.

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Crawford High School:

Potentially Significant Impact. The proposed project would include modifications and demolition of existing structures that were developed in 1957, including the Administration Building, Building 100, and Building 200. The use of asbestos in many building products was common through the 1970s in building materials such as floor tile, ceiling tile, and roofing materials. Asbestos-containing materials represent a concern when they are subject to damage that results in the release of fibers, such as during demolition activities. Similarly, lead, which is recognized as toxic to human health and the environment, has historically been used in commercial and residential structures; buildings constructed prior to 1978 are presumed to contain lead-based paint unless proven otherwise. Because of the age of the buildings to be demolished and modified and this environmental health concern, this issue is considered potentially significant and will be further addressed in the EIR.

Mann Middle School:

Potentially Significant Impact. As discussed above, buildings constructed in the 1970s and prior could contain asbestos and/or lead-based paint. The proposed improvements at Mann Middle School would involve the demolition of Building 100 and Building 200, which were both constructed in 1952. As such, the proposed Project has the potential to result in a significant during the disposal of building materials associated with Building 100 and Building 200 and further analysis in the EIR is warranted.

d. Be located on a site that is included on a list of hazardous materials sites that complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Crawford High School:

Potentially Significant Impact. Pursuant to a database check with both the Geotracker (State Water Resources Control Board) and Envirostor (State Department of Toxic Substances Control) databases, the

Crawford High School site is included as an inactive site in need of further evaluation for potential lead contamination associated with prior underground storage tanks (USTs) (DTSC 2012). There are no other open UST cases at the Crawford High School site (Geotracker 2012); however, due to the undetermined status of the inactive site, impacts are unknown and will require further analysis in the EIR.

Mann Middle School:

No Impact: A database check with Geotracker and Envirostor was performed, and no potentially hazardous resources were identified (DTSC 2012, Geotracker 2012). Therefore, impacts related to hazardous materials on site that would create a significant hazard to the public or the environment would not occur.

e. For a project within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

f. Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?

Crawford High School:

No Impact: The Crawford High School site is not within two miles of a public or private airport facility. The airport closest to the high school is located more than five miles north, at Montgomery Field, and the San Diego International Airport is located about six miles to the west. Furthermore, the high school site is not located within the boundaries of the Airport Influence Area (AIA) for Montgomery Field or the San Diego International Airport, which is administered by the Airport Land Use Commission (ALUC 2010). As such, the proposed project would not conflict with the ALUC or any other applicable rules and regulations as they pertain to airports and airport safety, and no impacts would result upon implementation of the proposed project.

Mann Middle School:

No Impact: Similar to the discussion above, Mann Middle School is not located within two miles of any airport facility, public or private, and is not within the boundaries of the AIA for any airport. No impacts would occur.

g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Crawford High School:

Less-than-Significant Impact. Emergency management services are overseen by the San Diego Fire-Rescue Department, and include responses to earthquakes, floods, or terrorist acts. The SDUSD also maintains a Natural Hazards Mitigation Plan (NHMP) that addresses multiple hazards, including earthquakes, floods, wildfire, landslides, and tsunamis.

Access to the Crawford High School site for emergency vehicles is provided along Colts Way, Sharron Place, 55th Street, 56th Street, Trojan Way, and Spartan Drive. Construction activities would occur within the project site and would not restrict access of emergency vehicles to the high school. After construction of the project, emergency access to the site would remain similar to the existing condition

described above. As a result, implementation of the proposed project would not impair or physically interfere with an emergency response and impacts are considered to be less than significant.

Mann Middle School:

Less-than-Significant Impact. Mann Middle School is also overseen by the City and SDUSD, as described above. Access to the middle school site for emergency vehicles is provided along 54th Street, 56th Street, and Trojan Way and construction activities are not anticipated to disrupt emergency vehicular access to Mann Middle School. Post-construction conditions related to emergency access would remain as they were under existing conditions and impacts are anticipated to be less than significant.

h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Crawford High School:

Less-than-Significant Impact. The project site is located within an urban developed area and is not located within an identified wildland fire hazard area. As identified by CAL FIRE's Very High Fire Hazard Severity Zones (VHFHSZ) Map, the high school site is listed as a Non-VHFHSZ (CAL FIRE 2009). Therefore, the proposed project would not expose people or structures to a significant risk of loss, injury, or death from wildfires and impacts would be less than significant.

Mann Middle School:

Less-than-Significant Impact. Mann Middle School is located within a fully developed urban area and is not within a VHFHSZ (CAL FIRE 2009) and would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. Impacts would be less than significant.

IX. Hydrology and Water Quality	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	☐	☐	☒	☐
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	☐	☐	☒	☐
e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f. Otherwise substantially degrade water quality?	☐	☐	☒	☐
g. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h. Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒
i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j. Contribute to inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion

a. Violate any water quality standards or waste discharge requirements?

f. Otherwise substantially degrade water quality?

Crawford High School:

Less-than-Significant Impact. Implementation of the project would not violate any water quality standards or waste discharge requirements. Construction activities to implement the high school improvements have the potential to increase erosion and result in delivery of sediment to surface waters and storm drains near the project site. However, because the project would disturb over one acre of land, the proposed Project is subject to the General Construction Permit. The General Construction Permit, which was adopted by the SWRCB as Water Quality Order 99-08-DWQ on August 19, 1999, is required for soil disturbance activities that would be greater than one acre. Compliance with the General Construction Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), the elimination or reduction of non-stormwater discharge off site into storm drainage systems or other water bodies, and the implementation of BMPs. The SWPPP requires a description of the project site, identification of sources of sediment and other pollutants that may affect the quality of storm water discharges, a list of BMPs to provide sediment and erosion control, waste handling measures, and non-stormwater management. The SWPPP would be required to meet or exceed measures required by the Construction General Permit. As a result, construction of the proposed project would result in less-than-significant impacts related to water quality standards.

Mann Middle School:

Less-than-Significant Impact. Implementation of school improvements, as proposed by the project, would not violate any water quality standards or waste discharge requirements. There is the potential for short-term water quality impacts associated with increased erosion during construction activities; however, the project would implement BMPs, required as part of the local SWPPP to minimize erosion effects and ensure significant water quality impacts during construction would not occur. Therefore, impacts associated with water quality standards or waste discharge requirements would be less than significant.

b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

Crawford High School:

Less-than-Significant Impact. School improvements, as proposed by the project, would not deplete groundwater supplies or interfere substantially with groundwater recharge. The project site is within an established urban community serviced by the City of San Diego, Water Utilities Department, and does not propose to use groundwater. Additionally, all project improvements would occur within the existing school campus, and expansion of impervious areas, which could interfere with groundwater recharge, would be minimal. Therefore, there impacts would be less than significant.

Mann Middle School:

Less-than-Significant Impact. There would be no impact on groundwater supplies with implementation of the proposed project. The project does not propose to use groundwater as it is currently serviced by the City of San Diego, Water Utilities Department. Additionally, implementation of the school improvements would not substantially interfere with groundwater recharge. The project would occur within the existing school property and would result in impervious surfaces similar to those that exist onsite. Therefore, impacts associated with this issue would be less than significant.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?

Crawford High School:

Less-than-Significant Impact. Implementation of the proposed project would not impact the existing drainage pattern of the site. The project site is currently developed as a high school campus within a densely urbanized area. Drainage for the site would continue to be serviced by the existing storm drain system. Additionally, no stream or river courses exist within the site vicinity that could be affected by the proposed action. Therefore, impacts on the existing drainage pattern would be less than significant.

Mann Middle School:

Less-than-Significant Impact. Impacts on the existing drainage pattern of the site with implementation of the proposed project would not occur. All school facility improvements would be implemented within the existing school campus, which is already developed and previously graded. Additionally, there are no stream or river courses within the site vicinity that could be impacted by the proposed action. Therefore, impacts on the existing drainage pattern would be less than significant.

d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?

e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Crawford High School:

Less-than-Significant Impact. See discussion c), above. The proposed Project would not result in significant impacts on the existing drainage pattern. Additionally, impacts associated with the substantial increase in the rate or amount of surface runoff with implementation of the proposed Project would also not occur. Implementation of the project would be within the existing school property and expansion of impervious areas would be less than significant.

Mann Middle School:

Less-than-Significant Impact. See discussion c), above. Implementation of the proposed Project would not result in impacts on the existing drainage pattern. Additionally, impacts associated with the substantial increase in the rate or amount of surface runoff with implementation of the proposed

Project would also not occur. Implementation of the project would be within the existing school property and would result in impervious surfaces similar to those that occur onsite. Therefore impacts associated with this issue would be less than significant.

g. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

h. Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

Crawford High School:

No Impact. The proposed Project would not place housing or structures within a 100-year flood hazard area. As shown by flood maps provided by the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA), the school property is not located within a 100-year flood zone (FEMA 1999). Therefore, there would be no impact associated with these issues.

Mann Middle School:

No Impact. The proposed Project would not place housing or structures within a 100-year flood hazard area as the school property is not located within a 100-year flood zone (FEMA 1999). Therefore, there would be no impact associated with these issues.

i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

Crawford High School:

No Impact. Implementation of the proposed school improvements would not expose people or structures to significant risks involving flooding as a result of the failure of a levee or dam. There are no dams or levees in the project vicinity, and as such, there would be no impact.

Mann Middle School:

No Impact. Exposure of people or structures to significant risks involving flooding as a result of the failure of a levee or dam would not occur as a result of the proposed Project. No dams or levees are located in the project vicinity. Therefore, impacts associated with this issue would not occur.

j. Contribute to inundation by seiche, tsunami, or mudflow?

Crawford High School:

No Impact. Impacts involving inundation by seiche, tsunami, or mudflow would not occur. The project site is inland and not located in the vicinity of any major water body. Therefore, there would be no impact associated with these issues.

Mann Middle School:

No Impact. The project site would not be subject to inundation by seiche, tsunami, or mudflow. The school site is located inland and not in the vicinity of any major water body. Therefore, there would be no impact.

X. Land Use and Planning	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☒	☐
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion

Would the project:

a. Physically divide an established community?

b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Crawford High School:

Less-than-Significant Impact. Improvements at the Crawford High School site would alter the existing configuration of the campus; however, changes would be internal and would not result in changes to the surrounding neighborhood. The proposed lighting poles would exceed the City's 40' threshold and would require a two-thirds vote by the San Diego Unified School Board to allow for the lighting poles. Also, the existing high school facility will continue to be compatible with the El Cerrito neighborhood. No land use conflicts are anticipated to result and impacts would be less than significant; however, the lighting poles will be discussed in the EIR.

Mann Middle School:

Less-than-Significant Impact. The proposed Project would result in alterations to the existing Mann Middle School campus; however, impacts would not result in a physical division of the surrounding El Cerrito community and no conflicts would result with any applicable land use plans. The Mann Middle School site has been devoted to school uses since its construction in 1954 and the proposed alterations would not result in a significant land use impact.

c. Conflict with any applicable habitat conservation plan or natural community conservation plan?

Crawford High School:

No Impact. Implementation of the project would not conflict with any applicable habitat or natural community conservation plan. The project is located in an area currently developed as an existing school campus in a highly urbanized area. The project area is completely surrounded by existing development and no sensitive habitat exists within or surrounding the project site. Lastly, no habitat conservation plans or natural community conservation plans are in place or applicable to the project area. Therefore, there would be no impact.

Mann Middle School:

No Impact. The modernization of the middle school would not conflict with any applicable habitat or natural community conservation plan. The project area is currently developed as a middle school campus within a highly urbanized area. No sensitive habitat exists within or surrounding the middle school as existing development completely surrounds the site. Furthermore, no habitat conservation plans or natural community conservation plans are in place or applicable to the project area. Therefore, there would be no impact.

XI. Mineral Resources	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Discussion

Would the project:

a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

Crawford High School:

No Impact. The proposed Project involves the modernization of existing school sites. The mineral land classification for the Crawford High School property is Mineral Resource Zone 3 (MRZ-3), which is identified as an area containing mineral deposits; however, the significance cannot be evaluated from available data (CDC 1996). There is no mineral extraction or other mining operations within the project site. In addition, the District does not intend to remove the school and, therefore, the site would not be available for mineral extraction activities in the future. Therefore, there would be no impact.

Mann Middle School:

No Impact. The mineral land classification for the project site is MRZ-3, which is identified as an area containing mineral deposits of which cannot be evaluated from available data (CDC 1996). The proposed project is the modernization of existing school sites where no mineral extraction or other mining operations exist. Additionally, the District intends to continue school operations at the site, and, therefore, the site would not be available for mineral extraction activities in the future. Therefore, there would be no impact.

XII. Noise	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	☒	☐	☐	☐
b. Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐
c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
d. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
e. Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f. Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

Would the project:

a. Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?

b. Expose persons to or generate excessive groundborne vibration or groundborne noise levels?

c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

d. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Crawford High School:

Potentially Significant Impact. Noise impacts associated with construction and operation of the proposed Project are considered to be potentially significant as a result of implementation of the Prop S improvements at Crawford High School. An Acoustical Analysis will be prepared for the proposed Project and the findings will be presented in the EIR.

Mann Middle School:

Potentially Significant Impact. Noise impacts associated with construction and operation of the proposed Project are considered to be potentially significant as a result of implementation of the Prop S improvements at Mann Middle School. An Acoustical Analysis will be prepared for the proposed Project and the findings will be presented in the EIR.

e. Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?

f. Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?

Crawford High School:

No Impact. As discussed above under Section VII for items e. and f., the proposed Project site not located within an airport land use plan or within two miles of a public or private airstrip. No impacts would occur.

Mann Middle School:

No Impact. Because the proposed Project site is not within an airport land use plan or within two miles of a public or private airstrip, no impacts are anticipated.

XIII. Population and Housing	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

Would the project:

a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?

b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?

c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?

Crawford High School:

No Impact. The proposed Project site is within existing school property in a built-out urbanized community and would not impact population or housing in the area. Under the project, existing school facilities would be renovated and circulation and access would be improved. These upgrades would not increase the capacity or operations of the existing high school, and would not result in the extension of public roads or other infrastructure. Therefore, there impacts associated with these issues would not occur.

Mann Middle School:

No Impact. The proposed project would not impact population or housing in the area. The project would occur within existing school property in a high-density neighborhood and would not displace any housing or people. The project proposes facility and access upgrades that would not increase school capacity or operations and would not result in the extension of public roads or other infrastructure. Therefore, there would be no impacts.

XIV. Public Services	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
1. Fire protection?	☐	☐	☐	☒
2. Police protection?	☐	☐	☐	☒
3. Schools?	☐	☐	☐	☒
4. Parks?	☐	☐	☐	☒
5. Other public facilities?	☐	☐	☐	☒

Discussion

a. Would the project result in substantial adverse physical impacts associated with: fire protection, police protection, schools, parks, or other public facilities?

Crawford High School:

No Impact. The proposed project is the modernization of an existing school site, and would not result in substantial adverse physical impacts on public services. Implementation of project would not increase the capacity or operations of the existing school, thus, no additional public services would be required for the project. Therefore, there would be no impacts on public services.

Mann Middle School: Improvements to the existing school site would not result in substantial adverse physical impacts on public services. No additional public services would be required for the project as implementation of project would not increase the capacity or operations of the existing school. Therefore, there would be no impacts on public services.

XV. Recreation	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

a. Would the project Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

Crawford High School:

Implementation of the proposed school improvements would not result in an impact on recreational facilities. The project would upgrade or replace existing athletic facilities within the Crawford High School campus. Implementation of the project would not increase the capacity of the existing school, which could generate additional demand for recreational uses. Additionally, implementation of the project would not require the provision of new recreational facilities. Therefore, there would be no impact.

Mann Middle School:

The proposed school modernization project would not increase the use of existing recreational facilities or require the provision of new recreational facilities. Improvements include upgrades or replacement of existing athletic facilities within the school property. Student capacity would not be increased as a result of the project; therefore, population would not be generated necessitating greater demand for recreational facilities. Therefore, impacts associated with this issue would not occur.

XVI. Transportation/Traffic	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☒	☐	☐	☐
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☒	☐	☐	☐
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☒	☐	☐	☐
e. Result in inadequate emergency access?	☒	☐	☐	☐
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☒	☐	☐	☐

Discussion

Would the project:

a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

e. Result in inadequate emergency access?

f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Crawford High School:

Potentially Significant Impact. Traffic associated with the proposed improvements at Crawford High School is considered to be potentially significant. A Traffic Impact Analysis will be prepared for the proposed project and the findings will be presented in the EIR.

Mann Middle School:

Potentially Significant Impact. Traffic associated with the proposed improvements at Mann Middle School is considered to be potentially significant. A Traffic Impact Analysis will be prepared for the proposed project and the findings will be presented in the EIR.

c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Crawford High School:

No Impact. As discussed above under Section VII for items e. and f., the proposed Project site not located within an airport land use plan or within two miles of a public or private airstrip. No impacts would occur.

Mann Middle School:

No Impact. Because the proposed Project site is not within an airport land use plan or within two miles of a public or private airstrip, no impacts are anticipated.

XVII. Utilities and Service Systems	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	☐	☐	☐	☒
e. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g. Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

Discussion

Would the project:

a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

e. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Crawford High School:

No Impact. Implementation of the proposed Project would not exceed applicable wastewater treatment requirements or result in the expansion or construction of wastewater treatment facilities. Improvements proposed for the school would not increase student capacity or school operations that could necessitate greater demand for this service. Therefore, the need for wastewater treatment would not change from existing conditions as a result of the proposed Project. Impacts on wastewater service would not occur.

Mann Middle School:

No Impact. The proposed Project would not exceed applicable wastewater treatment requirements or result in the expansion or construction of wastewater treatment facilities. There would be no increase in student capacity or school operations that could necessitate greater demand for this service. Therefore, the need for wastewater treatment would not change from existing conditions as a result of the proposed Project. Impacts on wastewater service would not occur.

c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Crawford High School:

No Impact. The proposed Project would not require or result in the construction of new storm water drainage facilities or the expansion of existing facilities. Improvements proposed by the project would upgrade or replace existing school facilities that would continue to utilize the existing storm drain system. Therefore, impacts on stormwater facilities would not occur.

Mann Middle School:

No Impact. Proposed improvements to Mann Middle School would not require or result in the construction of new storm water drainage facilities or the expansion of existing facilities. All improvements would occur on the existing school property and the existing storm drain system would continue to accommodate the school. Therefore, there would be no impact on stormwater facilities.

d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?

Crawford High School:

No Impact. Sufficient water supplies are available to serve the proposed project. Implementation of the project would not increase capacity or operation of the existing school. Therefore, there would be no greater demand for water than what currently exists at the site. No impacts on water supplies would occur.

Mann Middle School:

No Impact. Implementation of the proposed school improvements would not result in increased water demand. Operation of the school and school capacity would remain the same as existing conditions, thus, demand for water service would not increase. Therefore, impacts on water supplies with implementation of the project would not occur.

f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

g. Comply with federal, state, and local statutes and regulations related to solid waste?

Crawford High School:

Less-than-Significant Impact. The project would be served by a permitted landfill capable of accommodating project waste and would comply to all applicable regulations related to solid waste. During construction, non-recyclable solid waste would be taken to a permitted landfill with sufficient capacity to accommodate the project's disposal needs. During operation, the project would continue to generate municipal solid waste, acceptable for waste haulers and landfill operators. In addition, the school would continue to comply with federal, state, and local regulations related to solid waste. Therefore, impacts associated with these issues would be less than significant.

Mann Middle School:

Less-than-Significant Impact. Implementation of the school modernization project would not result in significant impacts on solid waste. Solid waste generated by the school would continue to be served by a permitted landfill with sufficient capacity to accommodate the project's disposal needs. The school would also continue to comply with all applicable regulations associated with solid waste. Therefore, impacts regarding these issues would be less than significant.

XVIII. Mandatory Findings of Significance	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b. Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☒	☐	☐	☐
c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Discussion

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Crawford High School:

Potentially Significant Impact. As discussed above under Section IV and V, impacts on biological resources and cultural resources will be further discussed in the EIR at the Crawford High School site. Impacts are potentially significant.

Mann Middle School:

Potentially Significant Impact. As discussed above under Section IV and V, impacts on biological resources and cultural resources will be further discussed in the EIR at the Mann Middle School site. Impacts are potentially significant.

b. Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

Crawford High School:

Potentially Significant Impact. A discussion of cumulative impacts and direct and indirect effects on human beings will be provided in the forthcoming EIR.

Mann Middle School:

Potentially Significant Impact. A discussion of cumulative impacts and direct and indirect effects on human beings will be provided in the forthcoming EIR.

Chapter 4
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Chapter 5

List of Preparers

San Diego Unified School District

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Appendix B
Photometry Memorandum

Memorandum

Date:	12/01/2013
To:	Kathryn Ferrell San Diego Unified School District, Facilities Planning and Construction 4860 Ruffner Street San Diego, CA 92111
From:	Devon Muto, Jim Harry
Subject:	**Crawford High School and Mann Middle School Modernization Project**

Introduction

This memorandum provides an overview of lighting evaluation criteria and a preliminary discussion of potential impacts that could result from proposed upgrades to the Crawford High School and Mann Middle School football stadium complex, which would include the installation of six new light standards. Potential visual impacts associated with lighting and glare are based on mathematical quantifications of the illumination provided by Musco Lighting Inc. These quantifications were used to evaluate whether the proposed lighting would result in substantial spill-over of light onto adjacent light-sensitive receptors (i.e., residential uses located to the east and west of the stadium). Substantial light spill-over could affect occupant vision and privacy during pre-curfew hours when nighttime use of the stadium is anticipated. Under the current lighting design, several residential properties near Poles F1 through F6 (see Attachment 1) would experience light trespass in excess of 0.8 footcandles during pre-curfew hours.

Existing Environment

The Project site is surrounded by an urbanized neighborhood of primarily single-family houses with some multi-family residential uses to the northeast of Mann Middle School. The Project is located in one of San Diego's oldest neighborhoods, with typical power-pole–mounted street lighting. Light-sensitive single-family residences are located immediately to the east of the proposed stadium; to the west, single-family residences are located across from the school parking area on the west side of Sharron Place.

Evaluation Criteria

For purposes of this lighting report, the proposed Project would be regarded as having an adverse lighting impact if it would produce a substantial amount of light pollution, including sky glow, light trespass, or glare (for example, by proposing poorly shielded light fixtures). Sky glow and glare impacts will be evaluated according to the design (shielding, angular distribution of light, etc.) of the proposed lighting system because the physical characteristics of the lighting system correlate directly to the contribution of sky glow and glare. Sky glow impacts would be considered significant under the California Environmental Quality Act (CEQA) if the proposed lighting installation would emit a substantial amount of upward light. Glare impacts would be considered significant under CEQA if the proposed lighting fixtures would be unshielded and/or installed at a height or angle that would permit direct view of the main beam from offsite locations. However, this project's proposed lighting will have shielding to prevent sky glow, and the lights will be installed 90 feet above the field so that the lighting can be focused onto the field to reduce the potential for possible glare impacts. As part of the installation process the contractor will complete a final shield adjustment to focus light onto the field and reduce any glare on the surrounding residential properties.

It is appropriate to measure light trespass on the vertical plane (e.g., light shining through a window) and horizontal plane (e.g., light falling on a bed). However, light trespass is subjective, that is, a given illuminance level may be acceptable to some but objectionable to others. Regardless, research on the topic of light trespass has resulted in the creation of suggested limits on the amount of light spilled onto adjacent residential properties.

According to the Institution of Lighting Engineers (ILE), the Illuminating Engineering Society of North America (IESNA), and the Electric Power Research Institute (EPRI), light trespass varies according to surrounding environmental characteristics. The IESNA (IESNA Lighting Handbook, Ninth Edition (2000)[1]) has developed a concept of environmental zones that range from E1 (most sensitive) to E4 (least sensitive), which are recommended for evaluation and design of outdoor lighting (see Table 1). Areas that are more rural in character, and therefore exhibit few existing sources of light, are more susceptible to impacts resulting from the installation of new lighting sources. By contrast, urbanized areas are characterized by a large number of existing lighting sources and are therefore less susceptible to adverse effects associated with new lighting sources. Consequently, lighting zone designations are applied according to the amount and intensity of existing lighting sources in the area.

Crawford High School would be categorized as an E3, which denotes areas of medium ambient brightness, such as urban residential areas. As shown in Table 1, the environmental zone E3 light trespass threshold is 0.8-footcandle during pre-curfew hours and 0.2-footcandle during post-curfew hours. Accordingly, light trespass impacts may be significant under CEQA if illuminance produced by

[1] In 2011, IESNA published the Tenth Edition of its Lighting Handbook. The Tenth Edition included an update to the "environmental zones" by renaming them, adding a zone "0", and modifying descriptions and recommendations for each zone. The School District has reviewed and considered the updated handbook and decided to continue using the Ninth Edition recommendations for consistency among its projects. The IESNA has no regulatory standing and it is the School District's authority as CEQA Lead Agency to determine the appropriate threshold to use in reviewing its actions. The Ninth Edition standards have been implemented by numerous jurisdictions for several years and are still in use by many agencies today.

the Project would exceed 0.8-footcandle during pre-curfew hours and 0.2-footcandle during post-curfew hours, as measured on the vertical and horizontal planes, at the property line of any adjacent residential use. In determining if a significant impact would occur, consideration is also given to whether exceedance of these standards is expected to adversely affect a substantial number of people. Lighting standards are sometimes applied at the property line of the proposed use; however, this would not be appropriate for an urban site such as this which is border by already lit public roads.

Table 1. Light Environmental Zones

Zone Rating	Description
E1	• Areas with intrinsically dark landscapes • National parks or residential areas with strict limits on light trespass • Roads—usually unlit
E2	• Areas of low ambient brightness • Outer urban or rural residential areas
E3	• Areas of medium ambient brightness • Urban residential areas
E4	• Areas of high ambient brightness • Urban areas—residential and commercial—with high levels of nighttime activity

Stadium-Related Lighting Impacts

Implementation of the Project would result in the construction of six new 90-foot-tall light standards. To minimize light trespass on the surrounding residential community, the Project's proposed lighting system has been specifically designed with cutoff devices, highly efficient reflectors, and 14-inch visors that would capture and redirect primary light onto the field and reduce spill light off the field. Additionally, the high mounting height (90 feet) of the luminaires would allow the lamps to be installed with a narrow beam angle to specifically direct light downward, onto the field of play, and away from adjacent residential properties.

Potential Impacts on Residential Areas East of the Project Site

A. Vertical Illuminance

The single-family residences located to the east of the school are approximately 35 feet from the Project site. At this location, 56th Street would be considered an alley. The nearest light standards, identified as Poles F3, F4, and F6 on the figures in Attachment 1, would be located approximately 60 feet from the closest residence (Poles F3, F4, and F6 would be aimed in a direction opposite of these single-family homes). As depicted in the Musco analysis, the Project would contribute up to 1.46 vertical footcandles off site, as calculated from the property lines of the residences located east of 56th Street. Based on this data, seven residential properties along the eastern property line would be exposed to lighting levels in excess of 0.8 vertical footcandle.

B. Horizontal Illuminance

As depicted in the Musco analysis , horizontal light spill created by the Project would contribute up to 0.88 horizontal footcandle off site, as calculated from the property lines of the residences located east of stadium.

Potential Impacts on Residential Areas West of Sharron Place

A. Vertical Illuminance

The single-family residences west of Sharron Place are located approximately 35 feet from the Project site grading. The nearest light elements (Poles F1 and F2) would be located approximately 100 feet and 130 feet, respectively, from these existing residences. As depicted in the Musco analysis , the Project would contribute up to 0.94 vertical footcandle at various offsite locations, as calculated from adjacent residential property lines. However, the calculations depicted on Figure 3 do not account for landscaping proposed as part of the Project, which would include approximately 22 trees along the top of the slope and 12 trees on the slope.

B. Horizontal Illuminance

As depicted in the Musco analysis, horizontal light spill created by the Project would contribute approximately 0.32 horizontal footcandle off site, as calculated from the property lines of the residences located west of the Project site.

Discussion

The models indicated that implementation of the proposed project would result in the contribution of up to 1.46 vertical footcandle at the eastern property line and 0.94 vertical footcandle at the western property line, both of which are above the 0.8-footcandle threshold. Musco conducted further analysis (see Attachment 1) to determine which specific properties may be affected by light trespass from the stadium lights at or exceeding 0.8-footcandles. The following properties were identified as potentially being affected:

- 5485 Trojan Way;
- 4216, 4224, 4332, and 4242 Sharron Place;
- 5435, 5447, 5601, and 5606 Vale Way; and
- 5464, and 5474 Orange Avenue.

Spill light associated with the proposed lighting elements was modelled to result in a horizontal illumination that would be approximately 0.88 -footcandle at the eastern property line (which is greater than the 0.8-footcandle threshold) and 0.32 horizontal footcandle at the western property line. The area affected by the exceedence of 0.8 footcandle along the eastern property line would be far less than the area affected by the vertical footcandle exceedence described above and therefore no further analysis was conducted.

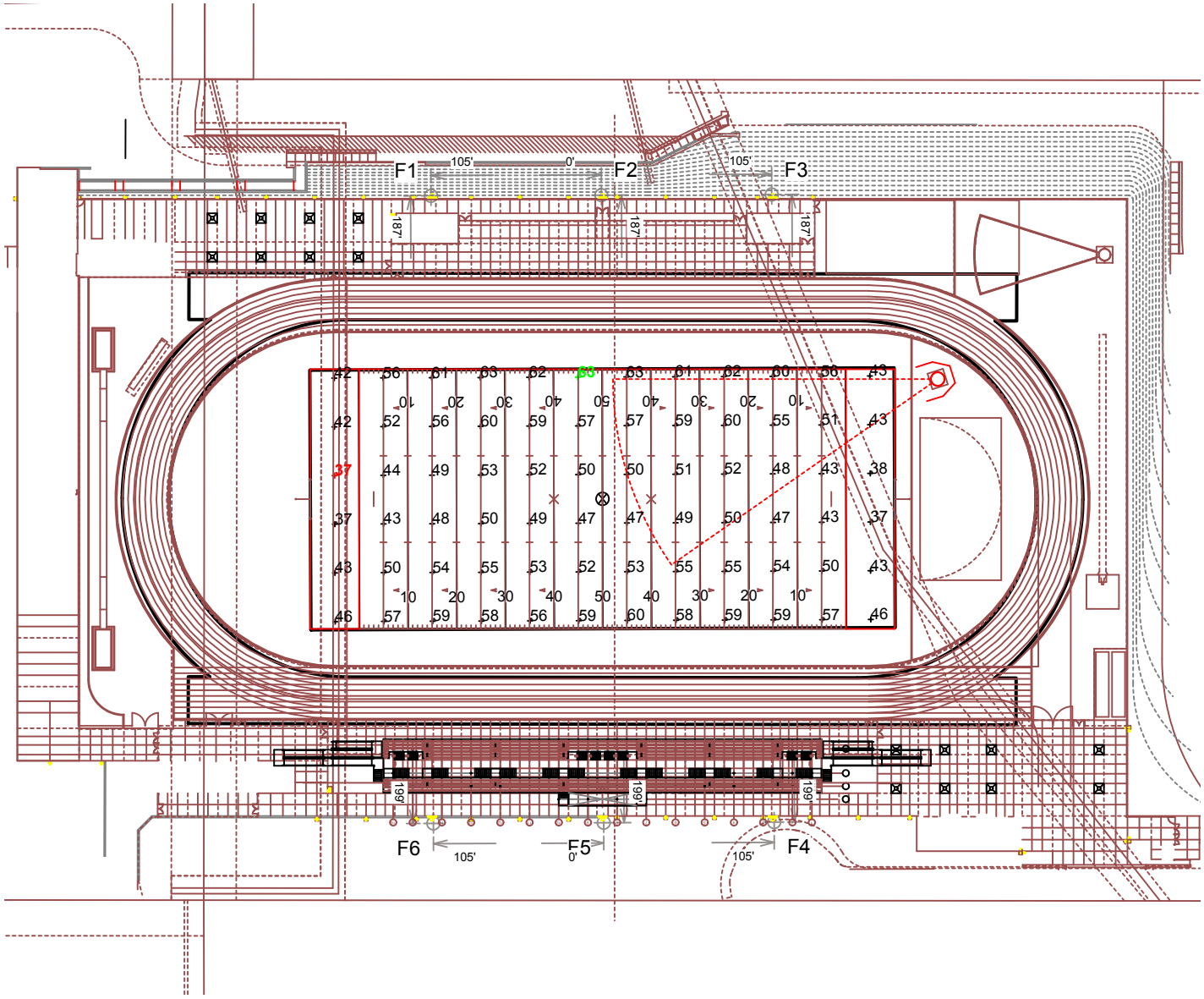
Conclusion

Light trespass from the six proposed stadium lights would exceed 0.8-footcandle at up to 11 residences adjacent to the proposed stadium. However, in determining the significance of the impact, 11 residences is not a substantial number in the context of the much larger surrounding residential community. Nor is it anticipated that people will be harmed by the operation of the lights. To some they will likely be a nuisance and they could generally affect nighttime views from some homes; however, these are not significant impacts under CEQA. The potential for impacting sleep is low as they will not be operated through the night and, if necessary, residents can use shutters or black out curtains to block to the light. Therefore, the potential for the project to adversely affect a substantial number of people is very low. Nevertheless, in deference to its neighbors that have indicated concern regarding the lights, the District has determined that the lights could have a significant impact due to light trespass and has explored all feasible measures for reducing those impacts.

Attachment 1 – Musco Lighting Inc. Analysis

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1-F3	90'	-	60'	24 LED	3	0	3
				90'	1500W MZ	11	11	0
3	F4-F6	90'	-	60'	24 LED	3	0	3
				90'	1500W MZ	12	12	0
6	TOTALS					87	69	18



SCALE IN FEET 1 : 100

0' 100' 200'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name:	**Crawford High School Football**
Location:	San Diego,CA

GRID SUMMARY

Name:	**Football**
Size:	360' x 160'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

CONSTANT ILLUMINATION

SUMMARY	HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average:	**50**
Scan Average:	52.1
Maximum:	63
Minimum:	37
Avg / Min:	1.42
Guaranteed Max / Min:	**2**
Max / Min:	1.72
UG (adjacent pts):	1.35
CV:	0.14
No. of Points:	72
LUMINAIRE INFORMATION	
Luminaire Type:	Green Generation
Rated Lamp Life:	5,000 hours
Avg Lumens / Lamp:	134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	69
Avg KW:	107.92 (117.3 max)

Guaranteed Performance: The Guaranteed Average CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

Field Measurements: Illumination measured in accordance with IESNA LM-5-04 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

ENGINEERED DESIGN

By:	**Joel Stout**	
File # / Date:	28831-r12	18-Oct-13

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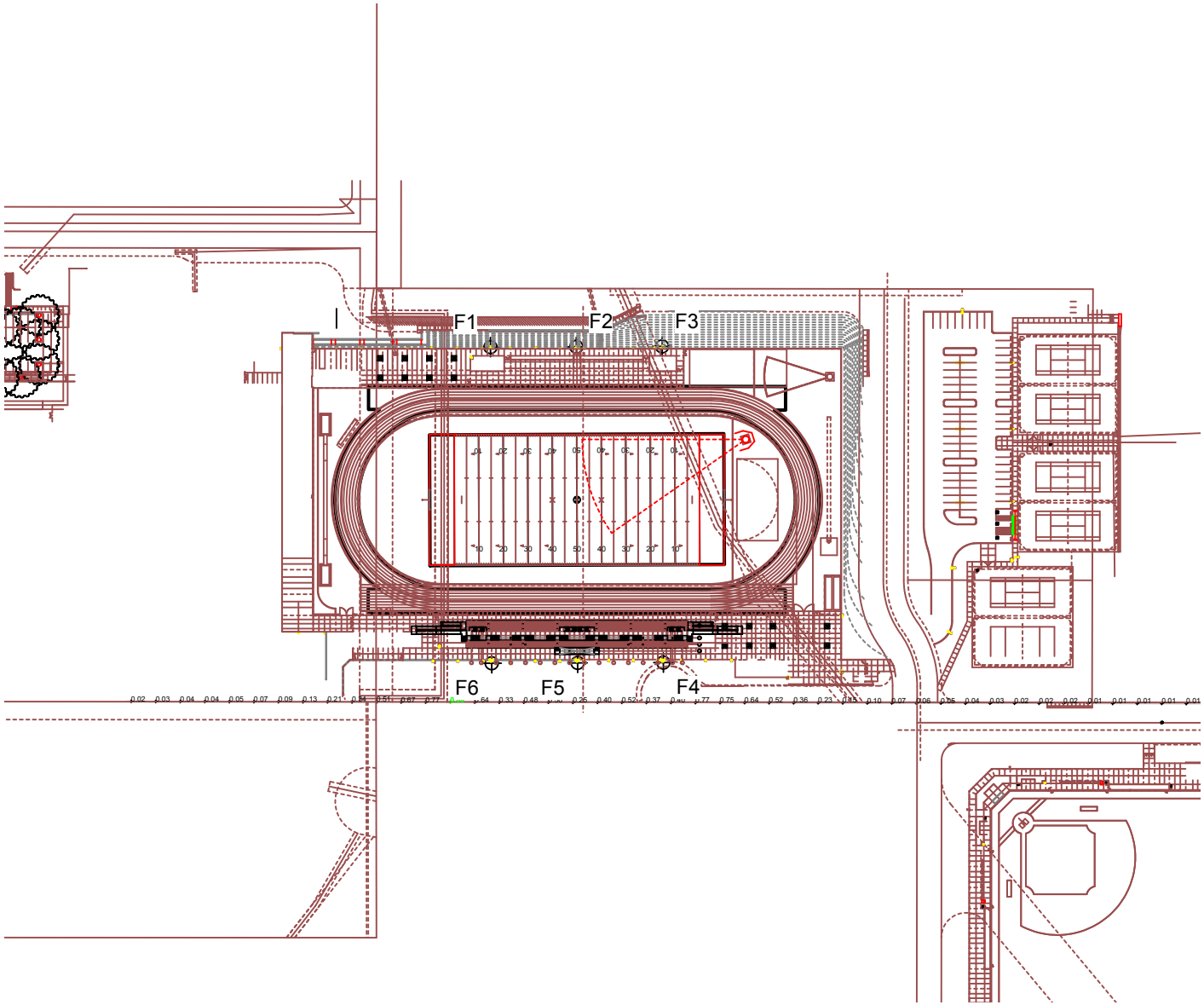
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1-F3	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	11	11	0
3	F4-F6	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	12	12	0
6	TOTALS					87	87	0



SCALE IN FEET 1 : 200

0' 200' 400'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name:	**Crawford High School Football**
Location:	San Diego,CA

GRID SUMMARY

Name:	**East Spill**
Spacing:	30.0'
Height:	3.0' above grade

CONSTANT ILLUMINATION

SUMMARY	HORIZONTAL FOOTCANDLES
	Entire Grid
Scan Average:	**0.242**
Maximum:	0.88
Minimum:	0.00
No. of Points:	48
LUMINAIRE INFORMATION	
Luminaire Type:	LED / SSL / Green Generation
Rated Lamp Life:	100,000 / 5,000 hrs
Avg Lumens / Lamp:	3,950 / 134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	87
Avg KW:	109.5 (119.48 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

Field Measurements: Illumination measured in accordance with IESNA LM-5-04 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

ENGINEERED DESIGN

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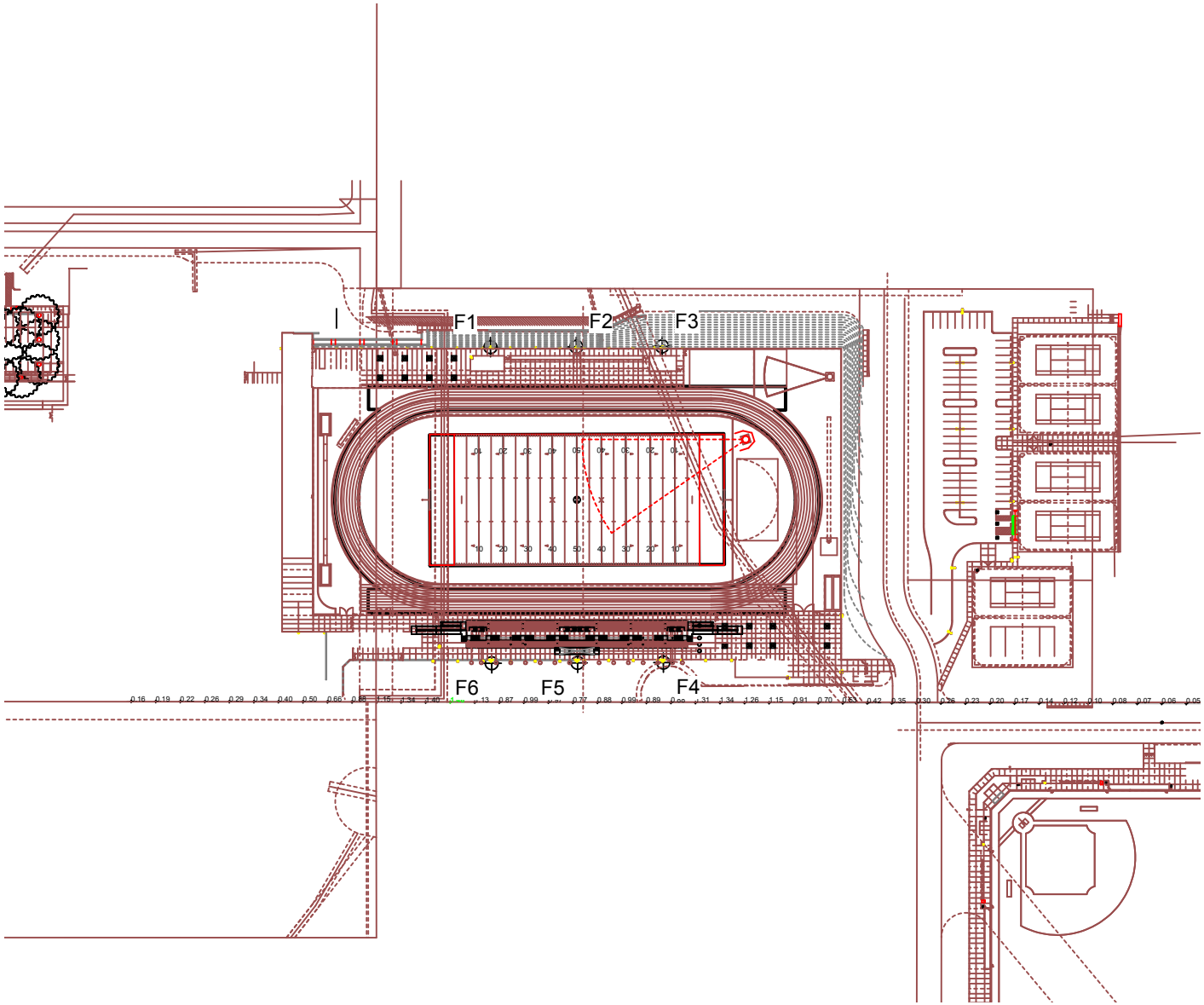
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1-F3	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	11	11	0
3	F4-F6	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	12	12	0
6	TOTALS					87	87	0



SCALE IN FEET 1 : 200

0' 200' 400'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name:	**Crawford High School Football**
Location:	San Diego,CA

GRID SUMMARY

Name:	**East Spill**
Spacing:	30.0'
Height:	3.0' above grade

CONSTANT ILLUMINATION

SUMMARY	MAX VERTICAL FOOTCANDLES
	Entire Grid
Scan Average:	**0.574**
Maximum:	1.46
Minimum:	0.03
No. of Points:	48
LUMINAIRE INFORMATION	
Luminaire Type:	LED / SSL / Green Generation
Rated Lamp Life:	100,000 / 5,000 hrs
Avg Lumens / Lamp:	3,950 / 134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	87
Avg KW:	109.5 (119.48 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

Field Measurements: Illumination measured in accordance with IESNA LM-5-04 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

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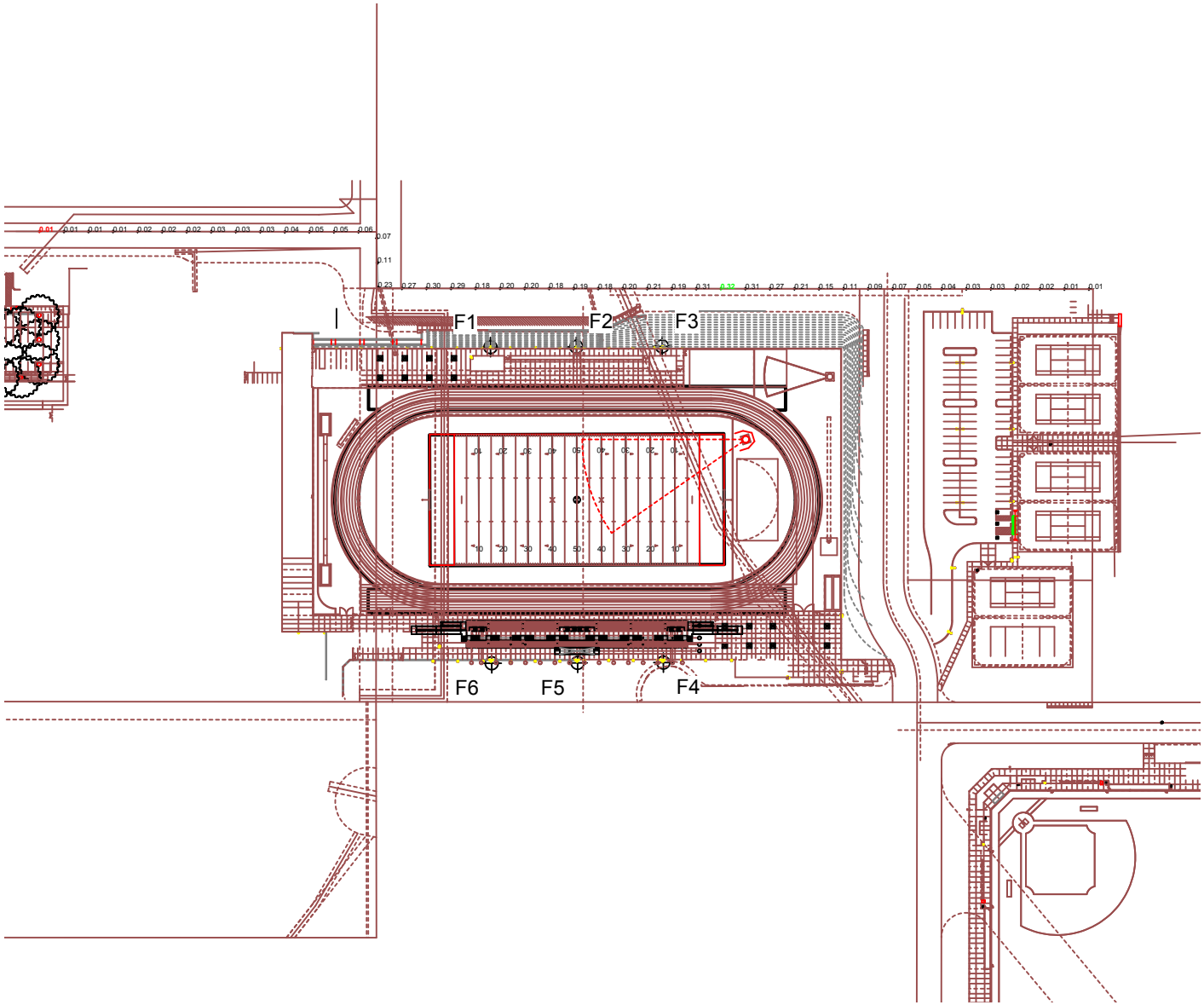
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1-F3	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	11	11	0
3	F4-F6	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	12	12	0
6	TOTALS					87	87	0



SCALE IN FEET 1 : 200

0' 200' 400'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name:	**Crawford High School Football**
Location:	San Diego,CA

GRID SUMMARY

Name:	**West Spill**
Spacing:	30.0'
Height:	3.0' above grade

CONSTANT ILLUMINATION

SUMMARY	HORIZONTAL FOOTCANDLES
	Entire Grid
Scan Average:	**0.118**
Maximum:	0.32
Minimum:	0.01
No. of Points:	46
LUMINAIRE INFORMATION	
Luminaire Type:	LED / SSL / Green Generation
Rated Lamp Life:	100,000 / 5,000 hrs
Avg Lumens / Lamp:	3,950 / 134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	87
Avg KW:	109.5 (119.48 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

Field Measurements: Illumination measured in accordance with IESNA LM-5-04 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

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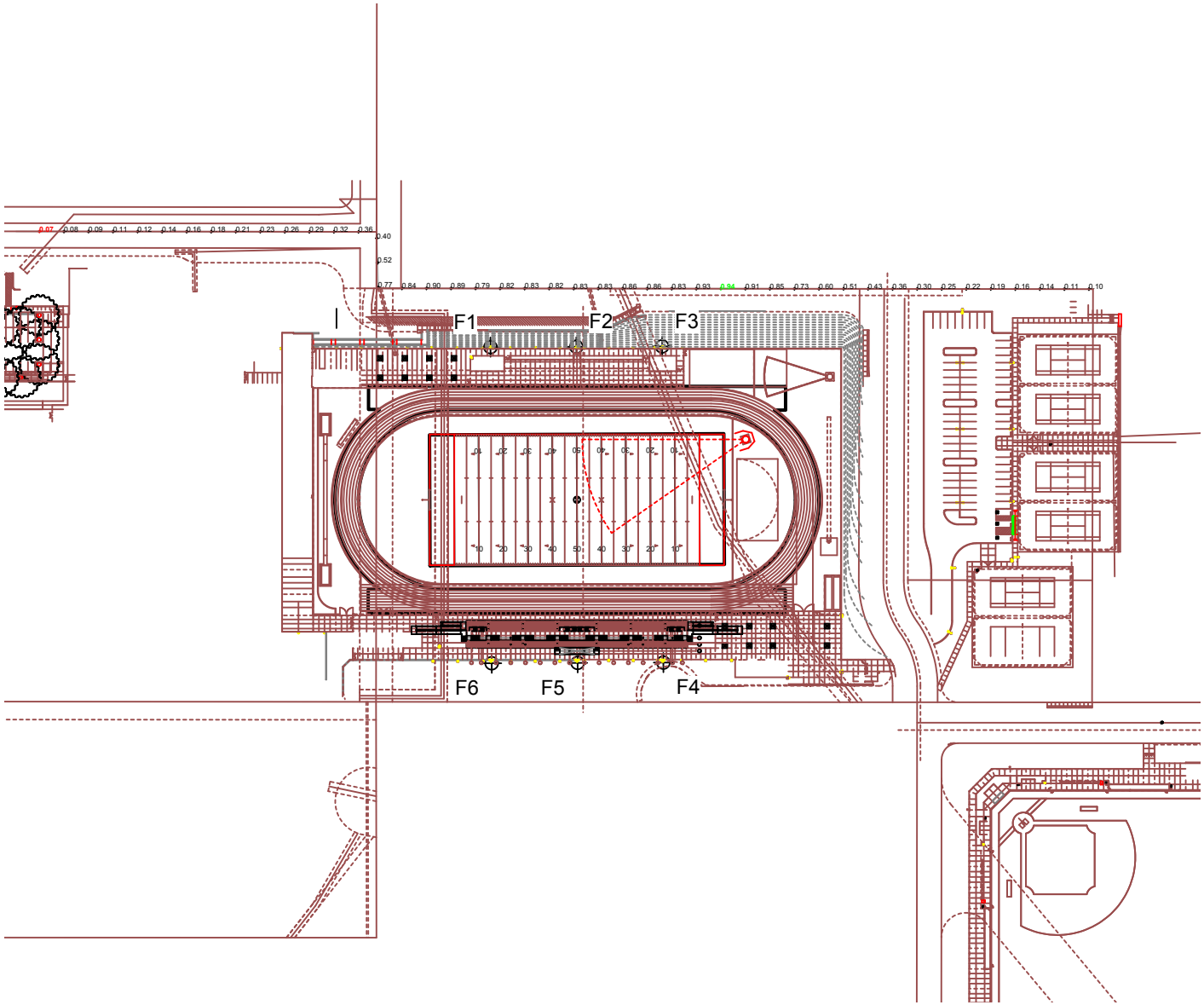
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1-F3	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	11	11	0
3	F4-F6	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	12	12	0
6	TOTALS					87	87	0



SCALE IN FEET 1 : 200

0' 200' 400'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name:	**Crawford High School Football**
Location:	San Diego,CA

GRID SUMMARY

Name:	**West Spill**
Spacing:	30.0'
Height:	3.0' above grade

CONSTANT ILLUMINATION

SUMMARY	MAX VERTICAL FOOTCANDLES
	Entire Grid
Scan Average:	**0.481**
Maximum:	0.94
Minimum:	0.07
No. of Points:	46
LUMINAIRE INFORMATION	
Luminaire Type:	LED / SSL / Green Generation
Rated Lamp Life:	100,000 / 5,000 hrs
Avg Lumens / Lamp:	3,950 / 134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	87
Avg KW:	109.5 (119.48 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

Field Measurements: Illumination measured in accordance with IESNA LM-5-04 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

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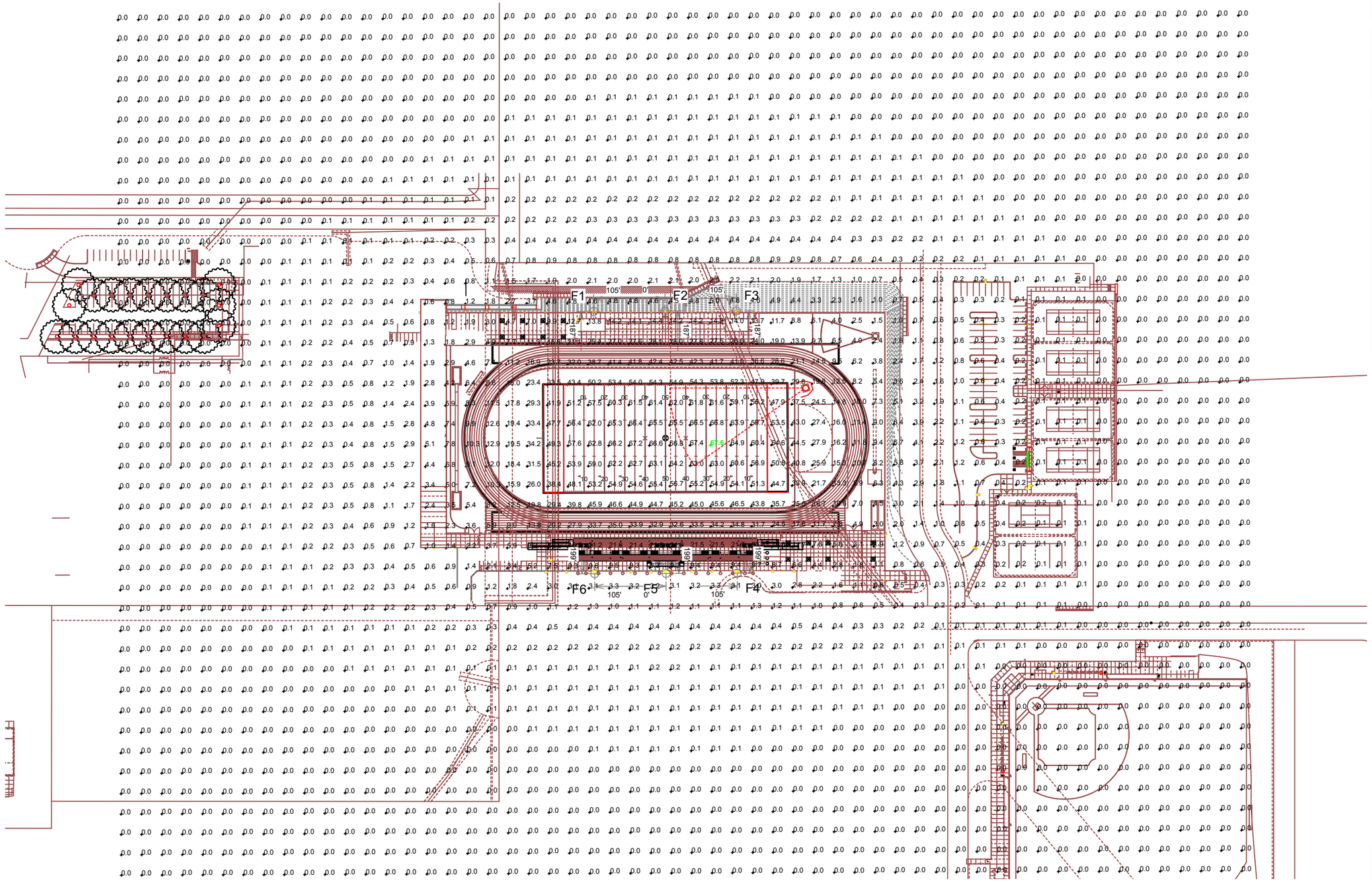
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1-F3	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	11	11	0
3	F4-F6	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	12	12	0
6	TOTALS					87	87	0



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name: **Crawford High School Football**
Location: San Diego,CA

GRID SUMMARY

Name: **Blanket Grid -30'**
Size: 360' x 160'
Spacing: 30.0' x 30.0'
Height: -30.0' above grade

CONSTANT ILLUMINATION

SUMMARY	HORIZONTAL FOOTCANDLES
	Entire Grid
Scan Average:	**3.3**
Maximum:	68
Minimum:	0
Avg / Min:	1031.17
Max / Min:	**21292.25**
UG (adjacent pts):	3.31
CV:	3.37
No. of Points:	2520

LUMINAIRE INFORMATION	
Luminaire Type:	LED / SSL / Green Generation
Rated Lamp Life:	100,000 / 5,000 hrs
Avg Lumens / Lamp:	3,950 / 134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	87
Avg KW:	109.5 (119.48 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

Field Measurements: Illumination measured in accordance with IESNA LM-5-04 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

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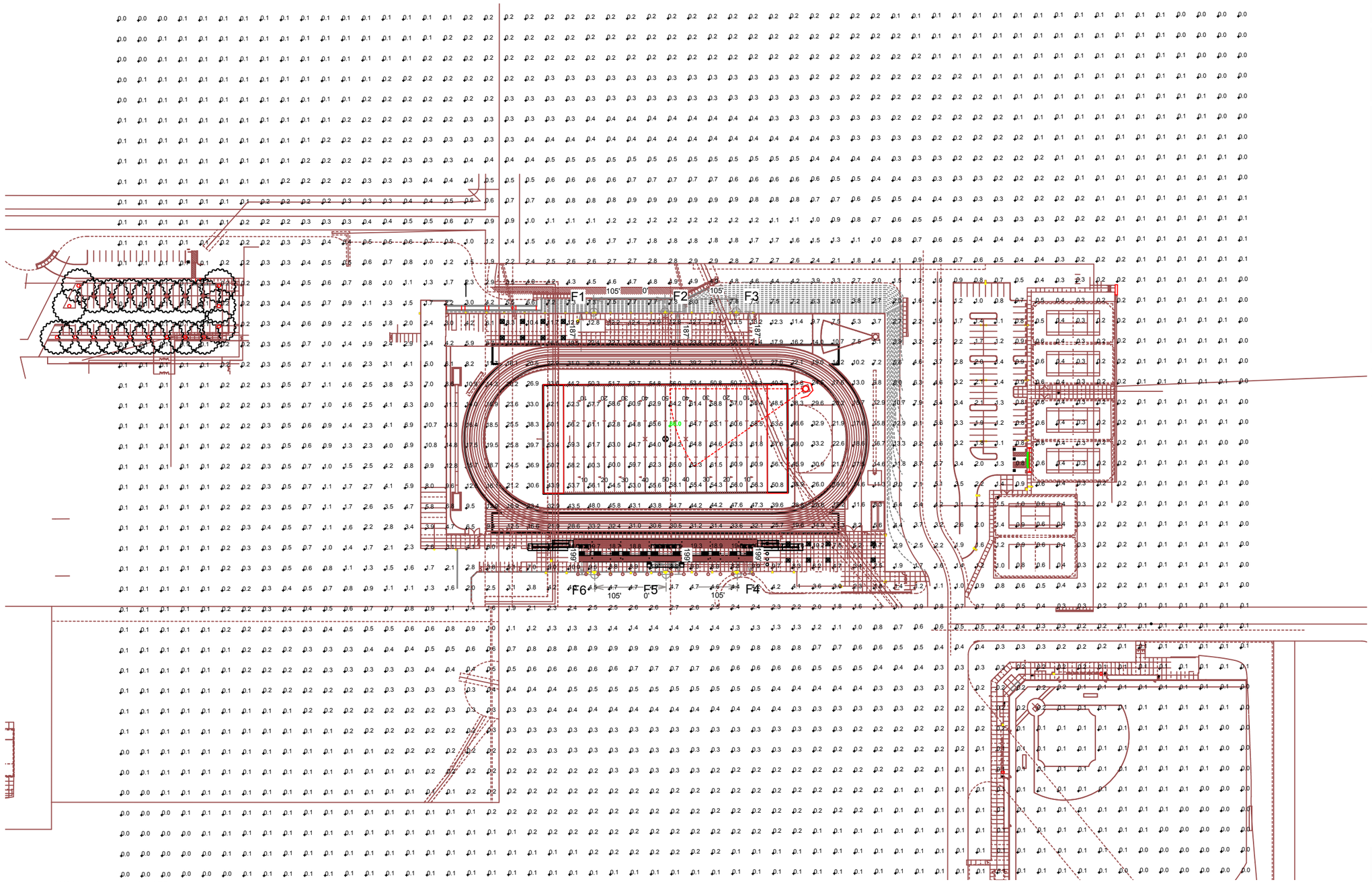
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1-F3	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	11	11	0
3	F4-F6	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	12	12	0
6	TOTALS					87	87	0



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name: **Crawford High School Football**
Location: San Diego,CA

GRID SUMMARY

Name: **Blanket Grid -30'**
Size: 360' x 160'
Spacing: 30.0' x 30.0'
Height: -30.0' above grade

CONSTANT ILLUMINATION

SUMMARY	MAX VERTICAL FOOTCANDLES
	Entire Grid
Scan Average:	**3.8**
Maximum:	66
Minimum:	0
Avg / Min:	123.85
Max / Min:	**2135.82**
UG (adjacent pts):	2.36
CV:	2.91
No. of Points:	2520

LUMINAIRE INFORMATION	
Luminaire Type:	LED / SSL / Green Generation
Rated Lamp Life:	100,000 / 5,000 hrs
Avg Lumens / Lamp:	3,950 / 134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	87
Avg KW:	109.5 (119.48 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

Field Measurements: Illumination measured in accordance with IESNA LM-5-04 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

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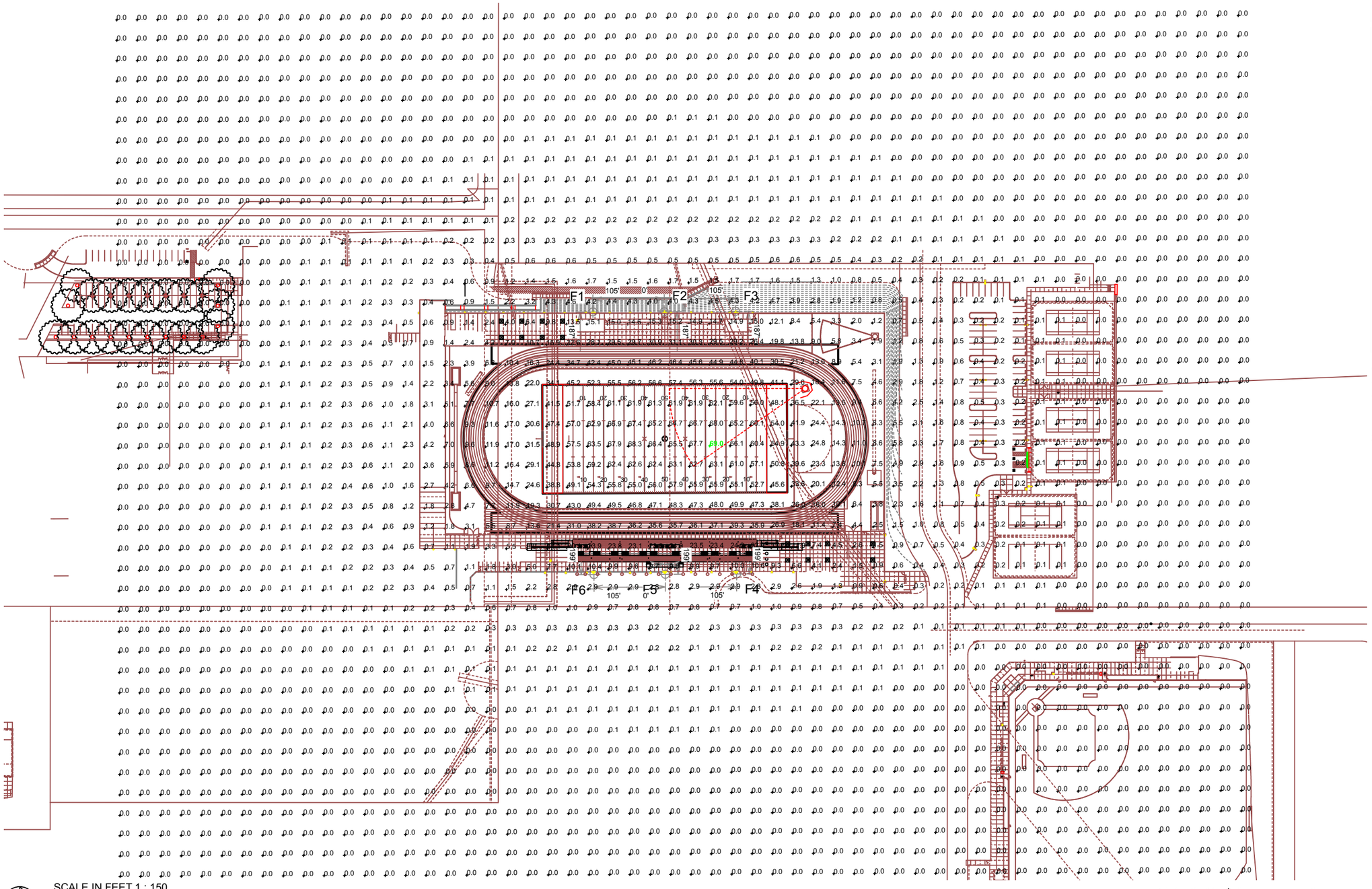
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1-F3	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	11	11	0
3	F4-F6	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	12	12	0
6	TOTALS					87	87	0



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name: **Crawford High School Football**
Location: San Diego,CA

GRID SUMMARY

Name: **Blanket Grid -20'**
Size: 360' x 160'
Spacing: 30.0' x 30.0'
Height: -20.0' above grade

CONSTANT ILLUMINATION

SUMMARY	HORIZONTAL FOOTCANDLES
	Entire Grid
Scan Average:	**3.3**
Maximum:	69
Minimum:	0
Avg / Min:	1228.52
Max / Min:	**25888.65**
UG (adjacent pts):	4.43
CV:	3.44
No. of Points:	2520
LUMINAIRE INFORMATION	
Luminaire Type:	LED / SSL / Green Generation
Rated Lamp Life:	100,000 / 5,000 hrs
Avg Lumens / Lamp:	3,950 / 134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	87
Avg KW:	109.5 (119.48 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

Field Measurements: Illumination measured in accordance with IESNA LM-5-04 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

ENGINEERED DESIGN

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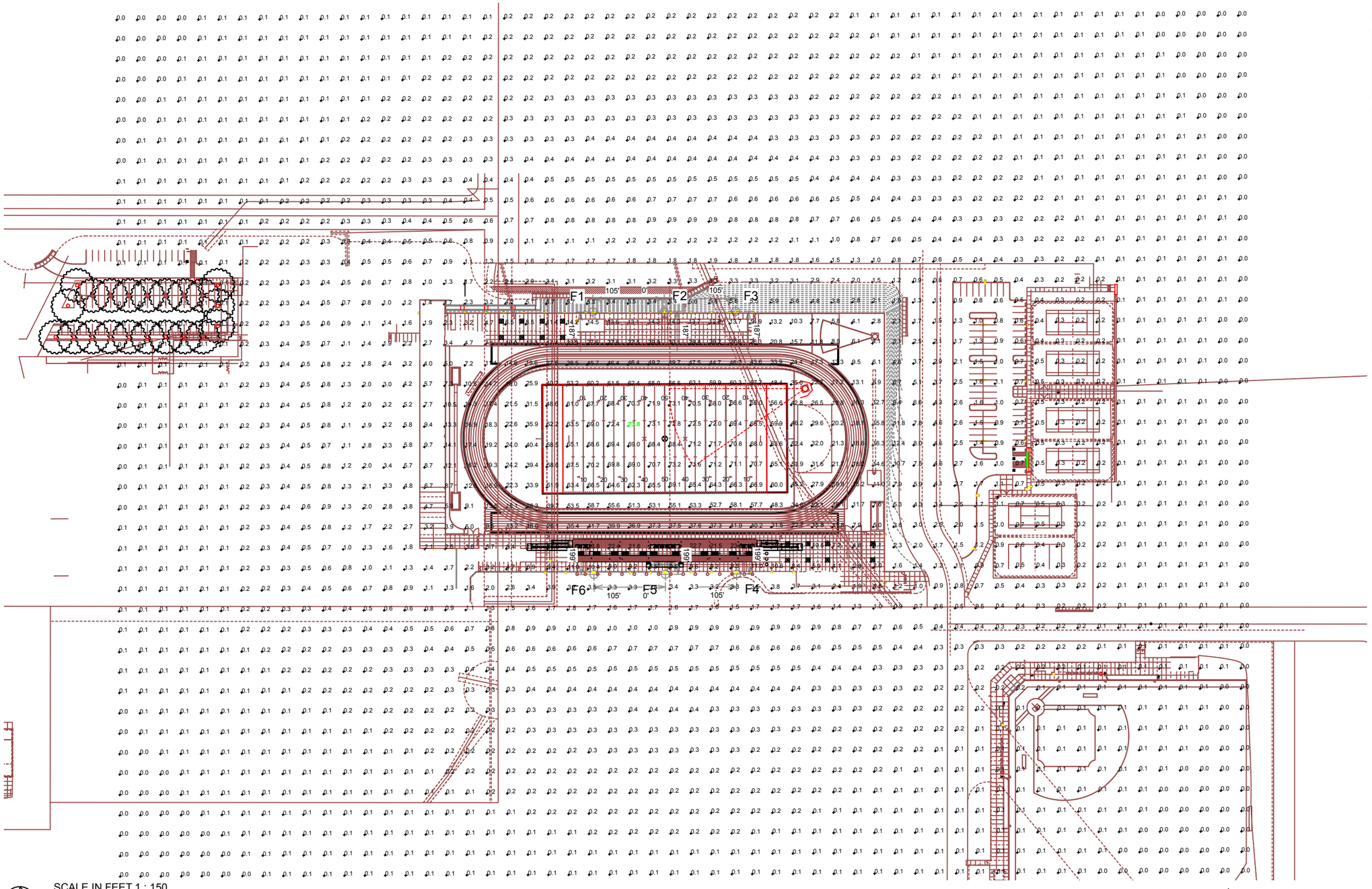
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1-F3	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	11	11	0
3	F4-F6	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	12	12	0
6	TOTALS					87	87	0



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name: **Crawford High School Football**
Location: San Diego,CA

GRID SUMMARY

Name: **Blanket Grid -20'**
Size: 360' x 160'
Spacing: 30.0' x 30.0'
Height: -20.0' above grade

CONSTANT ILLUMINATION

SUMMARY	MAX VERTICAL FOOTCANDLES
	Entire Grid
Scan Average:	**4.1**
Maximum:	74
Minimum:	0
Avg / Min:	144.63
Max / Min:	**2606.25**
UG (adjacent pts):	3.15
CV:	3.11
No. of Points:	2520

LUMINAIRE INFORMATION	
Luminaire Type:	LED / SSL / Green Generation
Rated Lamp Life:	100,000 / 5,000 hrs
Avg Lumens / Lamp:	3,950 / 134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	87
Avg KW:	109.5 (119.48 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

Field Measurements: Illumination measured in accordance with IESNA LM-5-04 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

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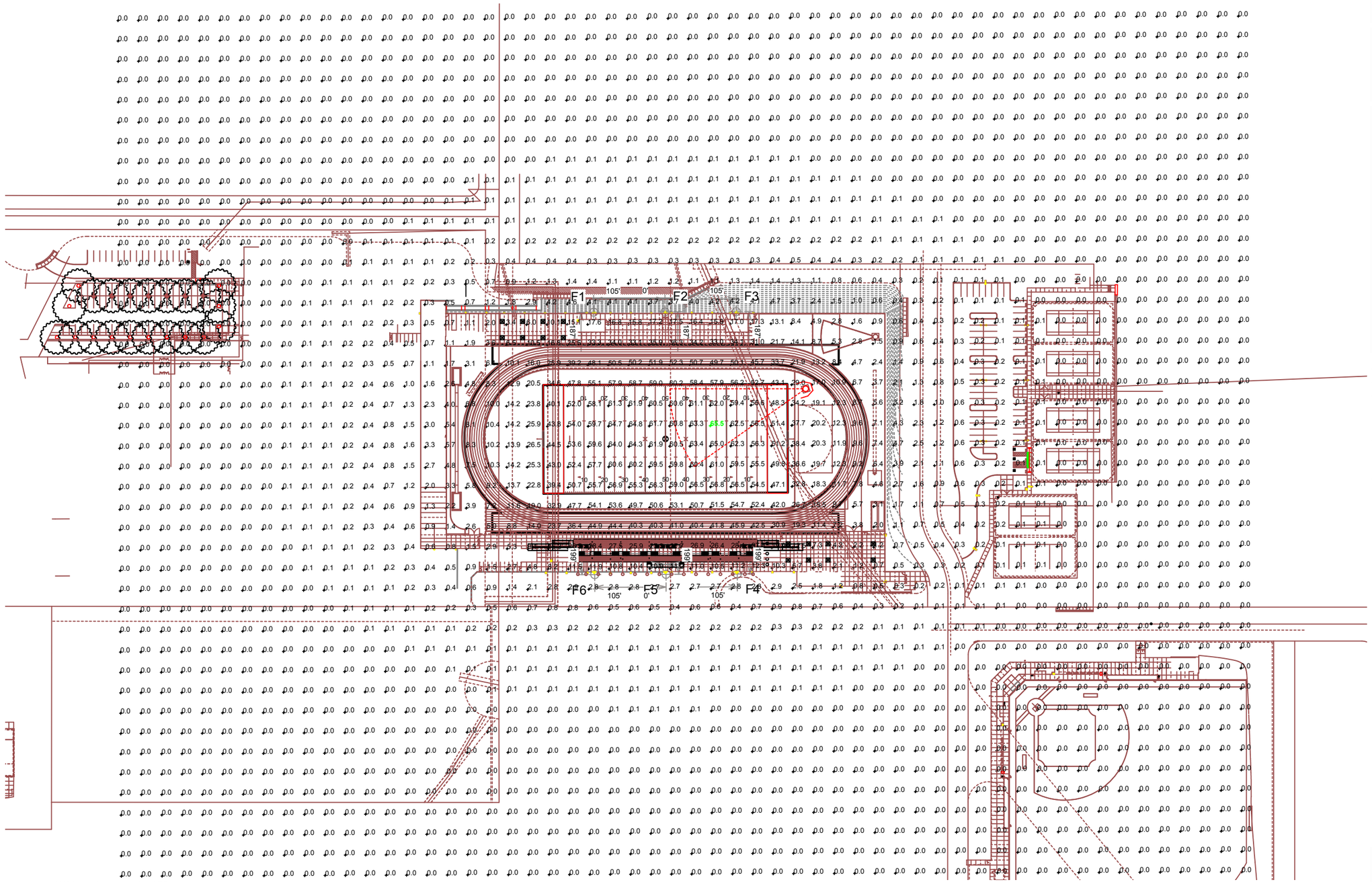
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1-F3	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	11	11	0
3	F4-F6	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	12	12	0
6	TOTALS					87	87	0



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name: **Crawford High School Football**
Location: San Diego,CA

GRID SUMMARY

Name: **Blanket Grid -10'**
Size: 360' x 160'
Spacing: 30.0' x 30.0'
Height: -10.0' above grade

CONSTANT ILLUMINATION

SUMMARY	HORIZONTAL FOOTCANDLES
	Entire Grid
Scan Average:	**3.3**
Maximum:	66
Minimum:	0
Avg / Min:	1478.08
Max / Min:	**29569.21**
UG (adjacent pts):	6.98
CV:	3.47
No. of Points:	2520
LUMINAIRE INFORMATION	
Luminaire Type:	LED / SSL / Green Generation
Rated Lamp Life:	100,000 / 5,000 hrs
Avg Lumens / Lamp:	3,950 / 134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	87
Avg KW:	109.5 (119.48 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

Field Measurements: Illumination measured in accordance with IESNA LM-5-04 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

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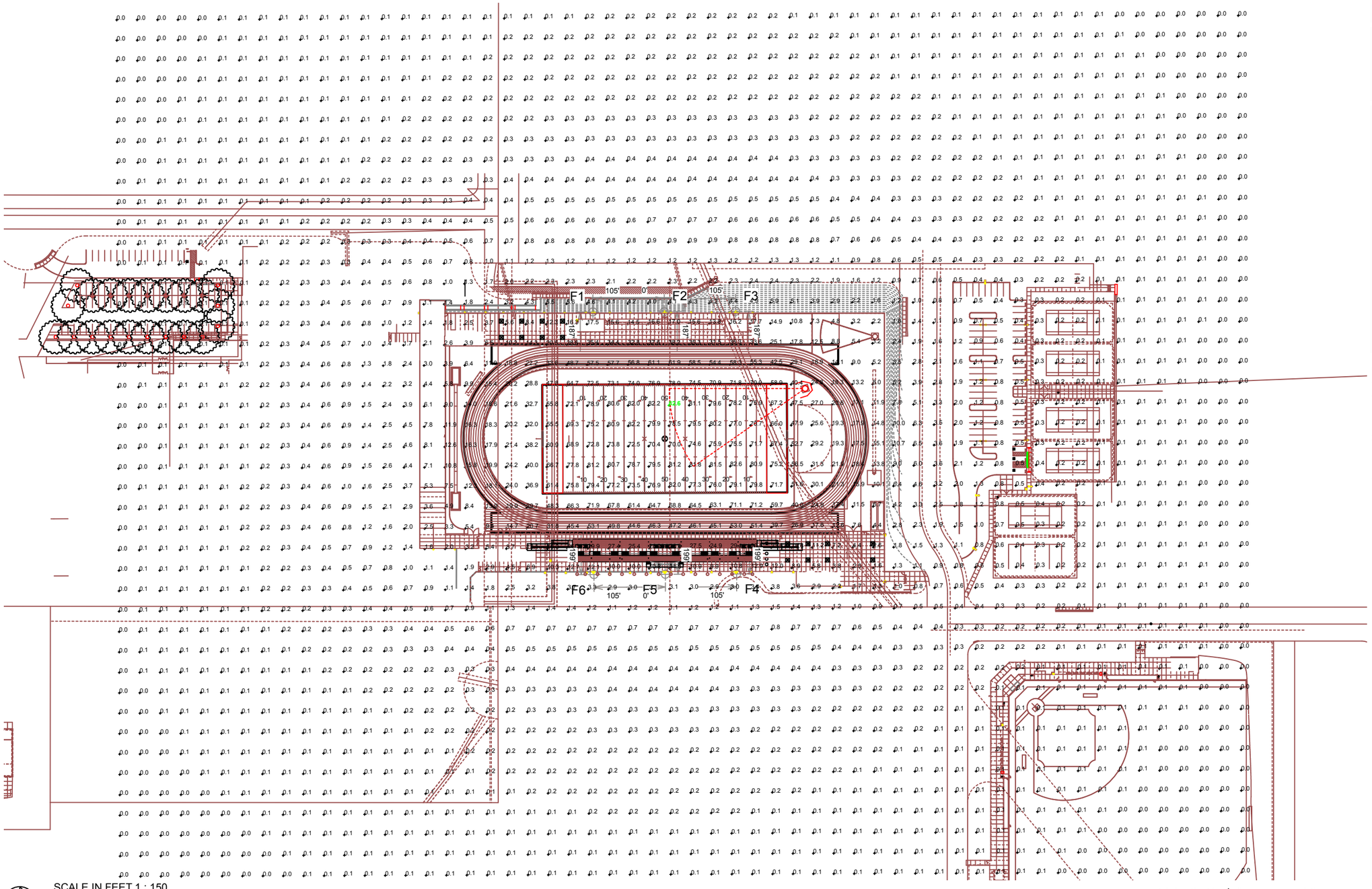
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1-F3	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	11	11	0
3	F4-F6	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	12	12	0
6	TOTALS					87	87	0



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name: **Crawford High School Football**
Location: San Diego,CA

GRID SUMMARY

Name: **Blanket Grid -10'**
Size: 360' x 160'
Spacing: 30.0' x 30.0'
Height: -10.0' above grade

CONSTANT ILLUMINATION

SUMMARY	MAX VERTICAL FOOTCANDLES
	Entire Grid
Scan Average:	**4.5**
Maximum:	83
Minimum:	0
Avg / Min:	173.19
Max / Min:	**3184.61**
UG (adjacent pts):	4.15
CV:	3.26
No. of Points:	2520

LUMINAIRE INFORMATION	
Luminaire Type:	LED / SSL / Green Generation
Rated Lamp Life:	100,000 / 5,000 hrs
Avg Lumens / Lamp:	3,950 / 134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	87
Avg KW:	109.5 (119.48 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

Field Measurements: Illumination measured in accordance with IESNA LM-5-04 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

ENGINEERED DESIGN

By: **Joel Stout**
File # / Date: 28831-r12 18-Oct-13

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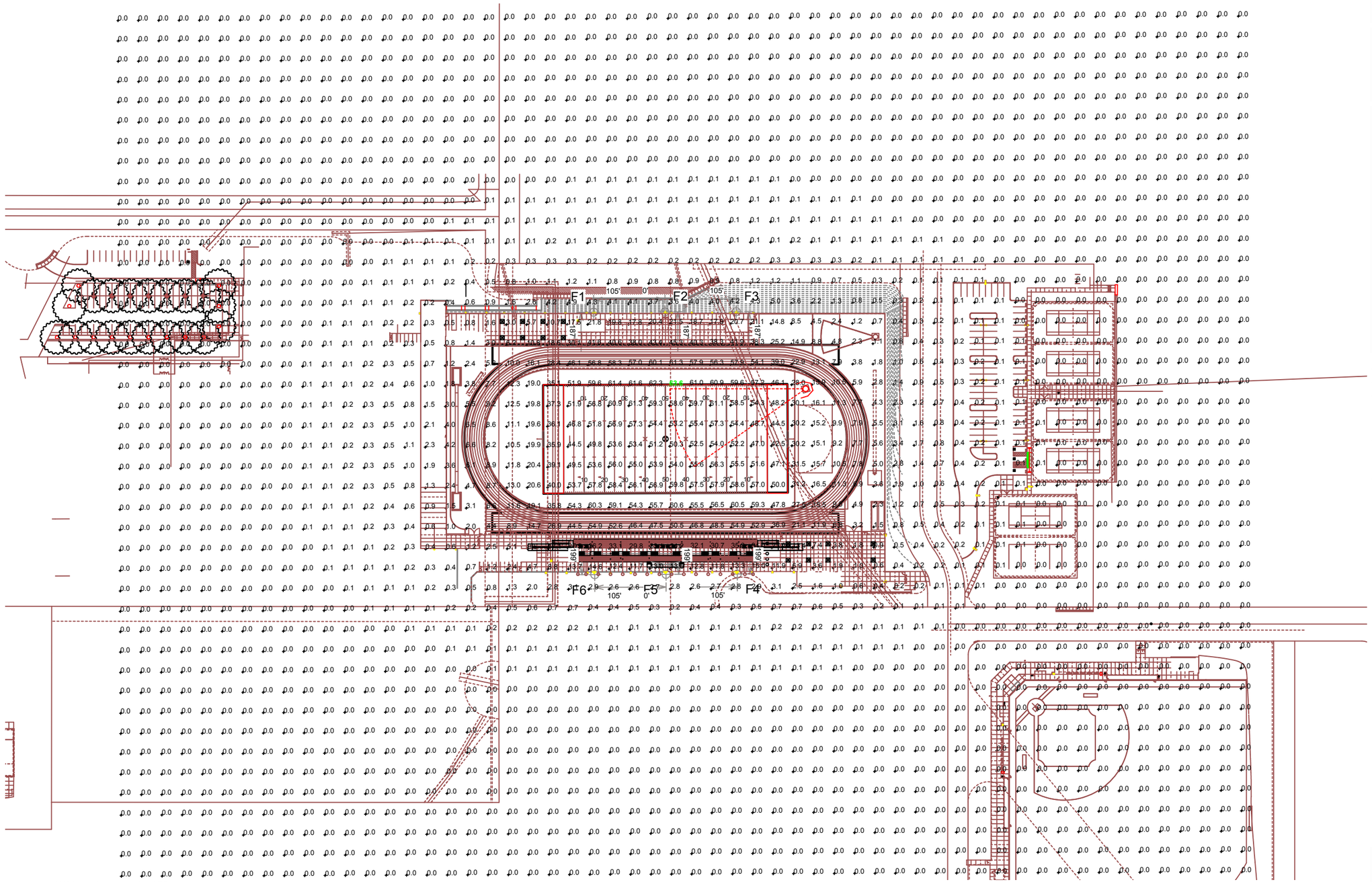
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1-F3	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	11	11	0
3	F4-F6	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	12	12	0
6	TOTALS					87	87	0



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name: **Crawford High School Football**
Location: San Diego,CA

GRID SUMMARY

Name: **Blanket Grid 0'**
Size: 360' x 160'
Spacing: 30.0' x 30.0'
Height: 0.0' above grade

CONSTANT ILLUMINATION

SUMMARY	HORIZONTAL FOOTCANDLES
	Entire Grid
Scan Average:	**3.3**
Maximum:	64
Minimum:	0
Avg / Min:	1795.78
Max / Min:	**34844.21**
UG (adjacent pts):	11.40
CV:	3.50
No. of Points:	2520
LUMINAIRE INFORMATION	
Luminaire Type:	LED / SSL / Green Generation
Rated Lamp Life:	100,000 / 5,000 hrs
Avg Lumens / Lamp:	3,950 / 134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	87
Avg KW:	109.5 (119.48 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

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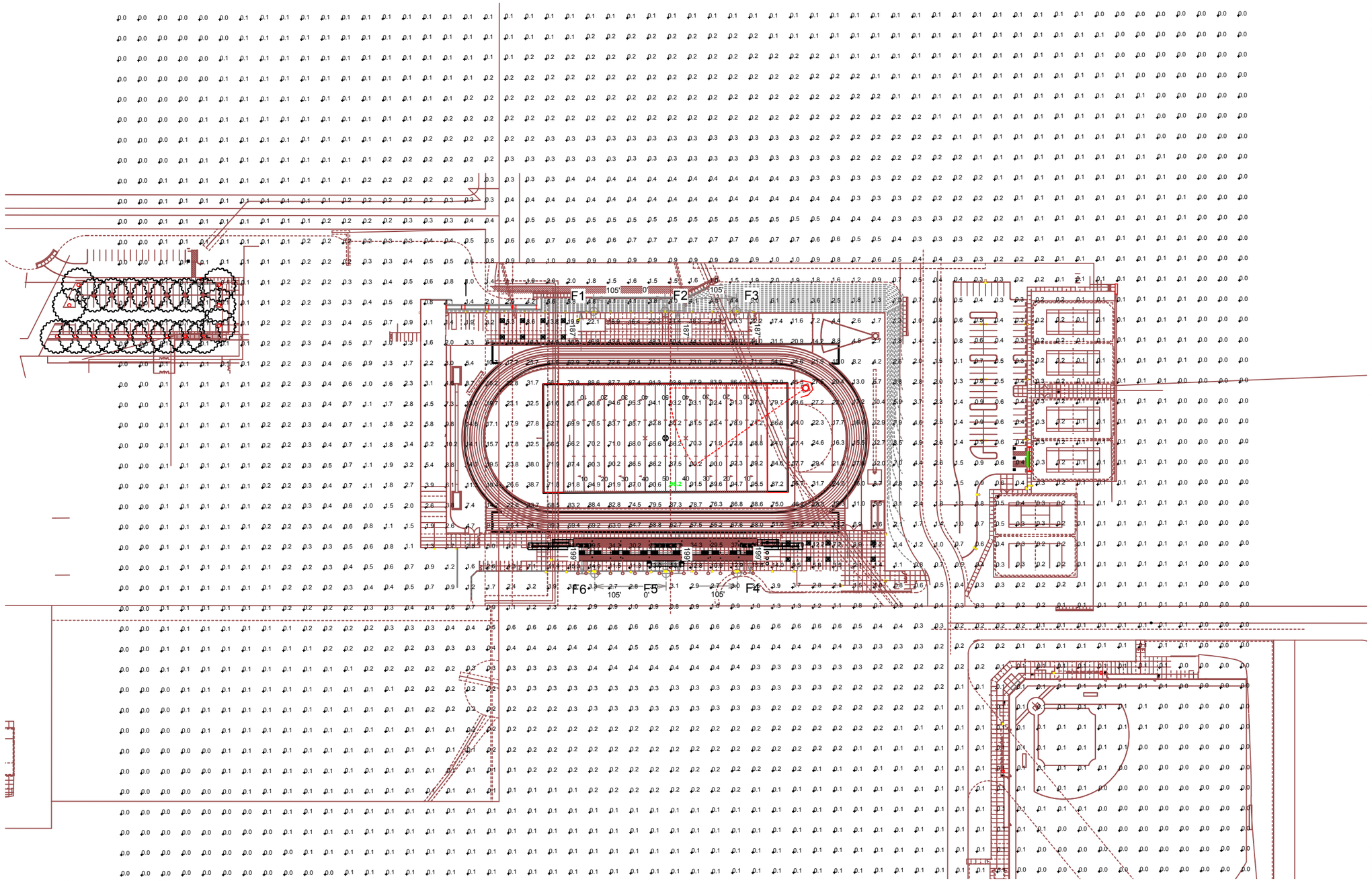
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1-F3	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	11	11	0
3	F4-F6	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	12	12	0
6	TOTALS					87	87	0



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MY PROJECT

Name: **Crawford High School Football**
Location: San Diego,CA

GRID SUMMARY

Name: **Blanket Grid 0'**
Size: 360' x 160'
Spacing: 30.0' x 30.0'
Height: 0.0' above grade

CONSTANT ILLUMINATION

SUMMARY	MAX VERTICAL FOOTCANDLES
	Entire Grid
Scan Average:	**4.9**
Maximum:	96
Minimum:	0
Avg / Min:	207.65
Max / Min:	**4040.37**
UG (adjacent pts):	5.39
CV:	3.38
No. of Points:	2520

LUMINAIRE INFORMATION	
Luminaire Type:	LED / SSL / Green Generation
Rated Lamp Life:	100,000 / 5,000 hrs
Avg Lumens / Lamp:	3,950 / 134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	87
Avg KW:	109.5 (119.48 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

Field Measurements: Illumination measured in accordance with IESNA LM-5-04 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

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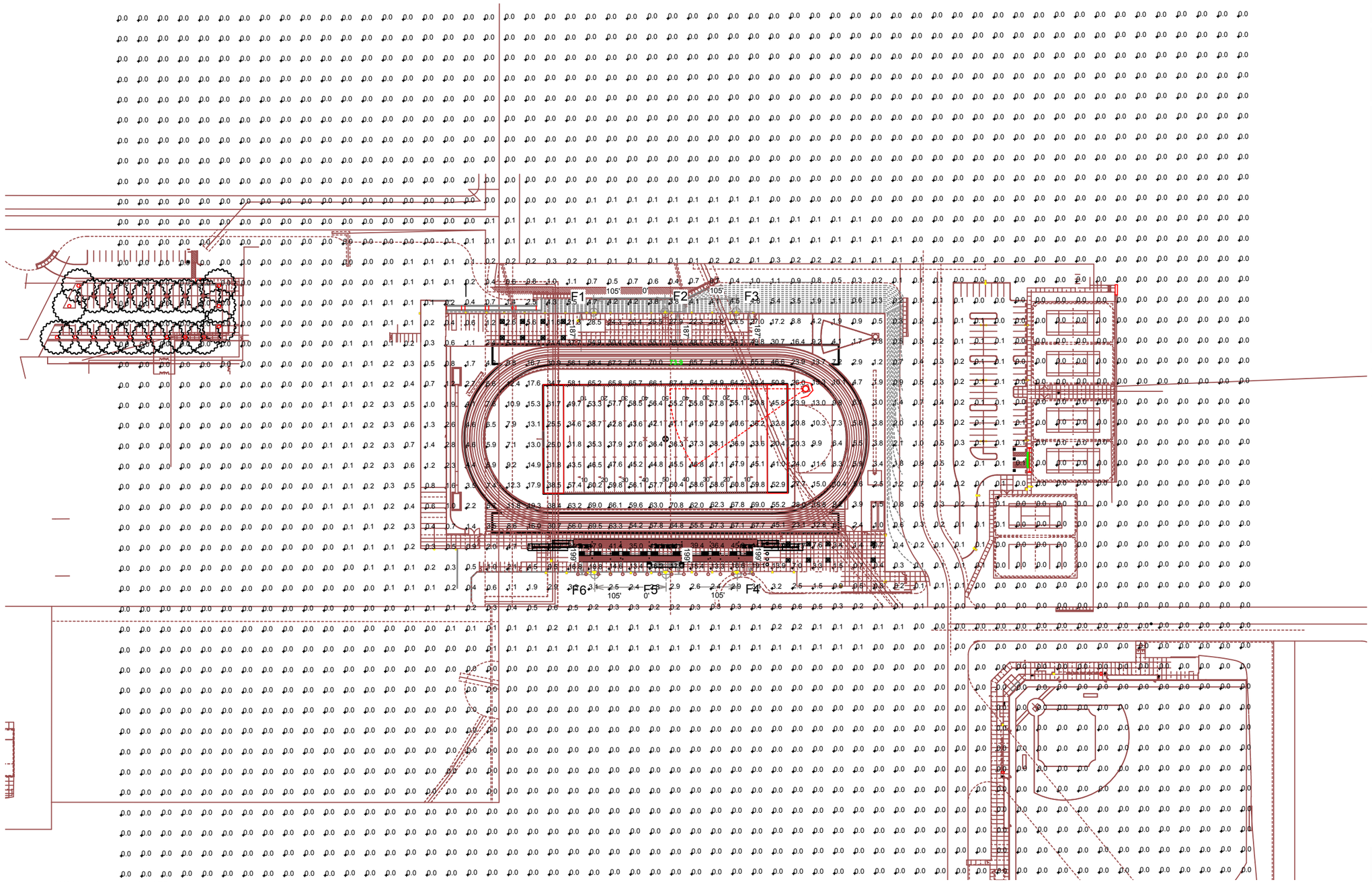
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1-F3	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	11	11	0
3	F4-F6	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	12	12	0
6	TOTALS					87	87	0



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name: **Crawford High School Football**
Location: San Diego,CA

GRID SUMMARY

Name: **Blanket Grid +10'**
Size: 360' x 160'
Spacing: 30.0' x 30.0'
Height: 10.0' above grade

CONSTANT ILLUMINATION

SUMMARY	HORIZONTAL FOOTCANDLES
	Entire Grid
Scan Average:	**3.3**
Maximum:	74
Minimum:	0
Avg / Min:	2207.74
Max / Min:	**49710.39**
UG (adjacent pts):	18.11
CV:	3.60
No. of Points:	2520
LUMINAIRE INFORMATION	
Luminaire Type:	LED / SSL / Green Generation
Rated Lamp Life:	100,000 / 5,000 hrs
Avg Lumens / Lamp:	3,950 / 134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	87
Avg KW:	109.5 (119.48 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

Field Measurements: Illumination measured in accordance with IESNA LM-5-04 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

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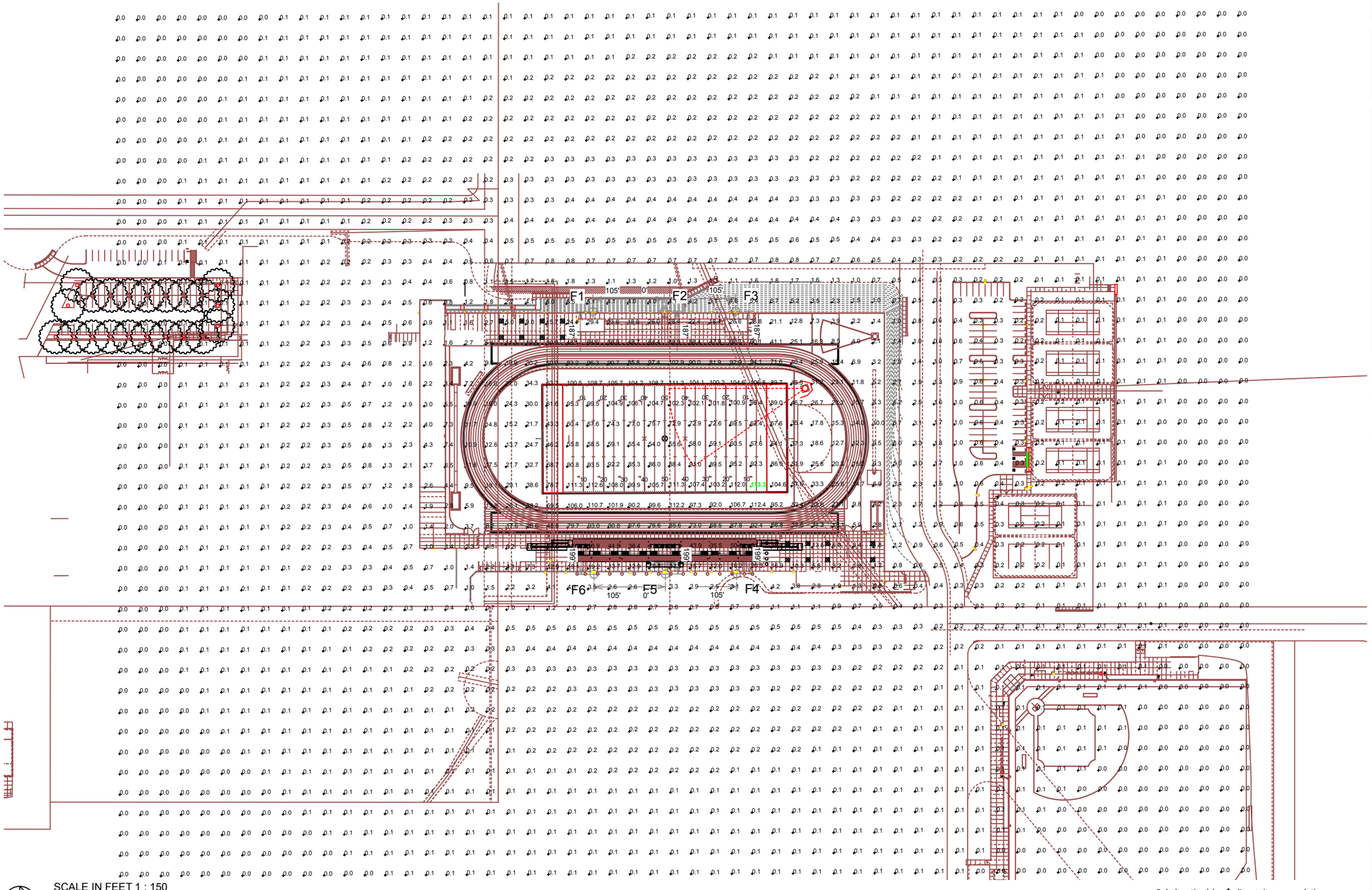
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1-F3	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	11	11	0
3	F4-F6	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	12	12	0
6	TOTALS					87	87	0



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name: **Crawford High School Football**
Location: San Diego,CA

GRID SUMMARY

Name: **Blanket Grid +10'**
Size: 360' x 160'
Spacing: 30.0' x 30.0'
Height: 10.0' above grade

CONSTANT ILLUMINATION

SUMMARY	MAX VERTICAL FOOTCANDLES
	Entire Grid
Scan Average:	**5.4**
Maximum:	113
Minimum:	0
Avg / Min:	246.07
Max / Min:	**5183.83**
UG (adjacent pts):	6.93
CV:	3.50
No. of Points:	2520

LUMINAIRE INFORMATION	
Luminaire Type:	LED / SSL / Green Generation
Rated Lamp Life:	100,000 / 5,000 hrs
Avg Lumens / Lamp:	3,950 / 134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	87
Avg KW:	109.5 (119.48 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

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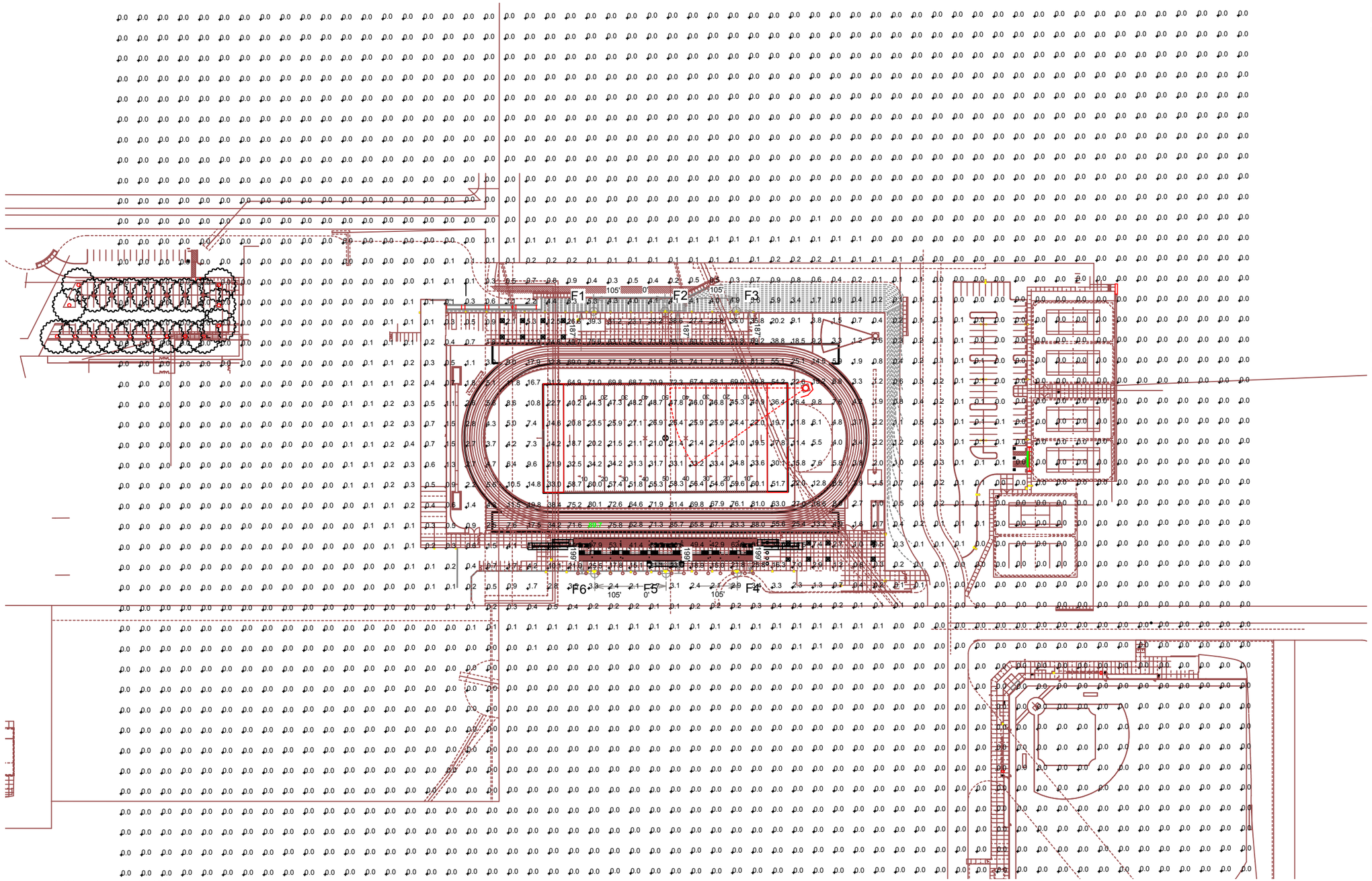
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1-F3	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	11	11	0
3	F4-F6	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	12	12	0
6	TOTALS					87	87	0



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name: **Crawford High School Football**
Location: San Diego,CA

GRID SUMMARY

Name: **Blanket Grid +20'**
Size: 360' x 160'
Spacing: 30.0' x 30.0'
Height: 20.0' above grade

CONSTANT ILLUMINATION

SUMMARY	HORIZONTAL FOOTCANDLES
	Entire Grid
Scan Average:	**3.3**
Maximum:	90
Minimum:	0
Avg / Min:	2757.14
Max / Min:	**75302.29**
UG (adjacent pts):	33.54
CV:	3.84
No. of Points:	2520
LUMINAIRE INFORMATION	
Luminaire Type:	LED / SSL / Green Generation
Rated Lamp Life:	100,000 / 5,000 hrs
Avg Lumens / Lamp:	3,950 / 134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	87
Avg KW:	109.5 (119.48 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

Field Measurements: Illumination measured in accordance with IESNA LM-5-04 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

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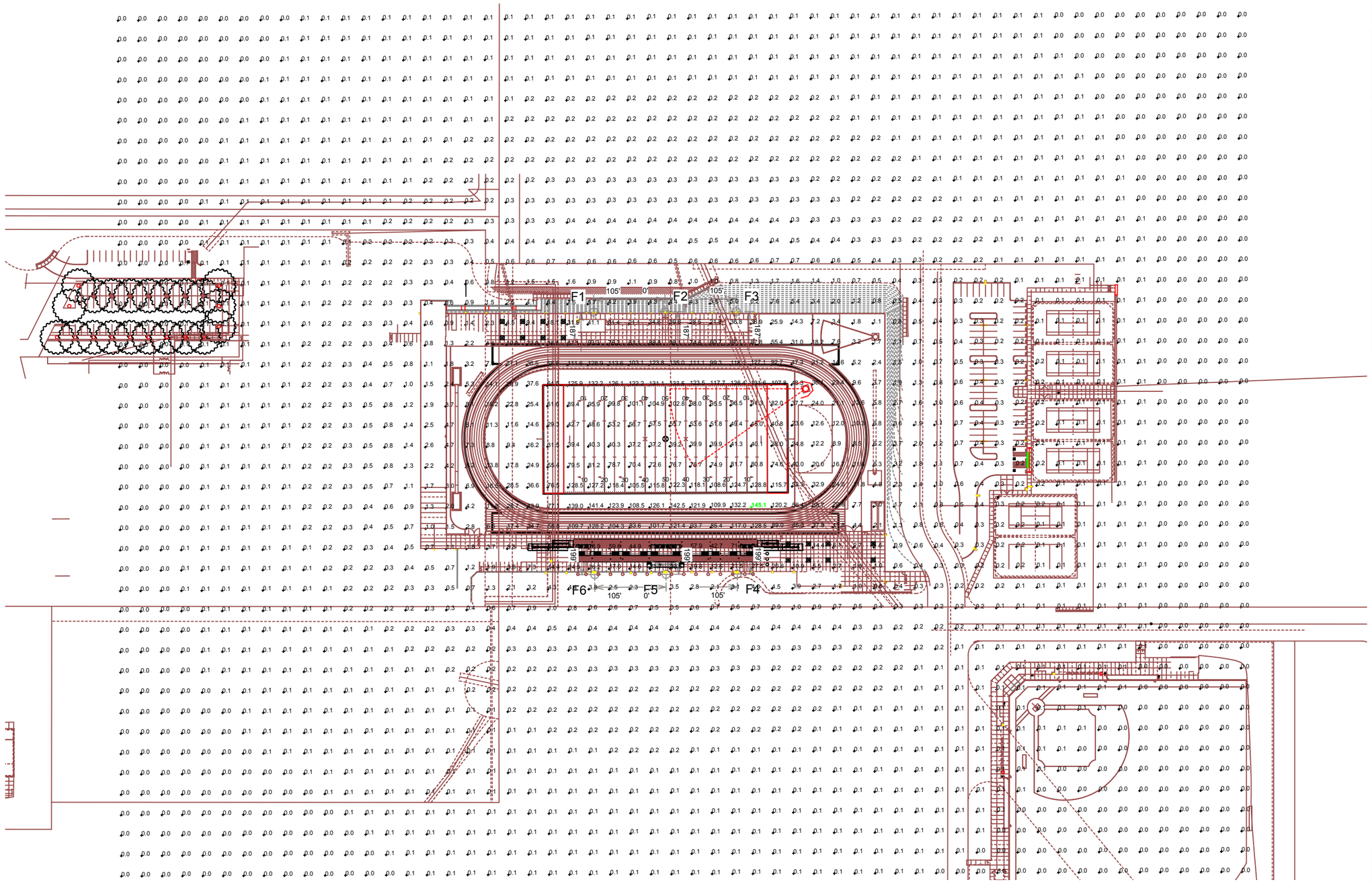
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1-F3	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	11	11	0
3	F4-F6	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	12	12	0
6	TOTALS					87	87	0



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name: **Crawford High School Football**
Location: San Diego,CA

GRID SUMMARY

Name: **Blanket Grid +20'**
Size: 360' x 160'
Spacing: 30.0' x 30.0'
Height: 20.0' above grade

CONSTANT ILLUMINATION

SUMMARY	MAX VERTICAL FOOTCANDLES
	Entire Grid
Scan Average:	**5.7**
Maximum:	145
Minimum:	0
Avg / Min:	285.34
Max / Min:	**7217.04**
UG (adjacent pts):	9.04
CV:	3.68
No. of Points:	2520

LUMINAIRE INFORMATION	
Luminaire Type:	LED / SSL / Green Generation
Rated Lamp Life:	100,000 / 5,000 hrs
Avg Lumens / Lamp:	3,950 / 134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	87
Avg KW:	109.5 (119.48 max)

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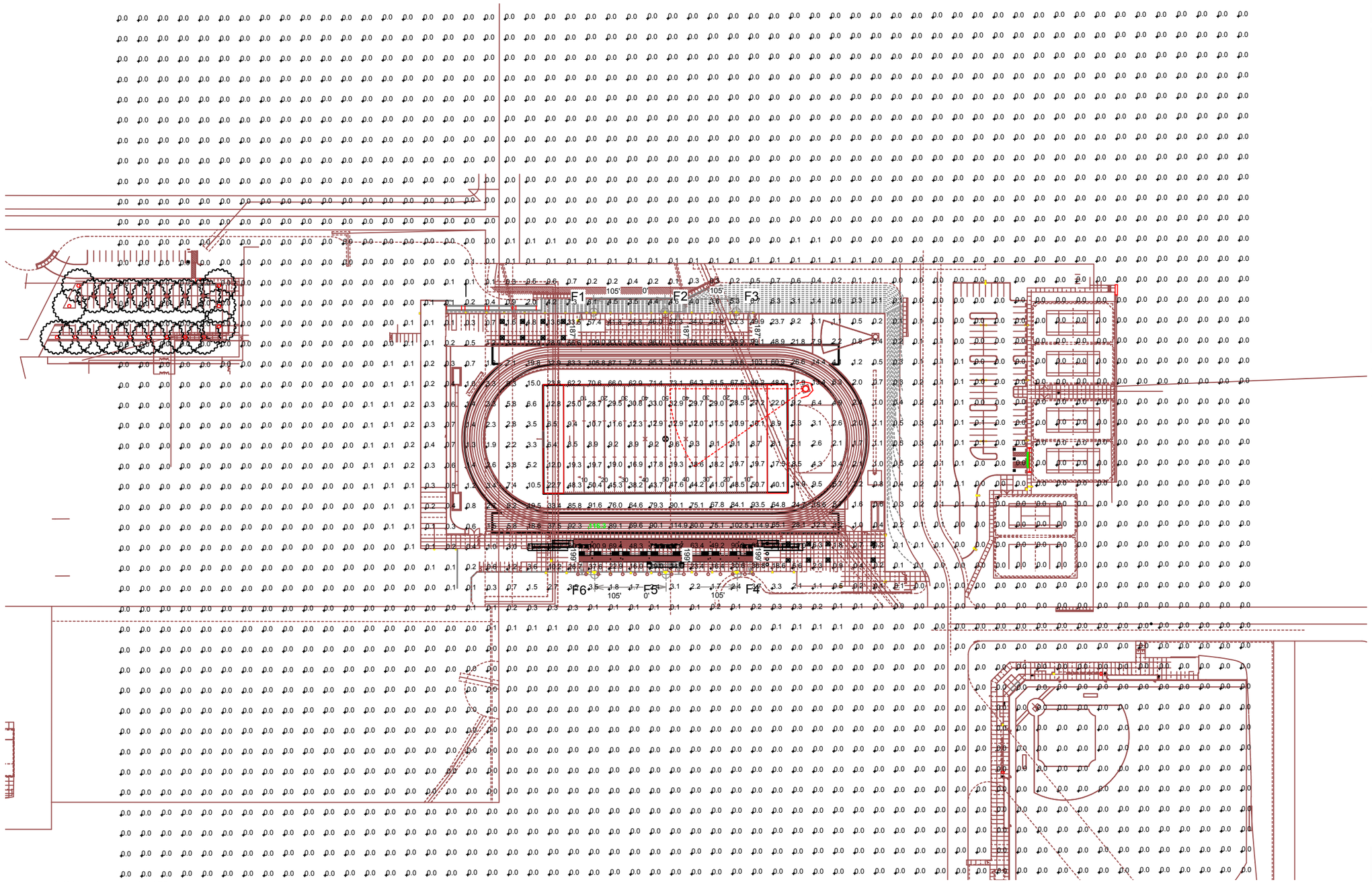
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1-F3	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	11	11	0
3	F4-F6	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	12	12	0
6	TOTALS					87	87	0



SCALE IN FEET 1 : 150

0' 150' 300'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name: **Crawford High School Football**
Location: San Diego,CA

GRID SUMMARY

Name: **Blanket Grid +30**
Size: 360' x 160'
Spacing: 30.0' x 30.0'
Height: 30.0' above grade

CONSTANT ILLUMINATION

SUMMARY	HORIZONTAL FOOTCANDLES
	Entire Grid
Scan Average:	**3.3**
Maximum:	116
Minimum:	0
Avg / Min:	3528.14
Max / Min:	**124784.13**
UG (adjacent pts):	57.83
CV:	4.27
No. of Points:	2520
LUMINAIRE INFORMATION	
Luminaire Type:	LED / SSL / Green Generation
Rated Lamp Life:	100,000 / 5,000 hrs
Avg Lumens / Lamp:	3,950 / 134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	87
Avg KW:	109.5 (119.48 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the rated life of the lamp.

Field Measurements: Illumination measured in accordance with IESNA LM-5-04 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

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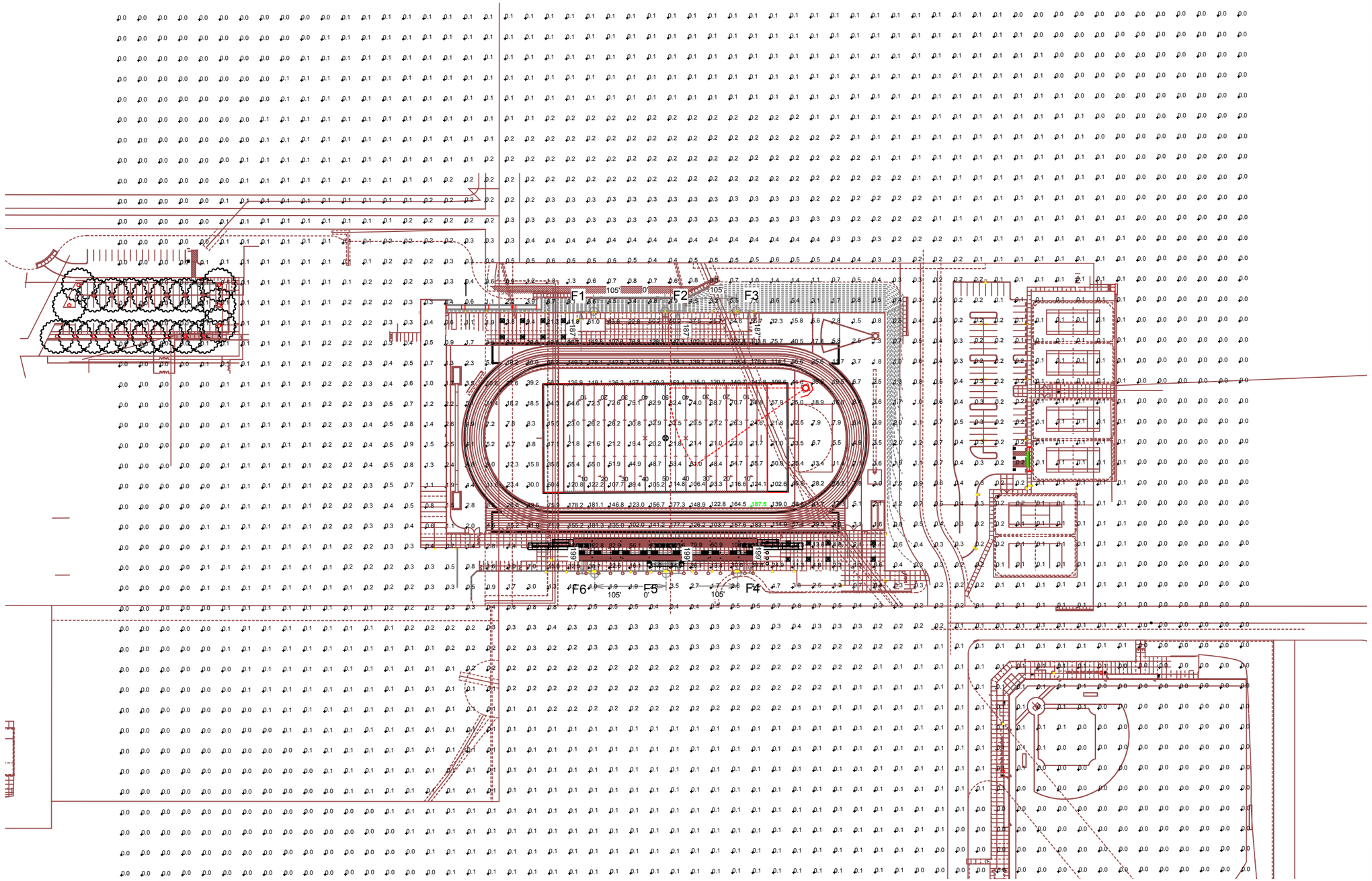
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	F1-F3	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	11	11	0
3	F4-F6	90'	-	60'	24 LED	3	3	0
				90'	1500W MZ	12	12	0
6	TOTALS					87	87	0



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

MY PROJECT

Name: **Crawford High School Football**
Location: San Diego,CA

GRID SUMMARY

Name: **Blanket Grid +30**
Size: 360' x 160'
Spacing: 30.0' x 30.0'
Height: 30.0' above grade

CONSTANT ILLUMINATION

SUMMARY	MAX VERTICAL FOOTCANDLES
	Entire Grid
Scan Average:	**6.0**
Maximum:	188
Minimum:	0
Avg / Min:	324.34
Max / Min:	**10164.95**
UG (adjacent pts):	12.22
CV:	4.01
No. of Points:	2520

LUMINAIRE INFORMATION	
Luminaire Type:	LED / SSL / Green Generation
Rated Lamp Life:	100,000 / 5,000 hrs
Avg Lumens / Lamp:	3,950 / 134,000
Avg Lamp Tilt Factor:	1.000
No. of Luminaires:	87
Avg KW:	109.5 (119.48 max)

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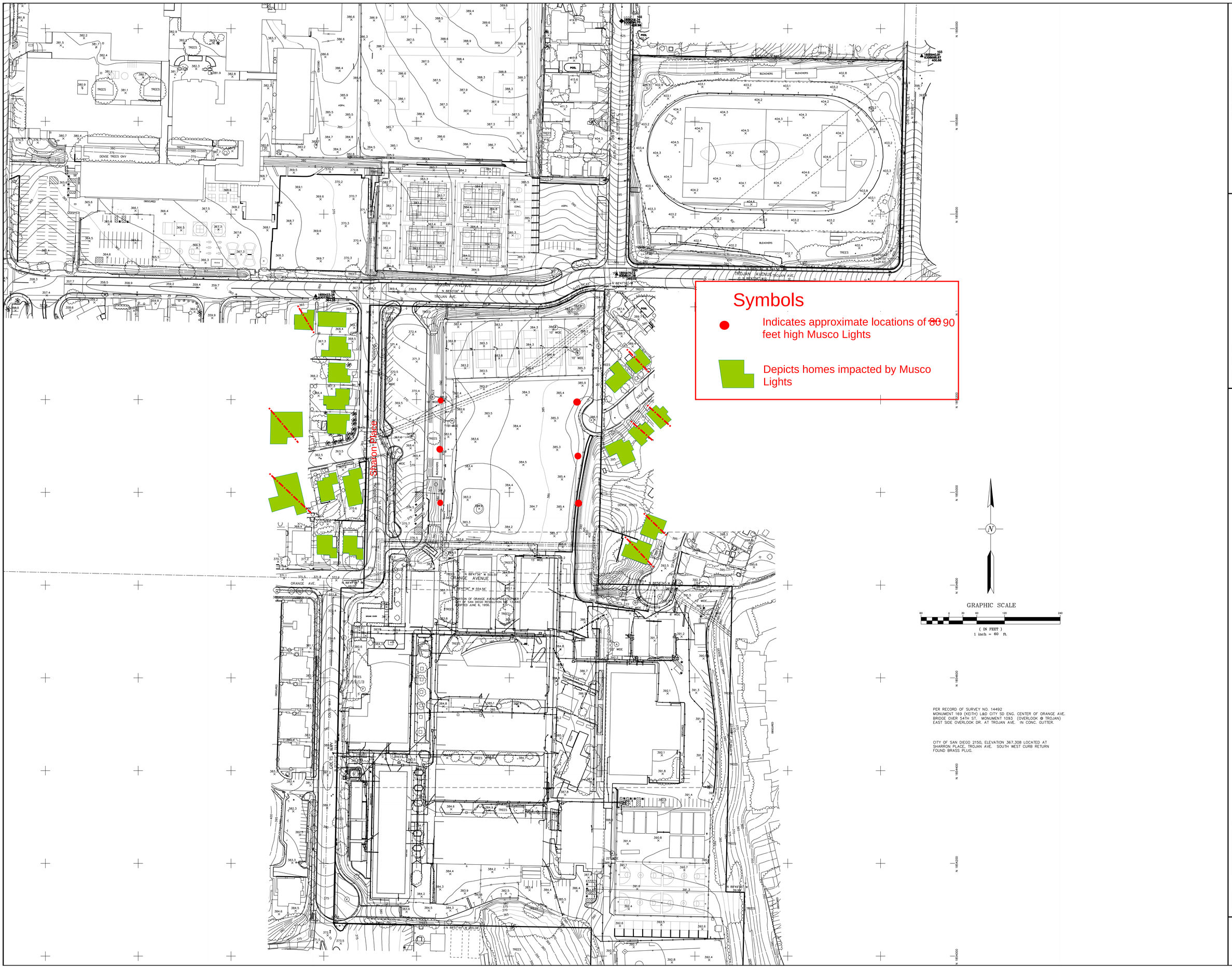
ILLUMINATION SUMMARY



PER RECORD OF SURVEY NO. 14492
MONUMENT 169 (KEITH) L&D CITY SD ENG. CENTER OF ORANGE AVE. BRIDGE OVER 54TH ST. MONUMENT 1093 (OVERLOOK @ TROJAN) EAST SIDE OVERLOOK DR. AT TROJAN AVE. IN CONC. GUTTER.

CITY OF SAN DIEGO 2150, ELEVATION 367.39ft LOCATED AT SHARRON PLACE, TROJAN AVE. SOUTH WEST CURB RETURN FOUND BRASS PLUG.

REVISIONS

NO.	DATE	DESCRIPTION	BY

PREPARED BY:

GUIDA SURVEYING INC.
9241 IRVINE BOULEVARD *
IRVINE, CALIFORNIA 92618
(949) 727-0004 FAX (949) 777-2050
EMAIL: GSIRVINE@GUIDASURVEYING.COM

CRAWFORD HIGH SCHOOL, SAN DIEGO, CA

DESIGN SURVEY, ADA SURVEY, AND AERIAL SUPPLEMENT SURVEY

EXISTING CONDITION SURVEY OF:

Appendix C
Plant Species Detected

Appendix C
Plant Species Detected

Scientific Name	Common Name
EUDICOTS	
Aizoaceae - Fig-marigold family	
* *Carpobrotus edulis*	Freeway iceplant
Anacardiaceae - Sumac Or Cashew family	
Malosma laurina	Laurel sumac
* *Schinus terebinthifolius*	Brazilian pepper tree
Asteraceae - Sunflower family	
Artemisia californica	California sagebrush
Fabaceae - Legume family	
* *Acacia cyclops*	Western coastal wattle
Oleaceae - Olive family	
* *Olea europaea*	Olive
MONOCOTS	
Arecaceae - Palm family	
* *Phoenix canariensis*	Canary Island palm
Poaceae - Grass family	
Avena sp.	Oat
* *Bromus hordeaceus*	Soft chess
* *Bromus madritensis ssp. rubens*	Red brome

Legend

*= Non-native or invasive species

Common Name (*Scientific Name*)	Sensitivity Code & Status	Habitat Preference/ Requirements	Verified On Site (Yes/No)	Potential to Occur	Rationale/Determination
Plants					
Orcutt's Brodiaea (*Brodiaea orcuttii*)	CRPR List1B.1	Bulbiferous herb Moist grasslands and in the periphery of vernal pools; 0-1600 m (0-5249 ft). Blooming period: May - July	No	None	Suitable habitat does not occur on or near the study area.
Wart-stemmed Ceanothus (*Ceanothus verrucosus*)	CRPR List 2B.2	Evergreen shrub Chaparral; 1-380 m (3-1247 ft). Blooming period: December - May	No	None	Suitable habitat does not occur on or near the study area.
San Diego Button-Celery (*Eryngium aristulatum* var. *parishii*)	FE SE CRPR List 1B.1	Annual/perennial herb Mesic soils in coastal scrub, valley and foothill grassland, and vernal pools; 20-620 m (65-2034 ft). Blooming period: April - June	No	None	Vernal pool species; Suitable habitat does not occur on or near the study area.
San Diego Mesa Mint (*Pogogyne abramsii*)	FE SE CRPR List 1B.1	Annual herb Vernal pools in central San Diego County; 90- 200m (300-660 ft). Blooming period: March - July	No	None	Vernal pool species; Suitable habitat does not occur on or near the study area.
Animals					
Mammals					
Western Mastiff Bat (*Eumops perotis californicus*)	CSC	Lives in rocky areas and cliff faces. Roosts in cliff crevices and buildings.	No	Roosting – None Foraging – Low	No suitable roosting habitat is present within the study area.. Marginally suitable foraging habitat present near site. It is conceivable the species may forage above the study area although routine use is not expected.

Legend:
Status:
Federal
FE - Listed as endangered under the federal Endangered Species Act.
FT - Listed as threatened under the federal Endangered Species Act.
FC – Candidate for listing under the federal Endangered Species Act.
State
SE - Listed as endangered under the California Endangered Species Act.
ST – Listed as threatened under California Endangered Species Act.
SR – Listed as rare under California Endangered Species Act.
CSC – Listed as California species of concern under California Endangered Species Act.
CA Rare Plant Rank (CRPR) – Formerly known as CNPS List
1B. Rare or Endangered in California and elsewhere
2B. Rare or Endangered in California, more common elsewhere
Threat Ranks
.1 - Seriously endangered in California
.2 – Fairly endangered in California
.3 – Not very endangered in California
References:

Common Name (*Scientific Name*)	Sensitivity Code & Status	Habitat Preference/ Requirements	Verified On Site (Yes/No)	Potential to Occur	Rationale/Determination
Special Status plant information from CDFW 2012. Nomenclature and plant descriptions from Beauchamp 1986, CNPS Online Inventory, Hickman 1993, Lightner 2006, McAuley 1996, Munz 1974, Reiser 2001. Range information from CNDDB 2011, CNPS 2012, and SDNHM Plant Atlas Project 2012. Special Status animal information from Shuford and Gardali 2008 and CDFW 2012. Nomenclature and invertebrate descriptions from USFWS 2008. Nomenclature and vertebrate descriptions from AOU 1998 and supplements, Collins and Taggart 2012, Stephenson and Calcarone 1999, Wilson and Reeder 1993, Wilson and Cole 2000, Unitt 2004.					

Appendix D
California Register of Historical Resources Evaluation

Crawford High School

Memorandum

Date:	August 30, 2012
To:	Kathryn Ferrell San Diego Unified School District Maintenance and Operations Center 4860 Ruffner Street San Diego, CA 92111-1522
Cc:	
From:	Timothy Yates, Ph.D. Historian, Environment & Planning Division
Subject:	**California Register of Historical Resources Evaluation of Will C. Crawford High School Pursuant to CEQA Compliance, Revised in Accordance with Comments from Michael Hernandez, San Diego Unified School District**

Introduction

This cultural resources technical memorandum has been prepared by ICF for the San Diego Unified School District (SDUSD). SDUSD is seeking to undertake improvements to the infrastructure of Will C. Crawford High School in accordance with Proposition S Bond List. The proposed modernization of Crawford High School would include: construction of a new baseball field and a new athletic stadium, modernization of Building 800 and removal of portable buildings to the south, creation of a new front entry at Building 800, installation of new front signage, and demolition of the current Administration Building and Buildings 100 and 200 at the north side of the campus.

Regulatory Setting

The California Environmental Quality Act (CEQA) requires public agencies to evaluate the implications of their project(s) on the environment and includes significant historical resources as part of the environment.

According to CEQA, a project that causes a *substantial adverse change* in the significance of a *historical resource* or a *unique archaeological resource* has a significant effect on the environment (CEQA Guidelines 15064.5, Pub. Res. Code section 21083.2). CEQA defines a *substantial adverse change* as:

- Physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired; or

- Demolition or material alteration of the physical characteristics that convey the resource's historical significance and justify its designation as a *historical resource*

Public agencies must treat any cultural resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant (Title 14 CCR, Section 15064.5). A historic resource is considered significant if it meets the definition of *historical resource* or *unique archaeological resource*.

The term *historical resource* includes, but is not limited to any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California (Public Resource Code PRC 5020.1(j)). Historical resources may be designated as such through three different processes:

1. Official designation or recognition by a local government pursuant to local ordinance or resolution (PRC 5020.1(k))
2. A local survey conducted pursuant to PRC 5024.1(g)
3. The property is listed in or eligible for listing in the National Register of Historic Places (NRHP) (PRC 5024.1(d)(1))

The process for identifying historical resources is typically accomplished by applying the criteria for listing in the California Register of Historical Resources (CRHR) (Title 14 CCR, Section 4852), which states that a historical resource must be significant at the local, state, or national level under one or more of the following four criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. It is associated with the lives of persons important in our past.
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values.
4. It has yielded, or may be likely to yield, information important in prehistory or history.

To be considered a *historical resource* for the purposes of CEQA, the resource must also have integrity, which is the authenticity of a resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance.

Resources, therefore, must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling and association. It must also be judged with reference to the particular criteria under which a resource is eligible for listing in the CRHR (California Code of Regulations title 14, Section 4852(c)).

Summary of Efforts and Findings

On August 2, 2012, ICF historian Timothy Yates visited Will C. Crawford High School and formally recorded the buildings and grounds with digital photography. On August 6, 2012, Dr. Yates also researched the construction of the school using original plans on file at the Architectural Archives of the SDUSD Maintenance and Operations Center. Additional research on the school's architect and the historic context of the school's development was conducted on-line and at the San Diego History Center, and the Main Branch of the San Diego Public Library.

ICF International recommends that Will C. Crawford High School be considered ineligible for listing on the California Register of Historical Resources, and that it not be considered a historical resource for the purposes of CEQA. Consequently, the proposed modernization of the school in association with Proposition S does not appear to have the potential to result in substantial adverse effects to a historical resource.

A historic background discussion, a description of the Will C. Crawford High School complex, and a formal evaluation of the school are provided below. Department of Parks and Recreation (DPR) Forms 523A and 523B for the school are attached to this memorandum.

Historic Background

Will C. Crawford High School was developed as part of San Diego's post-World War II (WWII) suburban expansion. During the war, San Diego grew rapidly mainly as a consequence of military activity in the region, including local growth in the defense industry. Growth continued into the early Cold War years of the 1950s. From 1940 to 1950, the city's population increased from 203,341 to 334,387. By 1957, as more and more of the Baby Boom generation reached school age, 494,201 people called San Diego home, and by 1960, San Diego County had 1,033,011 residents. Although a series of bond issues passed during these years funded construction of new school facilities, permanent construction did not keep pace with rising demand, and in 1956 SDUSD was forced to contract for construction of new temporary classrooms—which had first been developed in San Diego during WWII—to accommodate the increasing student population. Developers built new housing tracts that spread north and east of the pre-WWII urban core, which, except for Pacific Beach and La Jolla, had generally remained concentrated south of today's Interstate 8, and had generally extended as far east as the College, Kensington-Talmadge, City Heights areas. (City of San Diego 2007: 36-4, 49, and Development Patterns Map; May 2012; Scarr, 1956; SDUSD 1954: 12.)

San Diego School Development during these decades reflected national trends in school planning, and both national and regional trends in school architecture. Architects attuned to progressive education ideals promoted an indoor-outdoor experience and natural classroom light as essential components of the productive educational environment. This, along with concern over seismic safety, led architects to design more "open" schools. Prior to the end of WWII, San Diego schools appear to have generally consisted of one or more large, two-to-three-story multi-classroom buildings designed in the Spanish Colonial Revival, Streamline Moderne, PWA Moderne, or early International Styles. After WWII, school buildings constructed higher than a single story were usually limited to auditoriums, gyms, and, at elementary schools, all-purpose rooms for indoor lunch, meetings, or recreation. Beyond these larger buildings, it appears that post-WWII San Diego

schools generally had open-air designs consisting of single-story classroom buildings, classrooms lit naturally by large windows, sheltered outdoor corridors, and appealingly landscaped spaces in between. Like school architects elsewhere, San Diego's school architects appear to have increasingly employed concrete, steel, and glass materials to create school buildings free of ornamental embellishment, reflecting the modernist belief that the architectural forms of a building should honestly convey its structure, material, and even function. (City of San Diego 2007: 24; Ogata 2008; Science Applications International Corporation 2002: 13-14.)

In terms of style, the architecture of post-WWII school buildings in San Diego and across California was heavily influenced by the modernist movement that took shape during the pre-WWII years, as European architects transplanted the International Style to the United States. Although the International Style made its first appearance in San Diego-area schools prior to WWII, it continued to influence the architecture of local schools after the war. During the 1950s and 60s, San Diego school architecture also incorporated elements of the Custom Ranch, Contemporary, and Post-and-Beam styles that informed the design of residences surrounding the sites of new schools. (City of San Diego 2007: 35-42, 59-60, 67-69, 73-77; Ogata 2008.)

Description

Will C. Crawford High School is located south of El Cajon Boulevard at 4191 Colts Way, in the vicinity of the Adeline Gardens, El Cerrito, and Colina Del Sol areas of San Diego. The school complex consists of 10 permanent buildings constructed in 1957, a large two-story permanent building constructed in 1962, and single- and two-room classroom buildings and portable buildings located at the northeast, southeast, and southwest corners of the campus (see site map on page 7).

The main entrance to the school is located at the northwest corner of the campus near the intersection of Orange Avenue and Colts Way. Concrete stairways ascend from the north and the west to a concrete courtyard at the front of the school's north-facing Auditorium Building and at the southwest corner of the school's Administration Building (photos 1-3). West and north of these buildings and the courtyard, the grounds are landscaped with lawns and with large terraced concrete-block planters with trees and shrubs. An additional concrete planter is located immediately north of the Auditorium at the school's flag pole (photo 2). Entrances secured by chain-link gates are located at the northeast corner of the Auditorium and the southwest corner of the Administration Building, between which extends a sheltering canopy with steel post supports known as "piloti," a feature typical of schools developed in the 1950s and 60s. Less typical of the era's schools, however, the Crawford entrance openings flank a large curtain wall with a concrete-block base and long rows of steel-framed windows stacked five high to the underside of the canopy. Steel-framed windows throughout the campus appear to be aluminum or an aluminum alloy but are referred to as "steel-frame" because their exact composition was not determined.

The stucco-clad, flat-roofed Auditorium consists of a large central rectangular mass rising two-stories in height and a one-story-high, symmetrical entry area with a horizontal emphasis at the façade. A long, flat, mostly cantilevered canopy stepped fascia projects outward above a centered floor-to-ceiling curtain wall of rectangular steel frame windows matching curtain wall at the main school entrance. The curtain wall is flanked by pairs of recessed entries with two-leaf institutional-grade doors (photo 2). At the far south end of the entry, the canopy is supported by a wall with four

rectangular square openings roughly matching the size of the windows. Above the entry on the higher façade wall of the larger mass is a centered electronic sign. An original steel sign identifies the school at the south end of the wall. The large central mass of the building has a flat roof with perimeter parapets. A single-story rectangular mass projects south and west at the south end of the building. Along Colts Way, a cantilevered right-angle-shaped canopy projects from the exterior walls over two rows of rectangular steel framed windows. Additional windows facing Colts Way at the southwest corner of the building are fronted by a cantilevered feature with louver-shaped steel shades.

Unlike the one-story classroom buildings east of the Administration Building, the rectangular-plan Administration Building has a flat-roof with slightly flared and broadly projecting eaves at the east and west elevations (photo 4). Fenestration consists of multiple entries with institutional grade single-leaf doors and stacked rows or larger banks of rectangular steel-frame windows, the latter of which have heavy-duty steel screens. On the north side of the building is concrete-block and a concrete disability ramp with steel balustrades.

The classroom and library buildings, Buildings 100-600, were originally arranged similarly, although Building 300 has undergone a major Library addition at the north elevation. Buildings 100 and 200 are aligned north-south, and Buildings 300-600 are aligned east-west. All but the altered Building 300 are rectangular in plan. Prominent butterfly roofs project broadly at the eaves on the east and west elevations of Buildings 100 and 200, the north and south elevations of Buildings 400-600, and the south elevation of Building 300. This comprises the most noteworthy architectural features of these six buildings (photos 6 and 9). The eave ends of the butterfly roofs feature stepped fascia forming long horizontal bands. Large banks of rectangular steel-frame windows occupy a majority of the wall space on most of these buildings; stucco covers the remaining exterior wall space (photos 6, 8, and 9). At the south elevations of Buildings 300-600 and both the east and west elevations of Buildings 100 and 200, louver-shaped steel shades are attached to boards that are in turn affixed to the eaves (photos 7, 9, 10). The buildings have numerous institutional-grade doors, most with small square-shaped vision lights. These buildings are all connected by flat-roof canopies supported by steel poles over concrete walkways.

Two of these building's elevations are arranged differently than others. The south elevation of Building 600, which historically housed shop classes, has clerestory windows, three large roll-up automobile doors, and louver-shaped steel shades at the center of the elevation (photo 7). As mentioned above, projecting from the north elevation of Building 300 is a Library addition with a shed roof, curving north and east walls comprised of large square and rectangular steel-frame windows, stucco walls on the west side, and steel-frame clerestory windows on the south side, above the building's original roof line (photos 11 and 12).

North of the classroom and library buildings, across a large quad area, stands the Crawford High School Gym. The symmetrically arranged irregular-plan building has a sprawling one-story rectangular west mass topped by a flat roof with broadly projecting eaves and steel-frame clerestory windows under an additional flat roof with broadly projecting eaves. Steel poles support the outer eaves of the lower roof, which shelters perimeter walkways. The main public gym space at the east side of the building is formed by a two-story-high rectangular-shaped mass with a low-sloped roof and perimeter parapets. Clad in stucco, the building has entrances with two-leaf institutional-grade

doors at the northwest and southwest corners, pairs of two-leaf institutional-grade doors framed by a portico at the northeast corner of the main gym space, two-leaf institutional-grade doors with a portico at the southeast corner of the main gym space, and a variety of secondary two-leaf and single-leaf institutional-grade doors at other locations. The south elevation has single-leaf institutional-grade doors with vision lights and a large bank of square-shaped steel-frame windows. The Gym stands atop a slight terrace east of the eastern quad, and the small slope in between has concrete stairways with steel rails and concrete retaining walls that form planters with grass and shrubs. The area at the southeast corner of the building is enclosed by a right-angled concrete block wall.

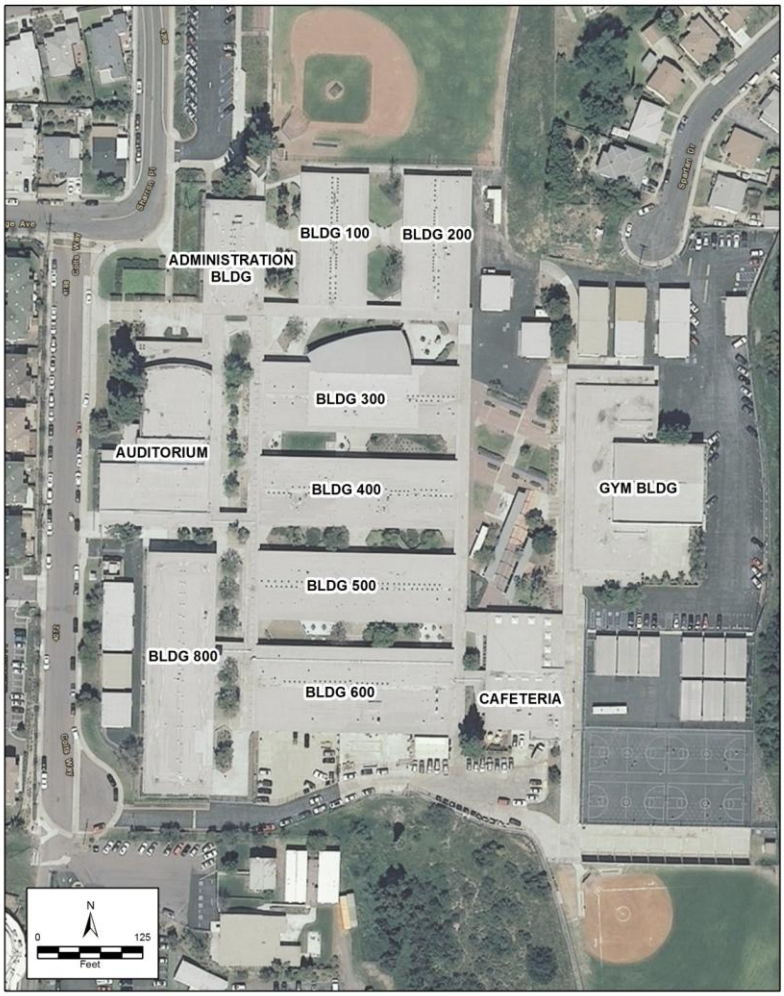
The school's Cafeteria (photo 14) is connected at its northeast corner to the west corner of the Gym by a flat-roofed canopy with steel support poles. The front of the irregular-plan, stucco-clad Cafeteria faces north. The east side of the building's front, where students line up to order food at steel-framed service windows, is essentially a large flat-roofed shelter with supporting steel poles and load-bearing sections of wall between the mostly open northeast corner of the building. Forming the main Cafeteria space, the square-shaped mass at the building's northwest corner has a shed roof with broadly projecting eaves rising higher than the other roof lines. The eave ends are finished in the stepped fascia observable on building eaves and canopies across the campus. Approached from the north, the Cafeteria and the shelters and covered walkway's roofs give a horizontal, multi-layered canopy effect. Many slender columns do not detract from the strong horizontal effect of the canopy fascia that breakthrough the column lines. At the front of the main Cafeteria space, projecting stucco-clad walls form three bays dominated by large banks of rectangular steel-frame windows.

Rising two-stories in height, Building 800 is located at the northwest corner of the campus's building cluster (photos 16 and 17). Devoid of projecting rooflines or angular design characteristics, this rectangular-plan, stucco-clad, non-original building stands in marked contrast to the architecture of the campus's original buildings. The building projects outward in flat, thick, slab-like planes to form a first-story perimeter shelter and the second-floor perimeter balcony's floor and shelter. The projections provide sheltered circulation corridors for access to first and second-floor classrooms. Steel poles lend support to the projecting balcony and roof. Fenestration consists of single-leaf institutional-grade doors, some with transoms, and large horizontally sliding steel-frame windows. A steel pole and wire balustrade surrounds the second-floor balcony. An attached exterior elevator has recently been constructed at the building's east elevation.

Portable buildings and small buildings housing one or two classrooms are clustered at the campus's southwest, northeast, and southeast corners (photos 18-20). These buildings vary in design. Some have shed roofs with broadly overhanging eaves at their fronts and rears. However, none of them date to the 1950s or 1960s.

In addition to the above described entrance planters and court, the school incorporates a variety of landscaping features within the interior campus. The unsheltered areas between the Auditorium and Building 800 on the west, and Buildings 300-600 on the east, are surfaced with concrete and feature original, variously shaped concrete planters with shrubs and trees (photos 5 and 16). The unsheltered areas between Buildings 300-600, and between the Administration Building and Buildings 100-200, have concrete planters and lawn areas incorporating shrubs and trees, as well as

what appear to be non-original picnic tables and benches (photos 8-11). The open area around the Library addition has non-original landscaping consisting of shrubs, lawns, and concreted areas with picnic tables and benches (photos 11 and 12). The area north of the Cafeteria building incorporates lawns, concrete walkways, concrete planters with shrubs and trees, as well as metal structures that shelter benches and feature angularly projecting sculptural steel frames (photos 14 and 15).



Will C. Crawford High School site map

Photograph 1. Auditorium at right, Administration Building at left, view to east

Photograph 2. Auditorium façade, view to south-southwest

Photograph 3. Main entrance immediately north of Auditorium, view to east

Photograph 4. North elevation of Administration Building, view to south

Photograph 5. Western quad and north ends of Buildings 300-600 from south side of Administration Building, view to south-southeast

Photograph 6. East end of Building 300 in foreground, Buildings 400 and 500 at left background, view to southwest

Photograph 7. South elevation of Building 600, view to northeast

Photograph 8. North elevation of Building 500, view to east-southeast

Photograph 9. Circulation canopy and southwest corner of Building 100, view to north-northeast

Photograph 10. Circulation canopy and east elevation of Building 100, view to north-northwest

Photograph 11. Library addition at north elevation of Building 300, view to east-southeast

Photograph 12. Circulation canopy and library addition at north elevation of Building 300, view to west

Photograph 13. Front elevation of Gymnasium, view to southeast

Photograph 14. Circulation canopy, lunch area shelter, and Cafeteria, view to west-southwest

Photograph 15. Quad east of Buildings 300-600, Cafeteria in background, view to south

Photograph 16. Quad area south of Buildings 300-600, northeast corner of Building 800, view to south

Photograph 17. Southwest corner of Building 800, view to northeast

Photograph 18. Single classroom building north of Building 200, view to northwest

Photograph 19. Classrooms north of Gymnasium, view to north-northwest

Photograph 20. Classrooms east of Gymnasium, view to east-southeast

Evaluation

Will C. Crawford High School does not appear to meet the criteria for listing on the California Register of Historical Resources (CRHR) due to insufficient historic significance. Although many of the original buildings retain historic integrity, additions to some buildings, construction of non-original buildings, and landscaping changes have diminished the campus's historic integrity of design and feeling in some places. These changes somewhat diminish the capacity of the school as a whole to convey its period of potential significance, which is 1957, the year the original school facilities were completed.

Architect Clyde Hufbauer designed Crawford High School in 1956. The school is one of 16 middle, junior, and high schools, in addition to 63 elementary schools, that Hufbauer designed during the 1950s and 60s. The school's present-day Buildings 100-600, Administration Building, Auditorium, Gymnasium, campus entry landscaping, and Cafeteria were all constructed in 1957. In 1961 Hufbauer also drew up plans for Building 800, which were approved in 1962. The building was constructed in 1962 as well. (Feeley et al. 2011: 18; Hufbauer 1956: G-1 of 19, 2 of 3, 2 of 5, 2 of 4, 2 of 7, 2 of 5, 2 of 16, 2 of 6, 2 of 11, 2 of 12, 2 of 6; Hufbauer 1961: 3; SDUSD 2007A.) The Library addition to Building 300 and the large courtyard area with the benches and steel shelter north of the Cafeteria (photo 15), were constructed after the year 2000 (Historicaerials.com 2012; SDUSD 2007A.)

Will C. Crawford High School was designed and developed during the post-World War II boom of population growth in the San Diego area, which resulted in extensive development of new suburban neighborhoods and new schools to serve the growing population of school-age children. Residences, school complexes, and other infrastructure constructed to encourage or accommodate growth cannot be considered historically significant solely by association with urban or suburban growth. Most built environments are associated with population growth; they are developed as part of planning for population growth or developed in response to population growth. Associations between built environment resources and population growth are commonplace. Were such associations treated as qualification for historical significance, then all buildings, complexes, and infrastructure surviving from an era of growth would be considered historical resources. Obviously, however, not all built resources developed during a given era can qualify as significant. Crawford High School does not appear to be associated with any discrete event of historical significance to San Diego, the State of California, or the United States. Hence it does not appear to meet Criterion 1 for listing in the CRHR. Although the school is associated with an important San Diego architect, such associations are properly assessed with reference to Criterion 3 of the CRHR. Crawford High School does not appear to have associations with other individuals important to local, state, or national history and does not, therefore, appear to be eligible for the CRHR under Criterion 2. Criterion 4 relates primarily to archaeological data and would not normally factor into an evaluation of an above-ground resource like Crawford High School. Unless, of course, archaeological sites had been previously recorded within the school limits; but that is not the case in this situation.

Known for mid-century modern designs, the architect of Will C. Crawford High School, Clyde Hufbauer, is considered a San Diego-area master architect. Born in Los Angles in 1911, Hufbauer

moved with his family to San Diego as a child and later attended San Diego State before earning a Master of Arts and Doctorate degrees in Architecture at the University of California, Berkeley. After marrying Arabelle Mckee, Hufbauer and his wife moved to San Diego, where he began his professional career in the late 1930s. In 1939, Hufbauer's first "ultra modern" home in Mission Beach was featured in a San Diego Union article. In 1951 he built a second modern home for his family in La Jolla that has been designated a San Diego Historical Landmark. (City of San Diego 2011: 127; Freeley et al. 2007: 18; May 2012.)

Apart from these two homes, Hufbauer's most notable works would be educational buildings and complexes developed during the post-World-War II years of rapid growth in the San Diego area. As stated above, he designed 16 middle, junior, and high schools, and 63 elementary schools for the San Diego School District. Hufbauer's campuses are representative of their period for the close relationship of buildings to their landscapes. Hufbauer worked with engineer Theodore Paulson on many of these education-related building projects. Hufbauer's surviving works for the District include the Education Center in University Heights (1953), nearby Alice Birney Elementary School (1953), Crown Point Elementary School (1949) in Pacific Beach, and Mission Bay High School (1953). During the 1960s, Hufbauer would also design Grossmont and Miramar Community Colleges. (May 2012; SDUSD 2007B, 2007C, 2007D.)

Despite the association with master architect Clyde Hufbauer, Will C. Crawford High School does not appear to be eligible for the CRHR under Criterion 3 for historic architectural significance. The school does not appear to be a master work of mid-century modernist architecture.

Alterations and new buildings have diminished the historic integrity of the complex in some areas. Building 800 stands in contrast to the architecture of the campus's 1957 buildings, which better represent the International style, or feature prominent butterfly roofs associated with the Contemporary and Post-and-Beam styles. Although designed by the same architect, the presence of Building 800 in viewsheds at the southeast corner of the campus diminishes that area's integrity of historic feeling. Although the steel structure with angular bench shelters north of the Cafeteria was clearly designed with sensitivity to the aesthetics of the school's 1957 buildings, like Building 800, it is clearly not a 1957 feature. This alteration had a significant impact on a major portion of the campus landscape. Although the Library addition on the north side of Building 300 is also designed with a measure of sensitivity to the school's original architecture, it nonetheless diminishes the integrity of the campus landscape and the building's integrity of design and feeling. Its presence within viewsheds at the north side of the school complex also undermines integrity of design and feeling in that area of the campus. Despite these alterations, other areas of the school and many of the individual buildings retain their original design, and appear to retain many of their original materials. The area incorporating the main entrance to the school and the Administration and Auditorium Buildings continues to convey the feeling of a mid-century modern high school, and best represents the influence of the International style on the school's design. Except for at the north side of Building 300, the prominent butterfly roofs and window banks of Buildings 100-600 clearly represent the architecture of a 1957 public school.

Despite the integrity of several individual buildings and distinct areas of the school complex, the school does not appear to be a historical resource. Although the area comprised of the entrance, Administration Building, and Auditorium is representative of the International Style, it does not

appear to constitute a distinctive or otherwise important expression of the International Style, which is observable at numerous San Diego-area school complexes, and which is perhaps best represented in Hufbauer's work by the Education Center in University Heights. This area of the school does not, in itself, appear to reach the threshold of architectural significance necessary for justifying CRHR listing, and it does not raise the school as a whole to the level of significance necessary to justify CRHR listing. The other notable architectural feature of the school, the butterfly roofs of Buildings 100-660, appears to be fairly commonplace among San Diego schools, particularly those developed in the late 1950s and early 1960s. Moreover, Crawford High School does not represent the first appearance of such features in Hufbauer's work. Designed by Hufbauer and built in 1953 (four years before Crawford High School), for example, Alice Birney Elementary School includes two buildings with roofs shaped similarly to the butterfly roofs of Crawford High School's Buildings 100-600. The importance of landscape to the architectural design of Crawford High School campus and many post-war San Diego schools makes landscape integrity particularly important when evaluating the property for eligibility to the CRHR. Changes to the quads—and particularly the open space north of the Cafeteria, west of the Gymnasium, and east of Buildings 300, 400, and 500—have greatly altered a focal landscape design, reducing the property's potential to convey associations with its period of construction and original use. Due, therefore, to a combination of insufficient significance and compromised integrity, Will C. Crawford High School does not appear to be eligible for the CRHR under Criterion 3.

In summary, Will C. Crawford High School does not appear to meet the Criteria for listing on the CRHR. Will C. Crawford High School was evaluated in accordance with Section 15064.5(a) (2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the Public Resources Code, and determined not to be a historical resource for the purposes of CEQA.

Records Search Results

Prior to commencing activities pursuant to the above high school evaluation, a records search was undertaken at the South Coastal Information Center (SCIC), which is the local repository acting on behalf of the State Office of Historic Preservation's California Historical Resources Information System (CHRIS). The San Diego office is run by San Diego State University and houses information of archaeological sites and studies that have been conducted within San Diego County. The results of the records search, received on August 1, 2012, indicated that no archaeological resources had been previously recorded within or immediately adjacent to Crawford High School. A number of historic buildings occur in the immediate area, but none of these would be affected by the work at Crawford. Archaeological monitoring has occurred in the area around Crawford in association with telecommunications, hospital, and waterline work, resulting in discoveries of historic trash dating to the first half of the twentieth century (Pierson 2006; Goodwin 2009; Kraft 2011). It is the policy of the City of San Diego Development Services Department to require archaeological monitoring in areas of ground disturbance where there is a potential for buried cultural deposits to be present.

For the current project a search of historic maps and aerials was undertaken to determine the likelihood of buried cultural materials to be present within the high school campus. Since the school was constructed in 1957, the archival search concentrated on whether buildings or other features had been constructed prior to the school's erection. One source of valuable information is the

Sanborn Fire Insurance Maps that date from the latter half of the nineteenth century into the 1950s. Unfortunately, the Crawford campus locality was not covered by these maps during the period of interest, i.e., prior to 1957.

Historic aerials were accessed through the website: www.historicaerials.com. The earliest aerial photograph dated to 1953. It showed no standing structures within the school property. The earliest USGS topographic maps on file for this area date to 1942, 1947, and 1955. These also indicated that no structures had been built within the school property over this timeframe. The only constant in all aerials and topos was the presence of a dirt road meandering east-west across the property. It was a common practice to dump garbage alongside such roads; however, since the garbage could have originated anywhere and could not be associated with a single household or business, its usefulness for archaeological research would be none. Based on these findings the likelihood that any intact buried cultural deposits could exist within the school property is extremely small. Archaeological monitoring during building demolitions or subsequent construction efforts would not be recommended for this project.

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Attachment: Crawford High School DPR Form

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State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # P-37-032913
HRI #
Trinomial
NRHP Status Code 6Z
Other Listings
Review Code Reviewer Date

 *Resource Name or # (Assigned by recorder) Will C. Crawford High School

P1. Other Identifier:
***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted** ***a. County** San Diego
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** La Mesa **Date** 1967 (PR 1975) **T** 16S; **R** 2W; ___ ¼ **of Sec** N/A; Mission San Diego Land Grant **B.M.**
c. Address 4191 Colts Way City San Diego Zip 92115
d. UTM: (give more than one for large and/or linear resources) Zone 11S; 492842 mE/ 3623883 mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Will C. Crawford High School is located south of El Cajon Boulevard at 4191 Colts Way, in the vicinity of the Adeline Gardens, El Cerrito, and Colina Del Sol areas of San Diego. The school complex consists of 10 permanent buildings constructed in 1957, a large two-story permanent building constructed in 1962, and single- and two-room classroom buildings and portable buildings located at the northeast, southeast, and southwest corners of the campus.

The main entrance to the school is located at the northwest corner of the campus near the intersection of Orange Avenue and Colts Way. Concrete stairways ascend from the north and the west to a concrete courtyard at the front of the school's north-facing Auditorium Building and at the southwest corner of the school's Administration Building (photos 1-3). West and north of these buildings and the courtyard, the grounds are landscaped with lawns and with large terraced concrete-block planters with trees and shrubs. (see continuation sheet 4)

***P3b. Resource Attributes:** (List attributes and codes) HP15. Educational Building
***P4. Resources Present:** ■ Building ■ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession #) Photograph 1. Auditorium at right, Administration Building at left, view to east

***P6. Date Constructed/Age and Sources:**
■ Historic ☐ Prehistoric ☐ Both
1957 (See attached DPR 523B form references)

***P7. Owner and Address:**
San Diego Unified School District
4860 Ruffner Street
San Diego, CA 92111

***P8. Recorded by:** (Name, affiliation, address)
Tim Yates
ICF International
9775 Business Park Avenue, Suite 200
San Diego, CA 92131

***P9. Date Recorded:** August 2, 2012

***P10. Survey Type:** (Describe) Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") ICF International. 2012. Technical Memorandum: California Register of Historic Resources Evaluation of Will C. Crawford High School (ICF 00912.11). San Diego, CA. Prepared for the San Diego Unified School District.

***Attachments:** NONE ☐ Location Map ■ Sketch Map ■Continuation Sheet ■Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) _____

***NRHP Status Code** 6Z
***Resource Name or #** (Assigned by recorder) Will C. Crawford High School

B1. Historic Name: Will C. Crawford High School
B2. Common Name: Will C. Crawford High School
B3. Original Use: School B4. Present Use: School
***B5. Architectural Style:** Mid-century modern (elements associated with International and Contemporary Styles)
***B6. Construction History:** (Construction date, alteration, and date of alterations) 1957; see B.10 Significance for detailed discussion of post-1957 alterations

***B7. Moved?** ■ **No** ☐ **Yes** ☐ **Unknown** **Date:** _____ **Original Location:** _____
***B8. Related Features:** _____

B9. Architect: Clyde Hufbauer **b. Builder:** Unknown
***B10. Significance: Theme** Mid-twentieth-century San Diego school development **Area** San Diego County
Period of Significance 1957 **Property Type** Public school complex **Applicable Criteria** NA
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Historic Background

Will C. Crawford High School was developed as part of San Diego's post-World War II (WWII) suburban expansion. During the war, San Diego grew rapidly mainly as a consequence of military activity in the region, including local growth in the defense industry. Growth continued into the early Cold War years of the 1950s. From 1940 to 1950, the city's population increased from 203,341 to 334,387. By 1957, as more and more of the Baby Boom generation reached school age, 494,201 people called San Diego home, and by 1960, San Diego County had 1,033,011 residents. Although a series of bond issues passed during these years funded construction of new school facilities, permanent construction did not keep pace with rising demand, and in 1956 SDUSD was forced to contract for construction of new temporary classrooms—which had first been developed in San Diego during WWII—to accommodate the increasing student population. Developers built new housing tracts that spread north and east of the pre-WWII urban core, which, except for Pacific Beach and La Jolla, had generally remained concentrated south of today's Interstate 8, and had generally extended as far east as the College, Kensington-Talmadge, City Heights areas. (City of San Diego 2007: 36-4, 49, and Development Patterns Map; May 2012; Scarr, 1956; SDUSD 1954: 12.) (see continuation sheet 5)

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:**

See continuation sheet 10

B13. Remarks:

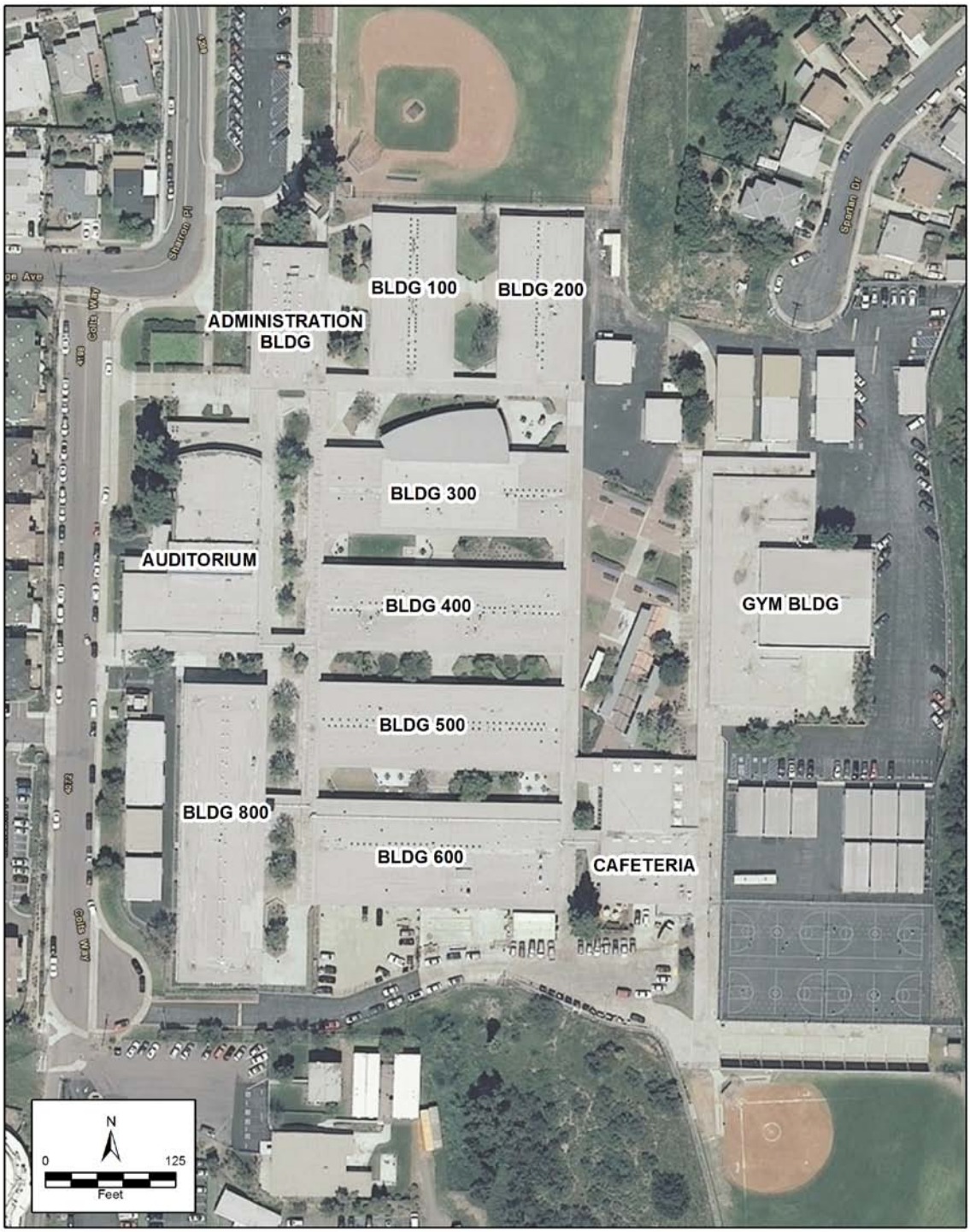
***B14. Evaluator:** Tim Yates, Ph.D., ICF International

***Date of Evaluation:** August 17, 2012

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

See DPR Page 3 Sketch Map


BLDG 100
BLDG 200
ADMINISTRATION BLDG
BLDG 300
AUDITORIUM
BLDG 400
GYM BLDG
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BLDG 800
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*P3a. Description (cont.):

An additional concrete planter is located immediately north of the Auditorium at the school's flag pole (photo 2). Entrances secured by chain-link gates are located at the northeast corner of the Auditorium and the southwest corner of the Administration Building, between which extends a sheltering canopy with steel post supports known as "politi," a feature typical of schools developed in the 1950s and 60s. Less typical of the era's schools, however, the Crawford entrance openings flank a large curtain wall with a concrete-block base and long rows of steel-framed windows stacked five high to the underside of the canopy. Steel-framed windows throughout the campus appear to be aluminum or an aluminum alloy but are referred to as "steel-frame" because their exact composition was not determined.

The stucco-clad, flat-roofed Auditorium consists of a large central rectangular mass rising two-stories in height and a one-story-high, symmetrical entry area with a horizontal emphasis at the façade. A long, flat, mostly cantilevered canopy stepped fascia projects outward above a centered floor-to-ceiling curtain wall of rectangular steel frame windows matching curtain wall at the main school entrance. The curtain wall is flanked by pairs of recessed entries with two-leaf institutional-grade doors (photo 2). At the far south end of the entry, the canopy is supported by a wall with four rectangular square openings roughly matching the size of the windows. Above the entry on the higher façade wall of the larger mass is a centered electronic sign. An original steel sign identifies the school at the south end of the wall. The large central mass of the building has a flat roof with perimeter parapets. A single-story rectangular mass projects south and west at the south end of the building. Along Colts Way, a cantilevered right-angle-shaped canopy projects from the exterior walls over two rows of rectangular steel framed windows. Additional windows facing Colts Way at the southwest corner of the building are fronted by a cantilevered feature with louver-shaped steel shades.

Unlike the one-story classroom buildings east of the Administration Building, the rectangular-plan Administration Building has a flat-roof with slightly flared and broadly projecting eaves at the east and west elevations (photo 4). Fenestration consists of multiple entries with institutional grade single-leaf doors and stacked rows or larger banks of rectangular steel-frame windows, the latter of which have heavy-duty steel screens. On the north side of the building is concrete-block and a concrete disability ramp with steel balustrades.

The classroom and library buildings, Buildings 100-600, were originally arranged similarly, although Building 300 has undergone a major Library addition at the north elevation. Buildings 100 and 200 are aligned north-south, and Buildings 300-600 are aligned east-west. All but the altered Building 300 are rectangular in plan. Prominent butterfly roofs project broadly at the eaves on the east and west elevations of Buildings 100 and 200, the north and south elevations of Buildings 400-600, and the south elevation of Building 300. This comprises the most noteworthy architectural features of these six buildings (photos 6 and 9). The eave ends of the butterfly roofs feature stepped fascia forming long horizontal bands. Large banks of rectangular steel-frame windows occupy a majority of the wall space on most of these buildings; stucco covers the remaining exterior wall space (photos 6, 8, and 9). At the south elevations of Buildings 300-600 and both the east and west elevations of Buildings 100 and 200, louver-shaped steel shades are attached to boards that are in turn affixed to the eaves (photos 7, 9, 10). The buildings have numerous institutional-grade doors, most with small square-shaped vision lights. These buildings are all connected by flat-roof canopies supported by steel poles over concrete walkways.

Two of these building's elevations are arranged differently than others. The south elevation of Building 600, which historically housed shop classes, has clerestory windows, three large roll-up automobile doors, and louver-shaped steel shades at the center of the elevation (photo 7). As mentioned above, projecting from the north elevation of Building 300 is a Library addition with a shed roof, curving north and east walls comprised of large square and rectangular steel-frame windows, stucco walls on the west side, and steel-frame clerestory windows on the south side, above the building's original roof line (photos 11 and 12).

North of the classroom and library buildings, across a large quad area, stands the Crawford High School Gymnasium. The symmetrically arranged irregular-plan building has a sprawling one-story rectangular west mass topped by a flat roof with broadly projecting eaves and steel-frame clerestory windows under an additional flat roof with broadly projecting eaves. Steel poles support the outer eaves of the lower roof, which shelters perimeter walkways. The main public gymnasium space at the east side of the building is formed by a two-story-high rectangular-shaped mass with a low-sloped roof and perimeter parapets. Clad in stucco, the building has entrances with two-leaf institutional-grade doors at the northwest and southwest corners, pairs of two-leaf institutional-grade doors framed by a portico at the northeast corner of the main gymnasium space, two-leaf institutional-grade doors with a portico at the southeast corner of the main gymnasium space, and a variety of secondary two-leaf and single-leaf institutional-grade doors at other locations. The south elevation has single-leaf institutional-grade doors with vision lights and a large bank of square-shaped steel-frame windows. The Gymnasium stands atop a slight terrace east of the eastern quad, and the small slope in between has concrete stairways with steel rails and concrete retaining walls that form planters with grass and shrubs. The area at the southeast corner of the building is enclosed by a right-angled concrete block wall. (see continuation sheet 5)

*P3a. Description (cont.):

The school's Cafeteria (photo 14) is connected at its northeast corner to the west corner of the Gymnasium by a flat-roofed canopy with steel support poles. The front of the irregular-plan, stucco-clad Cafeteria faces north. The east side of the building's front, where students line up to order food at steel-framed service windows, is essentially a large flat-roofed shelter with supporting steel poles and load-bearing sections of wall between the mostly open northeast corner of the building. Forming the main Cafeteria space, the square-shaped mass at the building's northwest corner has a shed roof with broadly projecting eaves rising higher than the other roof lines. The eave ends are finished in the stepped fascia observable on building eaves and canopies across the campus. Approached from the north, the Cafeteria and the shelters and covered walkway's roofs give a horizontal, multi-layered canopy effect. Many slender columns do not detract from the strong horizontal effect of the canopy fascia that breakthrough the column lines. At the front of the main Cafeteria space, projecting stucco-clad walls form three bays dominated by large banks of rectangular steel-frame windows.

Rising two-stories in height, Building 800 is located at the northwest corner of the campus's building cluster (photos 16 and 17). Devoid of projecting rooflines or angular design characteristics, this rectangular-plan, stucco-clad, non-original building stands in marked contrast to the architecture of the campus's original buildings. The building projects outward in flat, thick, slab-like planes to form a first-story perimeter shelter and the second-floor perimeter balcony's floor and shelter. The projections provide sheltered circulation corridors for access to first and second-floor classrooms. Steel poles lend support to the projecting balcony and roof. Fenestration consists of single-leaf institutional-grade doors, some with transoms, and large horizontally sliding steel-frame windows. A steel pole and wire balustrade surrounds the second-floor balcony. An attached exterior elevator has recently been constructed at the building's east elevation.

Portable buildings and small buildings housing one or two classrooms are clustered at the campus's southwest, northeast, and southeast corners (photos 18-20). These buildings vary in design. Some have shed roofs with broadly overhanging eaves at their fronts and rears. However, none of them date to the 1950s or 1960s.

In addition to the above described entrance planters and court, the school incorporates a variety of landscaping features within the interior campus. The unsheltered areas between the Auditorium and Building 800 on the west, and Buildings 300-600 on the east, are surfaced with concrete and feature original, variously shaped concrete planters with shrubs and trees (photos 5 and 16). The unsheltered areas between Buildings 300-600, and between the Administration Building and Buildings 100-200, have concrete planters and lawn areas incorporating shrubs and trees, as well as what appear to be non-original picnic tables and benches (photos 8-11). The open area around the Library addition has non-original landscaping consisting of shrubs, lawns, and concreted areas with picnic tables and benches (photos 11 and 12). The area north of the Cafeteria building incorporates lawns, concrete walkways, concrete planters with shrubs and trees, as well as metal structures that shelter benches and feature angularly projecting sculptural steel frames (photos 14 and 15).

*B10. Significance (cont.):

San Diego School Development during these decades reflected national trends in school planning, and both national and regional trends in school architecture. Architects attuned to progressive education ideals promoted an indoor-outdoor experience and natural classroom light as essential components of the productive educational environment. This, along with concern over seismic safety, led architects to design more "open" schools. Prior to the end of WWII, San Diego schools appear to have generally consisted of one or more large, two-to-three-story multi-classroom buildings designed in the Spanish Colonial Revival, Streamline Moderne, PWA Moderne, or early International Styles. After WWII, school buildings constructed higher than a single story were usually limited to auditoriums, gymnasiums, and, at elementary schools, all-purpose rooms for indoor lunch, meetings, or recreation. Beyond these larger buildings, it appears that post-WWII San Diego schools generally had open-air designs consisting of single-story classroom buildings, classrooms lit naturally by large windows, sheltered outdoor corridors, and appealingly landscaped spaces in between. Like school architects elsewhere, San Diego's school architects appear to have increasingly employed concrete, steel, and glass materials to create school buildings free of ornamental embellishment, reflecting the modernist belief that the architectural forms of a building should honestly convey its structure, material, and even function. (City of San Diego 2007: 24; Ogata 2008; Science Applications International Corporation 2002: 13-14.)

In terms of style, the architecture of post-WWII school buildings in San Diego and across California was heavily influenced by the modernist movement that took shape during the pre-WWII years, as European architects transplanted the International Style to the United States. Although the International Style made its first appearance in San Diego-area schools prior to WWII, it continued to influence the architecture of local schools after the war. During the 1950s and 60s, San Diego school architecture also incorporated elements of the Custom Ranch, Contemporary, and Post-and-Beam styles that informed the design of residences surrounding the sites of new schools. (City of San Diego 2007: 35-42, 59-60, 67-69, 73-77; Ogata 2008.) (see continuation sheet 6)

*B10. Significance (cont.):

Evaluation

Will C. Crawford High School does not appear to meet the criteria for listing on the California Register of Historical Resources (CRHR) due to insufficient historic significance. Although many of the original buildings retain historic integrity, additions to some buildings, construction of non-original buildings, and landscaping changes have diminished the campus's historic integrity of design and feeling in some places. These changes diminish the capacity of the school as a whole to convey its period of potential significance, which is 1957, the year the original school facilities were completed.

Will C. Crawford High School is not included on the San Diego County Historic Property Listing or the City of San Diego Historical Resources Board's Register of Historic Landmarks (City of San Diego 2011; San Diego County 2008).

Architect Clyde Hufbauer designed Crawford High School in 1956. The school is one of 16 middle, junior, and high schools, in addition to 63 elementary schools, that Hufbauer designed during the 1950s and 60s. The school's present-day Buildings 100-600, Administration Building, Auditorium, Gymnasium, campus entry landscaping, and Cafeteria were all constructed in 1957. In 1961 Hufbauer also drew up plans for Building 800 that were approved in 1962. The building was constructed in 1962 as well. (Feeley et al. 2011: 18; Hufbauer 1956: G-1 of 19, 2 of 3, 2 of 5, 2 of 4, 2 of 7, 2 of 5, 2 of 16, 2 of 6, 2 of 11, 2 of 12, 2 of 6; Hufbauer 1961: 3; SDUSD 2007A.) The Library addition to Building 300 and the large courtyard area with the benches and steel shelter north of the Cafeteria (photo 15) were constructed after the year 2003 (historicaerials.com 1964, 1989, 2003, 2005; SDUSD 2007A).

Will C. Crawford High School was designed and built during the post-World War II boom of population growth in the San Diego area, which resulted in extensive development of new suburban neighborhoods and new schools to serve the growing population of school-age children. Residences, school complexes, and other infrastructure constructed to encourage or accommodate growth cannot be considered historically significant solely by association with urban or suburban growth. Most built environments are associated with population growth; they are developed as part of planning for population growth or developed in response to population growth. Associations between built environment resources and population growth are commonplace. Were such associations treated as qualification for historical significance, then all buildings, complexes, and infrastructure surviving from an era of growth would be considered historical resources. Obviously, however, not all built resources developed during a given era can qualify as significant. Crawford High School does not appear to be associated with any discrete event of historical significance to San Diego, the State of California, or the United States. Hence it does not appear to meet Criterion 1 for listing in the CRHR. Although the school is associated with Clyde Hufbauer, an important San Diego architect, such associations are properly assessed with reference to Criterion 3 of the CRHR. Crawford High School does not appear to have associations with other individuals important to local, state, or national history and does not, therefore, appear to be eligible for the CRHR under Criterion 2.

Known for mid-century modern designs, Clyde Hufbauer is considered a San Diego-area master architect. Born in Los Angles in 1911, Hufbauer moved with his family to San Diego as a child and later attended San Diego State before earning a Master of Arts and Doctorate degrees in Architecture at the University of California, Berkeley. After marrying Arabelle Mckee, Hufbauer and his wife moved to San Diego, where he began his professional career in the late 1930s. In 1939, Hufbauer's first "ultra modern" home in Mission Beach was featured in a San Diego Union article. In 1951 he built a second modern home for his family in La Jolla that has been designated a San Diego Historical Landmark. (City of San Diego 2011: 127; Freeley et al. 2007: 18; May 2012.)

Apart from these two homes, Hufbauer's most notable works would be educational buildings and complexes developed during the post-World-War II years of rapid growth in the San Diego area. As stated above, he designed 16 middle, junior, and high schools, and 63 elementary schools for the San Diego School District. Hufbauer's campuses are representative of their period for the close relationship of buildings to their landscapes. Hufbauer worked with engineer Theodore Paulson on many of these education-related building projects. Hufbauer's surviving works for the District include the Education Center in University Heights (1953), nearby Alice Birney Elementary School (1953), Crown Point Elementary School (1949) in Pacific Beach, and Mission Bay High School (1953). During the 1960s, Hufbauer would also design Grossmont and Miramar Community Colleges. (May 2012; SDUSD 2007B, 2007C, 2007D.)

Although associated with master architect Clyde Hufbauer, Will C. Crawford High School does not appear to be eligible for the CRHR under Criterion 3 for historic architectural significance. The school does not appear to be a master work of mid-century modernist architecture.

Alterations and new buildings have diminished the historic integrity of the complex in some areas. Building 800 stands in contrast to the architecture of the campus's 1957 buildings, which better represent the International style, or feature prominent butterfly roofs associated with the Contemporary and Post-and-Beam styles. Although designed by the same architect, the presence of Building 800 in viewsheds at the southeast corner of the campus diminishes that area's integrity of historic feeling. (see continuation sheet 7)

*B10. Significance (cont.):

Although the steel structure with angular bench shelters north of the Cafeteria was clearly designed with sensitivity to the aesthetics of the school's 1957 buildings, like Building 800, it is clearly not a 1957 feature. This alteration had a significant impact on a major portion of the campus landscape. Although the Library addition on the north side of Building 300 is also designed with a measure of sensitivity to the school's original architecture, it nonetheless diminishes the integrity of the campus landscape and the building's integrity of design and feeling. Its presence within viewsheds at the north side of the school complex also undermines integrity of design and feeling in that area of the campus. Despite these alterations, other areas of the school and many of the individual buildings retain their original design, and appear to retain many of their original materials. The area incorporating the main entrance to the school and the Administration and Auditorium Buildings continues to convey the feeling of a mid-century modern high school, and best represents the influence of the International style on the school's design. Except for at the north side of Building 300, the prominent butterfly roofs and window banks of Buildings 100-600 clearly represent the architecture of a 1957 public school.

Despite the integrity of several individual buildings and distinct areas of the school complex, the school does not appear to be a historical resource. Although the area comprised of the entrance, Administration Building, and Auditorium is representative of the International Style, it does not appear to constitute a distinctive or otherwise important expression of the International Style, which is observable at numerous San Diego-area school complexes, and which is perhaps best represented in Hufbauer's work by the Education Center in University Heights. This area of the school does not, in itself, appear to reach the threshold of architectural significance necessary for justifying CRHR listing, and it does not raise the school as a whole to the level of significance necessary to justify CRHR listing. The other notable architectural feature of the school, the butterfly roofs of Buildings 100-660, appears to be fairly commonplace among San Diego schools, particularly those developed in the late 1950s and early 1960s. Moreover, Crawford High School does not represent the first appearance of such features in Hufbauer's work. Designed by Hufbauer and built in 1953 (four years before Crawford High School), for example, Alice Birney Elementary School includes two buildings with roofs shaped similarly to the butterfly roofs of Crawford High School's Buildings 100-600.

Despite being representative of mid-century modern architecture, none of Crawford High School's buildings appear to have the architectural significance necessary for individual listing on the CRHR. None of the building clusters incorporating landscape areas with integrity appear to have the significance necessary for listing on the CRHR as a complex, and the school does not appear to be a CRHR-eligible historic district. The central role of landscape in the architectural design of the Crawford High School campus and many post-war San Diego schools makes landscape integrity particularly important when evaluating the property for CRHR eligibility. The open space north of the Cafeteria, west of the Gymnasium, and east of Buildings 300, 400, and 500 has been heavily altered. This, other alterations to buildings and landscape areas, and the addition of Building 800 have reduced the property's potential to convey associations with its period of construction and original use. Due, therefore, to a combination of insufficient significance and compromised integrity, Will C. Crawford High School does not appear to be eligible for the CRHR under Criterion 3.

In summary, Will C. Crawford High School does not appear to meet the Criteria for listing on the CRHR. Will C. Crawford High School was evaluated in accordance with Section 15064.5(a) (2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the Public Resources Code, and determined not to be a historical resource for the purposes of CEQA. (see continuation sheet 8)

Photographs (cont.):

Photograph 2. Auditorium façade, view to south-southwest

Photograph 3. Main entrance immediately north of Auditorium, view to east

Photograph 4. North elevation of Administration Building, view to south

Photograph 5. Western quad and north ends of Buildings 300-600 from south side of Administration Building, view to south-southeast

Photograph 6. East end of Building 300 in foreground, Buildings 400 and 500 at left background, view to southwest

Photograph 7. South elevation of Building 600, view to northeast

Photograph 8. North elevation of Building 500, view to east-southeast

Photograph 9. Circulation canopy and southwest corner of Building 100, view to north-northeast

Photograph 10. Circulation canopy and east elevation of Building 100, view to north-northwest

Photograph 11. Library addition at north elevation of Building 300, view to east-southeast

Photograph 12. Circulation canopy and Library addition at north elevation of Building 300, view to west

Photograph 13. Front elevation of Gymnasium, view to southeast

Photograph 14. Circulation canopy, lunch area shelter, and Cafeteria Building, view to west-southwest

Photograph 15. Quad east of Buildings 300-600, Cafeteria Building in background, view to south

Photograph 16. Quad area south of Buildings 300-600, northeast corner of Building 800, view to south

Photograph 17. Southwest corner of Building 800, view to northeast

Photograph 18. Single classroom building north of Building 200, view to northwest

Photograph 19. Single and two-room classrooms buildings north of Gymnasium, view to north-northwest

Photograph 20. One-room buildings east of Gymnasium, view to east-southeast

*B12. References (cont.):

City of San Diego

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State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

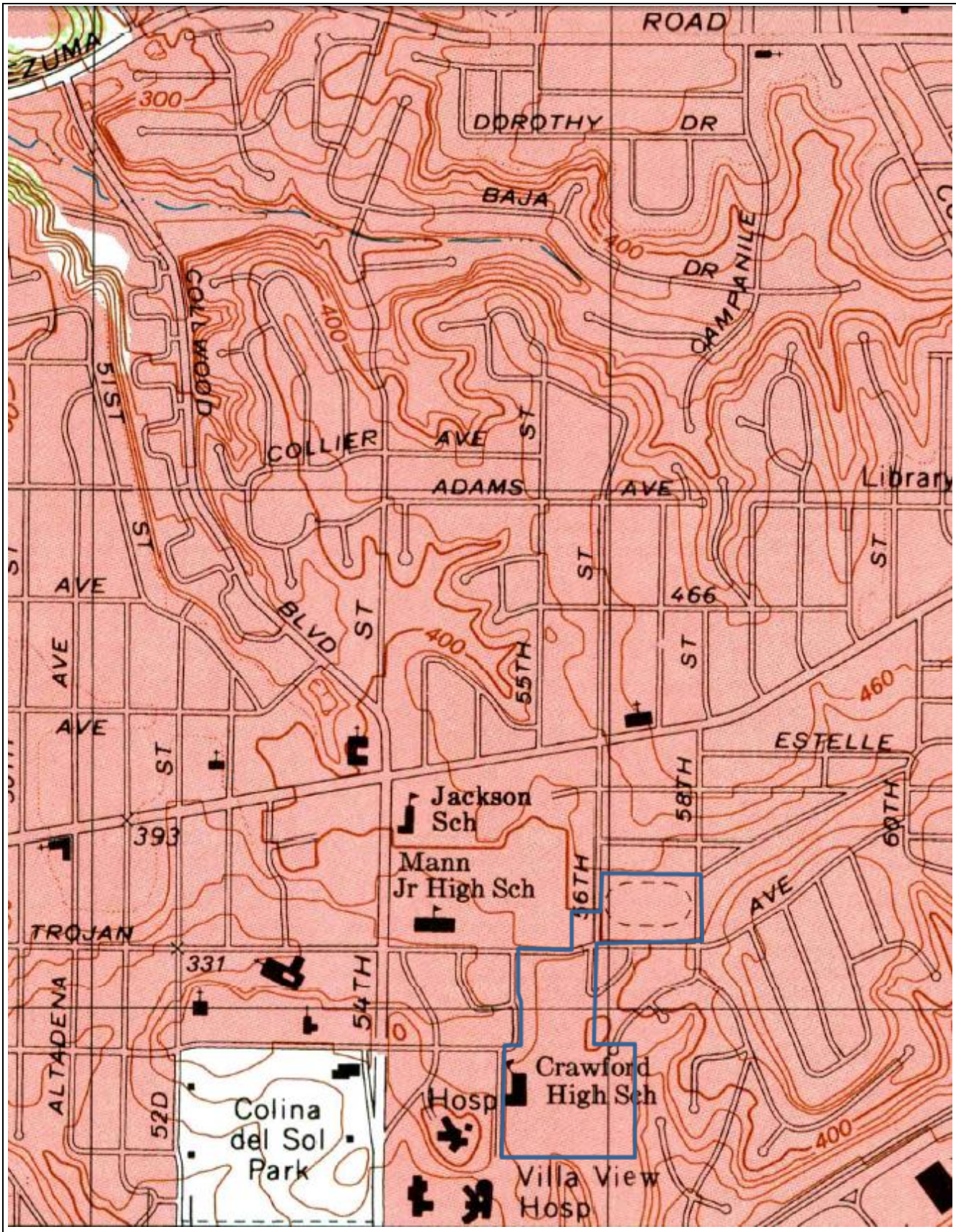
Primary # P-37-032913
HRI#
Trinomial

*Resource Name or # (Assigned by recorder) Crawford High School

*Map Name: La Mesa. CA 7.5'

*Scale: 1:24000

*Date of Map: 1994



*Required information

Mann Middle School

Memorandum

Date:	August 30, 2012
To:	Kathryn Ferrell San Diego Unified School District Maintenance and Operations Center 4860 Ruffner Street San Diego, CA 92111-1522
Cc:	
From:	Timothy Yates, Ph.D. Historian, Environment & Planning Division
Subject:	**California Register of Historical Resources Evaluation of Horace Mann Middle School Pursuant to CEQA Compliance, Revised in Accordance with Comments from Michael Hernandez, San Diego Unified School District**

Introduction

This cultural resources technical memorandum has been prepared by ICF for the San Diego Unified School District (SDUSD). SDUSD is seeking to undertake improvements to the infrastructure of Horace Mann Middle School in accordance with Proposition S Bond List. The proposed modernization of Horace Mann Middle School would include: expansion of parking facilities, additions to the physical education building, construction of new hard courts and tennis courts, demolition of building 100 and a portion of building 200, reconfiguration of building 500, construction of a new classroom building south of the auditorium, and reconstruction of the student quad areas east of the auditorium.

Regulatory Setting

The California Environmental Quality Act (CEQA) requires public agencies to evaluate the implications of their project(s) on the environment and includes significant historical resources as part of the environment.

According to CEQA, a project that causes a *substantial adverse change* in the significance of a *historical resource* or a *unique archaeological resource* has a significant effect on the environment (CEQA Guidelines 15064.5, Pub. Res. Code section 21083.2). CEQA defines a *substantial adverse change* as:

- Physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired; or
- Demolition or material alteration of the physical characteristics that convey the resource's historical significance and justify its designation as a *historical resource*

Public agencies must treat any cultural resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant (Title 14 CCR, Section 15064.5). A historic resource is considered significant if it meets the definition of *historical resource* or *unique archaeological resource*.

The term *historical resource* includes, but is not limited to any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California (Public Resource Code PRC 5020.1(j)). Historical resources may be designated as such through three different processes:

1. Official designation or recognition by a local government pursuant to local ordinance or resolution (PRC 5020.1(k))
2. A local survey conducted pursuant to PRC 5024.1(g)
3. The property is listed in or eligible for listing in the National Register of Historic Places (NRHP) (PRC 5024.1(d)(1))

The process for identifying historical resources is typically accomplished by applying the criteria for listing in the California Register of Historical Resources (CRHR) (Title 14 CCR, Section 4852), which states that a historical resource must be significant at the local, state, or national level under one or more of the following four criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. It is associated with the lives of persons important in our past.
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values.
4. It has yielded, or may be likely to yield, information important in prehistory or history.

To be considered a *historical resource* for the purposes of CEQA, the resource must also have integrity, which is the authenticity of a resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance.

Resources, therefore, must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling and association. It must also be judged with reference to the particular criteria under which a resource is eligible for listing in the CRHR (California Code of Regulations title 14, Section 4852(c)).

Summary of Efforts and Findings

Prior to commencing field activities pursuant to the evaluation, a records search was undertaken at the South Coastal Information Center. No previously recorded cultural resources had been found within or adjacent to the Mann Middle School property.

On August 2, 2012, ICF historian Timothy Yates visited Horace Mann Middle School and formally recorded the buildings and grounds with digital photography. On August 6, 2012 Dr. Yates also researched the construction of the school using original plans on file at the Architectural Archives of the SDUSD Maintenance and Operations Center. Additional research on the school's architect and the historic context of the school's development was conducted on-line and at the San Diego History Center, the Main Branch of the San Diego Public Library.

ICF International recommends that Horace Mann Middle School be considered ineligible for listing on the California Register of Historical Resources, and that it not be considered a historical resource for the purposes of CEQA. Consequently, the proposed modernization of Horace Mann Middle School in association with Proposition S does not appear to have the potential to result in substantial adverse effects to a historical resource.

A historic background discussion, a description of the Horace Mann Middle School complex, and a formal evaluation of the school are provided below. Department of Parks and Recreation (DPR) Forms 523A and 523B for the building are attached to this memorandum.

Historic Background

Horace Mann Middle School was developed as part of San Diego's post-World War II (WWII) suburban expansion. During the war, San Diego grew rapidly mainly as a consequence of military activity in the region, including local growth in the defense industry. Growth continued into the early Cold War years of the 1950s. From 1940 to 1950, the city's population increased from 203,341 to 334,387. By 1957, as more and more of the Baby Boom generation reached school age, 494,201 people called San Diego home, and by 1960, San Diego County had 1,033,011 residents. Although a series of bond issues passed during these years funded construction of new school facilities, permanent construction did not keep pace with rising demand, and in 1956 SDUSD was forced to contract for construction of new temporary classrooms—which had first been developed in San Diego during WWII—to accommodate the increasing student population. Developers built new housing tracts that spread north and east of the pre-WWII urban core, which, except for Pacific Beach and La Jolla, had generally remained concentrated south of today's Interstate 8, and had generally extended as far east as the College, Kensington-Talmadge, City Heights areas. (City of San Diego 2007: 36-4, 49, and Development Patterns Map; May 2012; Scarr, 1956; SDUSD 1954: 12.)

San Diego School Development during these decades reflected national trends in school planning, and both national and regional trends in school architecture. Architects attuned to progressive education ideals promoted an indoor-outdoor experience and natural classroom light as essential components of the productive educational environment. This, along with concern over seismic safety, led architects to design more "open" schools. Prior to the end of WWII, San Diego schools appear to have generally consisted of one or more large, two-to-three-story multi-classroom

buildings designed in the Spanish Colonial Revival, Streamline Moderne, PWA Moderne, or early International Styles. After WWII, school buildings constructed higher than a single story were usually limited to auditoriums, gyms, and, at elementary schools, all-purpose rooms for indoor lunch, meetings, or recreation. Beyond these larger buildings, it appears that post-WWII San Diego schools generally had open-air designs consisting of single-story classroom buildings, classrooms lit naturally by large windows, sheltered outdoor corridors, and appealingly landscaped spaces in between. Like school architects elsewhere, San Diego's school architects appear to have increasingly employed concrete, steel, and glass materials to create school buildings free of ornamental embellishment, reflecting the modernist belief that the architectural forms of a building should honestly convey its structure, material, and even function. (City of San Diego 2007: 24; Ogata 2008; Science Applications International Corporation; 13-14.)

In terms of style, the architecture of post-WWII school buildings in San Diego and across California was heavily influenced by the modernist movement that first took shape during the pre-WWII years, as European architects transplanted the International Style to the United States. Although the International Style made its first appearance in San Diego-area schools prior to WWII, it continued to influence the architecture of local schools after the war. During the 1950s and 60s, San Diego school architecture also incorporated elements of the Custom Ranch, Contemporary, and Post-and-Beam styles that informed the design of residences surrounding the sites of new schools. (City of San Diego 2007: 35-42, 59-60, 67-69, 73-77; Ogata 2008.)

Description

Horace Mann Middle School is located south of El Cajon Boulevard at 4345 54th Street, in the vicinity of the Adeline Gardens, El Cerrito, and Colina Del Sol areas of San Diego. The school complex consists of eight permanent buildings (see site map on page 7) constructed mainly in two phases during the 1950s. New buildings and additions were also undertaken in 1964 and 2004. Some of the school's outdoor circulation corridors are sheltered by canopies with steel post supports (known as "piloti"), which is typical of schools developed in the 1950s and 1960s. The classrooms and offices in Buildings 100, 200, 300, 400, and 600, however, are mainly accessed through central interior corridors, a feature more typical of schools developed in the 1940s and earlier. The primary architectural style represented at the Horace Mann Middle School is the International Style. Most of the original buildings have a horizontal emphasis executed through elongated plans, low-pitched gable or shed roofs, and repetitively patterned large window banks.

The school's main entrance (photo 1) is approached from a parking lot and concrete stairway at the southwest corner of the complex, most of which is situated atop a terrace north of the parking lot and Building 500 (classrooms). The asymmetrically arranged auditorium consists of an L-shaped, stucco-clad, windowless central mass that rises to height of two stories and has a flat roof and low perimeter parapets. A flat-roofed canopy projects north and shelters the building's south-facing entrance doors and box office. The west side of the building consists of a one-story rectangular, shed-roofed, largely windowless and stucco-clad mass. A large sign announces the school's name and mascot on the south elevation of the main mass. The building has brick cladding on the shelter supports at the entry and the walls of the shed-roof mass west of the entry, which also features a single steel-framed window fronted by a pattern of vertical boards and an electronic sign.

Connected to the east side of the auditorium by a canopy shelter is Building 100 (photo 2). The building has a rectangular central mass and square-shaped projections at the east and west elevations, where entries provide access to an interior corridor. The building is topped by an extremely low-pitch front-gable roof and stucco wall cladding. Fenestration on the west elevation consists of institutional-grade doors, stacked three-light steel-frame windows, steel-frame four-light windows, and six-light steel-frame windows with mullions. The north elevation consists mainly of large banks of steel-frame windows with rectangular wood surrounds; the largest of these has rows of 11 windows stacked three high.

North of Building 100, across the school's central quad, stands Building 300, which incorporates classrooms and the Cafeteria. The asymmetrically arranged U-shaped building has stucco-clad walls, four shed roofs positioned at different angles, and several attached flat-roofed shelters with steel support poles. Similar to Building 100, the south, west, and north elevations of the classroom portion of Building 300 have large banks of steel-framed windows. The classroom portion also has a variety of single- and two-leaf industrial-grade and institutional-grade doors, some with vision lights (photo 3). The heavily windowed Cafeteria comprises the gable-roofed rectangular mass at the southeast corner of the building, which rises higher than the rest of the building. The roof forms broadly projecting eaves supported at their outer edges by steel poles and two four-sided stucco-clad pillars at the south elevation (photo 4). Large banks of steel-frame windows occupy most of the wall space at the Cafeteria's south and east elevations. The angled tops of the window banks at the east elevation conform to the roof shape and a band of painted panels fill the row of window frames near the top of each bank. Brick-clad concrete benches with wood back rests line the south and east sides of the Cafeteria.

Connected to the west side of Building 300 by a flat-roofed canopy with steel pole supports , Building 400 (classrooms) has an L-shaped plan, an extremely low-pitch cross-gabled roof with shallow eaves, and elevations dominated by large banks of steel-framed windows with stucco-clad wall surfaces in-between (photo 5). Central interior corridors provide access to the classrooms.

Located south and across the quad from Building 400, Building 200 (classrooms, Library, and connected Girls Locker Room) is the most heavily altered building on the Mann campus, incorporating original 1952 construction and additions undertaken in 1954, 1958, and 2004. Facing the quad benches with steel butterfly roof shelters dating to 2004, the post-modern Library addition on the north elevation of Building 200 has a centered recessed entry with two-leaf steel-framed glass doors under a rounded parapet, stucco clad walls with horizontal banding, and vertically stacked eight-light steel-frame windows. The Library addition contrasts with the buildings exhibiting International style elements on the rest of the campus (photo 6).

Dating to 1954 and 1958, Building 200 is an L-shaped mass south and east of the 2004 Library addition with a narrower L-shaped projection further south. Building 200 incorporates classrooms and has interior corridors, large banks of steel-framed windows, and stucco-clad walls similar to the other 1950s classroom and administration buildings (photo 7). The building has a combination of shed and gable roof shapes with shallow eaves, and a long row of south-facing clerestory windows runs east-west on the building mass south of the Library. The 1952-54 portion of the building has two stories at the lower portion of the natural terrace near the building's southern end (photo 8). This portion of the building features shed roofs with shallow eaves, stucco-clad walls, a projecting

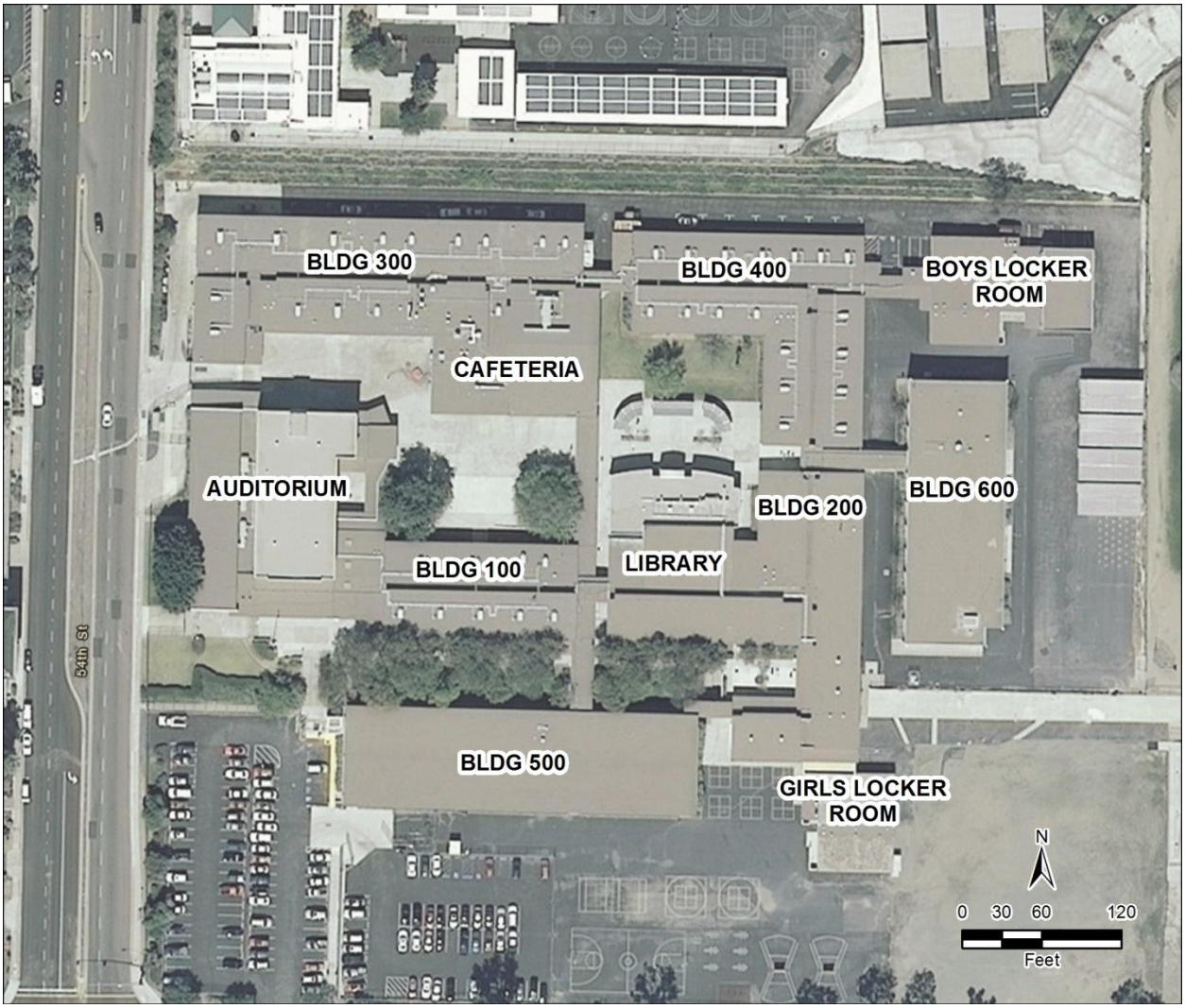
flat-roofed canopy with steel supports at the balcony on the southeast corner, and the kinds of large steel-frame window banks typical of the 1952-54 buildings on the campus. The one-story projection at the far south end of the building is the Girls Locker Room, constructed in 1958. This asymmetrically arranged wing has stucco cladding, multiple entries with institutional-grade single- and two-leaf doors, a combination of flat and sawtooth roofs—the latter of which features steel-frame clerestory windows—and a row of steel-frame windows at the southernmost elevation.

Immediately west of the south wing of Building 200 stands Building 500 (classrooms), which was constructed in 1958 and differs from the earlier classroom buildings (photo 9). At the northeast portion of the campus stand the Boys Locker Room and Building 600 (classrooms). A product of concrete construction, the symmetrical, two-story, rectangular-plan building has a slightly angled roof, and large concrete slabs comprise the east and west elevations. The building exhibits a strong horizontal emphasis through long lines of concrete, upper walls occupied almost entirely by uniform banks of steel-frame windows, horizontally fluted metal balustrades, and louver-like metal shades running the length of both floors at the south elevation. At the north elevation, concrete bridges and stairways with fluted metal balustrades facilitate circulation between Building 500's second floor and both the south end of Building 200 and areas west of Building 200.

Two major buildings stand at the west side of the campus, the Boys Locker Room and Building 600 (classrooms). Connected to the northeast corner of Building 400 by a canopy with steel pole supports, the irregular-plan Boys Locker Room is the product of three different construction undertakings over a 12-year period (photo 10). The stucco-clad building consists of a square-shaped southwestern mass with a gable roof, a rectangular northwestern mass with a shed roof and south-facing clerestory windows, and a flat-roofed mass connecting to a rectangular windowless eastern wing that rises nearly two-stories in height and has a flat roof with perimeter parapets.

Located south of the Boys Locker Room, Building 600 represents the strongest expression of the International Style on the campus (photo 11). The structural arrangement of the rectangular two-story building is expressed openly in load-bearing concrete construction that forms square and rectangular bays at the west and east elevations. Within each bay, non-load-bearing walls comprised of rectangular, repetitively patterned steel-frame windows and colored panels reinforce the building's horizontal emphasis. The upper exterior of a stairwell at the south end of the building features a larger bank of panels and windows. A breezeway toward the end of the building connects to a canopy shelter with steel supports that extends west to Buildings 400 and 200.

The building complex is bordered on the south and east by asphalt and gravel covered parking areas, recreation areas, and open space. The campus features a variety of landscaping, with lawns, trees, and shrubs providing greenery between concrete walkways and along the sides of buildings, some of which are lined with raised or ground-level concrete planters.



Horace Mann Middle School site map

Photograph 1. Main entrance, auditorium at center-left, west end of Building 500 at right, view to north-northeast

Photograph 2. North side of Building 100 taken from northwest corner of Building 200, view to west-southwest

Photograph 3. Building 300, view to northwest

Photograph 4. Cafeteria portion of Building 300, south and east elevations, view to north-northwest

Photograph 5. South and west elevations of Building 400, view to east

Photograph 6. View of 2004 quad benches, butterfly-roofed shelters, and Library addition from east side of Building 200, view to south-southeast

Photograph 7. East elevation of Building 200 from its north end, view to south-southwest

Photograph 8. Two-story southern end of Building 200 at left and center, attached single-story Girls Locker Room at center and right, view to northeast

Photograph 9. Building 500, south and east elevations, view to northwest.

Photograph 10. Boys Locker Room, south and west elevations, view to east-northeast

Photograph 11. East elevation of Building 600, view to northwest

Evaluation

Horace Mann Middle School does not appear to meet the criteria for listing on the California Register of Historical Resources (CRHR) due to insufficient historic significance and the diminished historic integrity of the complex as a whole. The period of potential significance is 1952-54, the years during which the originally planned buildings were constructed.

Frank L. Hope designed Horace Mann Middle School in 1951-52. Buildings 100, 300 (including the Cafeteria), and portions of the Boys Locker Room and Building 200 were constructed in 1952. The original site plan for the campus included footprints for the Auditorium and Building 400. In 1953 Hope designed these two buildings as well as additions to Building 200, all of which were constructed in 1954. (Hope ca. 1951: [no page number]; Hope 1952: 1A2, 3A1, 4A2, 5A3; Hope 1953: 2A2, 7A2: SDUSD: 2007.) In 1957 Hope drew up plans for further construction at Horace Mann Middle School. That year he designed Building 500 as well as the Girls Locker Room and a southwest addition to the Boys Locker Room, all of which were constructed in 1958 (Hope 1957: A6, A20, A22; SDUSD: 2007). Finally, in 1962 Hope designed both the eastern addition to the Boys Locker Room and Building 600, which were completed by 1964. The Library addition on the north side of the west wing of Building 200 was built in 2004, ten years after Hope's death (Hope 1962: A7, A27; Modern San Diego 2012; SDUSD 2007). Horace Mann Middle School is not included on the

San Diego County Historic Property Listing or the City of San Diego's Register of Historic Landmarks (City of San Diego 2011; San Diego County 2008).

Horace Mann Middle School was designed and developed during the post-World War II boom of population growth in the San Diego area, which resulted in extensive development of new suburban neighborhoods and new schools to serve the children residing in those new neighborhoods. However, residences, school complexes, and other infrastructure constructed to encourage or accommodate growth cannot be considered historically significant by association with urban or suburban growth. Most built environments are associated with population growth, as products of either planning for population growth or accommodating population growth. It is a commonplace association. Were associations with growth a qualification for historical significance, then all buildings, complexes, and infrastructure surviving from the era would be considered historical resources. Obviously, however, not all built resources developed during a given era can qualify as significant. Horace Mann Middle School does not appear to be associated with discrete events of historical significance to San Diego, the State of California, or the United States. Hence it does not appear to meet Criterion 1 for listing in the CRHR. Although the school is associated with an important San Diego architect, such associations are properly assessed with reference to Criterion 3 of the CRHR. Horace Mann Middle School does not appear to have associations with other individuals important to the history of San Diego, the State of California, or the United States. It does not, therefore, appear to be eligible for the CRHR under Criterion 2. Criterion 4 relates primarily to archaeological data and would not normally factor into an evaluation of an above-ground resource like Mann Middle School. Unless, of course, archaeological sites had been previously recorded within the school limits; but that is not the case in this situation.

Considered a San Diego-area master architect, Frank L. Hope Sr. designed the Horace Mann Middle School incrementally, over the course of a 12-year period. Born in San Bernardino in 1901, Hope attended the University of California, Berkeley, Pittsburgh's Carnegie Institute of Technology, and San Diego State University. In 1925 he worked for Requa and Jackson, Architects. He started his own firm, Frank L. Hope and Associates, Architects, in 1928. In 1930 Hope designed Normal Heights' Carmelite Monastery in the Spanish Colonial Revival style. He continued to produce a number of buildings and complexes for the Catholic Church over the next several decades. As modernism swept the field in the mid twentieth century, Hope and his firm created Contemporary Style homes and commercial buildings, and designed larger International Style, Brutalist, and New Formalist public and commercial buildings. Hope and his firm also designed school complexes and buildings, including all the buildings constructed at the Horace Mann Middle School site up through 1964. (City of San Diego 2007: 79, 92; Feeley et al. 2011: 16; Modern San Diego 2012.)

Despite the Horace Mann Middle School's association with master architect Frank L. Hope, Sr., the school complex does not appear to be eligible for the CRHR under Criterion 3. The school does not appear to constitute a masterwork of Frank L. Hope or his firm. While the complex is representative of the ways in which mid-century modernism shaped San Diego school architecture in the 1950s and 60s, the complex does not constitute an innovative or otherwise important example of mid-twentieth-century architecture. Numerous school complexes in the San Diego area incorporate architectural features observable at the Mann School, such as large banks of classroom windows, clerestory windows, combinations of shed, gable, and sawtooth roofs, and asymmetrically arranged

auditoriums. Moreover, construction since 1952-54—the years of the original complex's development and the period of significance for the school—has diminished the historic integrity of the complex as a whole. The architectural unity of the original complex—the Auditorium, Buildings 100, 300, and 400, and the original portions of Building 200 and the Boys Locker Room—has been disrupted by subsequent development. While the area comprised of the Auditorium, Building 300, and Building 100 retains a high degree of integrity, the area to the east has been dramatically altered by the 2004 Library additions and quad alterations. The alterations to the Boys and Girls Locker Rooms have not caused those buildings to appear out of place along the lines of the Library addition with respect to the 1952-54 portions of the complex. However, by imposing more pronounced departures in design and materials, the construction of Buildings 500 and 600 in 1958 and 1964 respectively, has diminished the complex's historic integrity on the south and west edges of the campus.

None of the school complex's buildings appear individually eligible for CRHR listing under Criterion 3. The most architecturally noteworthy building on the campus is arguably Building 600. However, it has not previously been identified as a Frank L. Hope masterwork and does not appear to merit such distinction. While the arrangement of windows and panels on its exterior walls is representative of the International Style, Building 600 does not constitute a particularly innovative or otherwise distinctive example of the style. Despite its association with Hope, the building does not appear to reach the threshold of architectural significance necessary for CRHR eligibility.

In summary, Horace Mann Middle School does not appear to meet the Criteria for listing on the CRHR. Horace Mann Middle School was evaluated in accordance with Section 15064.5(a) (2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the Public Resources Code, and determined not to be a historical resource for the purposes of CEQA.

Records Search Results

Prior to commencing activities pursuant to the above school evaluation, a records search was undertaken at the South Coastal Information Center (SCIC), which is the local repository acting on behalf of the State Office of Historic Preservation's California Historical Resources Information System (CHRIS). The San Diego office is run by San Diego State University and houses information of archaeological sites and studies that have been conducted within San Diego County. The results of the records search, received on July 31, 2012, indicated that no archaeological resources had been previously recorded within or immediately adjacent to Mann Middle School. A number of historic buildings occur in the immediate area, but none of these would be affected by the work at Mann. Archaeological and paleontological monitoring has occurred adjacent to Mann, along 54th Street, but nothing within the school limits (Goodwin 2009). It is the policy of the City of San Diego Development Services Department to require archaeological monitoring in areas of ground disturbance where there is a potential for buried cultural deposits to be present.

For the current project a search of historic maps and aerials was undertaken to determine the likelihood of buried cultural materials to be present within the middle school campus. Since the school was constructed initially in 1952, the archival search concentrated on whether buildings or other features had been constructed prior to the school's erection. One source of valuable information is the Sanborn Fire Insurance Maps that date from the latter half of the nineteenth

century into the 1950s. Unfortunately, the Mann facility was not covered by these maps during the period of interest, i.e., prior to 1952.

Historic aerials were accessed through the website www.historicaerials.com. The earliest aerial photograph dated to 1953, by which time the school had been constructed. The earliest U.S.G.S. topographic maps on file for this area date to 1942, 1947, and 1955. The first two indicated that no structures had been built within the school property between this timeframe. By 1955 the school is shown in an area where previously no buildings had stood. Based on these findings the likelihood that any intact buried cultural deposits exist within the school property is extremely small. Archaeological monitoring during ground-disturbing activities would not be recommended for the Prop S-funded work.

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Attachment: Horace Mann Middle School DPR Form

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State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # P-37-032915
HRI #
Trinomial
NRHP Status Code 6Z
Other Listings
Review Code Reviewer Date

 *Resource Name or # (Assigned by recorder) Horace Mann Middle School

P1. Other Identifier:
***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted** ***a. County** San Diego
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** La Mesa **Date** 1967 (PR 1975) **T** 16S; **R** 2W; ___ ¼ **of Sec** N/A; Mission San Diego Land Grant **B.M.**
c. Address 4345 54th Street City San Diego Zip 92115
d. UTM: (give more than one for large and/or linear resources) Zone 11S; 492626 mE/ 3624210 mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
Horace Mann Middle School is located south of El Cajon Boulevard at 4345 54th Street, in the vicinity of the Adeline Gardens, El Cerrito, and Colina Del Sol areas of San Diego. The school complex consists of eight permanent buildings (see page 3 sketch map) constructed mainly in two phases during the 1950s. New buildings and additions were also undertaken in 1964 and 2004. Some of the school's outdoor circulation corridors are sheltered by canopies with steel post supports (known as "piloti"), which is typical of schools developed in the 1950s and 1960s. The classrooms and offices in Buildings 100, 200, 300, 400, and 600, however, are mainly accessed through central interior corridors, a feature more typical of schools developed in the 1940s and earlier. The primary architectural style represented at the Horace Mann Middle School is the International Style. Most of the original buildings have a horizontal emphasis executed through elongated plans, low-pitched gable or shed roofs, and repetitively patterned large window banks (see continuation sheet 4).

***P3b. Resource Attributes:** (List attributes and codes) HP15. Educational Building
***P4. Resources Present:** ■ Building ■ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession #) Photograph 1. Main entrance, Auditorium at center-left, west end of Building 500 at right, view to north-northeast

***P6. Date Constructed/Age and Sources:**
■ Historic ☐ Prehistoric ☐ Both
1952-54 (See attached DPR 523B form references)

***P7. Owner and Address:**
San Diego Unified School District
4860 Ruffner Street
San Diego, CA 92111

***P8. Recorded by:** (Name, affiliation, address)
Tim Yates
ICF International
9775 Business Park Avenue, Suite 200
San Diego, CA 92131

***P9. Date Recorded:** August 2, 2012

***P10. Survey Type:** (Describe) Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") ICF International. 2012. Technical Memorandum: California Register of Historic Resources Evaluation of Horace Mann Middle School (ICF 00355.12). San Diego, CA. Prepared for the San Diego Unified School District.

***Attachments:** NONE ☐ Location Map ■ Sketch Map ■Continuation Sheet ■Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record
☐ Other (list)

***NRHP Status Code** 6Z
***Resource Name or #** (Assigned by recorder) Horace Mann Middle School

B1. Historic Name: Horace Mann Middle School
B2. Common Name: Horace Mann Middle School
B3. Original Use: School B4. Present Use: School
***B5. Architectural Style:** Mid-century modern (elements associated with International and Contemporary Styles)
***B6. Construction History:** (Construction date, alteration, and date of alterations) 1952-54; see B.10 Significance for detailed discussion of post-1954 alterations

***B7. Moved?** ■ **No** ☐ **Yes** ☐ **Unknown** **Date:** _____ **Original Location:** _____
***B8. Related Features:** _____

B9. Architect: Frank L. Hope, Sr. **b. Builder:** Unknown
***B10. Significance: Theme** Mid-twentieth-century San Diego school development **Area** San Diego County
Period of Significance 1952-54 **Property Type** Public school complex **Applicable Criteria** NA
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Historic Background

Horace Mann Middle School was developed as part of San Diego's post-World War II (WWII) suburban expansion. During the war, San Diego grew rapidly mainly as a consequence of military activity in the region, including local growth in the defense industry. Growth continued into the early Cold War years of the 1950s. From 1940 to 1950, the city's population increased from 203,341 to 334,387. By 1957, as more and more of the Baby Boom generation reached school age, 494,201 people called San Diego home, and by 1960, San Diego County had 1,033,011 residents. Although a series of bond issues passed during these years funded construction of new school facilities, permanent construction did not keep pace with rising demand, and in 1956 SDUSD was forced to contract for construction of new temporary classrooms—which had first been developed in San Diego during WWII—to accommodate the increasing student population. Developers built new housing tracts that spread north and east of the pre-WWII urban core, which, except for Pacific Beach and La Jolla, had generally remained concentrated south of today's Interstate 8, and had generally extended as far east as the College, Kensington-Talmadge, City Heights areas. (City of San Diego 2007: 36-4, 49, and Development Patterns Map; May 2012; Scarr, 1956; SDUSD 1954: 12.) (see continuation sheet 5)

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:**

See continuation sheet 10

B13. Remarks:

***B14. Evaluator:** Tim Yates, Ph.D., ICF International

***Date of Evaluation:** August 16, 2012

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

See DPR Page 3 Sketch Map

*P3a. Description (cont.):

The school's main entrance (photo 1) is approached from a parking lot and concrete stairway at the southwest corner of the complex, most of which is situated atop a terrace north of the parking lot and Building 500 (classrooms). The asymmetrically arranged auditorium consists of an L-shaped, stucco-clad, windowless central mass that rises to height of two stories and has a flat roof and low perimeter parapets. A flat-roofed canopy projects north and shelters the building's south-facing entrance doors and box office. The west side of the building consists of a one-story rectangular, shed-roofed, largely windowless and stucco-clad mass. A large sign announces the school's name and mascot on the south elevation of the main mass. The building has brick cladding on the shelter supports at the entry and the walls of the shed-roof mass west of the entry, which also features a single steel-framed window fronted by a pattern of vertical boards and an electronic sign.

Connected to the east side of the auditorium by a canopy shelter is Building 100 (photo 2). The building has a rectangular central mass and square-shaped projections at the east and west elevations, where entries provide access to an interior corridor. The building is topped by an extremely low-pitch front-gable roof and stucco wall cladding. Fenestration on the west elevation consists of institutional-grade doors, stacked three-light steel-frame windows, steel-frame four-light windows, and six-light steel-frame windows with mullions. The north elevation consists mainly of large banks of steel-frame windows with rectangular wood surrounds; the largest of these has rows of 11 windows stacked three high.

North of Building 100, across the school's central quad, stands Building 300, which incorporates classrooms and the Cafeteria. The asymmetrically arranged U-shaped building has stucco-clad walls, four shed roofs positioned at different angles, and several attached flat-roofed shelters with steel support poles. Similar to Building 100, the south, west, and north elevations of the classroom portion of Building 300 have large banks of steel-framed windows. The classroom portion also has a variety of single- and two-leaf industrial-grade and institutional-grade doors, some with vision lights (photo 3). The heavily windowed Cafeteria comprises the gable-roofed rectangular mass at the southeast corner of the building, which rises higher than the rest of the building. The roof forms broadly projecting eaves supported at their outer edges by steel poles and two four-sided stucco-clad pillars at the south elevation (photo 4). Large banks of steel-frame windows occupy most of the wall space at the Cafeteria's south and east elevations. The angled tops of the window banks at the east elevation conform to the roof shape and a band of painted panels fill the row of window frames near the top of each bank. Brick-clad concrete benches with wood back rests line the south and east sides of the Cafeteria.

Connected to the west side of Building 300 by a flat-roofed canopy with steel pole supports , Building 400 (classrooms) has an L-shaped plan, an extremely low-pitch cross-gabled roof with shallow eaves, and elevations dominated by large banks of steel-framed windows with stucco-clad wall surfaces in-between (photo 5). Central interior corridors provide access to the classrooms.

Located south and across the quad from Building 400, Building 200 (classrooms, Library, and connected Girls Locker Room) is the most heavily altered building on the Mann campus, incorporating original 1952 construction and additions undertaken in 1954, 1958, and 2004. Facing the quad benches with steel butterfly roof shelters dating to 2004, the post-modern Library addition on the north elevation of Building 200 has a centered recessed entry with two-leaf steel-framed glass doors under a rounded parapet, stucco clad walls with horizontal banding, and vertically stacked eight-light steel-frame windows. The Library addition contrasts with the buildings exhibiting International style elements on the rest of the campus (photo 6).

Dating to 1954 and 1958, Building 200 is an L-shaped mass south and east of the 2004 Library addition with a narrower L-shaped projection further south. Building 200 incorporates classrooms and has interior corridors, large banks of steel-framed windows, and stucco-clad walls similar to the other 1950s classroom and administration buildings (photo 7). The building has a combination of shed and gable roof shapes with shallow eaves, and a long row of south-facing clerestory windows runs east-west on the building mass south of the Library. The 1952-54 portion of the building has two stories at the lower portion of the natural terrace near the building's southern end (photo 8). This portion of the building features shed roofs with shallow eaves, stucco-clad walls, a projecting flat-roofed canopy with steel supports at the balcony on the southeast corner, and the kinds of large steel-frame window banks typical of the 1952-54 buildings on the campus. The one-story projection at the far south end of the building is the Girls Locker Room, constructed in 1958. This asymmetrically arranged wing has stucco cladding, multiple entries with institutional-grade single- and two-leaf doors, a combination of flat and sawtooth roofs—the latter of which features steel-frame clerestory windows—and a row of steel-frame windows at the southernmost elevation (see continuation sheet 5).

Immediately west of the south wing of Building 200 stands Building 500 (classrooms), which was constructed in 1958 and differs from the earlier classroom buildings (photo 9). At the northeast portion of the campus stand the Boys Locker Room and Building 600 (classrooms). A product of concrete construction, the symmetrical, two-story, rectangular-plan building has a slightly angled roof, and large concrete slabs comprise the east and west elevations. The building exhibits a strong horizontal emphasis through long lines of concrete, upper walls occupied almost entirely by uniform banks of steel-frame windows, horizontally fluted metal balustrades, and louver-like metal shades running the length of both floors at the south elevation. At the north elevation, concrete bridges and stairways with fluted metal balustrades facilitate circulation between Building 500's second floor and both the south end of Building 200 and areas west of Building 200.

Two major buildings stand at the west side of the campus, the Boys Locker Room and Building 600 (classrooms). Connected to the northeast corner of Building 400 by a canopy with steel pole supports, the irregular-plan Boys Locker Room is the product of three different construction undertakings over a 12-year period (photo 10). The stucco-clad building consists of a square-shaped southwestern mass with a gable roof, a rectangular northwestern mass with a shed roof and south-facing clerestory windows, and a flat-roofed mass connecting to a rectangular windowless eastern wing that rises nearly two-stories in height and has a flat roof with perimeter parapets.

Located south of the Boys Locker Room, Building 600 represents the strongest expression of the International Style on the campus (photo 11). The structural arrangement of the rectangular two-story building is expressed openly in load-bearing concrete construction that forms square and rectangular bays at the west and east elevations. Within each bay, non-load-bearing walls comprised of rectangular, repetitively patterned steel-frame windows and colored panels reinforce the building's horizontal emphasis. The upper exterior of a stairwell at the south end of the building features a larger bank of panels and windows. A breezeway toward the end of the building connects to a canopy shelter with steel supports that extends west to Buildings 400 and 200.

The building complex is bordered on the south and east by asphalt and gravel covered parking areas, recreation areas, and open space. The campus features a variety of landscaping, with lawns, trees, and shrubs providing greenery between concrete walkways and along the sides of buildings, some of which are lined with raised or ground-level concrete planters.

*B10. Significance (cont.):

San Diego School Development during these decades reflected national trends in school planning, and both national and regional trends in school architecture. Architects attuned to progressive education ideals promoted an indoor-outdoor experience and natural classroom light as essential components of the productive educational environment. This, along with concern over seismic safety, led architects to design more "open" schools. Prior to the end of WWII, San Diego schools appear to have generally consisted of one or more large, two-to-three-story multi-classroom buildings designed in the Spanish Colonial Revival, Streamline Moderne, PWA Moderne, or early International Styles. After WWII, school buildings constructed higher than a single story were usually limited to auditoriums, gyms, and, at elementary schools, all-purpose rooms for indoor lunch, meetings, or recreation. Beyond these larger buildings, it appears that post-WWII San Diego schools generally had open-air designs consisting of single-story classroom buildings, classrooms lit naturally by large windows, sheltered outdoor corridors, and appealingly landscaped spaces in between. Like school architects elsewhere, San Diego's school architects appear to have increasingly employed concrete, steel, and glass materials to create school buildings free of ornamental embellishment, reflecting the modernist belief that the architectural forms of a building should honestly convey its structure, material, and even function. (City of San Diego 2007: 24; Ogata 2008; Science Applications International Corporation; 13-14.)

In terms of style, the architecture of post-WWII school buildings in San Diego and across California was heavily influenced by the modernist movement that first took shape during the pre-WWII years, as European architects transplanted the International Style to the United States. Although the International Style made its first appearance in San Diego-area schools prior to WWII, it continued to influence the architecture of local schools after the war. During the 1950s and 60s, San Diego school architecture also incorporated elements of the Custom Ranch, Contemporary, and Post-and-Beam styles that informed the design of residences surrounding the sites of new schools. (City of San Diego 2007: 35-42, 59-60, 67-69, 73-77; Ogata 2008.)

Evaluation

Horace Mann Middle School does not appear to meet the criteria for listing on the California Register of Historical Resources (CRHR) due to insufficient historic significance and the diminished historic integrity of the complex as a whole. The period of potential significance is 1952-54, the years during which the originally planned buildings were constructed (see continuation sheet 6).

Frank L. Hope designed Horace Mann Middle School in 1951-52. Buildings 100, 300 (including the Cafeteria), and portions of the Boys Locker Room and Building 200 were constructed in 1952. The original site plan for the campus included footprints for the Auditorium and Building 400. In 1953 Hope designed these two buildings as well as additions to Building 200, all of which were constructed in 1954. (Hope ca. 1951: [no page number]; Hope 1952: 1A2, 3A1, 4A2, 5A3; Hope 1953: 2A2, 7A2: SDUSD: 2007.) In 1957 Hope drew up plans for further construction at Horace Mann Middle School. That year he designed Building 500 as well as the Girls Locker Room and a southwest addition to the Boys Locker Room, all of which were constructed in 1958 (Hope 1957: A6, A20, A22; SDUSD: 2007). Finally, in 1962 Hope designed both the eastern addition to the Boys Locker Room and Building 600, which were completed by 1964. The Library addition on the north side of the west wing of Building 200 was built in 2004, ten years after Hope's death (Hope 1962: A7, A27; Modern San Diego 2012; SDUSD 2007). Horace Mann Middle School is not included on the San Diego County Historic Property Listing or the City of San Diego's Register of Historic Landmarks (City of San Diego 2011; San Diego County 2008).

Horace Mann Middle School was designed and developed during the post-World War II boom of population growth in the San Diego area, which resulted in extensive development of new suburban neighborhoods and new schools to serve the children residing in those new neighborhoods. However, residences, school complexes, and other infrastructure constructed to encourage or accommodate growth cannot be considered historically significant by association with urban or suburban growth. Most built environments are associated with population growth, as products of either planning for population growth or accommodating population growth. It is a commonplace association. Were associations with growth a qualification for historical significance, then all buildings, complexes, and infrastructure surviving from the era would be considered historical resources. Obviously, however, not all built resources developed during a given era can qualify as significant. Horace Mann Middle School does not appear to be associated with discrete events of historical significance to San Diego, the State of California, or the United States. Hence it does not appear to meet Criterion 1 for listing in the CRHR. Although the school is associated with an important San Diego architect, such associations are properly assessed with reference to Criterion 3 of the CRHR. Horace Mann Middle School does not appear to have associations with other individuals important to the history of San Diego, the State of California, or the United States. It does not, therefore, appear to be eligible for the CRHR under Criterion 2.

Considered a San Diego-area master architect, Frank L. Hope Sr. designed the Horace Mann Middle School incrementally, over the course of a 12-year period. Born in San Bernardino in 1901, Hope attended the University of California, Berkeley, Pittsburgh's Carnegie Institute of Technology, and San Diego State University. In 1925 he worked for Requa and Jackson, Architects. He started his own firm, Frank L. Hope and Associates, Architects, in 1928. In 1930 Hope designed Normal Heights' Carmelite Monastery in the Spanish Colonial Revival style. He continued to produce a number of buildings and complexes for the Catholic Church over the next several decades. As modernism swept the field in the mid twentieth century, Hope and his firm created Contemporary Style homes and commercial buildings, and designed larger International Style, Brutalist, and New Formalist public and commercial buildings. Hope and his firm also designed school complexes and buildings, including all the buildings constructed at the Horace Mann Middle School site up through 1964. (City of San Diego 2007: 79, 92; Feeley et al. 2011: 16; Modern San Diego 2012.)

Despite the Horace Mann Middle School's association with master architect Frank L. Hope, Sr., the school complex does not appear to be eligible for the CRHR under Criterion 3. The school does not appear to constitute a masterwork of Frank L. Hope or his firm. While the complex is representative of the ways in which mid-century modernism shaped San Diego school architecture in the 1950s and 60s, the complex does not constitute an innovative or otherwise important example of mid-twentieth-century architecture. Numerous school complexes in the San Diego area incorporate architectural features observable at the Mann School, such as large banks of classroom windows, clerestory windows, combinations of shed, gable, and sawtooth roofs, and asymmetrically arranged auditoriums. Moreover, construction since 1952-54—the years of the original complex's development and the period of significance for the school—has diminished the historic integrity of the complex as a whole. The architectural unity of the original complex—the Auditorium, Buildings 100, 300, and 400, and the original portions of Building 200 and the Boys Locker Room—has been disrupted by subsequent development. While the area comprised of the Auditorium, Building 300, and Building 100 retains a high degree of integrity, the area to the east has been dramatically altered by the 2004 Library additions and quad alterations. The alterations to the Boys and Girls Locker Rooms have not caused those buildings to appear out of place along the lines of the Library addition with respect to the 1952-54 portions of the complex. However, by imposing more pronounced departures in design and materials, the construction of Buildings 500 and 600 in 1958 and 1964 respectively, has diminished the complex's historic integrity on the south and west edges of the campus.

None of the school complex's buildings appear individually eligible for CRHR listing under Criterion 3. The most architecturally noteworthy building on the campus is arguably Building 600. However, it has not previously been identified as a Frank L. Hope masterwork and does not appear to merit such distinction. While the arrangement of windows and panels on its exterior walls is representative of the International Style, Building 600 does not constitute a particularly innovative or otherwise distinctive example of the style. Despite its association with Hope, the building does not appear to reach the threshold of architectural significance necessary for CRHR eligibility.
In summary, Horace Mann Middle School does not appear to meet the Criteria for listing on the CRHR. Horace Mann Middle School was evaluated in accordance with Section 15064.5(a) (2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the Public Resources Code, and determined not to be a historical resource for the purposes of CEQA.

Photographs (cont.):

Photograph 2. North side of Building 100 taken from northwest corner of Building 200, view to west-southwest

Photograph 3. Building 300, view to northwest

Photograph 4. Cafeteria portion of Building 300, south and east elevations, view to north-northwest

Photograph 5. South and west elevations of Building 400, view to east

Photograph 6. View of 2004 quad benches, butterfly-roofed shelters, and Library addition from east side of Building 200 cafeteria, view to south-southeast

Photograph 7. East elevation of Building 200 from its north end, view to south-southwest

Photograph 8. Two-story southern end of Building 200 at left and center, attached single-story Girls Locker Room at center and right, view to northeast

Photograph 9. Building 500, south and east elevations, view to northwest

Photograph 10. Boys Locker Room, south and west elevations, view to east-northeast

Photograph 11. East elevation of Building 600, view to northwest

*B12. References (cont.):

City of San Diego

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State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

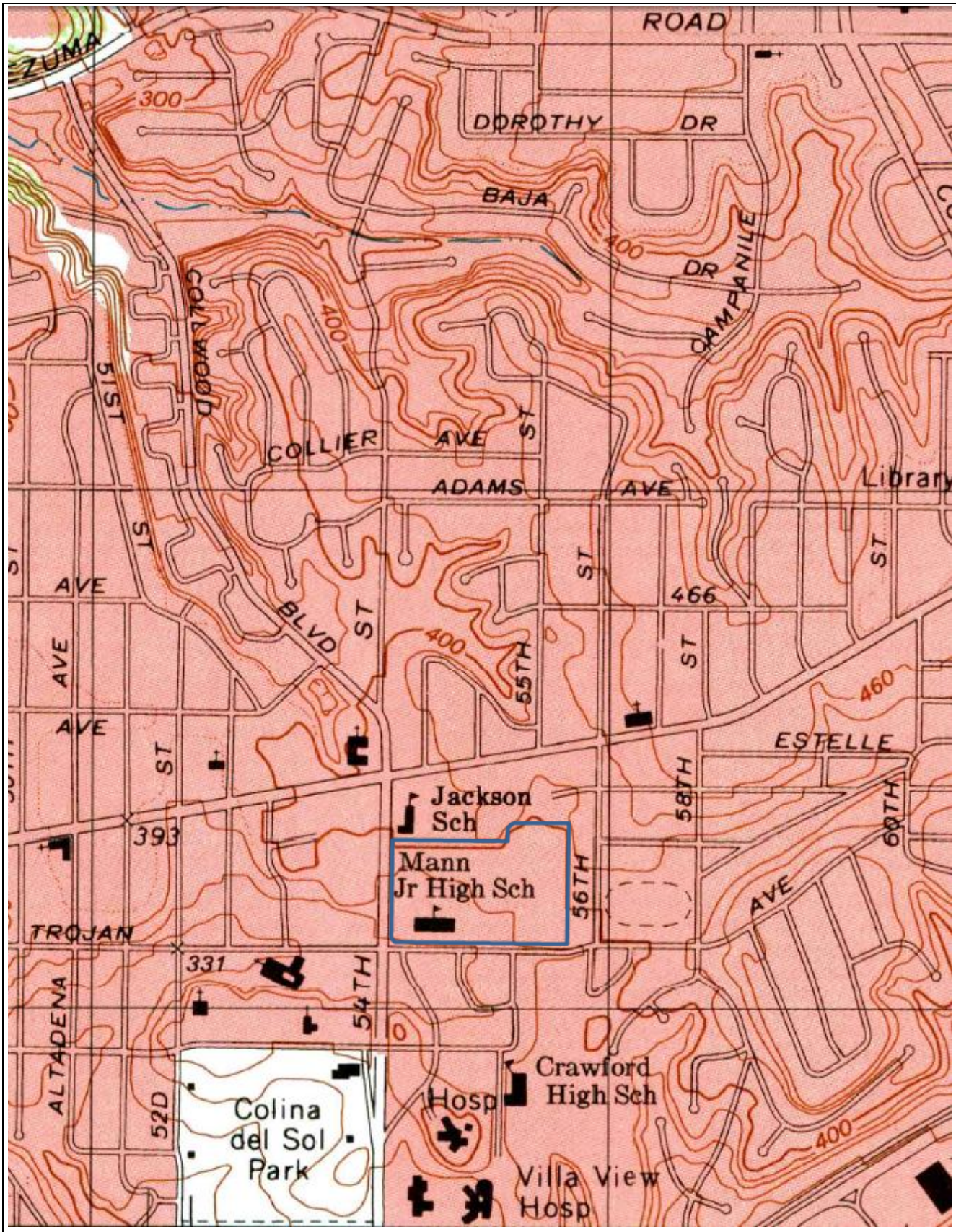
Primary # P-37-032915
HRI#
Trinomial

*Resource Name or # (Assigned by recorder) Mann Middle School

*Map Name: National City 7.5'

*Scale: 1:24000

*Date of Map: 1996



*Required information

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Appendix E
Hazardous Materials Evaluation

September 20, 2012
Project No. 107375001

Mr. Jim Harry
ICF International
9775 Business Park Avenue, Suite 200
San Diego, California 92131

Subject: Crawford High School
Proposition S Bond Program Projects
4191 Colts Way
San Diego, California

References: Kleinfelder, 2003, Limited Lead Investigation Report, Crawford High School, 4191 Colts Way, San Diego, California: dated September 16.

URS, 2002, Phase I Environmental Site Assessment – Crawford High School, 4191 Colts Way, San Diego, California: dated October 14.

Dear Mr. Harry:

It is our understanding that the San Diego Unified School District (SDUSD) plans to perform site-wide improvements to the campus at the above-referenced Crawford High School as part of the Proposition S Bond Program (Figure 1). Proposed projects include, but are not limited to, technology upgrades, security systems and alarm improvements, student drop-off/pick up area improvements, food service area upgrades, new air conditioning systems, pedestrian circulation improvements, restrooms/locker rooms and gym renovations, portable classroom repairs/renovations, stadium and sports facility improvements, and general repairs/replacements of sidewalks, building interiors/exteriors, and fixtures. The northern and southern portions of the site are currently occupied by stadiums, playing fields, and sports facilities. The central portion of the site is currently occupied by school facilities, which include classrooms, administration buildings, service buildings, storage buildings, utility buildings, and asphalt-paved parking lots (Figure 2).

Based on a review of the above referenced Phase I Environmental Site Assessment (ESA), prepared by URS, the site was vacant undeveloped land prior to construction of the school in 1955-1957. The report noted the following issues that may result in impacts to the proposed construction and improvement activities:

Former Underground Storage Tanks (USTs)

Two, diesel fuel USTs were reportedly installed at the site in 1957 to supply fuel to boilers. One, 1,000-gallon diesel UST was located in a parking area near the northeast corner of the gym. One, 5,000-gallon diesel UST was located near the southeast corner of Building 600 (Figure 2). The environmental database report listed an 8,976-gallon waste oil UST that was also installed in 1957; however, no additional information was available regarding this UST. Therefore, there is the potential that the UST remains on site.

The URS report states that the two diesel USTs were removed in 1988. During the UST removal activities, a release of diesel fuel was observed from the 1,000-gallon UST. Reportedly, soil in the vicinity of the UST was excavated and removed from the site. A subsequent site assessment indicated that approximately 141 cubic yards of soil impacted with total petroleum hydrocarbons remained in the vicinity of the UST at depths ranging from 8 to 24 feet below ground surface. The County of San Diego Department of Environmental Health issued a closure for the unauthorized release on April 26, 2000 with the requirement that contaminated soil excavated as part of subsurface construction activities must be managed in accordance with the applicable legal requirements at that time.

Impacts were not observed during the removal of the 5,000-gallon UST; however, reportedly soil samples were not collected. Based on this information, there is the potential that impacted soil may also be present in the vicinity of the former 5,000-gallon UST.

Lead-Based Paint

The URS report states that a representative of the San Diego Unified School District reported that lead-based paint was known to be on site. Based on the age of some of the school buildings (i.e., mid-1950s) and the known presence of lead-based paint, there is the potential that the erosion and weathering of lead-based paint may have impacted soil in the vicinity of site buildings/structures that have lead-based paint. A Limited Lead Investigation Report was prepared for the expansion of the library at the site. The results of the sampling in the vicinity of the library expansion construction did not contain lead at elevated concentrations. However, additional information was not on file for the sampling of lead-in-soil around other site structures.

Undocumented Fill Soil

URS reported that a review of historical aerial photographs and topographic maps indicated the presence of a natural depression/drainage leading south from the southern central portion of the site (Figure 2). Based on URS's review, the depression/drainage appeared to have been filled sometime during construction of the school, between 1955 and 1957. Since the details of the filling operations were not documented, the source and type of material used to fill the drainage/depression are unknown.

To mitigate the potential for exposure to unknown USTs, petroleum hydrocarbon and lead impacted soil, or unknown contaminants in undocumented fill, a Community Health and Safety Plan (CHSP), Master Soil Management Plan (SMP), and Site-Specific Health and Safety Plan (HASP) should be prepared for subsurface construction activities at the site. The objective of the CHSP is to promote a safe and healthy environment for the public by minimizing community exposures to hazards from site activities and/or releases that may migrate off site and fostering community awareness. The objective of the SMP is to assist construction contractors working at the site with notifications and excavation, monitoring, segregation, characterization, handling, and reuse and/or disposal (as appropriate) of waste that may be encountered during earthwork activities and should include provisions to address encountering an unknown UST. A HASP identifies potential chemicals that may be encountered during subsurface construction activities

at the site, provides guidelines for use of personal protective equipment based on site-specific conditions, location and directions to the nearest hospital, and contingency plans in general accordance with Federal Occupational Safety and Health Administration Hazardous Waste Operations and Emergency Response Standard (29 Code of Federal Regulations 1910.120) and Title 8 California Code of Regulations Section 5192.

If the CHSP, SMP, and HASP are implemented during the proposed subsurface construction activities, as needed, the impacts would be considered less than significant and additional mitigation measures would not be required.

Sincerely,
NINYO & MOORE

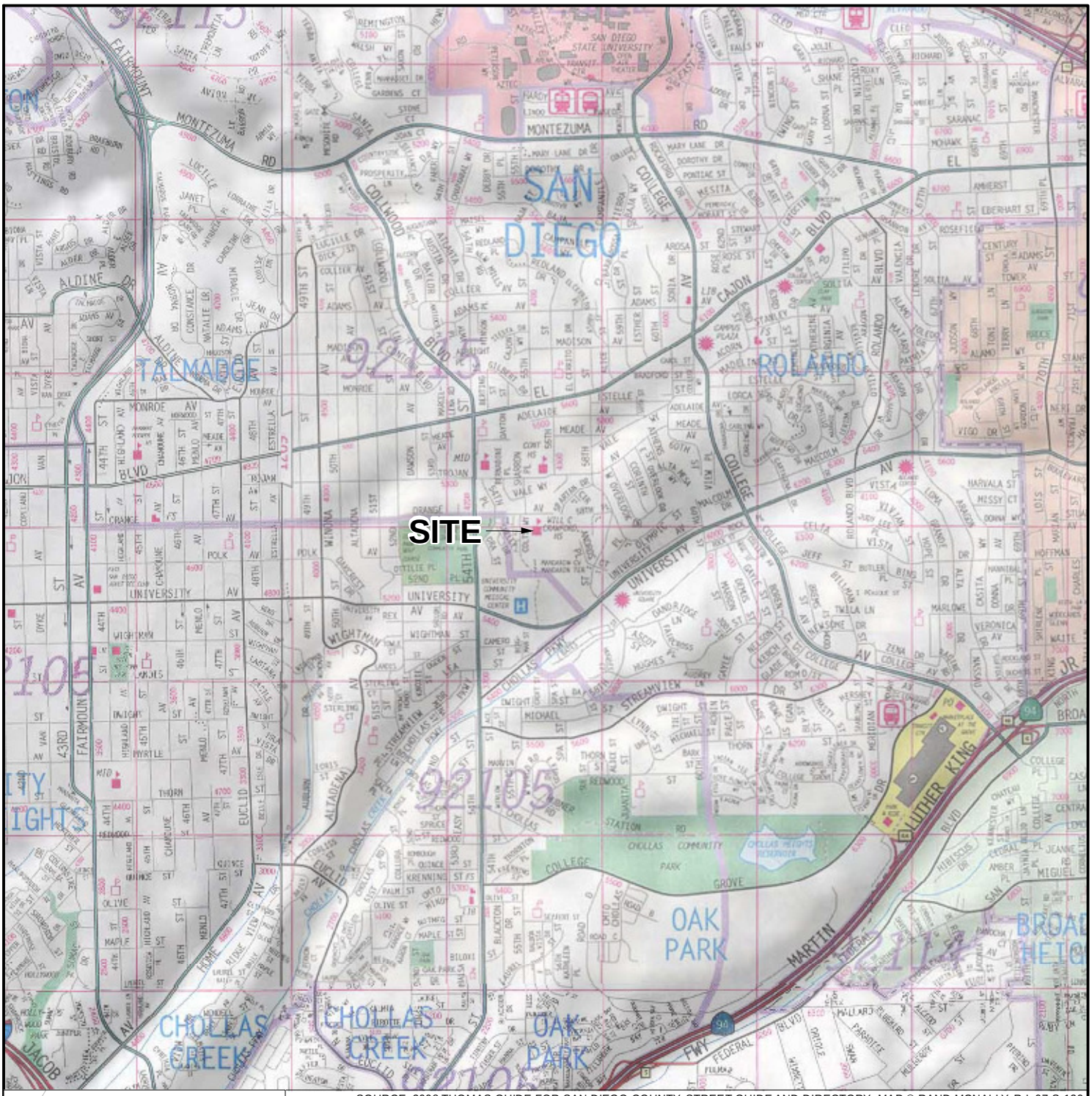
Lisa Bestard
Senior Project Environmental Scientist

Stephan A. Beck, PG 4375
Manager, Environmental Sciences Division

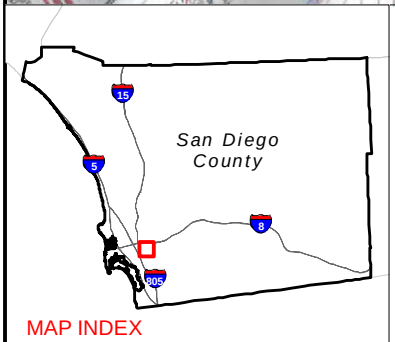
LB/SB/gg

Attachments: Figure 1 – Site Location
Figure 2 – Site Plan

Distribution: (1) Addressee



SOURCE: 2008 THOMAS GUIDE FOR SAN DIEGO COUNTY, STREET GUIDE AND DIRECTORY; MAP © RAND MCNALLY, R.L.07-S-129



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SCALE IN FEET

0 1,200 2,400 4,800

NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE

Ninyo & Moore		SITE LOCATION	FIGURE
PROJECT NO.	DATE	CRAWFORD HIGH SCHOOL 4191 COLTS WAY SAN DIEGO, CALIFORNIA	1
107375001	9/12		

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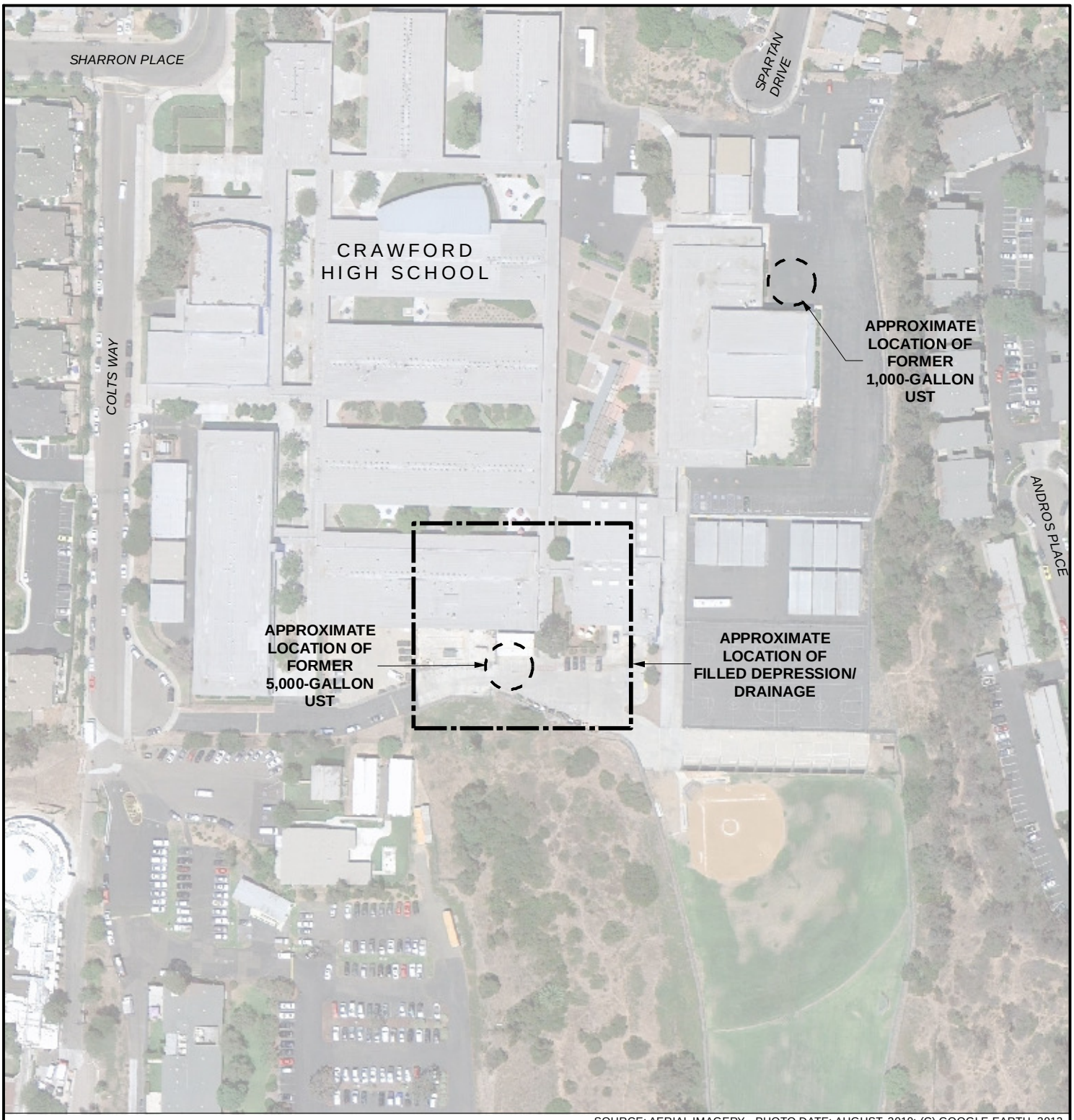

SOURCE: AERIAL IMAGERY - PHOTO DATE: AUGUST, 2010; (C) GOOGLE EARTH, 2012.

NOTES:
UST - UNDERGROUND STORAGE TANK

DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE.

SCALE IN FEET

0 75 150 300

N

Ninyo & Moore		SITE PLAN	FIGURE
PROJECT NO.	DATE	CRAWFORD HIGH SCHOOL 4191 COLTS WAY SAN DIEGO, CALIFORNIA	2
107375001	9/12		

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Appendix F
Noise Impact Assessment

Memorandum

Date:	September 16, 2013
To:	Kathryn Ferrell San Diego Unified School District
From:	Kai-Ling Kuo, PE Noise Specialist
Subject:	**Noise Impact Assessment** **Crawford High School and Mann Middle School Modernization Project Draft EIR**

Introduction

San Diego Unified School District (District) is proposing to modernize and upgrade several facilities at Crawford High School and Mann Middle School, which include small upgrades and repairs to existing buildings at several locations within the schools, demolition and construction of several school buildings, and upgrades to the existing athletic facilities.

The purpose of the memorandum is to identify the potential noise impacts related to construction and operation of the Project under CEQA. Included are a review of existing conditions, a summary of applicable policies, regulations, and standards to be used for the CEQA evaluation, and an analysis of noise impacts resulting from construction and operation of the Project. Where feasible, mitigation measures are identified to reduce the level of expected impacts.

Project Description

The proposed project consists of a collection of proposed improvements at Crawford High School and Mann Middle School. These proposed improvements can generally be separated into two broad categories:

- Athletic facility improvements for Crawford High School; and
- Modernization improvements for both Crawford High School and Mann Middle School.

Crawford High School

Proposed project actions at Crawford High School include modernization improvements related to student learning and instruction, student health, safety, security, school accessibility upgrades, code compliance, building systems repairs and replacements, and new athletic facilities, including a new baseball field and athletic stadium.

Athletic Facility Improvements

The proposed athletic facility improvements at Crawford High School would involve the existing facilities on the northern half of the school property, consisting of baseball fields and six tennis courts; the existing football/soccer field and track at the northeast corner of 56th Street and Trojan Avenue; and the existing softball field at the southern end of the property. It would also affect the administration building, building 100, building 200, and the 75 visitor parking spaces along Sharron Place on the Crawford High School property; existing hard courts and adjacent areas on the Mann Middle School property immediately north of the high school would also be affected. The different components of these improvements are described below.

Athletic Stadium

After substantial coordination with the community, it was determined that the football field should be relocated to be contiguous with the high school campus. Therefore, the proposed project includes the relocation of the existing football/soccer field and track at the northeast corner of 56th Street and Trojan Avenue to a new Athletic Stadium at the southeast corner of Sharon Place and Trojan Avenue. The relocation onto the main campus would displace the existing baseball field and six tennis courts that are currently in that location. These facilities would be relocated and replaced, as discussed further below. Accommodating the Athletic Stadium would require demolition of the administration building, building 100, and building 200. These facilities are not proposed for immediate replacement because there is sufficient space and capacity within the other existing facilities on the high school campus for the school's current enrollment. The proposed project does require some modernization to building 800, the first floor of which would be used to accommodate the school's administration functions after the project. The modernization improvements discussed below also include some new classrooms. Lastly, as discussed further below, the project would displace the 75 existing visitor parking spaces along Sharron Place.

Compared with the existing facilities, which include 30-year old bleachers and a decomposed granite track, the new Athletic Stadium would significantly improve safety; accessibility, in compliance with the Americans with Disabilities Act (ADA); and the overall quality of the facilities for students and spectators. The Athletic Stadium would include:

- A new artificial-turf field
- An all-weather synthetic track
- 1,500 home and 750 visitor bleacher seats with ADA-compliant accessibility
- Stadium lighting (six-pole configuration)
- A new press box with an elevator for ADA-compliant accessibility
- A new Public Address (PA) announcement system, scoreboard, and goal posts
- New athletic equipment storage facilities, bathrooms, snack bar, and ticket booths
- New home and visitor entrance gates
- General site improvements (i.e., grading, drainage, irrigation systems, sidewalks, gates, fences, and landscaping)

The new Athletic Stadium lighting would consist of six 90-foot-tall stadium light poles, with three poles on either side of the complex behind the bleacher seats. To minimize light trespass on the surrounding residential community, the proposed lighting system would be specifically designed with cutoff devices, highly efficient reflectors, and 14-inch visors that would capture and redirect primary light onto the field and reduce spill light off the field. Additionally, the high mounting height of the luminaires would allow the lamps to be installed with a narrow beam angle that would specifically direct light downward and onto the field of play and away from adjacent residential properties.

Baseball and Softball Field

The proposed project includes a new baseball field, which could also accommodate a soccer field, at the location of the existing football/soccer field and track at the northeast corner of 56th Street and Trojan Avenue. This improvement would offset the loss of the existing baseball field at the southeast corner of Sharron Place and Trojan Avenue to the corner of 56th Street while also providing upgrades compared with the existing facilities. To prepare the site for the baseball field, the existing football facilities on the site (bleachers, team room/storage building) would be removed and/or demolished. The new field would include new ADA-compliant accessible bleacher seating for 120 persons. New dugouts, a new announcer's booth, concessions stand, and ADA-compliant accessible restrooms would also be provided. Batting cages also would be installed along the Trojan Avenue side of the complex, near the ticket entrance. Trees and other landscaping improvements would be installed along Trojan Avenue, extending midway down 56th and 58th Streets, and pedestrian access to the site from the main campus would be enhanced for safety and accessibility to the extent feasible. Maintenance access to the fields would be provided along 58th Street toward the middle of the fields.

Tennis Courts

The proposed project includes relocating the six tennis courts from their current location on the Crawford High School site along Trojan Avenue to the north side of Trojan Avenue on the Mann Middle School site. There would be six new tennis courts that would be used by the two schools. Access to the tennis courts from the high school would be enhanced with safety and ADA-compliant accessibility (path-of-travel) improvements.

Softball Field

The proposed project also includes improvements to the existing softball field on the south end of the Crawford High School property. These improvements include a new grass field, dugouts, backstop and fencing, batting cage, and drinking fountains.

Parking

The proposed project includes changes to parking that would result in a total of 211 onsite parking spaces, for a net addition of 16 spaces, compared with the existing 195 spaces. As discussed above, the 75 visitor spaces along Sharron Place would be replaced by the new Athletic Stadium. However, to offset the loss of these removed spaces, 17 visitor spaces would be constructed west of and

adjacent to building 800, replacing three portable buildings. Also, 72 spaces would be constructed across Trojan Avenue at Mann Middle School, which would be used as parking for both Mann Middle School and Crawford High School, and two accessible parking spaces would be provided at the new baseball field. Additional spaces would also be available on the Mann Middle School campus if necessary.

Construction

The new Athletic Stadium and the other athletic facility upgrades would be completed in a single phase of construction over an approximate 18-month construction period. During construction of the project, construction activities would be limited to 7 a.m. to 7 p.m. to comply with the City of San Diego's noise ordinance. Most of the construction activities would be onsite; however, onsite grading for the Athletic Stadium may involve importing soils to fill 25% of the site. Additionally, minor offsite improvements, such as utility connections and access improvements, in already-disturbed areas are anticipated.

Modernization Improvements

The modernization improvements would be completed over multiple years based on funding, logistics, and other factors. The major physical improvements are not scheduled to begin until 2016. Specific construction phasing for modernization improvements would be determined by the District as specific designs are developed for the improvements. Specific designs for the modernization improvements have not yet been developed by the District. With the exception of a few major building proposals, the modernization tasks would result in little physical change to the existing campus. The various modernization proposals considered for this EIR are described below.

Major Building Systems Repair and Replacement. The proposed project includes the construction of a new two- to three-story classroom building to the south of the gym. There are currently portable classrooms in this location, which would be replaced by the approximately 20-classroom building. The new classroom building would also provide some additional replacement capacity to offset the loss of space resulting from the demolition of buildings 100 and 200 with the new Athletic Stadium.

Another new two- to three-story, 28-classroom building is proposed to replace building 800. This building would replace the administrative space and classrooms in the existing building 800 and some of the classroom space that would be lost when the portables to the west are removed to provide more parking spaces with the Athletic Stadium project.

These two new classroom buildings would not increase student capacity compared with existing conditions. The existing capacity of the high school is approximately 2000 students, with 85 classrooms. (However, the school is not currently operating at capacity. Enrollment is approximately 1,222 students, with 77 classrooms in use.) With the completion of the Athletic Stadium project, which will remove classrooms, and the two new classroom buildings, which will offset some of the lost classrooms, the capacity of the school would be approximately 1,600, with approximately 83 classrooms.

The proposed project includes major renovations to the existing theater for modernization, including improved accessibility and improved visual and performing arts facilities. The renovations are anticipated to generally conform to the existing footprint of the theater. Therefore, they would not result in an increase in seating capacity.

The project also includes proposals to repair, replace, or upgrade the following, as needed: sidewalks and hardscape areas, including ramps and stairs; building roofing, interiors, exteriors, finishes, fixtures, and windows; outdated heating and ventilation systems; and aging wiring and electrical systems.

Student Learning and Instruction. The proposed project includes 21st-century technology upgrades, including audio-visual projection capabilities for all students and a wireless network to support student learning and instruction, as identified in Propositions S and Z.

Student Health, Safety, and Security. Other modernization improvements included in the proposed project consist of:

- Replacing the existing fire alarm and emergency communications system
- Installing security lighting
- Modifying the existing fencing and gates to secure the site against vandals and intruders
- Removing or minimizing risks from potentially hazardous materials onsite
- Reconfiguring pedestrian circulation (student drop-off and pick-up areas would be constructed in front of building 800 along Colts Way to increase student safety)
- Upgrading educational spaces with air-conditioning
- Renovating food service areas to increase service efficiency and provide healthier food choices for students
- Creating multi-use flexible spaces for alternative purposes (e.g., study halls, video rooms, etc.)

School Accessibility and Code Compliance. The proposed project also includes other upgrades to achieve compliance with ADA Titles I and II. These types of improvements would be made to all classrooms, labs, restrooms, and other school facilities.

Mann Middle School

As with Crawford High School, the modernization improvements would be completed over multiple years based on funding, logistics, and other factors. The first major physical improvements are scheduled to begin in late 2015. Specific construction phasing for modernization improvements would be determined by the District as specific designs are developed for the improvements. During construction of the project, construction activities would be limited to 7 a.m. to 7 p.m. to comply with the City of San Diego's noise ordinance.

The various modernization proposals considered are described below.

Major Building Systems Repair and Replacement. The project includes proposals to repair or replace inadequate permanent and portable classrooms and school buildings with permanent cost-effective construction. One- and two-story buildings would replace the majority of the existing buildings within a similar footprint. New landscaping and hardscaping improvements would be added throughout the campus.

Performance spaces and multi-purpose rooms (for example, the physical education building) would also be repaired, replaced, or upgraded to meet current needs. Improvements to the existing physical education building would include reconfiguration of the existing locker room to provide boys' and girls' lockers and restroom facilities. In addition, a multi-purpose divisible activity room, storage areas, and staff facilities (such as restrooms, offices, and a meeting room) would be constructed. Outside the physical education building, new physical education hard courts would be constructed. Landscaping improvements would be provided throughout this area as well.

Student Learning and Instruction. The proposed modernization improvements include 21st-century technology upgrades, such as audio-visual projection capabilities for all students and a wireless network to support student learning and instruction. Also, the use of fiber optics in the classrooms would be enhanced by increasing bandwidth to facilitate multiple concurrent applications. The library, which is within a portion of building 200, would be reconfigured and modernized, and the remaining portions of the building would be demolished and replaced with a new upper level quad, which is an outdoor area with landscape and hardscape improvements.

Student Health, Safety, and Security. Security lighting and modifications to existing fencing and gates would be provided, as would improvements to the site's safety communication system, which would secure the site against vandals and intruders. Other safety improvements would include removing or minimizing risks from potentially hazardous materials onsite. All educational spaces would be upgraded with air-conditioning, and food service areas would be renovated to increase service efficiency and provide healthier food choices for students.

In addition to a new "front door" to the campus, a new 160-space parking lot and drop-off area would be constructed in the southeast corner of the Mann Middle School property, promoting safer access for students. Landscaping upgrades would be included as part of the proposed project on the northern and southern boundaries of the proposed parking lot. Another "front door" would be located in the southwestern corner of the school property, between the auditorium, building 500, and the new classroom building.

School Accessibility and Code Compliance. The proposed project includes provisions to upgrade school sites to achieve compliance with ADA Titles I and II. These types of improvements would be made to all classrooms, labs, restrooms, and other school facilities. Kitchen facilities would be renovated to meet the new, stringent health standards.

Parking. Proposed parking improvements at Mann Middle School would result in a net addition of 29 spaces compared with existing conditions. As discussed above, 160 new visitor and faculty stalls would be constructed along Trojan Avenue to account for the 124 spaces that would be removed with construction of the new classroom building at the intersection of 54th Street and Trojan Avenue. Also, seven existing spaces near the intersection of 56th Street and Trojan Avenue would be removed from the school's parking supply, and 72 new spots would be used as parking for both Mann Middle School and Crawford High School.

Stadium Operations/Design Features

Stadium Lighting

The stadium lighting to be installed at the new Crawford High School Athletic Stadium is designed to be fully shielded and directed onto the stadium field. A mandatory cutoff of 11 p.m. would be established for use of the lights. The latest that games and practices are anticipated to end is approximately 9 p.m.

Public Announcement System

The proposed project will incorporate the following design features into the PA system that will be installed at the stadium:

1. All speakers installed on the Stadium Lighting Poles would have adjustable coverage patterns and would be attached to the poles with a three-point support system to allow for maximum adjustability.
2. The coverage patterns of loudspeakers would be adjusted to fit the minimal area of coverage to maximize the sound levels for the audience and minimize the bleed over into the adjacent areas.
3. The speakers would be Bi-Amped (High Frequency and Mid-Range Frequency on one amplifier and Low Frequency on another amplifier) to allow for maximum adjustability for proving power to the speakers. Each amplifier can be individually adjusted.
4. All sound signaling to the loudspeakers would be controlled by a Digital Signal Processor (DSP), which is capable of providing equalization, Loudspeaker Cluster and Driver Alignment Delays, Band Pass Filters, additional filters and crossover adjustments. The DSP has an available Ethernet port on the unit that may be used to network the equipment into the local LAN. This allows for building of different control profiles for different speaker configurations. This may be used to allow for use of all speakers or a portion of the speakers depending on the needs of the event.
5. A separate mixer would be provided with the system to adjust inputs and microphones and control the levels. The mixer is a portable type 16-channel unit with a USB interface for direct connection to a laptop or PC for additional programming control of the system.

Stadium Bleachers

The proposed aluminum bleachers that will be constructed on the home and visitor sides of the stadium would include a metal backing on the back side of the bleachers to reduce some the crowd noise that would be generated during an event.

Existing Condition

Noise Terminology

The following are brief definitions of noise terminology used in this evaluation.

- **Sound.** A vibratory disturbance transmitted by pressure waves through a medium such as air and capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB)**. A measure of sound based on a logarithmic scale that indicates the squared ratio of actual sound pressure level to a reference sound pressure level (20 micropascals).
- **A-Weighted Decibel (dBA).** A measure of sound that is weighted to take into account the varying sensitivity of the human ear to different frequencies of sound. The dBA scale is the most widely used for environmental noise assessments. Typical A-weighted noise levels for various types of sound sources are summarized in Table 1.
- **Equivalent Sound Level (Leq)**. Leq represents an average of the sound energy occurring over a specified period. In effect, Leq is the steady-state sound level that would contain the same acoustical energy as the time-varying sound that actually occurs during the monitoring period. The 1-hour A-weighted equivalent sound level (Leq 1h) is the energy average of A-weighted sound levels occurring during a 1-hour period.
- **Maximum Sound Levels (Lmax).** The maximum (Lmax) sound levels measured during a monitoring period.
- **Community Noise Equivalent Level (CNEL):** The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels occurring during the period from 7 p.m. to 10 p.m. and 10 dB added to the A-weighted sound levels occurring during the period from 10 p.m. to 7 a.m.

Sound from multiple sources operating in the same area such a multiple pieces of construction equipment will result in a combined sound level that is greater than any individual source. The individual sound levels for different noise sources cannot be added directly to give the sound level for the combined noise sources. Rather, the combined noise level produced by multiple noise sources is calculated using logarithmic summation. For example, if one bulldozer produces a noise level of 80 dBA, then two bulldozers operating side by side would generate a combined noise level of 83 dBA (only 3 dBA louder than the single bulldozer).

Human sound perception, in general, is such that a change in sound level of 3 dB is just noticeable; a change of 5 dB is clearly noticeable; and a change of 10 dB is perceived as doubling or halving the sound level. A doubling of actual sound energy is required to result in a 3 dB (i.e., barely noticeable) increase in noise; in practice, for example, this means that the volume of traffic on a roadway typically needs to double to result in a noticeable increase in noise.

Table 1. Typical A-Weighted Sound Levels

Common Outdoor Activities	Sound Level (dBA)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 mph at 50 feet		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower at 100 feet	70	Vacuum cleaner at 3 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban area, daytime	50	Dishwasher in next room
Quiet urban area, nighttime	40	Theater, large conference room (background)
Quiet suburban area, nighttime		
	30	Library
Quiet rural area, nighttime		Bedroom at night, concert hall (background)
Rustling of leaves	20	
		Broadcast/recording studio
	10	
	0	

dBA = A-Weighted Decibel
Source California Department of Transportation 2009.

Sound perception also depends on whether a new sound is similar to existing sounds in an area. Most people cannot detect differences of 1–2 dB between noise levels of a similar nature (for example, a 1-dB increase in traffic noise compared to existing traffic noise). However, under ideal listening conditions, some people can detect differences of 2 or 3 dB, and most people under normal listening conditions would probably perceive a 5-dB change in sounds of a similar nature. When a new, intruding sound is of a different nature than the background sound (for example, a car alarm compared to quiet residential sounds), most people can detect changes as small as 1 dBA.

When distance is the only factor considered, sound levels from isolated point sources of noise typically decrease by about 6 dB for every doubling of distance from the noise source. When the noise source is a continuous line, such as vehicle traffic on a highway, sound levels decrease by

about 3 dB for every doubling of distance. Noise levels can also be affected by several factors other than the distance from the noise source. Topographic features and structural barriers that absorb, reflect, or scatter sound waves can affect the reduction of noise levels over distance. Atmospheric conditions (wind speed and direction, humidity levels, and temperatures) and the presence of dense vegetation can also affect the degree of sound attenuation. Normally the presence of acoustically absorptive ground such as grass will increase the rate of attenuation by about 1.5 dB per doubling of distance. Thus, where absorptive ground is present the attenuation rate for a point source will increase to about 7.5 dB per doubling of distance and the rate for a line source will increase to about 4.5 dB per doubling of distance.

Noise-Sensitive Land Uses

Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Noise-sensitive land uses typically include residences, hospitals, schools, guest lodgings, libraries and certain types of passive recreational uses, such as parks to be used for reading, conversation, and meditation (Federal Transit Administration 2006).

The existing land uses surrounding Crawford High School and Mann Middle School are summarized below:

- Single-family and multi-family residences (R1) located along Sharron Place and Colts Way, to the west of proposed athletic stadium and front entry area of the Crawford High School.
- Single-family residential area (R2) located along Vale Way, Spartan Drive, and Trojan Avenue, to the east of proposed athletic stadium and to the south of proposed baseball/softball complex in the Crawford High School.
- Single-family residences (R3) located along 58th Street and Meade Avenue, to the east and north of proposed baseball/softball complex.
- Single-family residences (R4) located along 56th Street, to the west of proposed baseball/softball complex and to the north of proposed tennis courts and overflow parking lot for the Crawford High School.
- Single-family and multi-family residences (R6) located on 54th Street, to the west of new classroom building and front entry in the Mann Middle School.
- Single-family residences (R7) located on Trojan Avenue, to the south of proposed basketball courts and parking lot/drop-off area in the Mann Middle School.

Table 2 summarizes the approximate distances from noise-sensitive land use areas to the closest construction sites and operation activities.

Table 2. Noise-sensitive Land Uses and Distances to Construction and Operation Activities

Area	Area Description	Closest distance to Construction Activities (feet)	Closest distance to Proposed Activities (feet)
R1	Single-family and multi-family residences located along Sharron Place and Colts Way.	100 (athletic stadium and entry area in front of building 800)	150 (athletic stadium)
R2	Single-family residential area located along Vale Way, Spartan Drive, and Trojan Avenue.	60 (athletic stadium)	80 (athletic stadium)
R3	Single-family residences located along 58th Street and Meade Avenue.	100 (baseball/softball complex)	Similar to existing athletic activities
R4	Single-family and multi-family residences located along 56th Street.	50 (tennis courts)	600 (athletic stadium)
R5	Single-family and multi-family residences located on 54th Street.	150 (new classroom building)	170 (HVAC at new classroom building)
R6	Single-family residences located on Trojan Avenue.	100 (parking lot, basketball courts, and landscape)	600 (athletic stadium)

Onsite noise-sensitive uses include classrooms and other school-related facilities such as outdoor play and eating areas.

Ambient Noise Environment

The existing ambient noise environment in the project vicinity is characteristic of a suburban environment with the local vehicle traffic to be the dominant noise source. In the area immediately adjacent to both school sites, sporting activities in the current ball fields are a source of noise. There are no lights at any of the fields so all current activities are limited to daylight hours. No PA systems are currently used at the existing ball fields. To generally quantify existing ambient noise levels in the project area, five 15-minute short-term measurements were conducted on March 23 and April 19, 2013, at various locations around the Project site. Noise monitoring data is included in Appendix 1. Figure 1 shows the short-term noise measurement sites. Table 3 summarizes the results of the noise measurements. The noise environment in the area consists of noise from traffic along 54th Street, Trojan Avenue, and local residential streets. Other noise sources in the project vicinity are typical of residential land uses, such as cars starting up, barking dogs, and occasional activities such as landscape maintenance. The ambient noise level in the Project area is about 48-52 dBA Leq at the residential areas on local residential streets and 56-57 dBA Leq at the residential area along 54th Street and Trojan Avenue.

Table 3. Summary of Existing Ambient Noise Levels

			Measured Noise Level (dBA)	
Site	Site Description	Starting Date/Time	Leq	Lmax
ST1	4191 Colts Way at the Crawford High School entry area	3/23/2013 at 1:15 pm	51.9	68.8
ST2	4232 Sharon Place	3/23/2013 at 1:45 pm	56.4	74.2
ST3	On the football/soccer field, behind 5643 Meade Avenue	3/23/2013 at 2:45 pm	48.3	63.4
ST4	5606 Vale Way	3/23/2013 at 3:25 pm	48.2	64.0
ST5	4345 54th Street on the Mann Middle School parking lot	4/19/2013 at 10:15 am	57.4	66.8

ST = short-term (15 minutes) ambient noise measurement;
dBA = A-Weighted Decibel; Leq = Equivalent Sound Level; Lmax = maximum sound level.

Noise Regulations

Federal

There are no federal regulations that are directly applicable to noise impact evaluation of the Project.

State

The State of California Governor's Office of Planning and Research has published recommended guidelines for the preparation and content of a noise element of a general plan. Each jurisdiction is required to consider these guidelines when developing the general plan noise element and determining acceptable noise levels within the community. Based on the guidelines, City of San Diego has developed noise standards as part of the general plan and the municipal code.

Title 24 of the California Code of Regulations (CCR) includes sound transmission control requirements that establish uniform minimum noise insulation performance standards for new hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family units. Specifically, Title 24 states that interior noise levels attributable to exterior sources (greater than 60 dBA CNEL) shall not exceed 45 dBA CNEL in any habitable room of new dwellings.

Figure 1. Noise Measurement Sites

Figure 1
Noise Measurement Sites
Crawford High School & Mann Middle School Modernization Project

Local

City of San Diego Municipal Code

Construction noise within the City of San Diego is governed by the City's Municipal Code Section 59.5.0404. The relevant parts are cited below:

"(a) It shall be unlawful for any person, between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays as specified in Section 21.04 of the San Diego Municipal Code, with the exception of Columbus Day and Washington's Birthday, or on Sundays, to erect, construct, demolish, excavate for, alter or repair any building or structure in such a manner as to create disturbing, excessive, or offensive noise unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator.

(b) Except as provided in subsection C hereof, it shall be unlawful for any person, including the City of San Diego, to conduct any construction activity so as to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 dBA during the 12-hour period from 7:00 a.m. to 7:00 p.m."

Operation noise within the City of San Diego is governed by the City's Municipal Code Section 59.5.0401, which established the allowable noise limits at the property boundaries for different land use zones. The relevant parts are cited below:

"(a) It shall be unlawful for any person to cause noise by any means to the extent that the one–hour average sound level exceeds the applicable limit given in the following table, at any location in the City of San Diego on or beyond the boundaries of the property on which the noise is produced. The noise subject to these limits is that part of the total noise at the specified location that is due solely to the action of said person.

(b) The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts."

The noise limits for residential zones are summarized below in Table 4. The applicable requirement is a function of the time-of-day and land use zone.

Table 4. City of San Diego Property Line Noise Limits

Receiving Land Use	7:00 a.m. to 7:00 p.m.	7:00 p.m. to 10:00 p.m.	10:00 p.m. to 7:00 a.m.
Single-family Residential	50 dBA Leq	45 dBA Leq	40 dBA Leq
Multi-family Residential	55 dBA Leq	50 dBA Leq	45 dBA Leq
All Other Residential	60 dBA Leq	55 dBA Leq	50 dBA Leq

The District has adopted City noise standards for the analysis of the Project's noise impacts. Because evening sport events at the proposed athletic stadium are not expected to extend beyond 10:00 p.m., for single-family residences, the operation noise limits would be 50 dBA Leq between 7:00 a.m. and

7:00 p.m. and 45 dBA between 7:00 p.m. and 10:00 p.m.; for multi-family residences, the operation noise limits would be 55 dBA Leq between 7:00 a.m. and 7:00 p.m. and 50 dBA between 7:00 p.m. and 10:00 p.m.

As discussed above under Noise-Sensitive Land Uses, classrooms and certain types of school-related facilities within the Project sites are considered noise-sensitive uses. However, they are within the Project sites as part of the Project improvements; the City's noise ordinance exempts the noise generated within the property from the noise standard (providing that such activities measured at or beyond the property line). Therefore, Project-generated noise levels at existing classrooms and other noise-sensitive uses are not evaluated further in this analysis.

The Project would build a new classroom building in the Mann Middle School, which would be subject to the CCR, Title 24 Noise Insulation Standards and City's noise ordinance. According to the regulations, the District requires an acoustical analysis to be conducted to show that the proposed design will limit interior noise to less than 45 dBA CNEL, where the CNEL exceeds 60 dBA in the vicinity of schools and educational uses.

Impact Significance Criteria

The following significance criteria from the City of San Diego are based on State CEQA Guidelines, Appendix G, and provide the basis for determining the significance of noise impacts resulting from implementation of the proposed Project. The Project would result in a significant impact on noise if it would result in:

1. Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, as follows.
    - Generate construction noise in excess of 75 dBA Leq at noise-sensitive land uses over any one-hour between 7:00 a.m. to 7:00 p.m.
    - Generate operation noise from sport events in excess of noise limits listed in Table 4 at noise-sensitive land uses.
    - Result in an increase in operational traffic noise of greater than 3 dB over the traffic noise levels without the project at existing noise-sensitive land uses. The 3 dB is generally considered to be the threshold of a perceptible change.
2. Result in sound levels that adversely affect the educational program, as follows.
    - Expose new Project classrooms greater than 45 dBA CNEL of interior noise level.
3. Expose persons to or generate excessive groundborne vibration or groundborne noise levels.
4. Create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
5. Create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

6. Expose people residing or working the project area to excessive noise levels where the project is located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport.
7. Expose people residing or working in the project area to excessive noise levels where the project is within the vicinity of a private airstrip.

Impact Analysis

Methodology

This noise impact analysis evaluates the temporary noise increase associated with Project construction activities, long-term operational noise generated by activities at the new athletic stadium and baseball/softball complex and by HVAC condensers at the new classroom building, and traffic noise associated with Project-related traffic increase.

Noise impacts associated with onsite construction activities were evaluated using the construction equipment noise data in the Federal Highway Administration (FHWA) roadway construction noise model (RCNM). Table 5 presents typical noise levels for the types of construction equipment that would be used for the Project. The noise levels listed represent the A-weighted Lmax, measured at a distance of 50 feet from the construction equipment and the utilization factors for the equipment, defined as the fraction of time that the equipment typically runs at maximum capacity (Federal Highway Administration 2006). The utilization factor is used to estimate Leq values from Lmax values.

Table 5. Typical Maximum Noise Emission Levels by Construction Equipment

Equipment	Acoustical Utilization Factor (%)	Typical Noise Level at 50 Feet from Source (dBA)	
		Lmax	Leq
Backhoe	40	78	74
Crane	16	81	73
Concrete mixer truck	40	79	75
Drill rig	20	84	77
Dozer	40	82	78
Drum mixer	50	80	77
Dump truck	40	76	72
Excavator	40	81	77
Front-end loader	40	79	75
Grader	40	85	81
Pickup truck	40	75	71
Roller	20	80	73
Scraper	40	84	80

dBA = A-weighted decibels; Lmax = maximum sound level ; Leq = equivalent sound level.
Source: Federal Highway Administration 2006.

Noise impacts associated with increase traffic volumes generated by the new athletic stadium were evaluated for the existing condition, existing plus Project condition, cumulative no Project condition, and cumulative plus Project condition, using a spreadsheet based on the FHWA traffic noise model (TNM). This spreadsheet calculates the traffic noise levels at a fixed distance from the centerline of a roadway based on the traffic volume, speed, and truck percentage that is predicted to occur under each condition. The traffic data used in this analysis were based on the traffic impact study report provided by the project traffic consultant (KOA Cooperation 2013). Traffic noise was evaluated in terms of how Project-related traffic noise increases could affect existing noise-sensitive land uses on existing roadways.

Operational noise impacts associated with activities at the new athletic stadium and new stationary sources (i.e. PA system) for the new stadium are evaluated based on the proposed Project layout and the noise measurements taken at an existing similar football stadium during at a nighttime football game. The results of the noise measurements at the similar football stadium and the analysis of possible noise-related impacts caused by the future football games and other events at the new football stadium are described in Appendix 2.

Noise generated by point sources (e.g., construction equipment and stationary operational equipment) was estimated to include point-source attenuation of 6 dB per doubling of distance. Noise generated by line sources (e.g., vehicles traveling on streets) was estimated to include line-source attenuation of 3 dB per doubling of distance from the noise source.

Construction Impacts

During construction of the Project, the construction activities would be limited to 7:00 a.m. to 7:00 p.m. to comply with the City of San Diego's noise ordinance. Construction for the athletic facilities upgrades and the modernization improvements would occur over an 18-month construction schedule for each school.

The construction activities for modernization improvements are expected to be small scale with small equipment, short duration, and mostly be contained within the existing buildings inside of the school property. Additionally, existing school buildings are mostly located farther away from the noise-sensitive land uses. Therefore, noise generated by the modernization improvements is not expected to result in significant noise impacts at noise-sensitive land uses. As such, the analysis of noise impacts during construction focused primarily on noise generation by demolition of existing structures, construction of new classroom building and parking lots, and construction of new athletic facilities, because the construction activities are located closer to the noise-sensitive land uses adjacent to the school sites and are expected to take longer duration with larger construction equipment. Table 2 summarizes the construction activities for the proposed project elements that would affect the noise-sensitive land uses adjacent to the school sites.

Onsite Construction Noise

Construction activities for the athletic facilities upgrades and new classroom building would require the use of heavy equipment that could temporarily increase noise levels at land uses near the work areas. Noise levels generated during construction would vary dependent on the types of

construction equipment used during construction activity, site geometry (i.e., shielding from intervening terrain or other structures), and the distance between the noise source and receiver. Noise from construction equipment would likely be audible at on- and off-site noise-sensitive land uses surrounding the work sites. Table 5 presents typical noise levels for various types of construction equipment that would be used for the athletic facilities upgrades. To evaluate the construction noise impacts at adjacent noise-sensitive land uses, construction equipment that would result in the highest noise level is used to estimate the noise levels at various distances from the construction sites, as shown in Table 6. Calculations assumed simultaneous operation of the three loudest pieces of equipment (a dozer, a grader, and a scraper) proposed to be used for the athletic facilities upgrades. The estimated construction noise levels reflect a conservative condition where the loudest pieces of equipment are assumed to operate simultaneously for a 1-hour period. In reality, construction activities would likely be intermittent, so actual noise levels could be somewhat lower than the estimated noise levels. The construction noise calculations are included in the Appendix 3.

Table 6. Estimated Construction Noise Levels

Noise-Sensitive Land Use Area	Closest distance to Construction Activities (feet)	Noise Level Leq (dBA)
R1	100 (athletic stadium and entry area in front of building 800)	77
R2	60 (athletic stadium)	83
R3	100 (baseball/softball complex)	77
R4	50 (tennis courts)	85
R5	150 (new classroom building)	72
R6	100 (parking lot, basketball courts, and landscape)	77
Crawford Classrooms	100 (athletic stadium and entry area in front of building 800)	77
Mann Classrooms	25 (new classroom building, parking lot, basketball courts, and landscape)	91

Leq = equivalent sound levels; dBA = A-weighted decibel.

Onsite noise levels are estimated based on noise generated from three loudest pieces of equipment proposed to be used for athletic facilities upgrades.

During the construction of proposed tennis courts, the estimated construction noise level would be as high as 85 dBA Leq at single-family residences (R4) to the north of proposed tennis courts. Although the actual noise levels could be lower than estimated noise levels, the construction noise at residential areas R1, R2, R3, R4, and R6 would exceed the City's noise limit of 75 dBA Leq[1]. In addition, the construction activities would also increase the noise levels at classrooms surrounding the construction sites over the noise limit of 75 dBA Leq. Therefore, when the construction activities occur near the residential areas and classrooms, the construction noise impact would be significant. Implementation of the Mitigation Measure 1 would reduce the potential noise impacts to a less-than-significant level.

Mitigation Measure 1: Implement construction site noise control measures

The District will require all contractors to adhere to the following noise abatement measures. An onsite construction supervisor will have the responsibility and authority to receive and resolve noise complaints. A clear appeal process to the District shall be established prior to construction commencement that will allow for resolution of noise problems through coordination directly between the District and the City that cannot be immediately solved by the site supervisor. The District will be responsible for ensuring implementation.

- Comply with manufacturers' muffler requirements on all construction equipment engines.
- Turn off construction equipment when not in use, where applicable.
- Locate stationary equipment as far as practical from receiving properties.
- Use temporary sound barriers or sound curtains[2] around loud stationary equipment when the construction activity would generate noise in excess of 75 dBA Leq over any 1-hour period at impacted residences and classrooms if the other noise reduction methods are not effective or possible to resolve a noise complaint.
- Provide advance written notification of construction activities to residences around the construction site. Notification will include a brief overview of the proposed construction activity and its purpose and schedule. It also will include the name and contact information of the Project manager or representative responsible for resolving any noise concerns.

As shown in Table 6, construction activities are not expected to cause the exceedance of City's noise limit (75 dBA Leq) at the residential area R5; however, the construction noise would likely be substantially higher than the typical ambient daytime noise levels (48 to 57 dBA) measured at these areas. This impact is considered to be significant because construction would result in a substantial temporary increase in noise. Implementation of Mitigation Measure 1 would reduce this impact to a less-than-significant level.

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[1] The City's noise ordinance specifically states that construction shall not exceed 75 dBA Leq at the property boundary of a land use that is zoned residential. For the purposes of this analysis, a noise threshold of 75 dBA Leq has been extended to classroom facilities for the project site as well, as the City does not designate a noise threshold for school related facilities with respect to noise.

[2] Sound curtains are modular flexible noise reduction curtains that are typically made of vinyl coated polyester with padded fiberglass absorbers. Sound curtains combine both noise blocking and noise absorbing features.

Onsite Construction Groundborne Vibration

The operation of heavy construction equipment can generate localized groundborne vibration at buildings adjacent to the construction site, especially during the operation of high-impact equipment, such as pile drivers. Vibration from non-impact construction activity and truck traffic is typically below the threshold of perception when the activity is more than about 50 feet from the noise-sensitive land uses (Federal Transit Administration 2006). Consequently, for construction activities without the use of high-impact equipment and construction sites that are more than 50 feet from noise-sensitive land uses, groundborne vibration impacts are expected to be less than significant.

Within the project area, the nearest single-family residences are about 50 feet to the construction sites of proposed tennis courts. Additionally, the project construction would not involve high-impact equipment, such as a pile driver. Therefore, the impact would be less than significant. No mitigation is required.

Operational Impacts

Long-term operational noise associated with the implementation of the Project including noise generated by new sources or increased level of activities at the school and noise generated by the increased Project traffic on local streets. Implementation of the modernization improvements would not cause the increase in vehicle traffic, but could involve with the installation of HVAC units at the new school buildings. Therefore, there could be operational noise impacts associated with the new noise source.

The new baseball field would not involve with the installation of sound-generating equipment or cause the substantial increase in sporting activities at the field. Noise generated by activities at the new baseball field is anticipated to be similar to noise generated by existing football/soccer activities at the current location, and there would be no operational noise impacts associated with the new complex. As such, the analysis of noise impacts associated with the implementation of the Project focused primarily on noise generation by activities at the new athletic stadium, traffic associated with the increased activities at the stadium, and new noise-generating equipment.

Onsite Operation Noise

The Project would build a new football/soccer stadium at the existing baseball/softball field with increased bleacher seating on the home and visitor sides to accommodate 2,250 persons. The new stadium would also equip with a new PA system and stadium lights. During the football/soccer games and other events, noise generally consist of pre-game music played from the loudspeakers, PA announcer during the games, fans cheering, and fans stomping on aluminum bleachers. Currently there are no lights at the stadium, which limits games to daylight hours. With the new stadium lights, the Project would shift most of the football games to evening hours, which may start as early as 6:30 p.m. and end about 9 p.m. The stadium would most likely be used for other sports and events as well, but football games are anticipated to attract the largest attendance and involve the most noise sources. Therefore, football games are the focus of this analysis.

The average noise levels generated during the football games are estimated using noise measurements taken at James Madison High School, which is within the San Diego Unified School District and was recently upgraded with similar athletic field improvements. Measurements were taken on November 2, 2012 during a nighttime football game with 1,021 attendees. A series of 5-minute measurements were taken from 6 pm to 8 pm at various locations ranging from 75 feet to 350 feet from the PA speakers and bleachers. Although the measurements were not taken for a one-hour period, the series of 5-minute measurements well represent the noise levels during the game. The results found that noise levels associated with PA speakers ranged from about 64 to 66 dBA Leq at 350 feet from the sources and noise levels associated with fan cheering ranged from 55 to 59 BA Leq at 350 feet from the sources. Noise levels were highly variable due to the impulsive nature of the noise sources (pregame music, PA announcer, band playing, and fans cheering). The results of the noise measurements and the anticipated noise levels generated by the future football games at the new football stadium are described in Appendix 2.

Based on the noise measurement at noise-sensitive land uses surrounding the James Madison High School stadium, noise levels generated by the pregame music and PA system during the games are summarized in Table 7. Noise-related impacts associated with fans cheering would be variable depending on the number of fans at specific events. The design capacity of the stadium would be approximately 2,250 spectators. Although the school expects actual typical attendance figures of 500–700 fans, the traffic impact study (KOA Cooperation 2013) conservatively evaluates the attendance based a projected future ticket sales of 434 for non-homecoming games and 775 for homecoming games with stadium lights. Based on the noise measurements for the football game with 1,021 attendees, noise levels associated with fan cheering ranged from 55 to 59 BA Leq at 350 feet; with 775 attendees, noise levels associated with fan cheering would range from 54 to 58 BA Leq at 350 feet. Table 7 summarized the noise levels generated by fans cheering during a sport event.

Table 7. Estimated Operation Noise Levels

Noise-Sensitive Land Use Area	Closest distance to Proposed Activities (feet)	Noise Level Leq (dBA)
R1	150 (athletic stadium)	67–71 (speakers) 61–65 (cheer)
R2	80 (athletic stadium)	68–75 (speakers) 67–71 (cheer)
R3	Similar to existing athletic activities	Same as existing
R4	600 (athletic stadium)	59–61 (speakers) 49–53 (cheer)
R5	170 (HVAC at new classroom building)	Below ambient level
R6	600 (athletic stadium)	59–61 (speakers) 49–53 (cheer)

Leq = equivalent sound levels; dBA = A-weighted decibel.

As shown in Table 7, the estimated noise levels during a football event are greater than the existing ambient noise level (48–56 dBA Leq) and would exceed the City noise limits shown in Table 4 (50 dBA Leq between 7 a.m. and 7 p.m. and 45 dBA between 7 p.m. and 10 p.m. for single-family residences; 55 dBA Leq between 7 a.m. and 7 p.m. and 50 dBA between 7 p.m. and 10 p.m. for multi-family residences). Football games and other events would occur periodically, and noise levels would be intermittent and variable depending on the size of the crowd and the number of PA announcements. Nevertheless, operation of the new athletic stadium would result in significant noise impacts at nearby residential areas R1, R2, R4, and R6. Implementation of the Mitigation Measure 2 would reduce the potential noise impacts during the games and other events to the extent feasible. However, noise levels still have the potential to exceed the City noise limits at single-family residences to west of the stadium. This impact is therefore considered to be significant and unavoidable.

Mitigation Measure 2: Implement noise-reduction design features as part of the stadium design

The District will ensure that noise-reduction design features, as described in the Project description, are implemented to the extent feasible to reduce the potential noise impacts during the football games and other events. The District will retain a qualified acoustical consultant to review the design of the proposed PA system and any sound attenuation measures to be implemented to reduce noise impacts on nearby residences. Measures that can be used to reduce noise include but are not limited to:

- Design the PA system to provide adequate speech intelligibility to the seating areas while maintaining minimal sound transmission to adjacent residential areas. This can be accomplished by using a distributed speaker system that utilizes a large number of small speakers distributed throughout the seating area as opposed to several large speakers mounted high on poles. The speakers should be highly directional to focus sound energy on the seating area.
- Add shielding materials along the back of the bleachers to block the line of sight between the crowd and adjacent residences.

The Project would construct a new classroom building at the northeast corner of the 54th Street/Trojan Avenue intersection and could include the installation of HVAC units at the new building. HVAC units are typically considered noise generating sources and could potentially cause noise concerns at noise-sensitive uses adjacent to the equipment. The HVAC units for the new classroom building are expected to be installed on the roof or adjacent to the building, and would be approximately 160 feet to the residential uses (R5) on the west side of 54th Street. Because traffic on 54th Street is the dominant noise source in the vicinity, the HVAC units would not generate noise that would be audible to nearby residential uses (R5). The noise impact associated with the operation of HVAC units would be less than significant.

Onsite Operation Groundborne Vibration

Operation of the Project would be similar to the existing activities conducted within the Project site, which are not expected to involve the use of heavy construction equipment or high-impact equipment, such as pile drivers. Therefore, the impact would be less than significant.

Traffic Noise

There is no city ordinance and regulation that would be applicable to traffic noise generated by increase Project vehicle trips. To evaluate the traffic noise impact, a substantial increase of 3 dBA, which is generally considered to be the threshold of a perceptible change, is used for the assessment.

During the football/soccer game events, Project-generated traffic would mostly travel on 54th Street, 56th Street, and Trojan Avenue to access the parking lot on Trojan Avenue. In the project vicinity, noise-sensitive land uses along these streets could be affected by the increased traffic noise caused by the Project. Table 8 summarizes the increase in traffic noise levels (Leq) during peak hour along 54th Street, 56th Street, and Trojan Avenue as a result of Project-generated traffic. Traffic noise levels (Leq) were estimated based on the evening peak traffic volumes that are predicted to occur for a homecoming game. The calculation of traffic noise levels is included in Appendix 4.

As shown in Table 8, traffic noise is expected to increase by less than 3 dB as a result of the Project under both existing and cumulative conditions. 2035 Cumulative plus Project traffic noise levels along Project-access streets are also expected to increase by less than 3 dB compared to the existing no project condition. Therefore, the Project would not result in in an increase in traffic noise that is greater than 3 dB under any of the conditions evaluated. The traffic noise impact is therefore less than significant. No mitigation is required.

Table 8. Estimated Traffic Noise Increase Resulting from Athletic Facilities Upgrades

Street	Segment	Distance to Center of Road (feet)	No Project Condition Leq (dBA)	With Project Condition Leq (dBA)	Project Contribution to Noise Increase (dBA)
		2012 Existing Condition			
54th Street	South of Trojan Avenue	80	63.0	63.2	0.2
56th Street	North of Trojan Avenue	60	52.4	54.2	1.8
Trojan Avenue	East of 54th Street	60	56.8	59.3	2.5
		2035 Cumulative Condition			
54th Street	North of Trojan Avenue	80	63.4	63.6	0.2
56th Street	North of Trojan Avenue	60	52.8	54.4	1.6
Trojan Avenue	East of 54th Street	60	57.1	59.5	2.4

Building Interior Noise Levels

The Project would be required to meet the interior noise standard of 45 dBA CNEL for the new classroom building on 54th Street in the Mann Middle School because the building would be exposed to the exterior traffic noise level in excess of 60 dBA (see Table 8 and Appendix 4). Based on the projected traffic on 54th Street, the exterior traffic noise level at the building is estimated to be approximately 65 dBA CNEL under the cumulative plus Project condition. Project building materials would need to be designed to provide an exterior to interior sound reduction of 20 dB for classrooms facing the street. Normal construction materials and techniques will typically provide a minimum reduction of 15 dB in exterior to interior sound levels if there are no openings such as windows, doors, or ventilation ports on the sides of the buildings that are exposed to traffic noise. Therefore, the classrooms facing 54th Street could experience interior noise levels exceeding the noise standards of 45 dBA CNEL. This noise impact at the building is therefore potentially significant. Implementation of Mitigation Measure 3 would reduce this impact to a less-than-significant level because it requires calculation of interior noise levels based on final site plans.

Mitigation Measure 3: Conduct site-specific building acoustical analysis and implement noise control treatments where required.

A qualified acoustical consultant will review final site plans, building elevations, and floor plans prior to construction to calculate expected interior noise levels as required by state noise regulations. Project-specific acoustical analyses are required by the California Building Code to confirm that the design results in interior noise levels reduced to 45 dBA CNEL or lower. The specific determination of what noise insulation treatments are necessary will be completed on a unit-by-unit basis. Results of the analysis, including the description of the necessary noise control treatments, will be submitted to the District along with the building plans, and will be approved prior to issuance of a building permit.

Special building techniques (e.g., sound-rated windows and building façade treatments) will be implemented as recommended by the qualified acoustical consultant to maintain interior noise levels at or below acceptable levels. These treatments may include, but are not limited to, sound rated windows and doors, sound rated wall constructions, acoustical caulking, protected ventilation openings, etc. Preliminary calculations indicate that classrooms nearest to and facing 45th Street with direct line of sight to the roadway would require sound rated windows and doors to assure that the interior average noise level guidelines are met.

Airport Noise

The nearest airport is the Montgomery Field Airport, located approximately 5 miles northwest of the Project. There is no other private airstrip or public airport located within the immediate vicinity of the Project. The Project would not expose facility or students to excessive noise levels from airport or aircraft operations. Therefore, there would be no aircraft noise impact.

Cumulative Impacts

Project construction would result in a temporary increase in noise levels in the immediate vicinity of the construction areas; however, the noise impact would be reduced to be less than significant with the implementation of Mitigation Measure 1. There are no other approved or planned projects in the vicinity of the Project that would be constructed in during the same construction period of the Project. Therefore, construction noise would not contribute to the cumulatively considerable impact.

Project operation could generate elevated noise levels from the new athletic stadium during game events. Implementation of Mitigation Measure 2 would reduce the noise impact but the impact from the football/soccer games would still be significant and unavoidable. However, the onsite noise impact from the games would be highly localized and there are no other approved or planned projects in the immediate vicinity of the Project that would generate noise to the ambient noise environment. Furthermore, traffic generated by the games would not result in cumulative traffic noise impact. Therefore, project operational noise and project-related traffic noise would not contribute to a cumulatively considerable impact.

References

California Department of Transportation. 2009. Caltrans Technical Noise Supplement. November. Available: http://www.dot.ca.gov/hq/env/noise/. Accessed: August 14, 2012.

City of Citrus Heights. 2000. Stock Ranch Guide for Development, Draft Environmental Impact Report, Section 4.3 Noise. Available: <http://www.citrusheights.net/home/index.asp?page=910>. Accessed: January 2013.

Federal Highway Administration. 2006. FHWA roadway construction noise model user's guide. FHWA-HEP-05-054. January.

Federal Transit Administration. 2006. Transit noise and vibration impact assessment. FTA-VA-90-1003-06. Office of Planning and Environment.

KOA Cooperation. 2013. Traffic Impact Study for Crawford High School Sports Field Modernization. Prepared for ICF International and San Diego Unified School District. August 27. San Diego, CA

Appendix 1

Ambient Noise Measurement

FIELD NOISE MEASUREMENT DATA

Jones & Stokes

PROJECT: **Crawford High School/Mann Middle School** PROJ. #

SITE IDENTIFICATION: ST 7 WALL (CRAWFORD HS) OBSERVER(S): Peter Hardie
ADDRESS: 191 COLTS WAY
START DATE / TIME: 1/5 3-22-13 END DATE / TIME:

METEROLOGICAL CONDITIONS:
TEMP: 68 °F HUMIDITY: 53 %R.H. WIND: CALM LIGHT MODERATE VARIABLE
WINDSPEED: 0-2 MPH DIR: N NE E SE S SW W NW STEADY GUSTY
SKY: SUNNY CLEAR OVRCST PRTLY CLOUDY FOG RAIN OTHER:

ACOUSTIC MEASUREMENTS:
INSTRUMENT: RION NL-21 TYPE: 1 2 SERIAL #: 76766 / 676771
CALIBRATOR: CD CAL 200 SERIAL #: 66615
CALIBRATION CHECK: PRE-TEST 114.0 dBA SPL POST-TEST 114.0 dBA SPL WINDSCREEN

SETTINGS: A WEIGHTED SLOW FAST FRONTAL RANDOM ANS OTHER:

REC #	START	END	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	OTHER:	(TYPE?)	
ST-7	1:5	1:30	61.9	68.8	42.5	45.2	48.7	54.8			

COMMENTS: NOISE SOURCE IS FROM TRAFFIC ALONG SHARPSONT ORANGE. MOST RESIDENTS IN NEIGHBORHOOD

SOURCE INFO AND TRAFFIC COUNTS:
PRIMARY NOISE SOURCE: TRAFFIC AIRCRAFT RAIL INDUSTRIAL AMBIENT OTHER:
ROADWAY TYPE:
TRAFFIC COUNT DURATION: ____-MIN

	SPEED NB / EB	SPEED SB / WB	#2 COUNT NB / EB	#2 COUNT SB / WB	SPEED NB / EB	SPEED SB / WB
AUTOS:						
MED. TRUCKS:						
HVY TRUCKS:						
BUSES:						
MOTORCYCLES:						

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER SOURCES: DIST. AIRCRAFT / RUSTLING LEAVES / DIST. BARKING DOGS / BIRDS / DIST. INDUSTRIAL
DIST. CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING ACTIVITIES / OTHER:

DESCRIPTION / SKETCH:
TERRAIN: HARD SOFT MIXED FLAT OTHER: PROJECTED (TRUNK)
PHOTOS: 123 NWS
OTHER COMMENTS / SKETCH:

FIELD NOISE MEASUREMENT DATA

Jones & Stokes

PROJECT: **Crawford High School/Mann Middle School** PROJ. #

SITE IDENTIFICATION: ST-2 OBSERVER(S): Peter Hardie
ADDRESS: 4232 Sharon Pl
START DATE / TIME: 1:45 3-22-13 END DATE / TIME:

METEROLOGICAL CONDITIONS:
TEMP: 68 °F HUMIDITY: 54 %R.H. WIND: CALM LIGHT MODERATE VARIABLE
WINDSPEED: 4-6 MPH DIR: N NE E SE S SW W NW STEADY GUSTY
SKY: SUNNY CLEAR OVRCST PRTLY CLOUDY FOG RAIN OTHER:

ACOUSTIC MEASUREMENTS:
INSTRUMENT: RION NL-21 TYPE: 1 2 SERIAL #: 67671
CALIBRATOR: CD CAL200 SERIAL #: 6645
CALIBRATION CHECK: PRE-TEST 114.0 dBA SPL POST-TEST 114.0 dBA SPL WINDSCREEN U

SETTINGS: A-WEIGHTED SLOW FAST FRONTAL RANDOM ANSI OTHER:

REC #	START	END	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	OTHER:	(TYPE?)	
ST-2	1:45	2:00	50.4	74.2	41.6	44.3	48.9	59.4			

COMMENTS: Primary noise is from traffic on Sharon Pl. Also from local Elementary school - children playing.

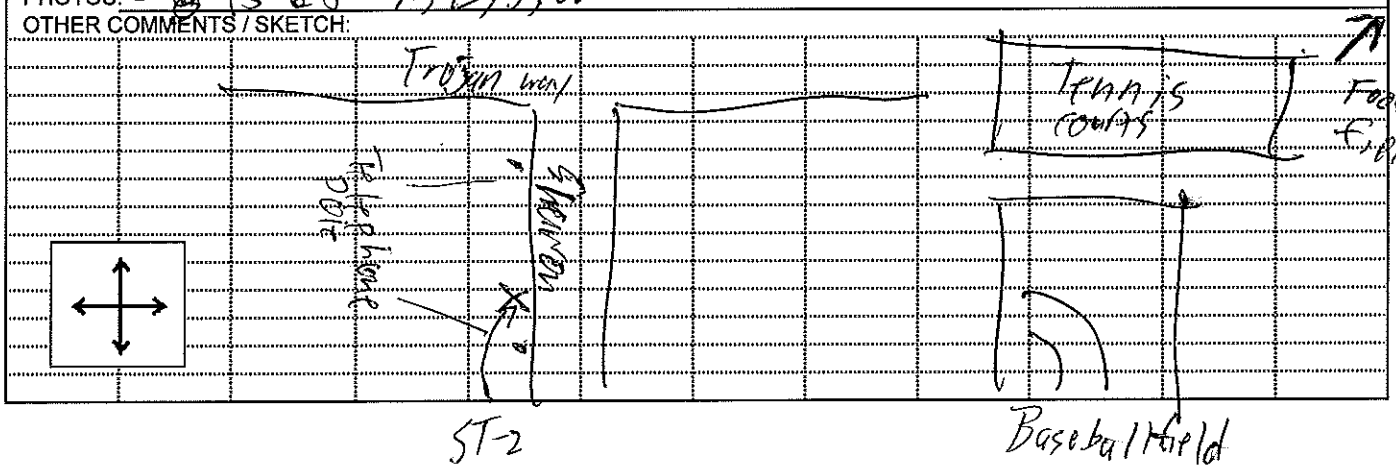
SOURCE INFO AND TRAFFIC COUNTS:
PRIMARY NOISE SOURCE: TRAFFIC AIRCRAFT RAIL INDUSTRIAL AMBIENT OTHER:
ROADWAY TYPE:
TRAFFIC COUNT DURATION: ____-MIN

	SPEED NB / EB	SPEED SB / WB	#2 COUNT NB / EB	#2 COUNT SB / WB	SPEED NB / EB	SPEED SB / WB
AUTOS:						
MED. TRUCKS:						
HVY TRUCKS:						
BUSES:						
MOTORCYCLES:						

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER SOURCES: DIST. AIRCRAFT / RUSTLING LEAVES / DIST. BARKING DOGS / BIRDS / DIST. INDUSTRIAL DIST. CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING ACTIVITIES / OTHER:

DESCRIPTION / SKETCH:
TERRAIN: HARD SOFT MIXED FLAT OTHER:
PHOTOS: 3 4 5 6 7 N, E, S, W
OTHER COMMENTS / SKETCH:



FIELD NOISE MEASUREMENT DATA

Jones & Stokes

PROJECT: **Crawford High School/Mann Middle School** PROJ. #

SITE IDENTIFICATION: ST-3 OBSERVER(S): Peter Hardie
ADDRESS: ON FOOTBALL FIELD
START DATE / TIME: 2:45 3-22-13 END DATE / TIME:

METEROLOGICAL CONDITIONS:
TEMP: 69 °F HUMIDITY: 53 %R.H. WIND: CALM LIGHT MODERATE VARIABLE
WINDSPEED: 5-7 MPH DIR: N NE E SE S SW W NW STEADY GUSTY
SKY: SUNNY CLEAR OVRCST PRTLY CLOUDY FOG RAIN OTHER:

ACOUSTIC MEASUREMENTS:
INSTRUMENT: RION NL-21 TYPE: 1 SERIAL #: 676771
CALIBRATOR: LD-200 SERIAL #: 6645
CALIBRATION CHECK: PRE-TEST 114.0 dBA SPL POST-TEST 114.0 dBA SPL WINDSCREEN ✓

SETTINGS: A-WEIGHTED SLOW FAST FRONTAL RANDOM ANSI OTHER:

REC #	START	END	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	OTHER:	(TYPE?)
ST-3	2:45	3:00	48.3	63.4	41.1	43.5	46.4	51.0		

COMMENTS: 30 Students doing athletic activity approx 100-150' Away
Traffic on Trojan, Distant school Buzzers/Bells

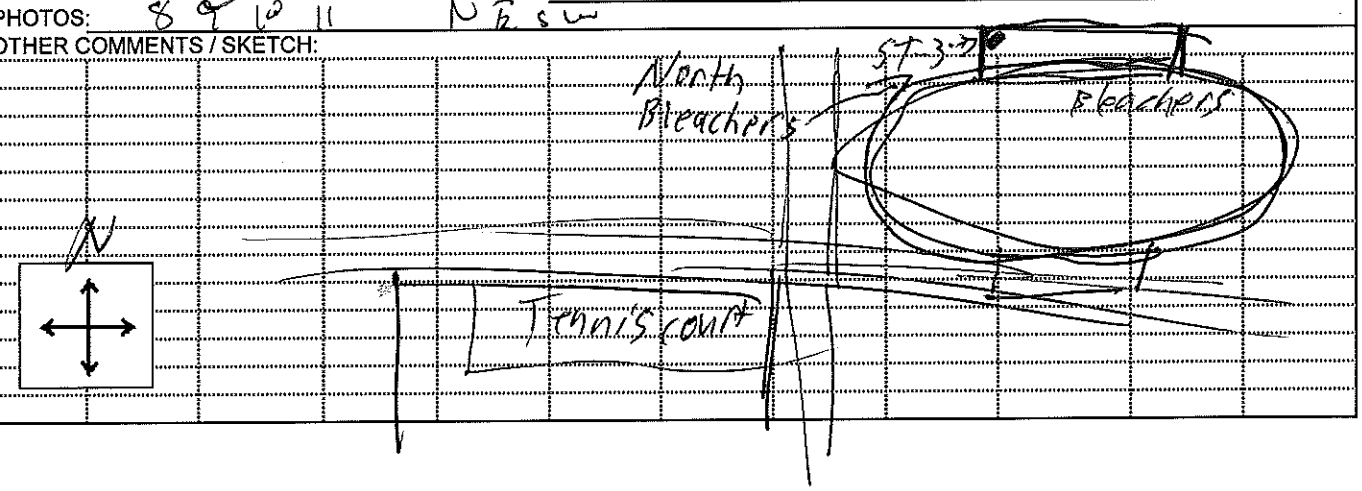
SOURCE INFO AND TRAFFIC COUNTS:
PRIMARY NOISE SOURCE: TRAFFIC AIRCRAFT RAIL INDUSTRIAL AMBIENT OTHER: Children Athletic activity
ROADWAY TYPE:
TRAFFIC COUNT DURATION: ____-MIN

	SPEED NB / EB	SPEED SB / WB	#2 COUNT NB / EB	#2 COUNT SB / WB	SPEED NB / EB	SPEED SB / WB
AUTOS:						
MED. TRUCKS:						
HVY TRUCKS:						
BUSES:						
MOTORCYCLES:						

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER SOURCES: DIST. AIRCRAFT / RUSTLING LEAVES / DIST. BARKING DOGS / BIRDS / DIST. INDUSTRIAL
DIST. CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING ACTIVITIES / OTHER:

DESCRIPTION / SKETCH:
TERRAIN: HARD SOFT MIXED FLAT OTHER:
PHOTOS: 8 9 10 11 N E S W
OTHER COMMENTS / SKETCH:



FIELD NOISE MEASUREMENT DATA

Jones & Stokes

PROJECT: **Crawford High School/Mann Middle School** PROJ. #

SITE IDENTIFICATION: ST-4 OBSERVER(S): Peter Hardie
ADDRESS: 5600 VALE
START DATE / TIME: 9:25 3-22-13 END DATE / TIME:

METEROLOGICAL CONDITIONS:
TEMP: 70 °F HUMIDITY: 42 %R.H. WIND: CALM LIGHT MODERATE VARIABLE
WINDSPEED: 6-8 MPH DIR: N NE E SE S SW W NW STEADY GUSTY
SKY: SUNNY CLEAR OVRCST PRTLY CLOUDY FOG RAIN OTHER:

ACOUSTIC MEASUREMENTS:
INSTRUMENT: RION NL-21 TYPE: 1 2 SERIAL #: 676771
CALIBRATOR: CAL 200 SERIAL #: 6645
CALIBRATION CHECK: PRE-TEST 114.0 dBA SPL POST-TEST dBA SPL WINDSCREEN ✓

SETTINGS: A-WEIGHTED SLOW FAST FRONTAL RANDOM ANSI OTHER:

REC #	START	END	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	OTHER:	(TYPE?)
674	9:25	9:40	48.2	64.0	42.0	43.5	45.4	50.1		

COMMENTS:

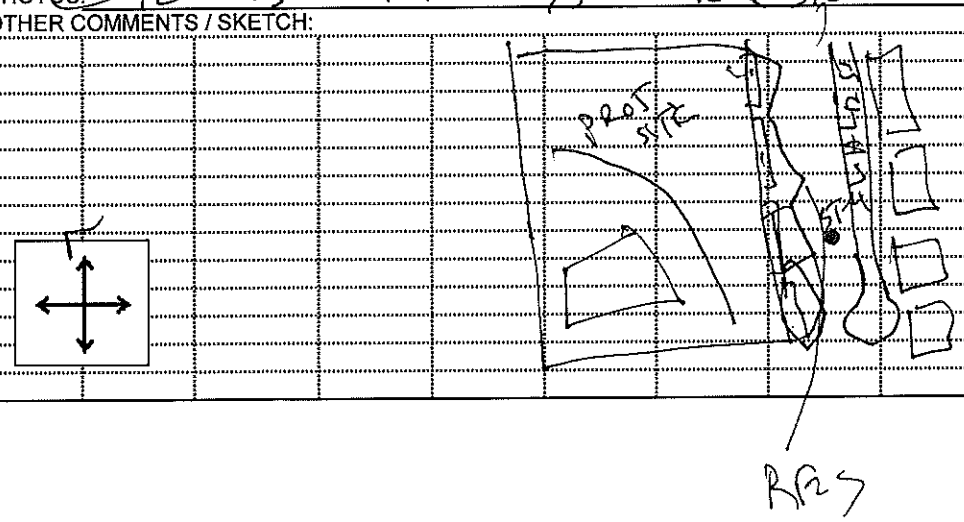
SOURCE INFO AND TRAFFIC COUNTS: 7 ON
PRIMARY NOISE SOURCE: TRAFFIC AIRCRAFT RAIL INDUSTRIAL AMBIENT OTHER: WIND CHIME IN DISTANCE, WIND, HIGH SCHOOL PLAYING BASEBALL
ROADWAY TYPE:
TRAFFIC COUNT DURATION: -MIN

	SPEED NB / EB	SPEED SB / WB	#2 COUNT NB / EB	#2 COUNT SB / WB	SPEED NB / EB	SPEED SB / WB
AUTOS:						
MED. TRUCKS:						
HVY TRUCKS:						
BUSES:						
MOTORCYCLES:						

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER SOURCES: DIST. AIRCRAFT / RUSTLING LEAVES / DIST. BARKING DOGS / BIRDS / DIST. INDUSTRIAL
DIST. CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING ACTIVITIES / OTHER:

DESCRIPTION / SKETCH:
TERRAIN: HARD SOFT MIXED FLAT OTHER:
PHOTOS: 12 13 14 15 N & S, W
OTHER COMMENTS / SKETCH:



FIELD NOISE MEASUREMENT DATA

Jones & Stokes

PROJECT: **Crawford/Mann** PROJ. #

SITE IDENTIFICATION: ST-5 OBSERVER(S): Peter Hardie
ADDRESS: Horace Mann Middle School
START DATE / TIME: 4/14 10:15 END DATE / TIME: 4/14 10:30

METEROLOGICAL CONDITIONS:
TEMP: 78.0 °F HUMIDITY: 60 %R.H. WIND: CALM LIGHT MODERATE VARIABLE
WINDSPEED: 0-1 MPH DIR: N NE E SE S SW W NW STEADY GUSTY
SKY: SUNNY CLEAR OVRCST PRTLY CLOUDY FOG RAIN OTHER:

ACOUSTIC MEASUREMENTS:
INSTRUMENT: LD 812 TYPE: 1 2 SERIAL #: 0432
CALIBRATOR: Cal 200 SERIAL #: 6645
CALIBRATION CHECK: PRE-TEST 113.9 dBA SPL POST-TEST 114.1 dBA SPL WINDSCREEN ✓

SETTINGS: A-WEIGHTED SLOW FAST FRONTAL RANDOM ANSI OTHER:

REC #	START	END	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	OTHER:	(TYPE?)
ST-5	10:15	10:30	57.4	66.8	43.4	48.3	~~[illegible]~~	61.4		
							54.8			
	10:30	10:45	53.7	64.9	44.6	47.0	51.4	57.0		

COMMENTS: Primary Noise from Intersection of 54th + Trojan
Periodic Helicopter circling above. Children playing on far end of school at unknown distance.
– School Bell ringing and children changing classes.

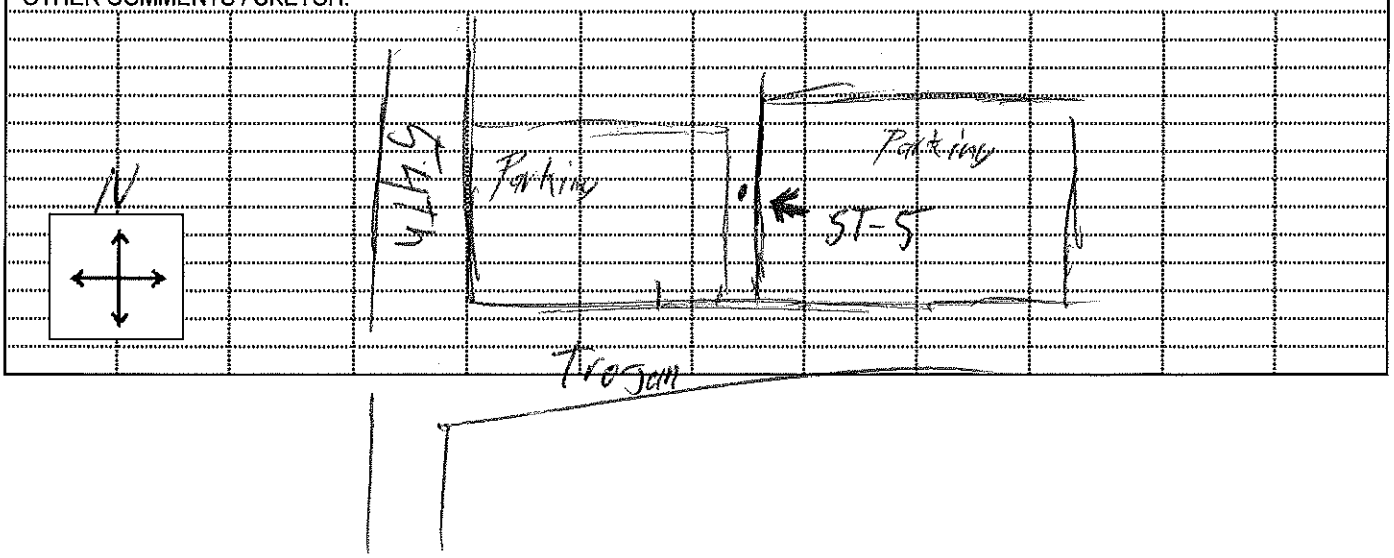
SOURCE INFO AND TRAFFIC COUNTS:
PRIMARY NOISE SOURCE: TRAFFIC AIRCRAFT RAIL INDUSTRIAL AMBIENT OTHER:
ROADWAY TYPE:
TRAFFIC COUNT DURATION: ____-MIN

	SPEED NB / EB	SPEED SB / WB	SPEED NB / EB	SPEED SB / WB	#2 COUNT NB / EB	#2 COUNT SB / WB	SPEED NB / EB	SPEED SB / WB
AUTOS:								
MED. TRUCKS:								
HVY TRUCKS:								
BUSES:								
MOTORCYCLES:								

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER SOURCES: DIST. AIRCRAFT / RUSTLING LEAVES / DIST. BARKING DOGS / BIRDS / DIST. INDUSTRIAL
DIST. CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING ACTIVITIES / OTHER:

DESCRIPTION / SKETCH:
TERRAIN: HARD SOFT MIXED FLAT OTHER:
PHOTOS: 1, 2, 3 – E, S, N.
OTHER COMMENTS / SKETCH:



Appendix 2

Noise Impact Analysis for New Football Stadium

Memorandum

Date:	02/01/2013
To:	Kathryn Ferrell San Diego Unified School District
Cc:	
From:	Peter Hardie Noise Analyst
Subject:	**Crawford High School and Mann Middle School Modernization Project**

Introduction

Crawford High School and Mann Middle School have proposed upgrading their athletic facilities, which could result in increased noise impacts on sensitive receptors surrounding the athletic facilities during sporting events. ICF International noise engineers analyzed noise levels at an existing similar facility to predict possible noise-related impacts and present potential mitigation measures to reduce such impacts. The following analysis is based on noise measurements conducted at a nighttime football game held at James Madison High School on November 2, 2012. Figure 1 (see attachments) shows the specific locations of all noise measurements. Field data sheets and a list of noise terminology are also provided as attachments to this report.

Case Study: James Madison High School Football Game

Noise-sensitive land uses surrounding the James Madison High School football stadium include residences located immediately across Mount Abernathy Avenue to the east and the Church of Jesus Christ of Latter Day Saints across Mount Abernathy Avenue to the southeast.

Methodology

Short-term noise measurements were taken at four locations at and surrounding the football stadium to establish the existing ambient noise environment. The measurements were taken on Friday, November 2, 2012, by an ICF acoustical engineer using a Larson Davis Model 812 type 1 sound level meter (meter). Measurements were 5 minutes in length; however, instantaneous specific noise events (such as loud cheers from the crowd, the band playing, etc.) were noted during

each measurement. Measurements were conducted with the meter mounted on a tripod with a wind screen to reduce the effects of wind-related interference. A calibrator (Larson Davis Cal 200) was used to ensure the calibration of the meter before and after each measurement. Noise metrics including L_{eq} and L_{max} noise descriptors (see terminology attachment for definitions) were recorded subsequent to the conclusion of each measurement. Weather conditions at the time of the measurements were noted along with existing noise sources. Due to the presence of amplified music prior to the start of the game, only one ambient measurement was acquired. The ambient noise measurement was taken during a 3-minute lull between the pre-game music ending and the public address (PA) announcer beginning at measurement site 2 (listed in Table 1 below). This occurred at shortly after 6 p.m. Ambient noise levels in the vicinity of the project were approximately 54 dBA. This noise level is considered to be representative for the residences along Mount Abernathy Avenue (measurement sites 2–4).

Stadium-Related Measurements

Measurement locations and respective noise data are summarized in Table 1.

Table 1. Short-Term Noise Measurement Data (dBA) (November 2, 2012)

Site	Location (Distance)	Time (p.m.)	L_{max} Noise Event	L_{eq}	L_{max}
1	On site west of the stadium behind the home bleachers (approximately 75 feet behind the home bleachers)	5:45–5:50	Speakers (music before game)	69.8	76.2
		6:40–6:45	Cheer	71.5	81.7
		6:50–6:55	Cheer	68.2	76.9
2	4877 Mount Abernathy Avenue—northeast side of the stadium (approximately 350 feet from the northern light pole with loud speaker on the visitor side)	5:57–6:02	Speakers (music before game)	64.7	73.3
		6:55–7:00	Speakers (PA system)	63.5	74.1
		7:15–7:20	Speakers (PA system)	66.0	70.1
3	4785 Mount Abernathy Avenue—east side of the stadium (approximately 75 feet behind the visitors bleachers)	6:07–6:12	Speakers (PA system)	73.3	82.1
		7:40–7:45	Band	64.1	72.0
		7:50–7:55	Speakers (PA system)	68.4	78.7

Site	Location (Distance)	Time (p.m.)	L_{max} Noise Event	L_{eq}	L_{max}
4	5903 Lana Drive, corner of Lana Drive and Mount Abernathy Avenue—southeastern side of the stadium (approximately 175 feet from the southern light pole with loud speaker on the visitor side)	6:07–6:12	Speakers (PA system)	66.2	71.7
		8:00–8:05	Speakers (PA system)	69.6	79.5

Discussion

Noise levels acquired during field measurements ranged from approximately 64 dBA L_{eq} to approximately 73 dBA L_{eq} (when rounded to the nearest whole number). Noise levels were highly variable due to the impulsive nature of the noise sources (PA announcer, band, cheering). During field measurements a number of residents approached ICF staff to voice concerns regarding noise from the football stadium. Neighbor concerns included noise from the following.

- Music prior to game commencement.
- PA announcer during game.
- Fans stomping on the bleachers during the game.

Music prior to the commencement of the game originated from four pole-mounted speakers located on light poles along the east and west sides of the field. Vertical distance from the ground to the speakers was estimated to be approximately 50 feet above ground surface (ags). During field measurements noise levels associated with music ranged from 65 dBA L_{eq} at measurement site 2 to approximately 70 dBA L_{eq} at measurement site 1. Maximum noise levels measured during these activities were 74 dBA L_{max} at measurement site 2 and 76 dBA L_{max} at measurement site 1. Noise levels associated with pregame music were not acquired at sites 3 and 4 because the music was shut off prior to ICF staff conducting noise measurements at these locations. However, based on the relative geometry (measurements sites 1 and 3 and measurement sites 2 and 4) being similar with respect to distance from source to receiver, noise levels would likely be comparable at sites 3 and 4. Noise levels of this nature represent an approximate 12 to 16 dB increase over measured ambient noise levels in the surrounding area.

Subsequent to the pregame music, the PA announcer began, which was the primary noise source before the start of the game. Measured noise levels before and during the game that were affected by the PA announcer ranged from 64 dBA L_{eq} at measurement site 2 to approximately 73 dBA L_{eq} at measurement site 3. Noise levels of this nature represent an approximate 10 to 19 dB increase over measured ambient noise levels in the surrounding area. Maximum noise levels measured during these periods were 74 dBA L_{max} at measurement site 2 and 82 dBA L_{max} at measurement site 3.

Other sources of noise included people walking and periodically stomping the aluminum bleachers, the bands from both high schools playing, and fans cheering. During field measurements fans stomping the bleachers was sporadic, and at no time during the measurement did fans stomp in unison. As measured, fans periodically stomping on the bleachers produced noise levels of

approximately 60 and 65 dBA at measurement sites 3 and 1, respectively. Two measurements of the bands playing were taken, at measurement sites 2 and 3, and noise levels were approximately 63 and 67 dBA, respectively. Noise from fans cheering was also highly variable, with instantaneous noise levels ranging from around 70 to 80 dBA, at measurement sites 2 and 1, respectively.

Crawford–Mann Stadiums

As part of the athletic upgrades the existing football/soccer field and track off site at the northeastern corner of 56th Street and Trojan Avenue would be upgraded and a new baseball/softball complex with bleacher seating for 120 persons installed. Bleachers would be located on the northern and southern sides of the field to accommodate a total of 240 persons. Across 56th Street from the proposed baseball/softball complex within the existing boundaries of Mann Middle School, six tennis courts would be constructed, along with 70 parking spaces, which would serve as future Crawford High School overflow parking and tennis courts.

Other athletic facility improvements would involve replacing the existing baseball field, six tennis courts, the administration building, Buildings 100 and 200, and the 75 visitor parking spaces along Sharron Place with an athletic stadium that would accommodate a variety of athletic events and activities. The stadium and would include a football field, shot put, pole vault, discus, high jump, and long jump facilities. Bleacher seating on the western and eastern sides of the stadium would include 1,500 home seats and 750 visitor seats, respectively, and pedestrian access would be maintained behind both sets of bleachers. Lighting would be provided behind both sets of bleacher seats and would consist of six 80-foot-tall stadium light poles with three poles on either side of the complex.

The existing land uses surrounding these proposed facilities are similar in nature to the existing James Madison High School stadium, in that residential land uses are located close to the proposed stadium and baseball/softball complex. The proposed baseball/softball complex would be bound by residences on the north and south sides of the complex. The proposed stadium would be bound on the east and west by residences. Ambient noise levels surrounding the proposed project site are likely similar to ambient noise levels measured during field measurements at James Madison High School. Therefore, an ambient noise level in the mid-50s dBA is realistic. Taking into account the similar geometry of the proposed locations, it is likely that noise levels would be similar to the James Madison case study, as listed in Table 1 above. From this perspective, noise-related issues/complaints could be similar, including noise from pregame music, PA announcements, band noise, and crowd noise such as stomping on the aluminum bleachers and fans cheering. Noise-related impacts associated with fans cheering would be variable depending on the number of fans at specific events.

The design capacity of the stadium would be approximately 2,250 spectators; however, the school expects actual typical attendance figures of 500–700 fans. Based on a noise level of 65 dBA (raised male voice at a distance of 1 meter or 3.28 feet) [1], a worst-case assumed noise scenario with 700

1 Harris, Cyril M., ed. 1979. Handbook of Noise Control. Second Edition. New York: McGraw-Hill, Inc.

individuals cheering would result in a noise level of approximately 70 dBA at a distance of 50 feet. Noise from cheering could be louder as referenced by the above-measured noise levels. Residences located across 56th Street and Sharron Place would likely experience intermittent noise levels of this magnitude during games at the stadium.

Noise design considerations that could reduce noise impacts for surrounding residential land uses include loudspeaker systems with a high level of directionality to focus the sound to the stands. The system could include shrouds to reduce spillover effects from music and PA announcements. Other design considerations include lowering the height of the PA speakers and reducing the speaker power. This would reduce noise levels; however, due to the location of residences on both sides of the facilities, significant noise reduction would not be possible. Other design considerations that would help to reduce noise associated with the potential noise issues would be to include solid backing on the bleachers so as to attenuate noise, and/or the application of noise attenuating foam or heavy rubber mats on the underside of the bleachers to dampen noise from fans stomping on bleachers. Administrative actions that could be taken would involve a strict no-stomping policy, which would have to be enforced during athletic events.

Conclusion

The primary noise sources from the existing James Madison High School football stadium case study were as follows.

- Pre-game music being played from the loudspeakers.
- PA announcer during the games.

Other, intermittent noise sources associated with the stadium are the home and visitor bands, fans cheering, and fans stomping on aluminum bleachers.

Noise-related impacts associated with the improvements to the Crawford Mann stadium design would likely be similar to the above-referenced James Madison case study. Noise from pregame music and the PA system would likely be similar in magnitude, 65–70 dBA and 64–73 dBA, respectively, dependent on the distance from the source to the receiver. Noise from speakers could be reduced to a certain extent by including directional speakers and shrouds that channel the output. Noise levels associated with cheering would be intermittent and variable, depending on the number of fans in attendance. Noise resulting from fans stomping on bleachers could also be a significant noise source. However, design considerations such as placing a back on the bleachers or applying certain industrial coatings to the seats could help to reduce such noise impacts.

Attachment 1

Figures

K:\San Diego\projects\SD Unified School District\00912 11 Crawford\mapdoc\Noise\Fig01 Noise.mxd 12/3/2012 19542

Figure 1
Noise Measurement Locations
Crawford High School & Mann Middle School Modernization Project

Attachment 2

Field Data Sheets

FIELD NOISE MEASUREMENT DATA

Jones & Stokes

PROJECT: **Madison High School Stadium** PROJ. #

SITE IDENTIFICATION: MADISON HS OBSERVER(S): Mike Greene/Peter Hardie
ADDRESS:
START DATE / TIME: 5:45 11-2-12 END DATE / TIME:

METEROLOGICAL CONDITIONS:
TEMP: 65 °F HUMIDITY: 42 %R.H. WIND: CALM LIGHT MODERATE VARIABLE
WINDSPEED: 13 MPH DIR: N NE E SE S SW W NW STEADY GUSTY
SKY: SUNNY CLEAR OVRCST PRTLY CLOUDY FOG RAIN OTHER:

ACOUSTIC MEASUREMENTS:
INSTRUMENT: LD 812 TYPE: 1 2 SERIAL #: 0432
CALIBRATOR: CAL 200 SERIAL #: 6041
CALIBRATION CHECK: PRE-TEST 114.0 dBA SPL POST-TEST 114.0 dBA SPL WINDSCREEN ✓
SETTINGS: A WEIGHTED SLOW FAST FRONTAL RANDOM ANSI OTHER:

REC #	START	END	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	OTHER:	(TYPE?)
#1	5:45	5:50	69.8	76.2	53.2	65.3	69.5	72.0		
#2	5:57	6:00	64.7	72.2	53.4	58.6	67.0	68.4		
#2	6:00	6:05	59.3	68.5	51.1	53.9	58.3	61.9		

DKS 1015 HOMER BLEACHERS
4877 MT ADERMATH AVE

COMMENTS: NOISE SOURCE IS PRE-GAME MUSIC SPEAKERS AND DIRECTIONAL

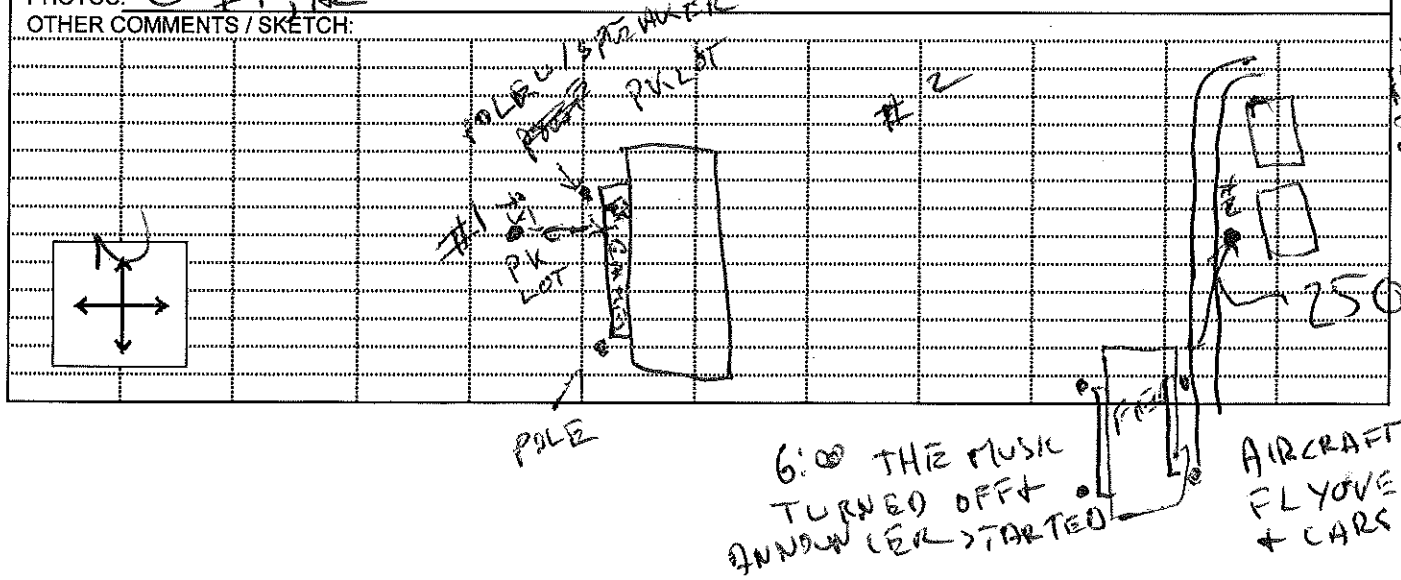
SOURCE INFO AND TRAFFIC COUNTS:
PRIMARY NOISE SOURCE: TRAFFIC AIRCRAFT RAIL INDUSTRIAL AMBIENT OTHER: MUSIC
ROADWAY TYPE:
TRAFFIC COUNT DURATION: ____-MIN

	SPEED NB / EB	SPEED SB / WB	#2 COUNT NB / EB	#2 COUNT SB / WB	SPEED NB / EB	SPEED SB / WB
AUTOS:						
MED. TRUCKS:						
HVY TRUCKS:						
BUSES:						
MOTORCYCLES:						

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER SOURCES: DIST. AIRCRAFT / RUSTLING LEAVES / DIST. BARKING DOGS / BIRDS / DIST. INDUSTRIAL
DIST. CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING ACTIVITIES / OTHER:

DESCRIPTION / SKETCH:
TERRAIN: HARD SOFT MIXED FLAT OTHER:
PHOTOS: #1, #2
OTHER COMMENTS / SKETCH:



TRAFFIC IS MORE PROMINENT @ MUSIC IS MAIN NOISE SOURCE

FIELD NOISE MEASUREMENT DATA

Jones & Stokes

PROJECT: **Madison High School Stadium** PROJ. #

SITE IDENTIFICATION: MADISON HIGH SCHOOL FIELD OBSERVER(S): Mike Greene/Peter Hardie
ADDRESS:
START DATE / TIME: 6:07 11-2-12 END DATE / TIME:

METEROLOGICAL CONDITIONS:
TEMP: 62 °F HUMIDITY: 41 %R.H. WIND: CALM LIGHT MODERATE VARIABLE
WINDSPEED: 1-3 MPH DIR: N NE E SE S SW W NW STEADY GUSTY
SKY: SUNNY CLEAR OVRCST PRTLY CLOUDY FOG RAIN OTHER:

ACOUSTIC MEASUREMENTS:
INSTRUMENT: LD 812 TYPE: 1 2 SERIAL #: 0432
CALIBRATOR: CAL 200 SERIAL #: 6645
CALIBRATION CHECK: PRE-TEST 114.0 dBA SPL POST-TEST 114.0 dBA SPL WINDSCREEN ✓

SETTINGS: A-WEIGHTED SLOW FAST FRONTAL RANDOM ANSI OTHER:

REC #	START	END	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	OTHER:	(TYPE?)
#3	6:07	6:10	73.3	82.1	57.4	69.8	72.6	75.4		
#4	6:12	6:15	66.2	71.7	57.4	62.3	65.4	68.8		

COMMENTS: #3 MAIN NOISE SOURCE WAS SPEAKER ANNOUNCER DISTANCE TO SPEAKER 50'
#4 MAIN NOISE SOURCE ANNOUNCER DISTANCE TO SPEAKER 20' / TRAFFIC ON MT ABERNATHY

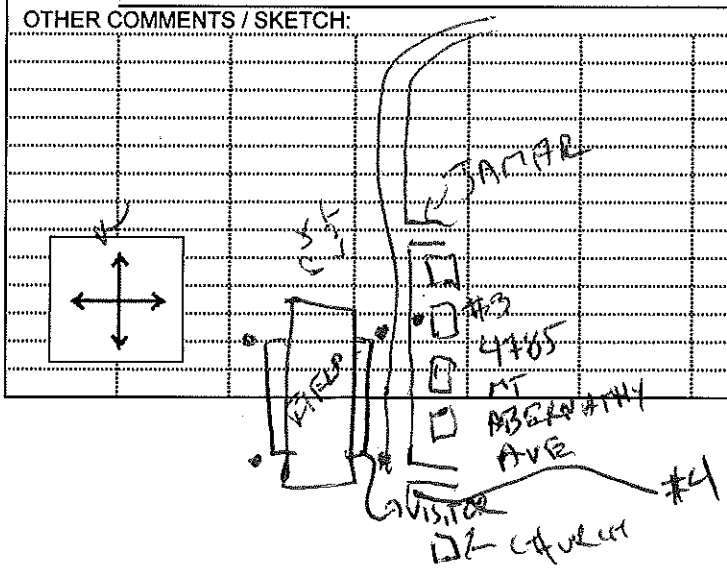
SOURCE INFO AND TRAFFIC COUNTS:
PRIMARY NOISE SOURCE: TRAFFIC AIRCRAFT RAIL INDUSTRIAL AMBIENT OTHER: ANNOUNCER
ROADWAY TYPE:
TRAFFIC COUNT DURATION: ____-MIN

	NB / EB	SB / WB	SPEED NB / EB	SPEED SB / WB	#2 COUNT NB / EB	#2 COUNT SB / WB	SPEED NB / EB	SPEED SB / WB
AUTOS:								
MED. TRUCKS:								
HVY TRUCKS:								
BUSES:								
MOTORCYCLES:								

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER SOURCES: DIST. AIRCRAFT / RUSTLING LEAVES / DIST. BARKING DOGS / BIRDS / DIST. INDUSTRIAL
DIST. CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING ACTIVITIES / OTHER:

DESCRIPTION / SKETCH:
TERRAIN: HARD SOFT MIXED FLAT OTHER:
PHOTOS:
OTHER COMMENTS / SKETCH:



AMBIENT NOISE LEVEL ~54dBA

FIELD NOISE MEASUREMENT DATA

Jones & Stokes

PROJECT: **Madison High School Stadium** PROJ. #

SITE IDENTIFICATION: MADISON HIGH FIELD OBSERVER(S): Mike Greene/Peter Hardie
ADDRESS:
START DATE / TIME: 11-2-12 6:40 END DATE / TIME:

METEROLOGICAL CONDITIONS:
TEMP: 65 °F HUMIDITY: 42 %R.H. WIND: CALM LIGHT MODERATE VARIABLE
WINDSPEED: 0 MPH DIR: N NE E SE S SW W NW STEADY GUSTY
SKY: SUNNY CLEAR OVRCST PRTLY CLOUDY FOG RAIN OTHER:

ACOUSTIC MEASUREMENTS:
INSTRUMENT: LD 812 TYPE: 1 2 SERIAL #: 0432
CALIBRATOR: CAL 200 SERIAL #: 0645
CALIBRATION CHECK: PRE-TEST 114.0 dBA SPL POST-TEST dBA SPL WINDSCREEN
SETTINGS: A-WEIGHTED SLOW FAST FRONTAL RANDOM ANSI OTHER:

REC #	START	END	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	OTHER:	(TYPE?)
CHEER BAND #1	6:37		73.3							
			67.4							
	6:40	6:45	71.5	81.7	56.8	59.4	67.1	75.4		
	6:50	6:55	68.2	76.9	55.2	57.9	65.4	72.6		

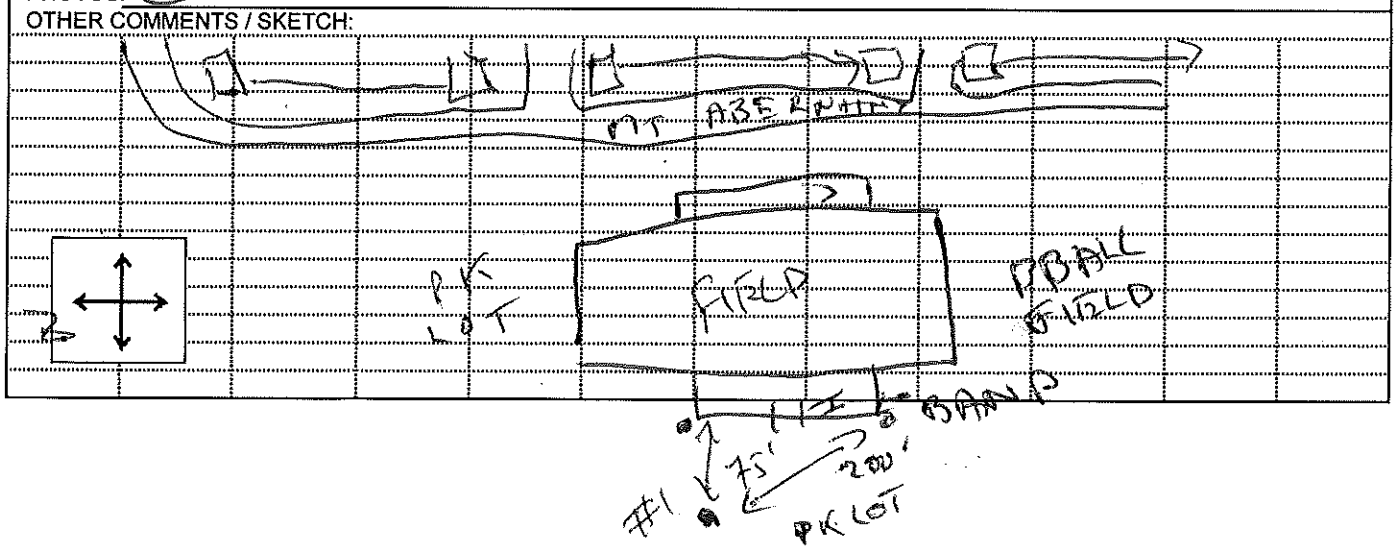
COMMENTS: CHEER
STOMPING 65.4 dBA

SOURCE INFO AND TRAFFIC COUNTS:
PRIMARY NOISE SOURCE: TRAFFIC AIRCRAFT RAIL INDUSTRIAL AMBIENT OTHER: BAND PA ANNOUNCER
ROADWAY TYPE:
TRAFFIC COUNT DURATION: -MIN

	SPEED NB / EB	SPEED SB / WB	#2 COUNT NB / EB	#2 COUNT SB / WB	SPEED NB / EB	SPEED SB / WB
AUTOS:						
MED. TRUCKS:						
HVY TRUCKS:						
BUSES:						
MOTORCYCLES:						

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER
OTHER SOURCES: DIST. AIRCRAFT / RUSTLING LEAVES / DIST. BARKING DOGS / BIRDS / DIST. INDUSTRIAL
DIST. CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING ACTIVITIES / OTHER:

DESCRIPTION / SKETCH:
TERRAIN: HARD SOFT MIXED FLAT OTHER:
PHOTOS:
OTHER COMMENTS / SKETCH:



FIELD NOISE MEASUREMENT DATA

Jones & Stokes

PROJECT: **Madison High School Stadium** PROJ. #

SITE IDENTIFICATION: #612 OBSERVER(S): Mike Greene/Peter Hardie
ADDRESS:
START DATE / TIME: 6:55 11-2-12 END DATE / TIME:

METEROLOGICAL CONDITIONS:
TEMP: 65 °F HUMIDITY: 42 %R.H. WIND: CALM LIGHT MODERATE VARIABLE
WINDSPEED: 0 MPH DIR: N NE E SE S SW W NW STEADY GUSTY
SKY: SUNNY CLEAR OVRCST PRTLY CLOUDY FOG RAIN OTHER:

ACOUSTIC MEASUREMENTS:
INSTRUMENT: LD 812 TYPE 1 2 SERIAL #:
CALIBRATOR: CAL 200 SERIAL #:
CALIBRATION CHECK: PRE-TEST 114.0 dBA SPL POST-TEST dBA SPL WINDSCREEN ✓
SETTINGS: A-WEIGHTED SLOW FAST FRONTAL RANDOM ANSI OTHER:

	REC #	START	END	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	OTHER:	(TYPE?)
CHEER	12	655		70.8							
BAND				63							
		655	7:00	63.5	74.1	51	54.1	61.9	66.6		
		7:15	7:20	60.0	70.4	51.0	52.4	55.5	64.0		

COMMENTS:

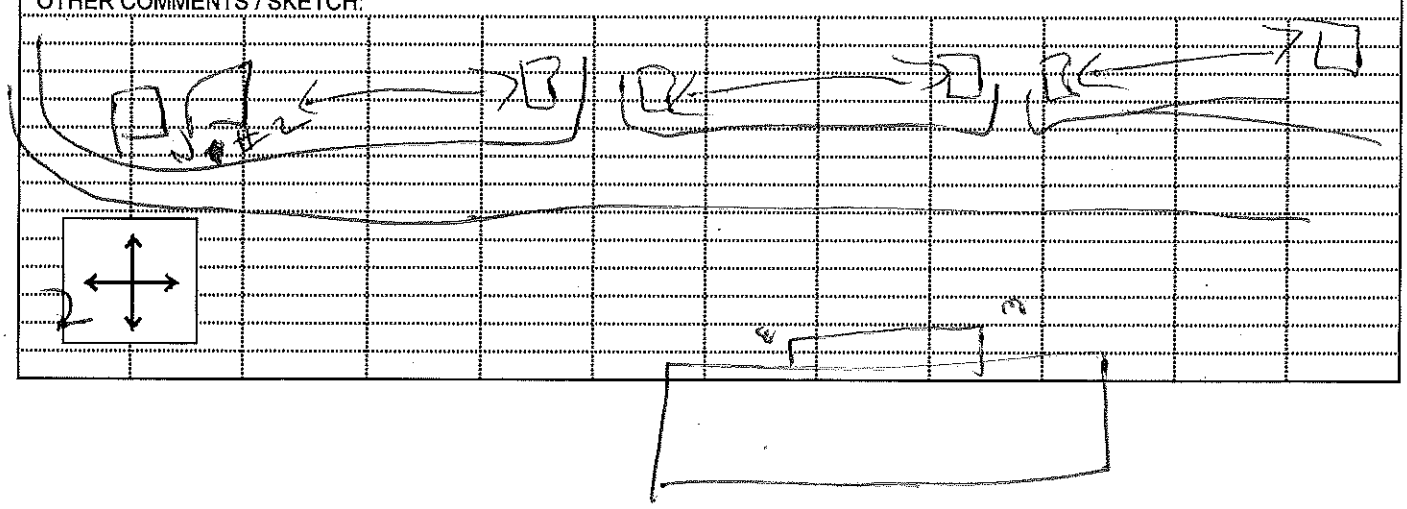
SOURCE INFO AND TRAFFIC COUNTS:
PRIMARY NOISE SOURCE: TRAFFIC AIRCRAFT RAIL INDUSTRIAL AMBIENT OTHER: BAND PA
ROADWAY TYPE:
TRAFFIC COUNT DURATION: ____-MIN

	NB / EB	SB / WB	SPEED NB / EB	SPEED SB / WB	#2 COUNT NB / EB	#2 COUNT SB / WB	SPEED NB / EB	SPEED SB / WB
AUTOS:								
MED. TRUCKS:								
HVY TRUCKS:								
BUSES:								
MOTORCYCLES:								

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER SOURCES: DIST. AIRCRAFT / RUSTLING LEAVES / DIST. BARKING DOGS / BIRDS / DIST. INDUSTRIAL
DIST. CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING ACTIVITIES / OTHER:

DESCRIPTION / SKETCH:
TERRAIN: HARD SOFT MIXED FLAT OTHER:
PHOTOS:
OTHER COMMENTS / SKETCH:



FIELD NOISE MEASUREMENT DATA

Jones & Stokes

PROJECT: **Madison High School Stadium** PROJ. #

SITE IDENTIFICATION: #3 OBSERVER(S): Mike Greene/Peter Hardie
ADDRESS:
START DATE / TIME: 7:26 END DATE / TIME:

METEROLOGICAL CONDITIONS:
TEMP: 62 °F HUMIDITY: 39 %R.H. WIND: (CALM) LIGHT MODERATE VARIABLE
WINDSPEED: ___ MPH DIR: N NE E SE S SW W NW STEADY GUSTY
SKY: SUNNY CLEAR OVRCST PRTLY CLOUDY FOG RAIN OTHER:

ACOUSTIC MEASUREMENTS:
INSTRUMENT: LD 812 TYPE: (1) 2 SERIAL #: 0932
CALIBRATOR: CAL 200 SERIAL #: 6645
CALIBRATION CHECK: PRE-TEST 114 dBA SPL POST-TEST ___ dBA SPL WINDSCREEN
SETTINGS: A-WEIGHTED (SLOW) FAST FRONTAL (RANDOM) (ANSI) OTHER:

REC.#	START	END	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	OTHER:	(TYPE?)
#3	7:26									
PA			~~80~~ 82.4							
BAND			68.1							
	7:40	7:45	64.1	72.0	57.1	59.0	61.6	67.3		
	7:50	7:55	68.4	78.7	56.0	58.3	63.5	72.1		

COMMENTS:
METAL BLEACHERS ARE A SOURCE OF NOISE W/ PEOPLE WALKING ON THEM RANGE 60-63 dB

VISITOR BLEACHERS
BAND
NO PA

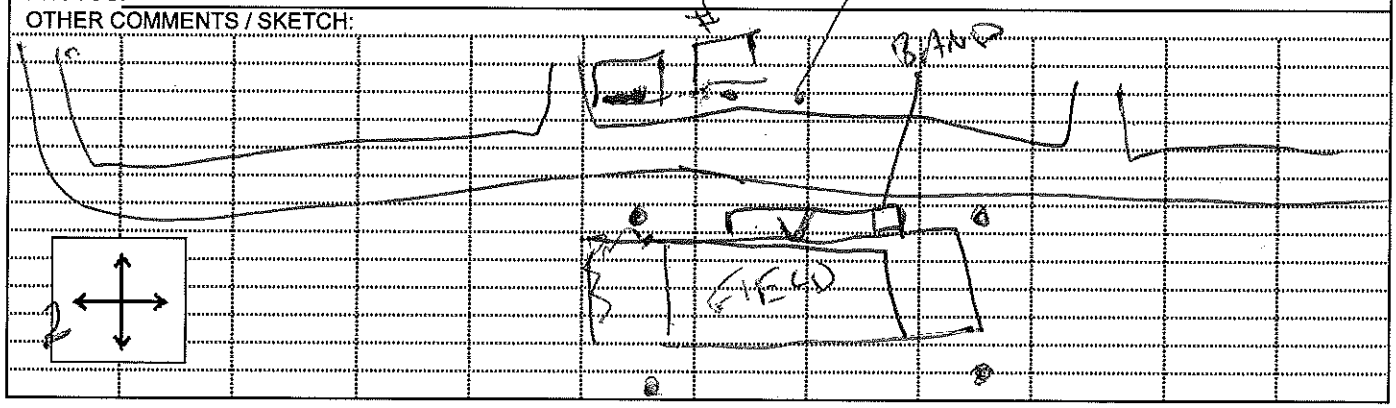
SOURCE INFO AND TRAFFIC COUNTS:
PRIMARY NOISE SOURCE: TRAFFIC AIRCRAFT RAIL INDUSTRIAL (AMBIENT) (OTHER: PA CHEERS)
ROADWAY TYPE:
TRAFFIC COUNT DURATION: ___-MIN

	SPEED NB / EB	SPEED SB / WB	#2 COUNT NB / EB	#2 COUNT SB / WB	SPEED NB / EB	SPEED SB / WB
AUTOS:						
MED. TRUCKS:						
HVY TRUCKS:						
BUSES:						
MOTORCYCLES:						

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER
OTHER SOURCES: DIST. AIRCRAFT / RUSTLING LEAVES / DIST. BARKING DOGS / BIRDS / DIST. INDUSTRIAL
DIST. CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING ACTIVITIES / OTHER:

	Leq	max	min	90	50	10
1 min	72.6	79.4	61	62.6	68.1	77.9

DESCRIPTION / SKETCH:
TERRAIN: (HARD) SOFT MIXED FLAT OTHER:
PHOTOS:
OTHER COMMENTS / SKETCH:



FIELD NOISE MEASUREMENT DATA

Jones & Stokes

PROJECT: **Madison High School Stadium** PROJ. #

SITE IDENTIFICATION: H4 OBSERVER(S): Mike Greene/Peter Hardie
ADDRESS:
START DATE / TIME: 8:00 11-2-12 END DATE / TIME:

METEROLOGICAL CONDITIONS:
TEMP: °F HUMIDITY: %R.H. WIND: **CALM LIGHT MODERATE VARIABLE**
WINDSPEED: MPH DIR: **N NE E SE S SW W NW STEADY GUSTY**
SKY: **SUNNY CLEAR OVRCST PRTLY CLOUDY FOG RAIN OTHER:**

ACOUSTIC MEASUREMENTS:
INSTRUMENT: LD 812 TYPE: 1 2 SERIAL #: 6472
CALIBRATOR: LD CL200 SERIAL #: 8647
CALIBRATION CHECK: PRE-TEST 114.0 dBA SPL POST-TEST dBA SPL WINDSCREEN
SETTINGS: **A-WEIGHTED SLOW FAST FRONTAL RANDOM ANSI OTHER:**

REC #	START	END	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	OTHER:	(TYPE?)
H4	8:00		71.4							
			62.9	77.0						
			74.4							
	8:00	8:05	69.6	79.5	56.8	61.0	66.5	71.0		

7A → TYPICAL CHIZOEL HOTEL CHIEF

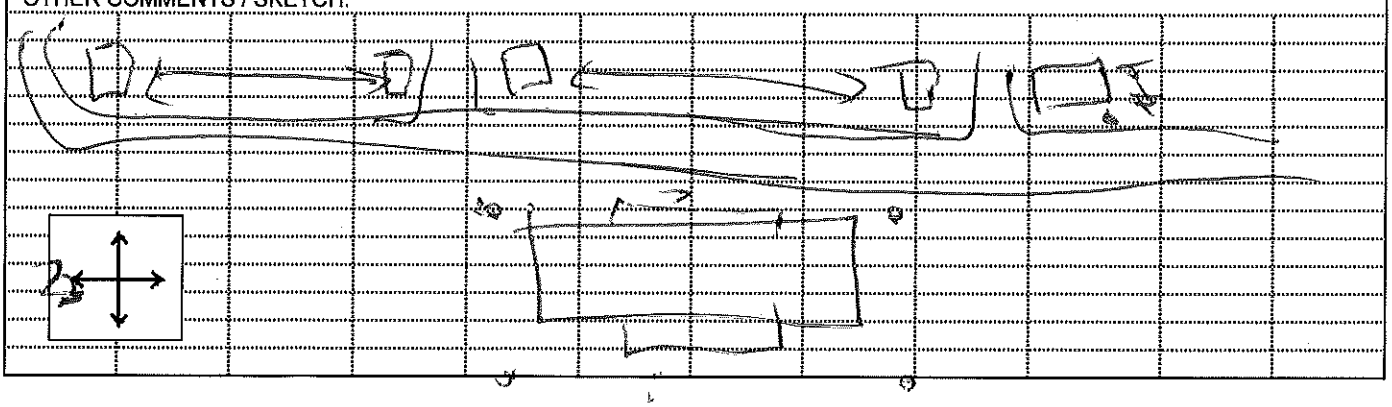
COMMENTS:

SOURCE INFO AND TRAFFIC COUNTS:
PRIMARY NOISE SOURCE: **TRAFFIC AIRCRAFT RAIL INDUSTRIAL AMBIENT OTHER:** PA
ROADWAY TYPE:
TRAFFIC COUNT DURATION: -MIN SPEED #2 COUNT SPEED

	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
AUTOS:								
MED. TRUCKS:								
HVY TRUCKS:								
BUSES:								
MOTORCYCLES:								

SPEED ESTIMATED BY: **RADAR / DRIVING / OBSERVER**
OTHER SOURCES: **DIST. AIRCRAFT / RUSTLING LEAVES / DIST. BARKING DOGS / BIRDS / DIST. INDUSTRIAL DIST. CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING ACTIVITIES / OTHER:**

DESCRIPTION / SKETCH:
TERRAIN: **HARD SOFT MIXED FLAT OTHER:**
PHOTOS:
OTHER COMMENTS / SKETCH:



Attachment 3

Noise Terminology

Noise Fundamentals

Noise is generally defined as unwanted sound. It may be loud, unpleasant, unexpected, or undesired sound typically associated with human activity that interferes with or disrupts the normal noise-sensitive ongoing activities of others. The objectionable nature of noise can be caused by its *pitch* or its *loudness*. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (*frequency*) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is the amplitude of sound waves combined with the reception characteristics of the ear. Amplitude may be compared with the height of an ocean wave. Technical acoustical terms commonly used in this memorandum are defined in Table 1.

Table 1. Definitions of Acoustical Terms

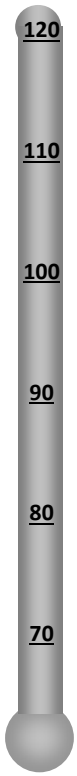
Term	Definition
Decibel (dB)	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micro Pascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals in air). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency (Hertz [Hz])	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 and 20,000 Hz. Infrasonic sounds are below 20 Hz and ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level (dBA)	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level (L_{eq})	The average A-weighted noise level during the measurement period. The hourly L_{eq} used for this report is denoted as dBA $L_{eq[h]}$.
Community Noise Equivalent Level (CNEL)	The average A-weighted noise level during a 24-hour day, obtained after the addition of 5 dB to sound levels in the evening from 7 p.m. to 10 p.m. and after the addition of 10 dB to sound levels in the night between 10 p.m. and 7 a.m.
Day/Night Noise Level (L_{dn})	The average A-weighted noise level during a 24-hour day, obtained after the addition of 10 dB to levels measured in the night between 10 p.m. and 7 a.m.
L_1, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1, 10, 50, and 90% of the time during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, time of occurrence, and tonal or informational content as well as the prevailing ambient noise level.

Decibels and Frequency

In addition to the concepts of pitch and loudness, there are several noise measurement scales used to describe noise. The *decibel* is a unit of measurement, which indicates the relative amplitude of a sound. Zero on the decibel scale is based on the lowest sound pressure that a healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense, 30 dB is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its level. Each 10-dB increase in sound level is perceived as approximately a doubling of loudness over a wide range of amplitudes. Because decibels are logarithmic units, sound pressure levels are not added arithmetically. When two sounds of equal sound pressure level are added, the result is a sound pressure level that is 3 dB higher. For example, if the sound level were 70 dB when 100 cars pass an observer, then it would be 73 dB when 200 cars pass. Doubling the amount of energy would result in a 3 dB increase to the sound level. Overall noise levels will not change appreciably when a noise source is added to a relatively louder noise source. For example, if a 60 dB noise source is added to a 70 dB noise source, a noise level of 70.4 dB would result. Frequency relates to the number of pressure oscillations per second, or *Hertz*. The range of sound frequencies that can be heard by healthy human ears is from about 20 Hz at the low frequency end to 20,000 Hz (20 kilohertz [kHz]) at the high frequency end.

There are several methods for characterizing sound. The most common is the *A-weighted sound level* or *dBA*. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Studies have shown that the A-weighted level is closely correlated with annoyance to traffic noise. Other frequency weighting networks, such as *C weighting*, or *dBC*, have been devised to describe noise levels for specific types of noise (e.g., explosives). Table 2 shows typical A-weighted noise levels that occur in human environments.

Table 2. Typical Noise Levels in the Environment

Noise Level dBA	Extremes	Home Appliances	Speech at 3 Feet	Motor Vehicles at 50 Feet	General Type of Community Environment
	Jet aircraft at 500 feet				
		Chain saw			
		Power lawnmower		Diesel truck (not muffled)	
		Shop tools	Shout	Diesel truck (muffled)	
		Blender	Loud voice	Automobile at 70 mph	Major metropolis
		Dishwasher	Normal voice	Automobile at 40 mph	Urban (daytime)
		Air-conditioner	Normal voice (back to listener)	Automobile at 20 mph	Suburban (daytime)
		Refrigerator			Rural (daytime)
	Threshold of hearing				

Source: Harris Miller Miller & Hanson, Inc. (2003[KFC1]).

Noise Descriptors

Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations is utilized. L_{eq} is the energy-mean A-weighted sound level present or predicted to occur during a specified interval. It is the equivalent constant sound level that a given source would need to produce to equal the fluctuating level of measured sound. It is often desirable to also know the range of acoustic levels of the noise source being measured. This is accomplished through the L_{max} and L_{min} noise descriptors. They represent the root-mean-square maximum and minimum obtainable noise levels measured during the monitoring interval. The L_{min} value obtained for a particular monitoring location represents the quietest moment occurring during the measurement period and is often called the acoustic floor for that location. Likewise, the loudest momentary sound during the measurement is represented by the L_{max}. The L_{max} is often described as the loudest 1-second period during the averaging period. To describe the time-varying character of environmental noise, the statistical noise descriptors L_{10}, L_{50}, and L_{90} (or other percentile values) may be used. They are the noise levels equaled or exceeded 10, 50, and 90%, respectively, of the time during the measured interval. The

percentile descriptors are most commonly found in nuisance noise ordinances to allow for different noise levels for various portions of an hour. For example, the L_{50} value would represent 30 minutes of an hour period, the L_{25} would be associated with 15 minutes of an hour, and so on. Two metrics describe the 24-hour average, L_{dn} and CNEL. Both include penalties for noise during the nighttime, and CNEL also penalizes noise during the evening. CNEL and L_{dn} are normally within 1 dBA of each other and are used interchangeably in this memo. L_{dn} and CNEL are approximately equal to the L_{eq} peak hour under normal traffic conditions.[1]

Human Response to Noise

Noise-sensitive receptors are generally defined as locations where people reside or where the presence of unwanted sound may adversely affect the use of the land. Noise-sensitive receptors typically include residences, hospitals, schools, guest lodging, libraries, and certain types of passive recreational uses.

Studies have shown that under controlled conditions in an acoustics laboratory, a healthy human ear is able to discern changes in sound levels of 1 dBA. In the normal environment, changes in noise level of 3 dBA are considered just noticeable to most people. A change of 5 dBA is readily perceptible and a change of 10 dBA is perceived as being twice as loud.

Noise and Health

A number of studies have linked increases in noise with health effects, including hearing impairment, sleep disturbance, cardiovascular effects, psychophysiological effects, and potential impacts on fetal development (Babisch 2005).[2] Potential health effects appear to be caused by both short- and long-term exposure to very loud noises and long-term exposure to lower levels of sound. Acute sounds of LAF> 120 dB[3] can cause mechanical damage to hair cells of the cochlea (the auditory portion of the inner ear) and hearing impairment (Babisch 2005). An LAF greater than 120 dB is equivalent to a rock concert or a plane flying overhead at 984 feet.

The World Health Organization and the U.S. Environmental Protection Agency (EPA) consider L_{eq} = 70 dB(A) to be a safe daily average noise level for the ear. However, even this "ear-safe" level may cause disturbance to sleep and concentration and may be linked to chronic health impacts such as hypertension and heart disease (Babisch 2006).[4]

A number of studies have looked at the potential health effects of chronic lower noise levels, such as traffic, especially as these noise levels affect children. In a study of school children in Germany, blood pressure was found to be 10 mmHg (millimeter of mercury) higher in a group of students exposed to road traffic noise from high traffic transit routes (Babisch 2006). A study by Kawada (2004)[5]

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[1] California Department of Transportation. *Caltrans Highway Design Manual*. September 2006.

[2] Babisch, W. 2005. Guest Editorial Health and Noise. *Environmental Health Perspective* 113: A14–A15

[3] LAF = Sound level with "A" Frequency weighting and Fast Time weighting

[4] [Babisch, W. 2006. Road Traffic Noise and Cardiovascular Risk. *Noise and Health* 10:1.

[5] [Kawada. T. 2004. The Effect of Noise on the Health of Children. *J Nippon Med School*: 5.

showed that, in pregnant women, exposure to airplane noise was found to be associated with decreased fetal body weight.

Sound Propagation

When sound propagates over a distance, it changes in both level and frequency content. The manner in which noise is reduced with distance depends on the following important factors.

Geometric spreading. In the absence of obstructions, sound from a single source (i.e., a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates (or drops off) at a rate of 6 dBA for each doubling of distance. Highway noise is not a single stationary point source of sound. The movement of vehicles on a highway makes the source of the sound appear to emanate from a line (i.e., a "line" source) rather than from a point. This results in cylindrical spreading rather than the spherical spreading resulting from a point source. The change in sound level from a line source is 3 dBA per doubling of distance.

Ground absorption. Usually the noise path between the source and the observer is very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation because of geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is done for simplification only; for distances of less than 200 feet, prediction results based on this scheme are sufficiently accurate. For acoustically "hard" sites (i.e., sites with a reflective surface, such as a parking area or a smooth body of water, between the source and the receiver), no excess ground attenuation is assumed. For acoustically absorptive or "soft" sites (i.e., sites with an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dBA per doubling of distance is normally assumed. When added to the geometric spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dBA per doubling of distance for a line source and 7.5 dBA per doubling of distance for a point source.

Atmospheric effects. Research by the California Department of Transportation (Caltrans) and others has shown that atmospheric conditions can have a major effect on noise levels. Wind has been shown to be the single most important meteorological factor within approximately 500 feet, whereas vertical air temperature gradients are more important over longer distances. Other factors, such as air temperature, humidity, and turbulence, also have major effects. Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lower noise levels. Increased sound levels can also occur because of temperature inversion conditions (i.e., increasing temperature with elevation).

Shielding by natural or human-made features. A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by this shielding depends on the size of the object, proximity to the noise source and receiver, surface weight, solidity, and the frequency content of the noise source. Natural terrain features (such as hills and dense woods) and human-made features (such as buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction. A higher barrier may provide as much as 20 dB of noise reduction.

Appendix 3

Construction Noise Calculation Spreadsheet

Crawford High School and Mann Middle School Modernization Project

Construction Noise

Noise-Generating Construction Equipment

Equipment Type	Individual Equipment: SPL Lmax at 50 ft	Individual Equipment: Acoustic Usage Factor	Combined Equipment: No.of Pieces	Combined Equipment: SPL Lmax at 50 ft	Combined Equipment: SPL Leq at 50 ft
All Other Equipment > 5 HP	85	0.50			
Auger Drill Rig	84	0.20			
Backhoe	78	0.40			
Bar Bender	80	0.20			
Blasting	94	0.01			
Boring Jack Power Unit	83	0.50			
Chain Saw	84	0.20			
Clam Shovel (dropping)	87	0.20			
Compactor (ground)	83	0.20			
Compressor (air)	78	0.40			
Concrete Batch Plant	83	0.15			
Concrete Mixer Truck	79	0.40			
Concrete Pump Truck	81	0.20			
Concrete Saw	90	0.20			
Crane	81	0.16			
Dozer	82	0.40	1	82	78.0
Drill Rig Truck	79	0.20			
Drum Mixer	80	0.50			
Dump Truck	76	0.40			
Excavator	81	0.40			
Flat Bed Truck	74	0.40			
Front End Loader	79	0.40			
Generator	81	0.50			
Generator (<25KVA, VMS signs)	73	0.50			
Gradall	83	0.40			
Grader	85	0.40	1	85	81.0
Grapple (on backhoe)	87	0.40			
Horizontal Boring Hydr. Jack	82	0.25			
Hydra Break Ram	90	0.10			
Impact Pile Driver	101	0.20			
Jackhammer	89	0.20			
Man Lift	75	0.20			
Mounted Impact Hammer (hoe ram)	90	0.20			
Pavement Scarafier	90	0.20			
Paver	77	0.50			
Pickup Truck	75	0.40			
Pneumatic Tools	85	0.50			
Pumps	81	0.50			
Refrigerator Unit	73	1.00			
Rivit Buster/chipping gun	79	0.20			
Rock Drill	81	0.20			
Roller	80	0.20			
Sand Blasting (Single Nozzle)	96	0.20			
Scraper	84	0.40	1	84	80.0
Shears (on backhoe)	96	0.40			
Slurry Plant	78	1.00			
Slurry Trenching Machine	80	0.50			
Soil Mix Drill Rig	80	0.50			
Tractor	84	0.40			
Vacuum Excavator (Vac-truck)	85	0.40			
Vacuum Street Sweeper	82	0.10			
Ventilation Fan	79	1.00			
Vibrating Hopper	87	0.50			
Vibratory Concrete Mixer	80	0.20			
Vibratory Pile Driver	101	0.20			
Warning Horn	85	0.05			
Water Jet Deleading	83	0.20			
Welder / Torch	74	0.40			
COMBINED EQUIPMENT (SPL AT 50 FEET)	**--**	**--**	**3**	**88.6**	**84.6**

Acoustical measurement in FHWA Roadway Construction Noise Model User's Guide. FHWA-HEP-05-054. January 2006.

Modeled Noise Levels at Varying Distances (Includes Hemispherical Spreading and Atmospheric Absorption)

Molecular Absorption	0.0000	dBA
Anomalous Excess Attenuation	0.000	dBA
Equivalent Source-Receiver Height (Hs+Hr)/2	6	feet
FTA Ground Attenuation Factor G	0.643	dBA

Distance from Construction Site (feet)	Noise Level with Attenuation: Outdoor Leq	Noise Level with Attenuation: Outdoor L8	Noise Level with Barrier: Noise Reduction	Noise Level with Barrier: Outdoor Leq
50	85	88	0	85
60	83	86	0	83
100	77	80	0	77
150	72	75	0	72
200	69	72	0	69
250	66	69	0	66
500	58	61	0	58

Sound propagation calcs by FTA Transit Noise and Vibration Impact Assessment. FTA-VA-90-1003-06. May 2006.
Acoustical measurement in FHWA Roadway Construction Noise Model User's Guide. FHWA-HEP-05-054. January 2006.

Appendix 4

Traffic Noise Calculation Spreadsheet

This spreadsheet calculates traffic noise levels based on TNM Version 2.5 Lookup Tables

****** PRESS F9 to Calculate ****** then, wait approx. 10 seconds until status at lower left of window says "Ready"

**** Type in yellow cells only.**
** Day/Eve/Night & Auto/MT/HT cells must add to 100
** Be sure to indicate ENGLISH or METRIC units
** Note that both Ldn and CNEL require input for evening traffic

Day = 12 hours, 7:00 AM to 7:00 PM
Eve = 3 hours, 7:00 PM to 10:00 PM
Night = 9 hours, 10:00 PM to 7:00 AM

CONTOUR VALUES		
1	65	dB
2	60	dB
3	55	dB
4	50	dB

UNITS	english

"english" OR "metric"

DAY PEAK/OFFPEAK SPLITS		PENALTIES
4	no. of hours - peak	
8	no. of hours - offpeak	dB
3	no. of hours - evening	+ 5
9	no. of hours - night	+ 10
24	TOTAL no. of hours	

METRIC/ENGLISH CALCULATOR			
80	MPH	equals	128.74
100	KPH	equals	62.14
680	feet	equals	207.26
9	meters	equals	29.53

Mix 1.

		Day			
		Peak	Offpk	Eve	Night
		28	37	15	20
Auto	98	.274	.363	.147	.196
MT	1	.003	.004	.002	.002
HT	1	.003	.004	.002	.002

Mix 2.

		Day			
		Peak	Offpk	Eve	Night
		23	44	15	18
Auto	98	.225	.431	.147	.176
MT	1	.002	.004	.002	.002
HT	1	.002	.004	.002	.002

Mix 3.

		Day			
		Peak	Offpk	Eve	Night
		28	39	15	18
Auto	98	.274	.382	.147	.176
MT	1	.003	.004	.002	.002
HT	1	.003	.004	.002	.002

Mix 4.

		Day			
		Peak	Offpk	Eve	Night
		25	39	16	20
Auto	98	.245	.382	.157	.196
MT	1	.003	.004	.002	.002
HT	1	.003	.004	.002	.002

Mix 5.

		Day			
		Peak	Offpk	Eve	Night
		31	33	16	20
Auto	98	.304	.323	.157	.196
MT	1	.003	.003	.002	.002
HT	1	.003	.003	.002	.002

* distance from center of roadway

Number	Roadway	Segment Location	Hard or Soft Ground (H or S)	Total Daily Traffic Volumes	SPEED MPH	Mix Number	RECEIVER Distance * (feet)	dB Ldn	dB CNEL	dBA Pk Leq1h
	Crawford Mann Modernization Project - Football Stadium Traffic				ENGLISH		ENGLISH			
1										
2	2012 Existing CNEL									
3	54th Street	South of Trojan Avenue	H	23726	30	1	80	65.5	66.0	63.3
4	56th Street	North of Trojan Avenue	H	2107	30	2	60	56.0	56.5	53.2
5	Trojan Avenue	East of 54th Street	H	4064	30	3	60	58.9	59.4	56.9
6										
7	2012 Existing plus Project CNEL									
8	54th Street	South of Trojan Avenue	H	23860	30	1	80	65.6	66.0	63.3
9	56th Street	North of Trojan Avenue	H	2197	30	4	60	56.6	57.1	53.7
10	Trojan Avenue	East of 54th Street	H	4374	30	5	60	59.6	60.1	57.6
11										
12	2035 Cumulative without Project CNEL									
13	54th Street	South of Trojan Avenue	H	26149	30	1	80	66.0	66.4	63.7
14	56th Street	North of Trojan Avenue	H	2297	30	2	60	56.4	56.9	53.6
15	Trojan Avenue	East of 54th Street	H	4430	30	3	60	59.2	59.7	57.2
16										
17	2035 Cumulative plus Project CNEL									
18	54th Street	South of Trojan Avenue	H	26283	30	1	80	66.0	66.4	63.7
19	56th Street	North of Trojan Avenue	H	2387	30	4	60	57.0	57.4	54.1
20	Trojan Avenue	East of 54th Street	H	4740	30	5	60	59.9	60.4	58.0
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44										

This spreadsheet calculates traffic noise levels based on TNM Version 2.5 Lookup Tables

****** PRESS F9 to Calculate ****** then, wait approx. 10 seconds until status at lower left of window says "Ready"

**** Type in yellow cells only.**
** Day/Eve/Night & Auto/MT/HT cells must add to 100
** Be sure to indicate ENGLISH or METRIC units
** Note that both Ldn and CNEL require input for evening traffic

Day = 12 hours, 7:00 AM to 7:00 PM
Eve = 3 hours, 7:00 PM to 10:00 PM
Night = 9 hours, 10:00 PM to 7:00 AM

CONTOUR VALUES		
1	65	dB
2	60	dB
3	55	dB
4	50	dB

UNITS	english

"english" OR "metric"

DAY PEAK/OFFPEAK SPLITS		PENALTIES
4	no. of hours - peak	dB
8	no. of hours - offpeak	
3	no. of hours - evening	+ 5
9	no. of hours - night	+ 10
24	TOTAL no. of hours	

METRIC/ENGLISH CALCULATOR				
80	MPH	equals	128.74	KPH
100	KPH	equals	62.14	MPH
680	feet	equals	207.26	meters
9	meters	equals	29.53	feet

NOTE: These values will override the percent-by-day calculations, when selected in the cell below. Use this input table if you have specific volumes and want to calculate only peak-hour Leq's.

Override volume percentages with volumes for peak-hour calculations? (1=yes)

1

Mix 1.

		Day			
		Peak	Offpk	Eve	Night
		28	37	15	20
Auto	98	.274	.363	.147	.196
MT	1	.003	.004	.002	.002
HT	1	.003	.004	.002	.002

Mix 2.

		Day			
		Peak	Offpk	Eve	Night
		23	44	15	18
Auto	98	.225	.431	.147	.176
MT	1	.002	.004	.002	.002
HT	1	.002	.004	.002	.002

Mix 3.

		Day			
		Peak	Offpk	Eve	Night
		28	39	15	18
Auto	98	.274	.382	.147	.176
MT	1	.003	.004	.002	.002
HT	1	.003	.004	.002	.002

Mix 4.

		Day			
		Peak	Offpk	Eve	Night
		25	39	16	20
Auto	98	.245	.382	.157	.196
MT	1	.003	.004	.002	.002
HT	1	.003	.004	.002	.002

Mix 5.

		Day			
		Peak	Offpk	Eve	Night
		31	33	16	20
Auto	98	.304	.323	.157	.196
MT	1	.003	.003	.002	.002
HT	1	.003	.003	.002	.002

* distance from center of roadway

Number	Roadway	Segment Location	Hard or Soft Ground (H or S)	Total Daily Traffic Volumes	SPEED MPH	Mix Number	RECEIVER Distance * (feet)	dB Ldn	dB CNEL	dBA Pk Leq1h	Peak-hour Traffic Volumes Autos	MT	HT
	Crawford Mann Modernization Project - Football Stadium Traffic				ENGLISH		ENGLISH						
1													
2	2012 Existing CNEL												
3	54th Street	South of Trojan Avenue	H	23726	30	1	80			63.0	1517	15	15
4	56th Street	North of Trojan Avenue	H	2107	30	2	60			52.4	98	1	1
5	Trojan Avenue	East of 54th Street	H	4064	30	3	60			56.8	273	3	3
6													
7	2012 Existing plus Project CNEL												
8	54th Street	South of Trojan Avenue	H	23860	30	1	80			63.2	1594	16	16
9	56th Street	North of Trojan Avenue	H	2197	30	4	60			54.2	150	2	2
10	Trojan Avenue	East of 54th Street	H	4374	30	5	60			59.3	486	5	5
11													
12	2035 Cumulative without Project CNEL												
13	54th Street	South of Trojan Avenue	H	26149	30	1	80			63.4	1686	17	17
14	56th Street	North of Trojan Avenue	H	2297	30	2	60			52.8	107	1	1
15	Trojan Avenue	East of 54th Street	H	4430	30	3	60			57.1	298	3	3
16													
17	2035 Cumulative plus Project CNEL												
18	54th Street	South of Trojan Avenue	H	26283	30	1	80			63.6	1763	18	18
19	56th Street	North of Trojan Avenue	H	2387	30	4	60			54.4	159	2	2
20	Trojan Avenue	East of 54th Street	H	4740	30	5	60			59.5	511	5	5
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Appendix G
Air Quality and Greenhouse Gas Memorandum

Memorandum

Date:	September 18 , 2013
To:	Kathryn Ferrell, Environmental Coordinator San Diego Unified School District
From:	Matthew McFalls, Air Quality and Climate Change Specialist Shannon Hatcher, Senior Air Quality, Climate Change, and Noise Project Manager
Subject:	**Air Quality and Greenhouse Gas Technical Assumptions and Impact Analysis for the Crawford High School and Mann Middle School Modernization Project**

Introduction

This memorandum presents the technical assumptions, calculation methods, and results of the Air Quality and Greenhouse Gas (GHG) impact analysis for the Crawford High School and Mann Middle School Modernization Project (project). The analysis is presented for the emissions from both construction and operational activities that are expected to result from the project. For construction, modernization, renovations, and construction of existing and new athletic facilities are analyzed separately due to differences in the availability of construction data. Emissions from construction result from the temporary usage of diesel equipment and vehicles, dust emissions from earth-work, and paving. Emissions from operations result from the net change in daily commute trips, maintenance, and other operational activities between existing operations and post-construction operations. Both construction and operational activities will result in the emission of criteria air pollutants and GHG emissions.

Project Construction

The project involves the improvement of athletic support facilities and the modernization of the school's existing classrooms, offices, and related buildings. Because the San Diego Unified School District (District) was unable to provide construction data specific to this project, estimates regarding the construction activity that would occur were based on a similar school modernization project within the District. The Bell Middle School Modernization Project (Bell project), under construction in 2013, is comparable in size to Crawford High School and Mann Middle School and is being conducted within a year of this project's construction schedule. The construction assumptions from the Bell project were used as a proxy for the modernization work at Crawford High School and Mann Middle School, as construction activities associated with Bell Middle School are expected to be similar for Crawford High School and Mann Middle School (District 2012).

The construction of the athletic field structures was estimated using data from the Bell project, methodologies and emission factors from the California Emissions Estimator Model (CalEEMod) Version 2013.2 to estimate on-site emissions and the EMFAC 2011 web tool to estimate onroad emissions. The emissions from modernization efforts were thus tailored using construction data from the Bell project and estimated using emission factors and methodologies from both CalEEMod and EMFAC.

Criteria Air Pollutants

Construction of the proposed project would generate short-term emissions of volatile organic compounds (VOC), nitrogen oxides (NO_X), carbon monoxide (CO), particulate matter less than 10 microns in diameter (PM10) and less than 2.5 microns in diameter (PM2.5), and sulfur oxides (SO_X). Daily mass emissions generated by equipment and vehicle exhaust were estimated using offroad emission factors and methodologies provided by CalEEMod (Version 2013.2), onroad emission rates from EMFAC2011, and re-entrained road dust methodology from the U.S. Environmental Protection Agency (EPA).

Calculations for the proposed athletic facility improvements and building modernization were performed separately due to differences in the availability of complete construction data. New building square footage information, site drawings, and a construction start date and duration was available from the project applicant for the athletic facilities. However, information specific to the Crawford High School and Mann Middle School building modernization efforts was not available. Consequently, due to the similarity in size and purpose between the two schools, the construction equipment operating assumptions and construction duration for the Bell project were used for the modernization analysis of this project (District 2012).

Athletic facility improvements include the demolition of existing structures, construction of new turf, and construction of accessory facilities and parking lots. According to the Project Description (see Chapter 2, "Environmental Setting and Project Description," of the Environmental Impact Report [EIR]), supporting booths, restrooms, concession stands, and storage facilities would be built for the football stadium, softball field, and baseball field. Regarding the playing fields themselves, it was assumed that the existing grass and new turf fields would be the same size. Based on project site drawings, the new stadium would be an estimated 6.33 acres in size. It was assumed that 70 new parking spaces would be added at Crawford, but no additional spaces would be required at Mann.

Construction of the proposed athletic facilities is anticipated to begin in June 2014 and last for 18 months, with the building modernization occurring after the completion of the athletic facility improvements and lasting an additional 18 months at each school; 36 months in total.

Efforts to modernize the existing buildings at Crawford High School and Mann Middle School include renovations of the structures, interior, and exterior of existing classrooms and offices, and, as mentioned above, are assumed to be equivalent to similar efforts be conducted at the Bell Middle School in 2013 (District 2012). The information for the Bell project was originally provided by the District. The only change made to the original Bell project construction assumptions for application to this proposed project was the revision of the construction schedule, where the Crawford and Mann modernization is to begin after the completion of the athletic field improvements in

approximately December 2014. The main difference between the two school projects is the use of lower vehicle and equipment emission factors for the proposed project than those used in the Bell project, because emission factors tend to decline over time due to fleet turnover. In the Bell project, it was assumed that construction would involve 16 phases between July 2013 and August 2015. Construction of the proposed project assumes the same activity in those phases, but is assumed to occur between November 2015 and November 2019, after the completion of the athletic facility improvements.

Table 1 presents the construction phases and schedule for both the athletic facility improvements and building modernization efforts. As shown in Table 1, construction activities during several of the modernization phases would likely occur concurrently. To ensure a conservative analysis, maximum daily emissions during these periods of overlap were estimated assuming all equipment would operate at the same time. See Table A and B in Attachment A for a more detailed construction schedule breakdown.

Table 1. Crawford High School and Mann Middle School Modernization Construction Activities and Sequence

Phase	Start Date	End Date	Working Days
Athletic Facility Improvements			
Demolition	6/1/2014	6/27/2014	20
Site Preparation	6/28/2014	7/11/2014	10
Grading	7/12/2014	8/8/2014	20
Building Construction	8/9/2014	5/2/2015	190
Paving	5/3/2015	5/29/2015	20
Architectural Coating	5/30/2015	6/12/2015	10
Modernization of Existing Buildings[1]			
Trench and install electrical and low voltage ductbank	11/14/2015	11/30/2016	273
Modernization Work in Existing Buildings[2]	12/1/2016	3/23/2019	602
Site Improvements (General) E[3]	4/7/2018	7/27/2018	80
Site Improvements (hardscape, landscape)	3/24/2019	11/1/2019	160

Source: District 2012

[1] Although construction phases are specific to Bell Middle School, it is assumed that the same activity would occur at Crawford High School and Mann Middle School due to the similarity in the total building square footage between Bell Middle School (147,851 square feet) and Crawford High School and Mann Middle School (150,161 square feet), but construction start and end dates are specific to the proposed project, as they are anticipated begin after the completion of the athletic field improvements.

[2] Modernization work would not occur for the entire duration of the 260-day prescribed schedule. Work done in "Modernization Work in Existing Buildings" is represented by the modernization work in Bell Middle School buildings 300, 400, 500, 600, 700, 900, 1100, 1200, 1300, and 1400 in the Bell project.

[3] Site Improvements (General) will not occur for the entire duration of the 176-day prescribed schedule. The schedule of site improvements reflects the PPO AV, utility upgrades, and construction of additional rooms or staff lounges as prescribed for the Bell project. The Bell Middle School phases represented as "Site Improvements (General)" are: "PPO AV install in portable classrooms B1, B2, B3, B4, B5, B6, B7, B8, B9, B10 and permanent classrooms"; "Move FF+E from B28 and B-27 to rooms 104 and 601, Build MDF Room, boiler room, staff lounge in building 300"; "Build IDF, Conference Room, Electrical Room in building 200"; "New electrical service, temp connection between Old and New MDF"; and "Site

Phase	Start Date	End Date	Working Days
Improvements (Elevator, stair, Fire lane, Sewer, Chilled Water, Storm Drain, Gas, drop off and parking)."			

As taken from the Bell project assumptions, Table 2 summarizes the offroad equipment assumed in the emissions modeling assumed for the proposed project. Operating hours, horsepower, and load factors are based on CalEEMod (version 2013.2) default values.[1]

Table 2. Offroad Equipment Modeling Assumptions[1]

Phase[2]	Equipment	Number	Horsepower	Daily Hours	Load Factor
Athletic Facility Improvements					
Demolition	Concrete/Industrial Saws	1	81	8	0.73
	Excavators	3	163	8	0.38
	Rubber Tired Dozers	2	255	8	0.40
Site Preparation	Rubber Tired Dozers	3	255	8	0.40
	Tractors/Loaders/Backhoes	4	98	8	0.37
Grading	Excavators	1	163	8	0.38
	Graders	1	175	8	0.41
	Rubber Tired Dozers	1	255	8	0.40
	Tractors/Loaders/Backhoes	3	98	8	0.37
Building Construction	Cranes	1	226	7	0.29
	Forklifts	3	89	8	0.20
	Generator Sets	1	84	8	0.74
	Tractors/Loaders/Backhoes	3	98	7	0.37
	Welders	1	46	8	0.45
Paving	Pavers	2	126	8	0.42
	Paving Equipment	2	131	8	0.36
	Rollers	2	81	8	0.38
Architectural Coating	Air Compressors	1	78	6	0.48

[1] Offroad emissions estimated for the modernization efforts were not calculated within the CalEEMod program, but use CalEEMod methodology and emission factors consistent with the CalEEMod program.

Phase[2]	Equipment	Number	Horsepower	Daily	Load
Modernization of Existing Buildings					
Trench and Install Electrical and Low Voltage Duct Bank	Concrete saw	1	81	8	0.73
	Air compressor	1	78	6	0.48
	Backhoe	1	98	7	0.37
	Dump truck	1	400	8	0.38
	Bobcat loader	1	98	7	0.37
	Forklift	1	89	6	0.20
	Roller	1	81	8	0.38
	Asphalt truck	1	131	8	0.36
Modernization Work	Forklift	2	89	6	0.40
	Crane	1	226	4	0.29
	Air compressor	1	78	6	0.42
	Concrete saw	1	81	8	0.43
Site Improvements	Forklift	2	89	6	0.20
	Compactor	2	8	4	0.43
	Dozer	1	255	8	0.40
	Grader	1	175	8	0.41
	Water Truck	1	400	8	0.38
	Air compressor	2	78	6	0.48
	Bobcat loader	1	98	7	0.37
	Concrete pump	1	84	8	0.74
	Mixing truck	1	9	8	0.56
	Backhoe	1	98	7	0.37
	Paver	1	126	8	0.42
	Asphalt truck	1	131	8	0.36
	Roller	1	81	8	0.38

[1] Certain phases in the Bell Middle School Modernization Project (District 2012) were assumed to only utilize hand tools or other non-diesel/gasoline powered equipment.

[2] Although building and classroom names for the phases are specific to Bell Middle School, it is assumed that the same activity will occur at Crawford High School and Mann Middle School due to the similarity in the total building square footage between Bell Middle School (147,851 square feet) and Crawford High School and Mann Middle School (150,161 square feet).

Criteria pollutants generated by offroad equipment were calculated for each phase using the information summarized in Table 2 and Equation 1 (below). Detailed calculation spreadsheets are provided in Attachment A.

Equation 1 $$E_{phase} = \Sigma(Activity_i \times EF_i \times LF_i \times HP_i) \times Conv$$

Where:

E_{phase}	=	Total exhaust emissions for the phase, pounds per day
Activity	=	Equipment activity, hours per day
EF	=	Engine emissions factor, grams/horsepower-hour (CalEEMod)
LF	=	Engine load factor, unitless (CalEEMod)
HP	=	Engine horsepower, unitless (CalEEMod)
Conv	=	Conversion from grams to pounds, 0.002205
i	=	Equipment type

In addition to offroad equipment, project construction would require onroad vehicles for employee commute trips and hauling. Emissions from onroad vehicle trips were estimated using the ARB's EMFAC2011 emissions model and activity data summarized in Table 3. Employee vehicle trips were assumed to be 9.5 miles, based on CalEEMod default trips lengths for "home based work" trips in San Diego County. Haul truck trips were assumed to be a maximum of 20 miles. Onroad vehicle assumptions for the athletic facility improvement construction period were calculated within the CalEEMod model, using model defaults. Onroad vehicle emissions associated with building modernization activities for Crawford High School and Mann Middle School were estimated using the assumptions from the Bell project with updates to the emission factors from EMFAC,[2] due to the difference in construction years.

Table 3. Onroad Vehicle Modeling Assumptions for Building Modernization Efforts

Phase[1]	Employee Trips per Day	Haul Trips (Max Daily)
Trench and Install Electrical and Low Voltage Duct Bank	10	6 (30)
Modernization Work	10–20	3 (6)
Site Improvements	6–20	3 (20)

Source: District 2012
[1] Although building and classroom names for the phases are specific to Bell Middle School, it is assumed that essentially double the same activity will occur at Crawford High School and Mann Middle School due to the approximately double size between Bell Middle School (147,851 square feet) and Crawford High School (176,555)square feet) and Mann Middle School (179,593 square feet).

Criteria pollutants generated by onroad vehicle trips were calculated for each phase using the information summarized in Table 3 and Equation 2 (below). Detailed calculation spreadsheets are provided in Attachment A.

Equation 2 $$E_{phase} = \Sigma(Activity \times Distance \times EF) \times Conv$$

Where:

[2] EMFAC was used to estimate the onroad construction emissions from the modernization efforts due to the methodology used for the Bell project, which also used EMFAC to calculate the onroad emissions from construction.

E_{phase}	=	Total exhaust emissions for the phase, pounds per day
Activity	=	Vehicle trips per day
Distance	=	Vehicle trip length, in miles per trip (CalEEMod)
EF	=	Engine emissions factor, grams/mile (EMFAC2011)
Conv	=	Conversion from grams to pounds, 0.002205

Fugitive dust emissions from demolition and ground disturbance as well VOC emissions from paving operations were estimated using methodologies. With respects to fugitive dust, it was assumed the project would disturb up to 10 acres daily, but also assumed there would be no onsite cut and fill activities. For demolition activities, it was assumed there would be 23,859 ft^2 of existing buildings at Crawford removed. With respects to paving, it was assumed that 70 parking spaces would be added at Crawford. With respects to architectural coatings, it was conservatively assumed the athletic facility buildings at Crawford, such as the football stadium and concession stands,[3] would be painted consistent with CalEEMod methodologies and assumes that the total building area of 7,034 ft^2 will require painting. At Mann, it was assumed the 12,000 ft^2 new building and 3,950 ft^2 of library improvements would be painted during the modernization phase.

Greenhouse Gases

GHG emissions would be generated by construction equipment operation and vehicle exhaust from employee commute and material deliver trips. The primary GHG emissions generated by construction activities are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). For the building modernization phases, CO_2 and CH_4 emissions from offroad equipment were estimated using emission factors generated by CalEEMod and the assumptions described above. CalEEMod does not estimate offroad emissions of N_2O. Therefore, emissions of N_2O were determined by scaling the CO_2 emissions quantified by Equation 1 by the ratio of N_2O/CO_2 (0.000025) emissions expected per gallon of diesel fuel according to the Climate Registry (CR) [4] (Climate Registry 2013).

CO_2 emissions from onroad vehicles from the building modernization phases were estimated using EMFAC2011 and the assumptions described above. EMFAC2011 does not include onroad emissions factors for CH_4 or N_2O. Emissions of CH_4 and N_2O from diesel-powered vehicles were determined by scaling the CO_2 emissions quantified by Equation 2 by the ratio of CH_4/CO_2 (0.000057) and N_2O/CO_2 (0.000025) emissions expected per gallon of diesel fuel according to the Climate Registry (Climate Registry 2013). Emissions of CH_4 and N_2O from gasoline-powered vehicles were determined by dividing the CO_2 emissions quantified by Equation 2 by 0.95. This statistic is based on EPA's recommendation that CH_4, N_2O, and other GHG emissions account for approximately 5% of onroad emissions (EPA 2011).

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[3] It is not confirmed whether the concession stands will require painting. However, this analysis assumes that the concession stands will be painted to reflect a conservative analysis.

[4] These ratios were calculated by dividing the CH_4 and N_2O emission factors in grams per gallon for diesel Construction and Mining Equipment, found in Table 13.7 of the 2012 Climate Registry Default Emission Factors, by the CO_2 emission factor (kilogram [kg] CO_2/gallon) found in Table 13.1 for diesel from the same Climate Registry source. (CR 2013)

Additionally, as emissions from the athletic facility improvements were modeled in CalEEMod, CO_2 and CH_4 emissions were available from the model for both on- and offroad vehicles and equipment. Thus, N_2O emissions from the athletic facility improvement phases were also scaled by the N_2O/CO_2 ratio.

Screening-Level Health Risk Assessment

Exposure to construction-related diesel particulate matter (DPM) was assessed by predicting health risks in terms of excess cancer and non-cancer hazard impacts. Average hourly PM10 exhaust emissions for the construction period were quantified using the sum of PM10 exhaust emissions estimated by CalEEMod (see Attachment A).

The EPA's AERSCREEN model is the screening-level model for AERMOD, and estimates "worst-case" 1-hour pollutant concentrations from a single source. In this case, the entirety of construction-related DPM emissions is treated as a single "area" source. AERSCREEN was used to predict maximum 1-hour DPM concentrations at sensitive land uses within 5,000 meters of the project site. Worst-case wind angle and atmospheric stability classes were assumed. Cancer risk related to DPM occurs exclusively through the inhalation pathway and was calculated according to Equation 3 (Office of Environmental Health Hazard Assessment [OEHHA] 2003). The variables in Equation 3 vary by exposed subgroup and are defined in Table 4.

Equation 3 **Cancer Risk = ((Cair * DBR * * EF * ED * CF) / AT) * (Dose * CRAF * S_i)**

Project-level increases in the non-cancer hazard index (HI) were estimated by dividing the average annual DPM concentration predicted by AERSCREEN by the DPM Chronic Reference Exposure Level (REL) of 5 (ARB 2012).

Table 4. Variables for Equation 3

		Exposed Subgroup	
Variable	**Definition**	**Adult**	**Student**
C_i	Annual Average Concentration in the air of DPM (ug/m^3)	AERSCREEN	
DBR	Daily Breathing Rate (L/kg body weight-day)	302	581
A	Inhalation Absorption Factor	1	1
EF	Exposure Frequency (days/year)	350	180
ED	Exposure Duration (years)	70	9
CF	Conversion Factor ([mg/µg] x [m^3/L])	10^{-6}	10^{-6}
AT	Averaging Time (in days, over 70-year average)	25,550	25,550
S_i	Cancer Potency Slope Factor for DPM (mg/kg-d)$^{-1}$	1.1	1.1
CRAF	Age Sensitivity Factor	1.7	3.0

Source: CAPCOA 2009, OEHHA 2003., ARB

Project Operations

Building modernization is not expected to affect facility energy consumption (e.g., electricity, natural gas) or vehicle trip characteristics, relative to existing conditions. Accordingly, building upgrades are not expected to result in increased direct or indirect operational criteria pollutant or GHG emissions, relative to existing conditions. Rather, replacement of inefficient building fixtures and other retrofits would likely reduce energy consumption and result in a regional reduction of criteria pollutant and GHG emissions. Accordingly, the operational assessment focuses exclusively on emissions generated by expansion of the athletic fields.

Mass Emissions Assessment

This section discusses the methodology used to estimate operational emissions associated with the athletic field operations. Two types of direct air pollutant sources are expected during operation of the athletic fields: *mobile* and *area*. Mobile sources are sources of emissions associated with vehicle trips. Area sources include emissions from natural gas combustion for cooking, landscaping activities, consumer products (e.g., personal care products), and periodic paint emissions from facility upkeep. These sources will directly generate long-term emissions of VOC, NO_X, CO, PM, CO_2, CH_4, and N_2O. Indirect GHG emissions (CO_2, CH_4, and N_2O) will also be generated by electricity use, water consumption, and waste generation.

Athletic field improvements will replace the existing football and baseball fields with synthetic turf. Operation of the existing fields currently generates emissions from irrigation and landscaping, which will be eliminated through installation of synthetic turf (which does not require irrigation or landscaping). While irrigation and landscaping emissions will be reduced, relative to existing conditions, the athletic field improvements will increase emissions from mobile sources through increased vehicle trips and increase lighting for the larger area. Construction of the new concession stands will also increase emissions from energy consumption and waste generation. The difference in operational emissions between the athletic field improvements and existing conditions represents the net impact of the project analyzed in this analysis.

Mobile Sources

Primary mobile sources are increased vehicle trips associated with expansion of the athletic fields. Criteria pollutant and GHG emissions generated by these sources were estimated using CalEEMod and vehicle trip data provided by the traffic engineers (KOA Corporation 2013). Based on the traffic study, it was assumed that implementation of the project would result in a net increase of 226 daily vehicle trips, relative to existing conditions. Refer to Attachment B for the CalEEMod output.

Area Sources, Energy, Water, and Waste

Project-specific information on area sources, energy use, water consumption, and waste generation were not available. Consequently, emissions generated by these sources were estimated using CalEEMod default values and land use assumptions. The CalEEMod “arena” category was used to estimate emissions generated by new 2,250-seat stadium and associated concessions. With regards to lighting, it was assumed the existing stadium has no outdoor lighting, while the proposed new

stadium would contain outdoor lighting. Electricity consumption for the outdoor lighting was estimated using estimated constant illumination (kilowatt [kw]) obtained from the lighting study (ICF 2013) coupled with the assumption that each game would last four hours and there would be 15 games per year. No changes to other operational sources (natural gas, waste, etc.) are expected as a result of the project.

Improvements to the football stadium and baseball fields include new artificial turf. The synthetic turf, which does not require irrigation or landscaping, is not anticipated to generate additional emissions, relative to existing conditions. Rather, the new turf will result in an emissions benefit because energy required to convey irrigation water and power landscaping equipment will be reduced. Criteria pollutants and GHG emissions generated under existing conditions by irrigation and landscaping were estimated using CalEEMod default values and land use assumptions. The CalEEMod "city park" category was used to estimated irrigation and landscaping emissions generated by the 6.33 existing acres of stadium fields. Because synthetic turf does not require irrigation or landscaping, these emissions would be eliminated with implementation of the project. Refer to Attachment B for the CalEEMod output.

CO Hotspot Assessment

The effects of localized CO hotspots were evaluated through CO dispersion modeling consistent with the *Transportation Project-Level Carbon Monoxide Protocol*, which was developed for Caltrans by the Institute of Transportation Studies at the University of California, Davis (Garza et al. 1997). The CO protocol details a qualitative step-by-step procedure to determine whether project-related CO concentrations have a potential to generate new air quality violations, worsen existing violations, or delay the attainment of the National Ambient Air Quality Standards (NAAQS) or California Ambient Air Quality Standards (CAAQS) for CO.

Roadway and Traffic Conditions

CO hotspots were evaluated at roadway intersections within the study area for existing (2012), near-term (2015), and horizon year (2035) conditions. Modeled traffic volumes and operating conditions were obtained from the traffic data prepared by the project traffic engineers, KOA Corporation (2013). Ambient CO concentrations near study area roadways were modeled using CALINE4. One-hour maximum CO concentrations were modeled using PM peak hour traffic volumes. Because CALINE4 does not estimate 8-hour concentrations, the modeled 1-hour CO concentrations were scaled by a persistence factor of 0.7 to obtain 8-hour concentrations. A persistence factor is a standard mechanism of relating concentrations from one averaging period to another. To ensure a conservative analysis, it was assumed that the hourly traffic during an 8-hour sampling period was equal to the 1-hour commuting peak flow rate.

CO modeling was conducted at the following three roadway intersections.

- Collwood Boulevard and Montezuma Road
- 54th Street and El Cajon Boulevard
- 54th Street and University Avenue

CALINE4 roadway geometry for each modeled intersection was based on satellite confirmation of the number of approach and departing lanes at each intersection. A 12-foot lane width was assumed; to ensure a conservative analysis, medians, sidewalks, and other buffers were not included in the roadway and receptor geometry.

Vehicle Emission Rates

Vehicle emission rates were determined using ARB's EMFAC2011 emission rate program. Free-flow traffic speeds were adjusted to 5.0 miles per hour (mph) to represent a worst-case scenario. EMFAC2011 estimates emission rates from approximately 50 vehicle classes. A composite emission factor for a typical San Diego vehicle fleet was calculated by weighting vehicle emissions by the relative amount of vehicle miles traveled (VMT) expected for each vehicle class.

Receptor Locations

CO concentrations were estimated at four receptor locations located at each of the four intersections, for a total of 16 receptors. The receptors were placed 3 meters from the traveled way at each intersection corner, based on CALINE4 guidance. A standard receptor elevation of 1.8 meters was used consistent with CO protocol guidance (Garza et al. 1997).

Meteorological Conditions

Meteorological inputs to the CALINE4 model were determined consistent with Caltrans' (1998) *Air Quality Technical Analysis Notes*. The meteorological conditions used in the modeling represent a calm winter period. Worst-case wind angles were modeled to estimate conservative CO concentrations at each receptor. The meteorological inputs include the following: wind speed of 0.5 meter per second, ground-level temperature inversion (atmospheric stability class G), wind direction standard deviation equal to 5 degrees, ambient temperature of 32°F, and a mixing height of 1,000 meters.

Thresholds of Significance

Criteria Pollutants

The following significance criteria are based on Appendix G of the State CEQA Guidelines and provide the basis for determining significance of impacts associated with air quality resulting from the implementation of the proposed project.

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
4. Expose sensitive receptors to substantial pollutant concentrations.
5. Create objectionable odors affecting a substantial number of people.

With respect to violating air quality standards, the adopted State CEQA Guidelines allow for the use of thresholds adopted by the local air pollution control agencies. In this case, the "AQIA trigger levels," as identified in SDAPCD's Regulation II, Rule 20.2, Table 20-2-1, are used as a screening criterion for potential significance of air quality impacts and have been adopted to ensure reduced air quality violations. Any project would be considered to have a potentially significant air quality impact if the project's emission levels were to exceed any of the criteria presented in Table 5. Note that Rule 20.2 does not include VOC or PM2.5 trigger levels. Therefore, VOC and PM2.5 threshold levels are taken from the County of San Diego.

Table 5. SDAPCD Screening Level Thresholds

Air Contaminant	Emission Rate (pounds/hour)	(pounds/day)	(tons/year)
PM10	--	100	15
PM2.5[1]	--	55	10
NOX	25	250	40
SOX[2]	25	250	40
CO	100	550	100
Pb[3]	--	3.2	0.6
VOC[4]	--	75	13.7

rce: SDAPCD Regulation II, Rule 20.2, South Coast Air Quality Management District 2011.

[1] Rule 20.1 does not include a PM2.5 threshold level. PM2.5 threshold level also used by the South Coast Air Quality Management District.

[2] Oxides of sulfur.

[3] Lead and lead compounds.

[4] The County of San Diego's CEQA Significance Determination Threshold for VOC threshold is based on South Coast Air Quality Management District (SCAQMD) levels and the Monterey Bay Air Pollution Control District (APCD), which has similar Federal and State attainment status as San Diego.

The District, City, and SDAPCD have not established analysis guidelines for sensitive receptors, including exposure to CO hotspots, toxic air contaminants (TACs), and odors. Therefore, the following County of San Diego criteria were used to determine whether the project would expose sensitive receptors to substantial pollutant concentrations.

- Would the project place sensitive receptors near CO "hotspots" or create CO "hotspots" near sensitive receptors?
- Would the project result in exposure to TACs resulting in a maximum incremental cancer risk greater than 1 in 1 million without application of Toxics Best Available Control Technology, or a health hazard index greater than 1, and thus be deemed as having a potentially significant impact?
- Would project either generate objectionable odors or place sensitive receptors next to existing objectionable odors, which would affect a considerable number of persons or the public?

The District, City, and SDAPCD have not established quantitative thresholds to determine whether a project would make a cumulatively considerable contribution to air quality impacts. Therefore, the following County of San Diego thresholds, which were developed by the SDAPCD and the South

Coast Air Quality Management District (SCAQMD), are utilized for the analysis cumulative air quality impacts (County of San Diego 2012).

- A project that has a significant direct impact on air quality with regard to emissions of PM10, PM2.5, NO_X, and/or VOCs would also have a significant cumulatively considerable net increase.
- In the event direct impacts from the proposed project are less than significant, a project may still have a cumulatively considerable impact on air quality if the emissions of concern from the proposed project, in combination with the emissions of concern from other past, present, or reasonably foreseeable future projects within the proximity relevant to the pollutants of concern, are in excess of direct air quality impact thresholds.

Greenhouse Gases

The following significance criteria are based on Appendix G of the State CEQA Guidelines and provide the basis for determining significance of impacts associated with greenhouse gases resulting from the implementation of the proposed project.

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

With respect to greenhouse gas emissions, the adopted State CEQA Guidelines allow for the use of thresholds adopted by the local air pollution control agencies but do not state the amount of GHG emissions that would constitute a significant impact on the environment. Instead, they leave the determination of the significance of GHG emissions up to the lead agency, and authorize the lead agency to consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence. (CEQA Guidelines Sections 15064.4(a) and 15064.7(c)).

The District has not yet formally adopted specific thresholds of significance with regards to GHG emissions in CEQA documents. However, the County of San Diego formally adopted guidelines in 2012 for evaluating the significance of climate change impacts (County of San Diego 2012). The guidelines identify a tiered approach to determining significance of project-related GHG emissions. Two bright-light numeric thresholds were adopted for annual emissions: 10,000 metric ton carbon dioxide equivalent ($MTCO_2e$) for stationary source projects and 2,500 $MTCO_2e$ for other development projects (County of San Diego 2012). The City of San Diego has also identified an interim GHG threshold for commercial and residential land use development projects. This interim threshold is based on the 900 metric ton (MT) screening threshold in the California Air Pollution Control Officers Association (CAPCOA) report *CEQA & Climate Change* and serves as a conservative screening threshold (City of San Diego 2010).

The County GHG thresholds were developed to evaluate operational-related GHG emissions, as opposed to construction-related emissions. Indeed, no air district within the state has adopted construction-related GHG emissions thresholds. However, by way of comparison, criteria pollutant thresholds for project operations are often equal to or more stringent than those adopted for

construction emissions. Accordingly, operational thresholds can be used to provide a conservative analysis of construction-related GHG emissions. A significant amount of GHG emissions is therefore defined as 2,500 $MTCO_2e$ per year,[5] consistent with the County's draft guidance. In accordance with the State CEQA Guidelines and scientific consensus regarding the cumulative nature of GHGs,[6] this technical memo includes a cumulative, rather than project-level, evaluation of GHG impacts.

The State CEQA Guidelines are currently silent on whether CEQA evaluations should address the potential impacts of climate change on a project. However, Section 15126.2(a) does note that the lead agency should "evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions." Accordingly, a lead agency should consider whether construction and operation of a project would be affected by climate change. In conducting such an evaluation, the agency should focus on the long-term impacts of the project that are more likely to experience the effects of climate change in the future. Foreseeable shifts in regional climate will likely spur changes in local patterns of flooding, wildfire potential, water availability, energy demand, environmental health, and heat-wave events (Cayan et.al. 2009). The project could place persons and property at higher levels of risk to climate change effects if it does not anticipate reasonably foreseeable changes in environmental conditions.

The Court of Appeals recently found that while an EIR must analyze environmental effects that may result from a project, it is not required to examine the effects of the environment on the project (see *Ballona Wetland Foundation v. City of Los Angeles*, 201 Cal. App. 4th 455). The Ballona decision potentially eliminates the need for lead agencies in the second appellate district to consider impacts of climate change on proposed projects. Unless binding legislation that overturns the Ballona decision is adopted,[7] courts throughout the state will be presented with the case as precedent. Nonetheless, courts outside the second district will have the discretion to differ in their interpretation of the State CEQA Guidelines and may find that an analysis of climate change effects on proposed projects is required. Accordingly, a discussion of the issue has been included in this technical memo for informational purposes.

Project Impacts and Mitigation Measures

Impact AQ-1: Implementation of the project would conflict with or obstruct implementation of the applicable air quality plan.

Impact Determination

San Diego County is currently designated as a attainment area for the old 1997 federal 8-hour ozone (0.08 ppm) standard but is nonattainment for the 2008 federal 8-hour ozone standard (0.075 ppm

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[5] Consistent with City and County guidance, construction emissions are amortized over 30 years to obtain an annual GHG estimate.

[6] Climate change is a global problem, and GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors), which are primarily pollutants of regional and local concern. Given their long atmospheric lifetimes, GHGs tend to accumulate in the atmosphere. Therefore, GHG impacts are inherently cumulatively considerable.

[7] On March 21, 2012, the California Supreme Court denied case review and depublication requests submitted by several environmental organizations.

and the state ozone, PM10, and PM2.5 standards (EPA 2012, ARB 2011b). The San Diego Regional Air Quality Strategy (RAQS) is the region's plan for improving air quality and attaining the federal and state air quality standards (SDAPCD 2009). The RAQS relies on information from the ARB and the San Diego Association of Governments (SANDAG) to project future emissions and determine appropriate emissions reduction strategies. On December 5, 2012, SDAPCD adopted the *Redesignation Request and Maintenance Plan for the 1997 National Ozone Standard for San Diego County* for the 8-hour ozone standards which revises the County's State Implementation Plan (SIP) (SDAPCD 2012:1–4).

A project is deemed inconsistent with air quality plans if it would result in population and/or employment growth that exceeds estimates used to develop applicable air quality plans, which, in turn, would generate emissions not accounted for in the regional emissions budgets. Therefore, the proposed project is evaluated to determine if it is consistent with the land use designations and growth anticipated in the RAQS and ozone maintenance plan prepared for the San Diego region.

The purpose of the proposed project is to implement needed school facilities improvements as identified in Proposition S. The proposed project would not permanently change the existing or planned transportation network or traffic patterns in the area. The project would also not add any additional capacity to existing roadways. Likewise, the project would not conflict with any applicable land use plan or policy because the project does not involve changes to the land usage of the project area. The project area remains an educational high school land use with athletic facilities. The proposed project would generate emissions during construction (discussed below), but these emissions would be short term and are not expected to impede attainment or maintenance of the NAAQS or CAAQS. Consequently, the project would not conflict with or obstruct implementation of RAQS or ozone SIP. Therefore, the impact would be less than significant.

Impact AQ-2: Implementation of the project would violate any air quality standard or contribute substantially to an existing or projected air quality violation.

As previously indicated, the proposed project consists of two main areas of facility improvements at the school as part of overall modernization efforts: modernization efforts in the upgrade of existing buildings, and the field improvement and construction of new support structures on the school's athletic grounds. Due to the lack of information of the specific improvements, the impact of the modernization of existing buildings was analyzed qualitatively. However, because the athletic support facilities were modeled using CalEEMod defaults, the impacts from these new athletic facilities and improvements were analyzed quantitatively.

Overall improvements proposed in this project are not expected to result in significant increases in operational emissions, relative to existing conditions. The replacement of inefficient building fixtures and other retrofits associated with existing building upgrades will likely reduce energy consumption and result in a regional reduction of criteria air pollutants and GHG emissions. Project elements associated with the new athletic facility will generate indirect and direct emissions associated with increased energy consumption (i.e., electricity and natural gas) and traffic. Conversely, athletic field improvements will replace the existing football and baseball fields with synthetic turf, which, in turn, will reduce indirect emissions generated from water use in irrigation

and landscaping. However, these new athletic support facilities are only expected to be used intermittently and for short durations during athletic events.

In addition, as described in the project's traffic impact study by KOA Corporation (2013), the new vehicle trips associated with the project are not considered significant, and the project is not expected to add additional capacity to area roadways. The following assessment focuses on both construction- and operational-related emissions.

Construction

Construction activities associated with the proposed project would generate short-term emissions of VOC, NO_X, CO, PM10, PM2.5, and SO_2 (see Impact AQ-6 for the discussion of GHG emissions). Emissions would originate from construction equipment exhaust, employee vehicle exhaust, and haul truck vehicle exhaust. Construction-related emissions would vary substantially depending on the level of activity, the specific construction operations, and wind and precipitation conditions.

Construction emissions from heavy-duty equipment and worker and haul trips were estimated using emission factors and methodologies within CalEEMod, Version 2013.2, and ARB's EMFAC2011. Based on information provided by the District, it was assumed that construction would involve several construction phases for the athletic facilities and building modernization between June 2014 and November 2016 (see Attachment A for detailed descriptions of the construction phases). Construction activities during several of these phases would likely occur concurrently. To ensure a conservative analysis, maximum daily emissions during these periods of overlap were estimated assuming all equipment would operate simultaneously.

An estimate of emissions associated with construction of the proposed project is presented in Table 6. As noted above, emissions are summarized during periods of construction activity overlap, as opposed to by individual construction phase. This approach is necessary to evaluate the maximum daily emissions that would be generated by concurrent construction activities.

Based on the assumed construction schedule, equipment use, and vehicle travel, Table 6 summarizes the estimated maximum daily criteria pollutants from the project's construction phases. These maximum daily emissions are presented with the SDAPCD significance thresholds to check for exceedances.

Table 6. Maximum Daily Construction Criteria Pollutant Emissions (pounds per day)

Date	VOC	NO_X	CO	SO2	PM10	PM2.5
Athletic Facilities Improvements and Construction						
Demolition	4.9	43.9	85.5	0.1	3.1	2.6
Site Preparation	5.6	51.4	99.9	0.1	3.7	3.1
Grading	4.2	34.5	67.8	0.0	17.3	4.0
Building Construction 2014	3.8	29.4	48.6	0.0	2.8	2.3
Building Construction 2015	3.5	27.3	47.3	0.0	2.7	2.1
Building Construction 2016	3.3	26.1	45.4	0.1	2.5	1.9
Paving	3.2	23.0	43.6	0.0	2.5	2.0
Architectural Coating	17.1	3.3	4.3	0.0	0.3	0.2
Athletic Fields Max Daily	*17.1*	*51.4*	*99.9*	*0.1*	*17.3*	*4.0*
Building Modernization						
Trench and install electrical and low voltage ductbank	4.1	29.7	57.4	0.1	2.7	2.3
Modernization work A	41.0	21.4	37.9	0.0	2.1	1.7
Modernization work B	1.3	11.0	18.8	0.0	1.0	0.7
Site Improvements (General) E	7.1	56.7	106.1	0.1	4.5	3.7
Modernization work D	2.0	16.7	28.0	0.0	1.4	1.1
Site Improvements (hardscape, landscape)	2.8	24.5	40.5	0.1	1.8	1.4
*Building Modernization Max Daily**	*55.7*	*143.2*	*252.8*	*0.3*	*11.9*	*9.5*
SDAPCD Trigger Levels	**75**	**250**	**550**	**250**	**100**	**55**
Exceed Trigger Levels?	No	No	No	No	No	No

* It was assumed that all modernization and site improvement work would overlap on a given day.
Source: ICF Emissions Modeling (Attachment B)

As shown in Table 6, the maximum daily emissions during construction are estimated to be well below SDAPCD thresholds for any given year of construction. Accordingly, this impact is considered less than significant. No mitigation is required.

Operation

The project consists of building modernization improvements and athletic field enhancements. The building upgrades associated with modernization improvements would not result in increased operational emissions, relative to existing conditions. Rather, replacement of inefficient building fixtures and other retrofits would likely reduce energy consumption and result in a regional reduction of criteria air pollutants. Accordingly, the operational assessment focuses exclusively on emissions generated by expansion of the athletic fields.

Operation of the project has the potential to generate emissions primarily associated with new mobile and area sources. Mobile sources include increased player and spectator vehicle trips. Area sources include off-gassing during the reapplication of architectural coatings, consumer products (e.g., cleaning supplies), and onsite natural gas combustion. Each of these sources was taken into account in calculating the project's long-term operational emissions, which were quantified using CalEEMod (Version 2013.2) and traffic data provided by KOA Corporation (2013). CalEEMod was also used to estimate emissions benefits associated with reduced landscaping activity from installation of artificial turf. Estimated existing- and project-related operational emissions are presented in Table 7.

As shown in Table 7, operation of the project is expected to result in minor increases in VOC, NO_X, CO, SO_2, PM10, and PM2.5 relative to existing conditions. These increases would be well below applicable SDAPCD trigger levels. Moreover, modernization upgrades would involve increased use of insulation within the school structures and installation of more efficient appliances/equipment, leading to lower operational criteria pollutants by way of less energy consumption for space and water heating. These savings could potentially offset a portion of the operational emissions shown in Table 7.

Table 7. Estimated Net Operational Emissions over Existing Conditions (pounds per day)

Source	VOC	NO_X	CO	SO_2	PM10	PM2.5
Existing Stadium						
Landscaping	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
New Stadium						
New Vehicle Trips	1.8	1.6	7.5	<0.1	0.9	0.3
Coatings and Consumer Products	7.7	--	--	--	--	--
Onsite Energy Use	0.1	0.9	0.7	<0.1	0.1	0.1
New Stadium Total Daily	*9.6*	*2.5*	*8.2*	*<0.1*	*1.0*	*0.3*
Project Increment over Existing Conditions	9.6	2.5	8.2	<0.1	1.0	0.3
SDAPCD Trigger Levels	**75**	**250**	**550**	**250**	**100**	**55**
Exceed Trigger Leels?	No	No	No	No	No	No

Source: ICF Emissions Modeling (Attachment B)

Concurrent Construction and Operational Emissions

Due to the project schedule, some overlap between the construction and operation of the project is expected to occur during the time the new stadium is operational while building modernization efforts are ongoing. The stadium is expected to be operational by the end of year 2015, while modernization improvements are expected to last until November 2019. Table 8 summarizes the combined modernization construction and net new stadium operational emissions that result on a given day as these activities overlap.

As shown in Table 8, however, maximum daily emissions from the combined construction and operational activity are anticipated to remain below SDAPCD trigger levels used by the City of San Diego. Accordingly, this impact is considered less than significant. No mitigation is required.

Table 8. Combined Daily Construction and Operational Emissions (pounds per day)

Source	VOC	NO_X	CO	SO_2	PM10	PM25
Max Modernization Construction[1]	17.9	146.8	252.8	0.3	11.9	9.5
Max Stadium Operations[2]	9.5	1.6	7.5	0.0	0.9	0.3
Maximum Daily Overlap	**27.4**	**148.4**	**260.3**	**0.3**	**12.8**	**9.7**
SDAPCD Trigger Levels	**75**	**250**	**550**	**250**	**100**	**55**
Exceed Trigger Levels?	*No*	*No*	*No*	*No*	*No*	*No*

Source: ICF Emissions Modeling (Attachment B).
[1] Maximum daily modernization construction emissions are presented in Table 6.
[2] Maximum daily operational emissions are the net new operational emissions over existing conditions presented in Table 7.

Impact Determination

Estimated maximum daily emissions that would occur during both construction and operation do not exceed SDAPCD thresholds; therefore, this impact is considered less than significant. No mitigation is required.

Impact AQ-3: Implementation of the project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.

The SDAB is currently in nonattainment for the federal 8-hour ozone standard as well as state ozone, PM10, and PM2.5 standards, as a result of past and present projects, and will be further impeded by reasonably foreseeable future projects (EPA 2012, ARB 2011b). Therefore, the emissions of concern within the SDAB are ozone precursors (VOC and NO_X), PM10, and PM2.5. The project would result in a cumulatively considerable net increase of these pollutants if emissions exceed the SDAPCD Trigger Levels shown in Table 5. In addition, cumulative impacts could occur if emissions of concern from other past, present, or reasonably foreseeable future projects within the proximity would expose nearby receptors to substantial pollutant concentrations.

As discussed in Impact AQ-2, the project would have a less-than-significant direct impact on air quality during construction and operation (see Tables 6 7, and 8). Construction activities might occur during the same period as other projects in the SDAB. Possible cumulative impacts on air quality as a result of these combined activities would be addressed by the standard SDAPCD measures that apply to construction projects, in addition to project-level mitigation strategies identified for each project. Likewise, as shown in Table 7, project-related operational emissions are expected to be minor and far below SDAPCD thresholds. Therefore, implementation of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.

See Chapter 6, "Cumulative Impacts" in the EIR for further discussion on the proposed project's cumulative air quality impacts.

Impact Determination

This impact is less than significant. No mitigation is required.

Impact AQ-4: Implementation of the project would expose sensitive receptors to substantial pollutant concentrations.

Diesel Particulate Matter

DPM is classified as a carcinogenic TAC by the ARB. TACs are pollutants that may result in an increase in mortality or serious illnesses or pose a present or potential hazard to human health. Health effects related to TACs include cancer, birth defects, neurological damage, damage to the body's natural defense system, and diseases that lead to death. Heavy-duty diesel-powered construction equipment and haul trucks represent sources of DPM from project construction.

Construction of the project would occur within an existing school facility that would be considered a sensitive receptor. There are also several homes located immediately west of the school, approximately 36 feet (11 meters) from the school's western boundary. Construction activities, such as building modernization and electrical installation, could potentially occur during the school year and expose students to elevated concentrations of DPM, which are characterized as PM10 exhaust in this analysis.

A screening-level health risk assessment (HRA) was performed using the AERSCREEN dispersion model and estimated PM10 exhaust emissions, as calculated for Table 6. The results of the HRA are summarized in Table 9 and are compared to SDAPCD's cancer and non-cancer risk thresholds. Table 9 presents the maximum construction-related health risks for exposed adults and students. As shown in Table 9, project construction would not result in significant increases of the non-cancer or cancer risk. Therefore, the project-level impact is considered less than significant. No mitigation is required

Table 9. Maximum Project-Level Health Risks during Construction

Exposed Subgroup	Non-Cancer Hazard Index	Increased Cancer Risk (per million)
Adult[1]	0.0939	1.97E-04
Student[2]	0.0939	4.42E-05
Thresholds	1.0	10
Exceed Thresholds?	*No*	*No*

Source: ICF Emissions Modeling (Attachment C)
[1] Maximum concentrations would occur at 25 meters from the construction fence line.
[2] Since construction could occur during the school year with students immediately adjacent to construction activities, the highest modeled receptor location was used to evaluate health risks to students.

Carbon Monoxide Hot-Spots

Traffic generated by the project would have the potential to create CO hotspots at nearby roadways and intersections. Existing (2012), near-term (2015), and horizon year (2035) traffic conditions were modeled to evaluate CO concentrations relative to the state and federal air quality standards. CO concentrations were modeled at the following study area intersections, as identified in the traffic impact assessment for the project: Lamont Street/Grand Avenue, Mission Bay Drive/Bluffside Avenue, Mission Bay Drive/Garnet Avenue, and Mission Bay Drive/Grand Avenue. Detailed information on emissions modeling and quantification methods is included in Attachment B. Table 10 presents the results of the CO hotspot modeling and indicates that CO concentrations are not expected to contribute to any new localized violations of the 1- or 8-hour ambient air quality standards. Consequently, this impact is considered less than significant. No mitigation is required.

Table 10. Modeled CO Concentrations at Affected Intersections[1]

Intersection	Receptor[2]	Existing No Project		Existing Project		Near Term No Project		Near Term Project		Horizon No Project		Horizon Project	
		1-hr[3,4]	8-hr[3,4]	1-hr[3,4]	8-hr[3,4]	1-hr[3,4]	8-hr[3,4]	1-hr[3,4]	8-hr[3,4]	1-hr[3,4]	8-hr[3,4]	1-hr[3,4]	8-hr[3,4]
Collwood Blvd & Montezuma Rd	1	7.1	5.2	7.2	5.3	6.1	4.5	6.2	4.6	4.2	3.2	4.2	3.2
	2	6.5	4.8	6.5	4.8	5.6	4.1	5.7	4.2	4.0	3.0	4.0	3.0
	3	7.0	5.1	7.0	5.1	6.1	4.5	6.1	4.5	4.1	3.1	4.1	3.1
	4	6.3	4.6	6.3	4.6	5.5	4.1	5.5	4.1	4.0	3.0	4.0	3.0
54th St & El Cajon Blvd	5	5.6	4.1	5.6	4.1	5.0	3.7	5.1	3.8	3.8	2.9	3.8	2.9
	6	5.9	4.4	6.0	4.4	5.3	3.9	5.3	3.9	3.9	3.0	3.9	3.0
	7	5.7	4.2	5.8	4.3	5.2	3.9	5.2	3.9	3.8	2.9	3.8	2.9
	8	5.5	4.1	5.6	4.1	4.9	3.7	5.0	3.7	3.8	2.9	3.8	2.9
54th St & University Ave	9	6.3	4.6	6.3	4.6	5.4	4.0	5.5	4.1	3.9	3.0	3.9	3.0
	10	6.4	4.7	6.4	4.7	5.6	4.1	5.6	4.1	4.0	3.0	4.0	3.0
	11	5.9	4.4	5.9	4.4	5.2	3.9	5.2	3.9	3.9	3.0	3.9	3.0
	12	5.8	4.3	5.9	4.4	5.2	3.9	5.2	3.9	3.8	2.9	3.8	2.9

[1] Background concentrations of 2.8 and 2.77 parts per million (ppm) were added to the modeling 1- and 8-hour results, respectively.
[2] Receptors 1 through 16 are located 100 feet from the center of each intersection diagonal, 71 feet from the roadway centerline, and at the boundary of the mixing zone.
[3] The federal and state 1-hour standards are 35 and 20 ppm, respectively.
[4] The federal and state 8-hour standards are 9 and 9.0 ppm, respectively.

Asbestos

Demolition of the athletic facilities or modernization of the existing school facility could result in disturbance of asbestos-containing material (ACM) in the event that asbestos was used for building insulation or other building materials. Consequently, the project would be required to comply with the EPA's asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations in the event asbestos is present at the existing facilities. The asbestos NESHAP regulations protect the public by minimizing the release of asbestos fibers during activities involving the processing, handling, and disposal of ACM. The asbestos NESHAP is found in SDAPCD Regulation XI, "National Emission Standards for Hazardous Air Pollutants (NESHAPS), Subpart M (National Emission Standard for Asbestos), Rule 361.150 Standard for Waste Disposal for Manufacturing, Fabricating, Demolition, Renovation, and Spraying Operations."

Accordingly, the asbestos NESHAP specifies work practices to be followed during demolition and renovation of all structures, installations, and buildings (excluding residential buildings that have four or fewer dwelling units). In addition, the regulations require the owner of the building and/or the contractor to notify applicable state and local agencies and/or EPA regional offices before all demolitions or before renovations of buildings that contain a certain threshold amount of asbestos. Compliance with the asbestos NESHAP, which would be mandatory in the event ACM is found on site, would mitigate any asbestos-related impact to a less-than-significant level.

Impact Determination

Neither construction nor operation of the project would expose sensitive populations to substantial pollutant concentrations. As a result, this impact is considered less than significant. No mitigation is required.

Impact AQ-5: Implementation of the project would create objectionable odors affecting a substantial number of people.

Although offensive odors rarely cause any physical harm, they can be unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and air districts. Project-related odor emissions would be evident in the immediately surrounding area during the construction period. Potential sources that may emit odors during construction activities include diesel exhaust and architectural coating of buildings. Project operations may result in odors from the use of architectural coatings for athletic facility maintenance, although these odors are expected to be minor and localized to the athletic complex. Accordingly, construction and operation of the project would not result in nuisance odors that would violate SDAPCD Rule 51.

Impact Determination

This impact is considered less than significant. No mitigation is required.

Impact AQ-6: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Construction and operation of the proposed project would result in GHG emissions. Construction activities would generate emissions of CO_2, CH_4, and N_2O from the use of equipment (e.g., forklifts, pavers) and onroad vehicles (e.g., employee commute vehicles, haul trucks, material delivery trucks). Construction emissions emitted by these sources were estimated using emission factors provided by CalEEMod (Version 2013.2), the EMFAC2011 web-tool, and published non-CO_2 emissions factors from the Climate Registry. Table 11 summarizes the results of the emissions modeling. Emission calculations and model outputs are provided in Attachment A.

Table 11. Construction-Related Greenhouse Gas Emissions (metric tons)

	Construction Equipment			Onroad Vehicles		
Year	CO_2	CH_4	N_2O	CO_2	Other[1]	CO_2e
Athletic Facilities Improvements and Construction						
Demolition	38	0.00	0.00	14	0.21	52
Site Preparation	19	0.00	0.00	8	0.12	27
Grading	29	0.00	0.00	14	0.21	43
Building Construction	493	0.03	0.01	414	6.72	919
Paving	21	0.00	0.00	16	0.32	37
Architectural Coating	1	0.00	0.00	2	0.04	3
Building Modernization						
Trench and Install Electrical and Low Voltage Duct Bank	307	0.02	0.01	10	0.47	320
Modernization Work in Existing Buildings	384	0.02	0.01	53	2.52	443
Site Improvements (General)b	254	0.01	0.01	27	1.29	285
Site Improvements (Hardscape, Landscape)	256	0.01	0.01	54	2.58	315
Total Construction Emissions	**1,802**	**0.10**	**0.05**	**611**	**29.03**	**2,458**
Amortized Total[2]	--	--	--	--	--	***82***

Source: ICF emissions modeling (Attachment A).
[1] Includes CH_4, N_2O, and other trace GHGs emitted by onroad vehicles.
[2] Total construction emissions were divided by 30 to obtain the amortized emissions total.

As shown in Table 11, construction of the proposed project would result in approximately 2,459 $MTCO_2e$ over the approximately 5.5-year construction period. Consistent with the County's draft GHG guidance, the sum of project-related GHG emissions were amortized over a 30-year period, which results in an average annual GHG emission rate of approximately 82 $MTCO_2e$. The amortized 30-year average GHG emission rate is considerably lower than the draft 2,500 MT per year threshold used by the County of San Diego. Moreover, modernization of existing buildings would improve insulation of the school and install more efficient appliances/equipment, leading to lower operational GHGs by way of less energy consumption. These savings could potentially offset a

portion of the amortized emissions. GHG impacts caused by emissions from project construction are therefore considered to be less than significant.

Operation

As noted in Impact AQ-2, building upgrades associated with modernization improvements would not result in increased operational emissions, relative to existing conditions. Rather, replacement of inefficient building fixtures and other retrofits would likely reduce energy consumption and result in a regional reduction of GHG emissions. Accordingly, the operational assessment focuses exclusively on GHG emissions generated by expansion of the athletic fields.

The athletic field improvements would generate direct and indirect operational GHG emissions. Sources of direct emissions include mobile vehicle trips and landscaping equipment exhaust. Indirect emissions would be generated by electricity use, waste generation, and water consumption. Existing sources include emissions associated with field irrigation as well as landscaping to maintain the grass field. Estimated existing- and project-generated operational emissions are presented in Table 12.

Table 12. Estimated Net Operational Emissions (metric tons per year)[1]

Source	CO_2	CH_4	N_2O	CO_2e
Existing Stadium				
Landscaping (for grass fields)	<1	<0.01	<0.01	<1
Irrigation Water	27	<0.01	<0.01	27
Existing Stadium Total	*27*	*<0.01*	*<0.01*	*27*
New stadium				
New Vehicle Trips	28	<0.01	<0.01	28
Electricity Use (outdoor lighting only)	293	0.01	<0.01	294
Waste Generation	<1	0.01	0.00	<1
Water Consumption (indoor only)	39	0.28	0.01	47
New Stadium Total	*360*	*0.30*	*0.01*	*369*
Project Increment over Existing Conditions	**332**	**0.30**	**0.01**	**342**
Project Increment over Existing Conditions plus Amortized Construction	**--**	**--**	**--**	**424**
County Threshold	**--**	**--**	**--**	**2,500**
Exceed Threshold?	--	--	--	*No*

Source: ICF Emissions Modeling (Attachment B)

As shown in Table 12, long-term operation of the project would result in an estimated increase of approximately 342 $MTCO_2e$ per year over existing conditions. When combined with amortized construction (82 $MTCO_2e$, Table 11), the project would result in a net increase of approximately 424 $MTCO_2e$ per year over existing conditions. This total is considerably lower than the 2,500 $MTCO_2e$

per year threshold adopted by the County. Therefore, this impact is considered less than significant. No mitigation is required.

Impact Determination

Estimated GHG emissions resulting from construction and operations of the proposed project are expected to be below the County's adopted threshold of 2,500 $MTCO_2e$ per year. Accordingly, this impact is considered less than significant. No mitigation is required.

Impact AQ-7: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

SDAPCD has not yet adopted a qualified plan, policy, or regulation to reduce GHG emissions. Therefore, the most applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions is Assembly Bill (AB) 32, which codified the state's GHG emissions reduction targets for the future.

ARB adopted the AB 32 Scoping Plan as a framework for achieving AB 32. The Scoping Plan outlines a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions. These strategies are geared towards sectors and activities that generate significant amounts of GHGs. For example, the majority of measures address building energy, waste and wastewater generation, goods movement, onroad transportation, water usage, and high global warming potential gases. The County adopted the 2,500 $MTCO_2e$ threshold as a method to close the gap between emissions reductions from land-use driven sectors that would occur at the state level (including Pavley, low carbon fuel standard, and Renewable Portfolio Standard, among others) and the emission reductions necessary from land use development projects that have a lower carbon intensity. Through a multi-step approach, the County concluded that a 2,500 $MTCO_2e$ mass emission GHG threshold would be needed to achieve the emission reductions necessary by 2020 to meet the County's share of the statewide gap.

As discussed under Impact AQ-6 above, construction and operation of the proposed project would result in emissions below the County's 2,500 $MTCO_2e$ threshold. Consequently, none of the AB 32 reduction strategies are applicable to construction of the project. Facility upgrades associated with long-term operation of the project are consistent with AB 32 because they would result in energy efficiency and building energy enhancements. Likewise, installation of artificial turf would reduce water consumption and the use of natural resources. Implementation of the project would therefore not conflict with implementation of AB 32, and this impact is considered less than significant.

Impact Determination

This impact is considered less than significant. No mitigation is required.

Impact AQ-8: Expose property and persons to the physical effects of climate change, including but not limited to flooding, public health, wildfire risk, or other impacts resulting from climate change.

The project would not result in any major changes to land use such that the inhabitants/users of the school or the surrounding area would be subject to increased flooding, worsened public health, wildfire risk, or other climate change impacts.

Impact Determination

This impact is considered less than significant. No mitigation is required.

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Air Quality and Greenhouse Gas Attachments

A) Construction Emission Calculations
B) Operational Emission Calculations
C) Carbon Monoxide Hotspot Modeling
D) Health Risk Assessment

A) Construction Emission Calculations

OFFROAD EQUIPMENT CALCS

Phase	Equipment	Number per Day	Default HP	Fuel Type	Hrs/Day	Start Date of Activity	End Date of Activity	Total Days	Year	CalEEMod Name	LF	Emissions (pounds per day)						Emissions (metric tons total)			total PM10 exhaust (lbs)
												ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4	N2O	
Demolition	Concrete/Industrial Saws	1	81	Diesel	8	6/1/2014	6/27/2014	20	2014	Concrete/Industrial Saws	0.73	0.8	3.8	5.4	0.0	0.4	0.4	5.4	0.0	0.0	8.593287
Demolition	Excavators	3	163	Diesel	8	6/1/2014	6/27/2014	20	2014	Excavators	0.38	1.3	10.4	15.3	0.0	0.8	0.7	15.4	0.0	0.0	15.04763
Demolition	Rubber Tired Dozers	2	255	Diesel	8	6/1/2014	6/27/2014	20	2014	Rubber Tired Dozers	0.40	2.5	22.0	28.7	0.0	1.3	1.2	17.0	0.0	0.0	26.76442
Site Preparation	Rubber Tired Dozers	3	255	Diesel	8	6/28/2014	7/11/2014	10	2014	Rubber Tired Dozers	0.40	3.8	32.9	43.1	0.0	2.0	1.8	12.7	0.0	0.0	20.07331
Site Preparation	Tractors/Loaders/Backhoes	4	98	Diesel	8	6/28/2014	7/11/2014	10	2014	Tractors/Loaders/Backhoes	0.37	1.5	9.7	14.2	0.0	1.1	1.0	6.0	0.0	0.0	11.15976
Grading	Excavators	1	163	Diesel	8	7/12/2014	8/8/2014	20	2014	Excavators	0.38	0.4	3.5	5.1	0.0	0.3	0.2	5.1	0.0	0.0	5.015876
Grading	Graders	1	175	Diesel	8	7/12/2014	8/8/2014	20	2014	Graders	0.41	1.1	5.0	11.0	0.0	0.6	0.6	6.0	0.0	0.0	12.30158
Grading	Rubber Tired Dozers	1	255	Diesel	8	7/12/2014	8/8/2014	20	2014	Rubber Tired Dozers	0.40	1.3	11.0	14.4	0.0	0.7	0.6	8.5	0.0	0.0	13.38221
Grading	Tractors/Loaders/Backhoes	3	98	Diesel	8	7/12/2014	8/8/2014	20	2014	Tractors/Loaders/Backhoes	0.37	1.1	7.3	10.7	0.0	0.8	0.8	9.1	0.0	0.0	16.73963
Building Construction 2014	Cranes	1	226	Diesel	7	8/9/2014	12/31/2014	103	2014	Cranes	0.29	0.7	2.7	7.9	0.0	0.4	0.3	24.3	0.0	0.0	37.31904
Building Construction 2014	Forklifts	3	89	Diesel	8	8/9/2014	12/31/2014	103	2014	Forklifts	0.20	0.5	3.3	6.0	0.0	0.3	0.3	23.0	0.0	0.0	33.80672
Building Construction 2014	Generator Sets	1	84	Diesel	8	8/9/2014	12/31/2014	103	2014	Generator Sets	0.74	0.8	3.9	5.6	0.0	0.4	0.4	29.1	0.0	0.0	43.47436
Building Construction 2014	Tractors/Loaders/Backhoes	3	98	Diesel	7	8/9/2014	12/31/2014	103	2014	Tractors/Loaders/Backhoes	0.37	1.0	6.4	9.3	0.0	0.7	0.7	40.8	0.0	0.0	75.43298
Building Construction 2014	Welders	1	46	Diesel	8	8/9/2014	12/31/2014	103	2014	Welders	0.45	0.3	1.4	2.0	0.0	0.2	0.2	9.7	0.0	0.0	17.44817
Building Construction 2015	Cranes	1	226	Diesel	7	1/1/2015	12/31/2015	261	2015	Cranes	0.29	0.6	2.7	7.7	0.0	0.3	0.3	61.0	0.0	0.0	91.33026
Building Construction 2015	Forklifts	3	89	Diesel	8	1/1/2015	12/31/2015	261	2015	Forklifts	0.20	0.5	3.3	5.8	0.0	0.3	0.3	57.6	0.0	0.0	83.11274
Building Construction 2015	Generator Sets	1	84	Diesel	8	1/1/2015	12/31/2015	261	2015	Generator Sets	0.74	0.7	3.8	5.2	0.0	0.4	0.4	73.8	0.0	0.0	99.28994
Building Construction 2015	Tractors/Loaders/Backhoes	3	98	Diesel	7	1/1/2015	12/31/2015	261	2015	Tractors/Loaders/Backhoes	0.37	1.0	6.4	9.1	0.0	0.7	0.7	102.3	0.0	0.0	185.0357
Building Construction 2015	Welders	1	46	Diesel	8	1/1/2015	12/31/2015	261	2015	Welders	0.45	0.3	1.4	1.9	0.0	0.2	0.2	24.6	0.0	0.0	39.92539
Building Construction 2016	Cranes	1	226	Diesel	7	1/1/2016	2/24/2016	39	2016	Cranes	0.29	0.6	2.6	7.4	0.0	0.3	0.3	9.0	0.0	0.0	13.13576
Building Construction 2016	Forklifts	3	89	Diesel	8	1/1/2016	2/24/2016	39	2016	Forklifts	0.20	0.5	3.3	5.4	0.0	0.3	0.3	8.5	0.0	0.0	11.50155
Building Construction 2016	Generator Sets	1	84	Diesel	8	1/1/2016	2/24/2016	39	2016	Generator Sets	0.74	0.6	3.8	4.8	0.0	0.3	0.3	11.0	0.0	0.0	13.21169
Building Construction 2016	Tractors/Loaders/Backhoes	3	98	Diesel	7	1/1/2016	2/24/2016	39	2016	Tractors/Loaders/Backhoes	0.37	0.9	6.4	8.6	0.0	0.7	0.6	15.1	0.0	0.0	25.79457
Building Construction 2016	Welders	1	46	Diesel	8	1/1/2016	2/24/2016	39	2016	Welders	0.45	0.3	1.4	1.7	0.0	0.1	0.1	3.7	0.0	0.0	5.339376
Paving	Pavers	2	126	Diesel	8	2/25/2016	3/23/2016	20	2016	Pavers	0.42	1.2	6.9	10.8	0.0	0.8	0.8	8.4	0.0	0.0	16.8229
Paving	Paving Equipment	2	131	Diesel	8	2/25/2016	3/23/2016	20	2016	Paving Equipment	0.36	1.0	6.2	9.4	0.0	0.7	0.7	7.5	0.0	0.0	14.34242
Paving	Rollers	2	81	Diesel	8	2/25/2016	3/23/2016	20	2016	Rollers	0.38	0.7	4.0	6.2	0.0	0.5	0.4	4.9	0.0	0.0	9.111682
Architectural Coating	Air Compressors	1	78	Diesel	6	3/24/2016	4/6/2016	10	2016	Air Compressors	0.48	0.4	1.9	2.4	0.0	0.2	0.2	1.3	0.0	0.0	1.966128
Trench and install electrical and low voltage duc	Concrete saw	1	81	Diesel	8	4/7/2016	11/30/2016	170	2016	Concrete/Industrial Saws	0.73	0.6	3.8	4.6	0.0	0.3	0.3	45.7	0.0	0.0	59.03714
Trench and install electrical and low voltage duc	Air compressor	1	78	Diesel	6	4/7/2016	11/30/2016	170	2016	Air Compressors	0.48	0.4	1.9	2.4	0.0	0.2	0.2	21.7	0.0	0.0	33.42418
Trench and install electrical and low voltage duc	Backhoe	1	98	Diesel	7	4/7/2016	11/30/2016	170	2016	Tractors/Loaders/Backhoes	0.37	0.3	2.1	2.9	0.0	0.2	0.2	22.0	0.0	0.0	37.47929
Trench and install electrical and low voltage duc	Dump truck	1	400	Diesel	8	4/7/2016	11/30/2016	170	2016	Off-Highway Trucks	0.38	0.9	5.1	10.9	0.0	0.4	0.4	106.0	0.0	0.0	69.97765
Trench and install electrical and low voltage duc	Bobcat loader	1	98	Diesel	7	4/7/2016	11/30/2016	170	2016	Tractors/Loaders/Backhoes	0.37	0.3	2.1	2.9	0.0	0.2	0.2	22.0	0.0	0.0	37.47929
Trench and install electrical and low voltage duc	Forklift	1	89	Diesel	6	4/7/2016	11/30/2016	170	2016	Forklifts	0.20	0.1	0.8	1.3	0.0	0.1	0.1	9.3	0.0	0.0	12.53374
Trench and install electrical and low voltage duc	Roller	1	84	Diesel	8	4/7/2016	11/30/2016	170	2016	Pumps	0.74	0.7	3.9	4.9	0.0	0.4	0.4	48.0	0.0	0.0	60.57139
Trench and install electrical and low voltage duc	Asphalt truck	1	131	Diesel	8	4/7/2016	11/30/2016	170	2016	Paving Equipment	0.36	0.5	3.1	4.7	0.0	0.4	0.3	32.0	0.0	0.0	60.95529
Modernization work A	Forklift	4	89	Diesel	6	12/1/2016	6/16/2017	142	2016	Forklifts	0.20	0.5	3.3	5.4	0.0	0.3	0.3	31.0	0.0	0.0	41.87742
Modernization work A	Crane	2	226	Diesel	4	12/1/2016	6/16/2017	142	2016	Cranes	0.29	1.3	5.5	11.0	0.0	0.8	0.8	37.3	0.0	0.0	115.7931
Modernization work A	Air compressor	1	78	Diesel	6	12/1/2016	6/16/2017	142	2016	Air Compressors	0.48	0.4	1.9	2.4	0.0	0.2	0.2	18.1	0.0	0.0	27.91902
Modernization work A	Concrete saw	1	81	Diesel	8	12/1/2016	6/16/2017	142	2016	Concrete/Industrial Saws	0.73	0.6	3.8	4.6	0.0	0.3	0.3	38.2	0.0	0.0	49.31337
Modernization work B	Forklift	4	89	Diesel	6	6/17/2017	12/17/2017	130	2017	Forklifts	0.20	0.5	3.3	5.1	0.0	0.3	0.3	27.9	0.0	0.0	36.31192
Modernization work B	Crane	2	226	Diesel	4	6/17/2017	12/17/2017	130	2017	Cranes	0.29	0.6	2.7	7.6	0.0	0.3	0.3	33.8	0.0	0.0	44.33281
Modernization work C	Forklift	2	89	Diesel	6	12/18/2017	4/6/2018	80	2017	Forklifts	0.20	0.2	1.6	2.6	0.0	0.1	0.1	8.6	0.0	0.0	11.1729
Modernization work C	Crane	1	226	Diesel	4	12/18/2017	4/6/2018	80	2017	Cranes	0.29	0.3	1.4	3.8	0.0	0.2	0.2	10.4	0.0	0.0	13.64087
Modernization work C	Air compressor	1	78	Diesel	6	12/18/2017	4/6/2018	80	2017	Air Compressors	0.48	0.3	1.9	2.2	0.0	0.2	0.2	10.2	0.0	0.0	13.8669
Modernization work C	Concrete saw	1	81	Diesel	8	12/18/2017	4/6/2018	80	2017	Concrete/Industrial Saws	0.73	0.6	3.7	4.3	0.0	0.3	0.3	21.5	0.0	0.0	24.52841
Site Improvements (General) E	Forklift	2	89	Diesel	6	4/7/2018	7/27/2018	80	2018	Forklifts	0.20	0.2	1.6	2.1	0.0	0.1	0.1	8.5	0.0	0.0	9.176635
Site Improvements (General) E	Vibratory compactor	2	85	Diesel	4	4/7/2018	7/27/2018	80	2018	Crushing/Proc. Equipment	0.78	0.7	4.4	4.5	0.0	0.3	0.3	24.1	0.0	0.0	26.56722
Site Improvements (General) E	Dozer	1	255	Diesel	8	4/7/2018	7/27/2018	80	2018	Rubber Tired Dozers	0.40	1.1	8.9	11.6	0.0	0.5	0.5	32.2	0.0	0.0	42.77153
Site Improvements (General) E	Grader	1	175	Diesel	8	4/7/2018	7/27/2018	80	2018	Graders	0.41	0.8	4.7	8.3	0.0	0.5	0.4	22.7	0.0	0.0	37.40892
Site Improvements (General) E	Water Truck	1	400	Diesel	8	4/7/2018	7/27/2018	80	2018	Off-Highway Trucks	0.38	0.8	4.2	8.3	0.0	0.3	0.3	48.3	0.0	0.0	24.31924
Site Improvements (General) E	Air compressor	2	78	Diesel	6	4/7/2018	7/27/2018	80	2018	Air Compressors	0.48	0.6	3.7	4.0	0.0	0.3	0.3	20.4	0.0	0.0	24.08879
Site Improvements (General) E	Bobcat loader	1	98	Diesel	7	4/7/2018	7/27/2018	80	2018	Tractors/Loaders/Backhoes	0.37	0.2	2.1	2.3	0.0	0.2	0.2	10.0	0.0	0.0	13.1109
Site Improvements (General) E	Concrete pump	1	84	Diesel	8	4/7/2018	7/27/2018	80	2018	Pumps	0.74	0.5	3.8	4.2	0.0	0.3	0.3	22.6	0.0	0.0	22.10171
Site Improvements (General) E	Concrete mixing truck	1	9	Diesel	8	4/7/2018	7/27/2018	80	2018	Cement and Mortar Mixers	0.56	0.1	0.3	0.4	0.0	0.0	0.0	1.8	0.0	0.0	1.159131
Site Improvements (General) E	Backhoe	1	98	Diesel	7	4/7/2018	7/27/2018	80	2018	Tractors/Loaders/Backhoes	0.37	0.2	2.1	2.3	0.0	0.2	0.2	10.0	0.0	0.0	13.1109
Site Improvements (General) E	Paver	1	126	Diesel	8	4/7/2018	7/27/2018	80	2018	Pavers	0.42	0.5	3.4	4.6	0.0	0.3	0.3	16.3	0.0	0.0	27.64861
Site Improvements (General) E	Asphalt truck	1	131	Diesel	8	4/7/2018	7/27/2018	80	2018	Paving Equipment	0.36	0.4	3.0	3.5	0.0	0.2	0.2	14.6	0.0	0.0	19.7723
Site Improvements (General) E	Roller	1	84	Diesel	8	4/7/2018	7/27/2018	80	2018	Pumps	0.74	0.5	3.8	4.2	0.0	0.3	0.3	22.6	0.0	0.0	22.10171
Modernization work D	Forklift	4	89	Diesel	6	7/28/2018	3/23/2019	170	2018	Forklifts	0.20	0.4	3.2	4.2	0.0	0.2	0.2	36.0	0.0	0.0	39.0007
Modernization work D	Crane	2	226	Diesel	4	7/28/2018	3/23/2019	170	2018	Cranes	0.29	0.6	2.5	6.6	0.0	0.3	0.3	43.6	0.0	0.0	48.82159
Modernization work D	Air compressor	1	78	Diesel	6	7/28/2018	3/23/2019	170	2018	Air Compressors	0.48	0.3	1.9	2.0	0.0	0.2	0.2	21.7	0.0	0.0	25.59434
Modernization work D	Concrete saw	1	81	Diesel	8	7/28/2018	3/23/2019	170	2018	Concrete/Industrial Saws	0.73	0.5	3.7	3.9	0.0	0.3	0.3	45.7	0.0	0.0	45.38591
Site Improvements (hardscape, landscape)	Air compressor	1	78	Diesel	6	3/24/2019	11/1/2019	160	2019	Air Compressors	0.48	0.3	1.8	1.8	0.0	0.1	0.1	20.4	0.0	0.0	20.60225
Site Improvements (hardscape, landscape)	Concrete saw	1	81	Diesel	8	3/24/2019	11/1/2019	160	2019	Concrete/Industrial Saws	0.73	0.5	3.7	3.6	0.0	0.2	0.2	43.0	0.0	0.0	36.70919
Site Improvements (hardscape, landscape)	Backhoe	1	98	Diesel	7	3/24/2019	11/1/2019	160	2019	Tractors/Loaders/Backhoes	0.37	0.2	2.0	2.1	0.0	0.1	0.1	19.6	0.0	0.0	21.96272
Site Improvements (hardscape, landscape)	Dump truck	1	400	Diesel	8	3/24/2019	11/1/2019	160	2019	Off-Highway Trucks	0.38	0.7	4.0	7.2	0.0	0.3	0.2	94.9	0.0	0.0	41.84947
Site Improvements (hardscape, landscape)	Bobcat loader	1	98	Diesel	7	3/24/2019	11/1/2019	160	2019	Tractors/Loaders/Backhoes	0.37	0.2	2.0	2.1	0.0	0.1	0.1	19.6	0.0	0.0	21.96272
Site Improvements (hardscape, landscape)	Forklift	1	89	Diesel	6	3/24/2019	11/1/2019	160	2019	Forklifts	0.20	0.1	0.8	0.9	0.0	0.0	0.0	8.3	0.0	0.0	7.995627
Site Improvements (hardscape, landscape)	Concrete mixing truck	1	9	Diesel	8	3/24/2019	11/1/2019	160	2019	Cement and Mortar Mixers	0.56	0.1	0.3	0.4	0.0	0.0	0.0	3.7	0.0	0.0	2.394039
Site Improvements (hardscape, landscape)	Concrete pump	1	84	Diesel	8	3/24/2019	11/1/2019	160	2019	Pumps	0.74	0.5	3.8	3.8	0.0	0.2	0.2	45.2	0.0	0.0	38.06405
Site Improvements (hardscape, landscape)	Plate compactor	1	8	Diesel	4	3/24/2019	11/1/2019	160	2019	Plate Compactors	0.43	0.0	0.1	0.1	0.0	0.0	0.0	1.3	0.0	0.0	0.781445
																					2331.065

ONROAD VEHICLES CALCS

Activity	Type	Number per Day	Total Trips	Fuel Type	Round Trips/day	Mi/round trip	VMT/day	Start Date of Activity	End Date of Activity	Total Days	Total VMT	Year	EMFAC name	Pounds per Day (g/mi*mi/day*lbs/g)						MT/Phase		PM10 road dust	PM2.5 road dust
														ROG	CO	NOX	SO2	PM10 exh	PM2.5 exh	CO2	Other		
Athletic Fields																							
Demolition	Employee Vehicle	8	160	G/D	16	19	304	6/1/2014	6/27/2014	20	6080	**2014**	**LDA/LDT**	0.0	1.4	0.2	0.0	0.0	0.0	2	0.1	0.20	0.05
Demolition	Dump Truck, Standard	8	160	D	8	40	320	6/1/2014	6/27/2014	20	6400	**2014**	**T7 Tractor**	0.3	1.3	7.6	0.0	0.2	0.1	11	0.5	0.21	0.05
Site Preparation	Employee Vehicle	9	90	G/D	18	19	342	6/28/2014	7/11/2014	10	3420	**2014**	**LDA/LDT**	0.1	1.6	0.2	0.0	0.0	0.0	1	0.1	0.22	0.05
Site Preparation	Dump Truck, Standard	9	90	D	9	40	360	6/28/2014	7/11/2014	10	3600	**2014**	**T7 Tractor**	0.3	1.4	8.6	0.0	0.2	0.2	6	0.3	0.23	0.06
Grading	Employee Vehicle	8	160	G/D	16	19	304	7/12/2014	8/8/2014	20	6080	**2014**	**LDA/LDT**	0.0	1.4	0.2	0.0	0.0	0.0	2	0.1	0.20	0.05
Grading	Dump Truck, Standard	8	160	D	8	40	320	7/12/2014	8/8/2014	20	6400	**2014**	**T7 Tractor**	0.3	1.3	7.6	0.0	0.2	0.1	11	0.5	0.21	0.05
Building Construction 2014	Employee Vehicle	12	1236	G/D	24	19	456	8/9/2014	12/31/2014	103	46968	**2014**	**LDA/LDT**	0.1	2.1	0.2	0.0	0.0	0.0	18	0.9	0.29	0.07
Building Construction 2014	Dump Truck, Standard	12	1236	D	12	40	480	8/9/2014	12/31/2014	103	49440	**2014**	**T7 Tractor**	0.4	1.9	11.4	0.0	0.2	0.2	87	4.1	0.31	0.08
Building Construction 2015	Employee Vehicle	12	3132	G/D	24	19	456	1/1/2015	12/31/2015	261	119016	**2015**	**LDA/LDT**	0.1	1.9	0.2	0.0	0.0	0.0	45	2.2	0.29	0.07
Building Construction 2015	Dump Truck, Standard	12	3132	D	12	40	480	1/1/2015	12/31/2015	261	125280	**2015**	**T7 Tractor**	0.3	1.4	9.5	0.0	0.1	0.1	218	10.4	0.31	0.08
Building Construction 2016	Employee Vehicle	12	468	G/D	24	19	456	1/1/2016	2/24/2016	39	17784	**2016**	**LDA/LDT**	0.1	1.9	0.8	0.0	0.0	0.0	14	0.6	0.29	0.07
Building Construction 2016	Dump Truck, Standard	12	468	D	12	40	480	1/1/2016	2/24/2016	39	18720	**2016**	**T7 Tractor**	0.3	1.2	8.0	0.0	0.1	0.1	33	1.5	0.31	0.08
Paving	Employee Vehicle	8	160	G/D	16	19	304	2/25/2016	3/23/2016	20	6080	**2016**	**LDA/LDT**	0.1	1.3	0.5	0.0	0.0	0.0	5	0.2	0.20	0.05
Paving	Dump Truck, Standard	8	160	D	8	40	320	2/25/2016	3/23/2016	20	6400	**2016**	**T7 Tractor**	0.2	0.8	5.3	0.0	0.1	0.1	11	0.5	0.21	0.05
Architectural Coating	Employee Vehicle	2	20	G/D	4	19	76	3/24/2016	4/6/2016	10	760	**2016**	**LDA/LDT**	0.0	0.3	0.1	0.0	0.0	0.0	1	0.0	0.05	0.01
Architectural Coating	Dump Truck, Standard	2	20	D	2	40	80	3/24/2016	4/6/2016	10	800	**2016**	**T7 Tractor**	0.0	0.2	1.3	0.0	0.0	0.0	1	0.1	0.05	0.01
Modernization																							
Trench and install electrical and low \	Employee Vehicle	10	450	G/D	10	19	190	4/7/2016	11/30/2016	45	8550	**2016**	**LDA/LDT**	0.0	0.8	0.3	0.0	0.0	0.0	7	0.3	0.12	0.03
Trench and install electrical and low \	Dump Truck, Standard	10	50	D	10	40	400	4/7/2016	11/30/2016	5	2000	**2016**	**T7 Tractor**	0.2	1.0	6.6	0.0	0.1	0.1	3	0.2	0.26	0.06
Modernization work A	Employee Vehicle	10	850	G/D	10	19	190	12/1/2016	6/16/2017	85	16150	**2016**	**LDA/LDT**	0.0	0.8	0.3	0.0	0.0	0.0	12	0.6	0.12	0.03
Modernization work A	Dump Truck, Standard	10	50	D	10	40	400	12/1/2016	6/16/2017	5	2000	**2016**	**T7 Tractor**	0.2	1.0	6.6	0.0	0.1	0.1	3	0.2	0.26	0.06
Modernization work B	Employee Vehicle	8	680	G/D	8	19	152	6/17/2017	12/17/2017	85	12920	**2017**	**LDA/LDT**	0.0	0.6	0.2	0.0	0.0	0.0	10	0.5	0.10	0.02
Modernization work B	Dump Truck, Standard	8	40	D	8	40	320	6/17/2017	12/17/2017	5	1600	**2017**	**T7 Tractor**	0.2	0.7	4.7	0.0	0.1	0.1	3	0.1	0.21	0.05
Modernization work C	Employee Vehicle	7	595	G/D	7	19	133	12/18/2017	4/6/2018	85	11305	**2017**	**LDA/LDT**	0.0	0.5	0.2	0.0	0.0	0.0	9	0.4	0.09	0.02
Modernization work C	Dump Truck, Standard	7	35	D	7	40	280	12/18/2017	4/6/2018	5	1400	**2017**	**T7 Tractor**	0.1	0.6	4.1	0.0	0.1	0.0	2	0.1	0.18	0.04
Site Improvements (General) E	Employee Vehicle	20	1400	G/D	20	19	380	4/7/2018	7/27/2018	70	26600	**2018**	**LDA/LDT**	0.1	1.3	0.5	0.0	0.0	0.0	20	1.0	0.24	0.06
Site Improvements (General) E	Dump Truck, Standard	20	100	D	20	40	800	4/7/2018	7/27/2018	5	4000	**2018**	**T7 Tractor**	0.4	1.8	10.4	0.0	0.1	0.1	7	0.3	0.51	0.13
Modernization work D	Employee Vehicle	10	700	G/D	10	19	190	7/28/2018	3/23/2019	70	13300	**2018**	**LDA/LDT**	0.0	0.7	0.3	0.0	0.0	0.0	10	0.5	0.12	0.03
Modernization work D	Dump Truck, Standard	10	50	D	10	40	400	7/28/2018	3/23/2019	5	2000	**2018**	**T7 Tractor**	0.2	0.9	5.2	0.0	0.1	0.1	3	0.2	0.26	0.06
Site Improvements (hardscape, lands	Employee Vehicle	12	12	G/D	12	19	228	3/24/2019	11/1/2019	1	228	**2019**	**LDA/LDT**	0.0	0.7	0.3	0.0	0.0	0.0	0	0.0	0.15	0.04
Site Improvements (hardscape, lands	Dump Truck, Standard	12	780	G/D	12	40	480	3/24/2019	11/1/2019	65	31200	**2019**	**T7 Tractor**	0.2	1.1	5.6	0.0	0.1	0.1	54	2.6	0.31	0.08

EMFAC 2011 EMISSION RATES (IN GRAMS PER MILE)

			g/mi								
Vehicle	Year	Concatenate	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	Other CO2e
LDA/LDT	2014	2014LDA/LDT	0.09	0.07	2.11	0.22	0.00	0.00	0.00	382	18.127
T7 Tractor	2014	2014T7 Tractor	0.44	0.39	1.79	10.80	0.02	0.22	0.20	1,751	83.165
LDA/LDT	2015	2015LDA/LDT	0.08	0.06	1.89	0.20	0.00	0.00	0.00	382	18.144
T7 Tractor	2015	2015T7 Tractor	0.34	0.30	1.34	8.98	0.02	0.13	0.12	1,743	82.797
LDA/LDT	2016	2016LDA/LDT	0.12	0.10	1.94	0.75	0.01	0.04	0.03	761	36.146
T7 Tractor	2016	2016T7 Tractor	0.27	0.24	1.09	7.53	0.02	0.10	0.09	1,740	82.636
LDA/LDT	2017	2017LDA/LDT	0.11	0.08	1.74	0.69	0.01	0.03	0.03	762	36.191
T7 Tractor	2017	2017T7 Tractor	0.26	0.23	1.03	6.66	0.02	0.08	0.08	1,736	82.457
LDA/LDT	2018	2018LDA/LDT	0.09	0.07	1.57	0.64	0.01	0.03	0.03	762.82	36.234
T7 Tractor	2018	2018T7 Tractor	0.26	0.23	1.04	5.91	0.02	0.08	0.07	1732.30	82.284
LDA/LDT	2019	2019LDA/LDT	0.08	0.06	1.44	0.59	0.01	0.02	0.02	555.05	26.365
T7 Tractor	2019	2019T7 Tractor	0.26	0.22	1.02	5.31	0.02	0.08	0.07	1729.37	82.145

EMFAC 2011
2014 Estimated Annual Emission Rates
EMFAC 2011 Vehicle Categories
San Diego COUNTY
San Diego AIR BASIN
San Diego County APCD

Area	CalYr	Season	Veh	Fuel	MdlYr	Speed (Miles/hr)	VMT (Miles/day)	ROG_RUNEX (gms/mile)	TOG_RUNEX (gms/mile)	CO_RUNEX (gms/mile)	NOX_RUNEX (gms/mile)	CO2_RUNEX (gms/mile)	CO2_RUNEX((gms/mile)	PM10_RUNE (gms/mile)	PM2_5_RUNEX (gms/mile)	SOX_RUNEX (gms/mile)
San Diego (SD)	2014	Annual	LDA	GAS	AllMYr	AllSpeeds	43,614,301	0.1	0.1	1.4	0.1	354.4	314.0	0.0	0.0	0.0
San Diego (SD)	2014	Annual	LDA	DSL	AllMYr	AllSpeeds	189,912	0.0	0.1	0.2	0.6	375.0	326.5	0.0	0.0	0.0
							43,804,212	**0.1**	**0.1**	**1.4**	**0.2**	**354.5**	**314.1**	**0.0**	**0.0**	**0.0**
San Diego (SD)	2014	Annual	LDT1	GAS	AllMYr	AllSpeeds	6,327,142	0.1	0.1	2.8	0.3	408.8	368.9	0.0	0.0	0.0
San Diego (SD)	2014	Annual	LDT1	DSL	AllMYr	AllSpeeds	6,915	0.1	0.1	0.4	0.8	379.1	327.3	0.1	0.1	0.0
							6,334,058	**0.1**	**0.1**	**2.8**	**0.3**	**408.8**	**368.9**	**0.0**	**0.0**	**0.0**
San Diego (SD)	2014	Annual	T7 tractor	DSL	AllMYr	AllSpeeds	433,679	0.4	0.4	1.8	10.8	1,750.8	1,724.6	0.2	0.2	0.0
							LDA/LDT	0.1	0.1	2.1	0.2	381.6	341.5	0.0	0.0	0.0
							T7	0.4	0.4	1.8	10.8	1,750.8	1,724.6	0.2	0.2	0.0

EMFAC 2011
2015 Estimated Annual Emission Rates
EMFAC 2011 Vehicle Categories
San Diego COUNTY
San Diego AIR BASIN
San Diego County APCD

Area	CalYr	Season	Veh	Fuel	MdlYr	Speed (Miles/hr)	VMT (Miles/day)	ROG_RUNEX (gms/mile)	TOG_RUNEX (gms/mile)	CO_RUNEX (gms/mile)	NOX_RUNEX (gms/mile)	CO2_RUNEX (gms/mile)	CO2_RUNEX((gms/mile)	PM10_RUNE (gms/mile)	PM2_5_RUNEX (gms/mile)	SOX_RUNEX (gms/mile)
San Diego (SD)	2015	Annual	LDA	GAS	AllMYr	AllSpeeds	44,058,459	0.0	0.1	1.3	0.1	354.6	302.1	0.0	0.0	0.0
San Diego (SD)	2015	Annual	LDA	DSL	AllMYr	AllSpeeds	193,628	0.0	0.0	0.2	0.6	376.1	315.9	0.0	0.0	0.0
							44,252,087	**0.0**	**0.1**	**1.3**	**0.1**	**354.7**	**302.2**	**0.0**	**0.0**	**0.0**
San Diego (SD)	2015	Annual	LDT1	GAS	AllMYr	AllSpeeds	6,385,588	0.1	0.1	2.5	0.3	409.3	357.2	0.0	0.0	0.0
San Diego (SD)	2015	Annual	LDT1	DSL	AllMYr	AllSpeeds	7,190	0.1	0.1	0.3	0.7	379.8	314.9	0.1	0.0	0.0
							6,392,777	**0.1**	**0.1**	**2.5**	**0.3**	**409.2**	**357.1**	**0.0**	**0.0**	**0.0**
San Diego (SD)	2015	Annual	T7 tractor	DSL	AllMYr	AllSpeeds	454,948	0.3	0.3	1.3	9.0	1743.1	1699.5	0.1	0.1	0.0
							LDA/LDT	0.1	0.1	1.9	0.2	382.0	329.6	0.0	0.0	0.0
							T7	0.3	0.3	1.3	9.0	1,743.1	1,699.5	0.1	0.1	0.0

EMFAC2011 Emission Rates
Region Type: County
Region: San Diego
Calendar Year: 2016
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdlYr	Speed (miles/hr)	VMT (miles/day)	ROG_RUN (gms/mile)	TOG_RUNI (gms/mile)	CO_RUNEX (gms/mile)	NOX_RUNEX (gms/mile)	CO2_RUNI (gms/mile)	CO2_RUNE (gms/mile)	PM10_RUN (gms/mile)	PM2_5_RUNE (gms/mile)	SOX_RUNE (gms/mile)
San Diego	2016	Annual	LDA	GAS	Aggregated	Aggregated	44519568.47	0.039395	0.05357	1.1628012	0.124996885	354.8234	290.08146	0.001768	0.001621612	0.0035616
San Diego	2016	Annual	LDA	DSL	Aggregated	Aggregated	196221.228	0.032726	0.037256	0.1911483	0.527284807	376.9504	305.87848	0.023512	0.021631425	0.0035986
							44,715,790	**0.07**	**0**	**1**	**1**	**732**	**596**	**0**	**0**	**0**
San Diego	2016	Annual	LDT1	GAS	Aggregated	Aggregated	6436190.298	0.063187	0.087499	2.2525939	0.244473035	409.7236	345.481	0.003498	0.003218717	0.0041277
San Diego	2016	Annual	LDT1	DSL	Aggregated	Aggregated	7562.743533	0.054857	0.062451	0.2656848	0.603350395	380.4453	300.68792	0.044669	0.04109581	0.003632
							6,443,753	**0.12**	**0**	**3**	**1**	**790**	**646**	**0**	**0**	**0**
San Diego	2016	Annual	T7 tractor	DSL	Aggregated	Aggregated	475024.9981	0.241515	0.274947	1.0928065	7.532520176	1739.712	1678.822	0.095463	0.08782584	0.0165977
							LDA/LDT	0.1	0.1	1.9	0.8	761.0	621.1	0.0	0.0	0.0
							T7	0.2	0.3	1.1	7.5	1,739.7	1,678.8	0.1	0.1	0.0

EMFAC2011 Emission Rates
Region Type: County
Region: San Diego
Calendar Year: 2017
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdlYr	Speed (miles/hr)	VMT (miles/day)	ROG_RUN (gms/mile)	TOG_RUNI (gms/mile)	CO_RUNEX (gms/mile)	NOX_RUNEX (gms/mile)	CO2_RUNI (gms/mile)	CO2_RUNE (gms/mile)	PM10_RUN (gms/mile)	PM2_5_RUNE (gms/mile)	SOX_RUNE (gms/mile)
San Diego	2017	Annual	LDA	GAS	Aggregated	Aggregated	44980425.56	0.034269	0.047434	1.0478423	0.11549588	354.9805	277.60528	0.001735	0.001597869	0.0035612
San Diego	2017	Annual	LDA	DSL	Aggregated	Aggregated	199103.3726	0.028406	0.032338	0.1694991	0.483481928	377.8228	294.6325	0.020092	0.018485053	0.0036069
							45,179,529	**0**	**0**	**1**	**1**	**733**	**572**	**0**	**0**	**0**
San Diego	2017	Annual	LDT1	GAS	Aggregated	Aggregated	6487520.22	0.052866	0.0753	2.0244965	0.222667108	410.1331	332.89641	0.003303	0.003049443	0.0041278
San Diego	2017	Annual	LDT1	DSL	Aggregated	Aggregated	7672.065446	0.049748	0.056635	0.2414339	0.563723335	380.8874	290.23364	0.039836	0.036648896	0.0036362
							6,495,192	**0**	**0**	**2**	**1**	**791**	**623**	**0**	**0**	**0**
San Diego	2017	Annual	T7 tractor	DSL	Aggregated	Aggregated	494846.7621	0.22759	0.259094	1.0345615	6.657003436	1735.933	1649.1366	0.082402	0.075809749	0.0165616
							LDA/LDT	0.1	0.1	1.7	0.7	761.9	597.7	0.0	0.0	0.0
							T7	0.2	0.3	1.0	6.7	1,735.9	1,649.1	0.1	0.1	0.0

EMFAC2011 Emission Rates
Region Type: County
Region: San Diego
Calendar Year: 2018
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdlYr	Speed (miles/hr)	VMT (miles/day)	ROG_RUN (gms/mile)	TOG_RUNI (gms/mile)	CO_RUNEX (gms/mile)	NOX_RUNEX (gms/mile)	CO2_RUNI (gms/mile)	CO2_RUNE (gms/mile)	PM10_RUN (gms/mile)	PM2_5_RUNE (gms/mile)	SOX_RUNE (gms/mile)
San Diego	2018	Annual	LDA	GAS	Aggregated	Aggregated	45506044.71	0.029647	0.041946	0.94597	0.107119907	355.106	266.00252	0.001728	0.001597975	0.0035606
San Diego	2018	Annual	LDA	DSL	Aggregated	Aggregated	201304.4353	0.02483	0.028268	0.1515053	0.447849958	378.6219	284.52579	0.017396	0.016004514	0.0036146
							45,707,349	**0**	**0**	**1**	**1**	**734**	**551**	**0**	**0**	**0**
San Diego	2018	Annual	LDT1	GAS	Aggregated	Aggregated	6555907.72	0.044022	0.064762	1.8210334	0.20281813	410.5004	320.94292	0.003135	0.00290375	0.004128
San Diego	2018	Annual	LDT1	DSL	Aggregated	Aggregated	7841.056673	0.043958	0.050044	0.2159184	0.522993772	381.4051	279.91616	0.035047	0.032243659	0.0036411
							6,563,749	**0**	**0**	**2**	**1**	**792**	**601**	**0**	**0**	**0**
San Diego	2018	Annual	T7 tractor	DSL	Aggregated	Aggregated	508084.1122	0.227894	0.25944	1.0386659	5.906565563	1732.305	1619.7051	0.081255	0.07475447	0.016527
							LDA/LDT	0.1	0.1	1.6	0.6	762.8	575.7	0.0	0.0	0.0
							T7	0.2	0.3	1.0	5.9	1,732.3	1,619.7	0.1	0.1	0.0

EMFAC2011 Emission Rates
Region Type: County
Region: San Diego
Calendar Year: 2019
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdlYr	Speed (miles/hr)	VMT (miles/day)	ROG_RUN (gms/mile)	TOG_RUNI (gms/mile)	CO_RUNEX (gms/mile)	NOX_RUNEX (gms/mile)	CO2_RUNI (gms/mile)	CO2_RUNE (gms/mile)	PM10_RUN (gms/mile)	PM2_5_RUNE (gms/mile)	SOX_RUNE (gms/mile)
San Diego	2019	Annual	LDA	GAS	Aggregated	Aggregated	45985801.59	0.026258	0.037891	0.8690588	0.100804637	355.22	255.34274	0.001741	0.001614404	0.0035605
San Diego	2019	Annual	LDA	DSL	Aggregated	Aggregated	202925.6722	0.021867	0.024895	0.1365864	0.417528901	379.3241	275.36307	0.015191	0.013976073	0.0036213
							46,188,727	**0**	**0**	**1**	**1**	**735**	**531**	**0**	**0**	**0**
San Diego	2019	Annual	LDT1	GAS	Aggregated	Aggregated	6615450.956	0.039194	0.058641	1.6784547	0.187321391	410.8567	309.89658	0.003016	0.002795894	0.0041291
San Diego	2019	Annual	LDT1	DSL	Aggregated	Aggregated	8067.763472	0.038049	0.043316	0.1908727	0.477842757	381.7639	269.50391	0.029903	0.027511058	0.0036446
							6,623,519	**0**	**0**	**2**	**1**	**793**	**579**	**0**	**0**	**0**
San Diego	2019	Annual	T7 tractor	DSL	Aggregated	Aggregated	520518.69	0.224188	0.255221	1.0239186	5.313973955	1729.368	1591.0188	0.080079	0.073672814	0.016499
							LDA/LDT	0.1	0.1	1.4	0.6	763.6	555.1	0.0	0.0	0.0
							T7	0.2	0.3	1.0	5.3	1,729.4	1,591.0	0.1	0.1	0.0

Fugitive Dust Emissions from Earthwork Activities

Disturbance Calcs

Phase	Daily Disturbed (acres)	Onsite Cut (cy)	Excavation and Shoring Phase Duration (days)	Onsite Cut per day (CY)	PM10 Pounds per Day: Grading	PM10 Pounds per Day: Bulldozing	PM10 Pounds per Day: Loading	PM10 Pounds per Day: TOTAL	PM2.5 Pounds per Day: Grading	PM2.5 Pounds per Day: Bulldozing	PM2.5 Pounds per Day: Loading	PM2.5 Pounds per Day: TOTAL
Grading	10	0	-	-	10.61	3.80	0.00	14.40	1.15	0.41	0.00	1.56
Site Preparation	10	0	-	-	10.61	3.80	0.00	14.40	1.15	0.41	0.00	1.56

1) Grading Phase

	lbs/VMT	% of PM10
EF PM15	2.57	
EF PM10	1.54	
EF tsp	5.37	
EF pm2.5	0.17	*10.8%*
multiplier	0.051	
multiplier	0.04	
S, mean speed, default	7.1	
Fpm2.5, scaling factor	0.031	
Fpm10 scaling	0.6	

E = EF x VMT, and

VMT = As / Wb x 43560 / 5280

EF (lbs/VMT from above)	1.54
W blade width (ft), use default	12
conversion	43560
conversion	5280

2) Bulldozing

note that CalEEMod methodology for bulldozing is based on AP-42,

	lbs/VMT
EF tsp	8.85
EF PM15	0.63
EF PM10	0.47
~~EF PM2.5~~	~~0.93~~ (error in method. Using the 0.21 PM multiplier

Ctsp	5.7
CPM15	1.0
M	7.9%
S	*6.9%*
Fpm10	*0.75*
~~Fpm2.5~~	~~*0.105*~~

E = EF x Hours of Operation

Hours of Operations	8

3) Truck Loading

	lbs/ton	% of PM10
Ef PM10	0.000056	
EF PM2.5	0.000009	15.1%
k pm10	0.35	
kpm2.5	0.053	
U	2.2	(m/s for LA (SC))
M	7.9	%, pre-watering
	0.0032	

E = EF x Throughput

EF (lbs/ton from above)

1.264166 tons per cy of materials, default

Fugitive Dust Emissions from Demolition Activities

				PM10 Pounds per Day			PM2.5 Pounds per Day		
Phase	Total Demolition Quantities (sf)	Demolition Phase Duration (days)	Demo per day (sf)	Mech and Expl Dismemberment	Debris Loading	TOTAL	Mech and Expl Dismemberment	Debris Loading	TOTAL
Crawford	23,859	20	1193	0.06	1.11	1.17	0.01	0.17	0.18
Mann	0	10	0	0.00	0.00	0.00	0.00	0.00	0.00

1) Mechanical and Explosive Dismemberment

EF = k x (0.0032) x ((U/5)^1.3 / (M/2)^1.4

EFd PM10	0.0011	lbs/ton	
EF PM10	0.00017	lbs/ton	15%
constant	0.0032		
PM10 particle size multiplier	0.35		
PM2.5 particle size multiplier	0.053		
U	*0*	(m/s)	
M	2%	Caleemod default	
Tonnage	*1*	ft2 of floor space =	
	0.046	tons of waste	

2) Debris Loading

Efl = k x EFTSP

EF PM10	0.0203		
EF PM2.5	0.003074		15%
EF tsp	0.058	lb/ton	
k PM10	0.35		
k PM2.5	0.053		
constant, ton/ft2	0.046		

Re-entrained Paved Road Dust

Methodology

Calculation Methodology: USEPA AP-42, Paved Roads, Section 13.2.1, Revised January 2011:
http://www.epa.gov/ttn/chief/ap42/ch13/final/c13s0201.pdf
Avg vehicle weight and silt loading on Local Roads within San Diego County:
http://www.arb.ca.gov/ei/areasrc/fullpdf/full7-9.pdf
Precipitation Days greater than 0.254mm (0.01 in):
http://www.wrcc.dri.edu/cgi-bin/cliGCStP.pl?ca7740

Emission Factor Calculation

$$E_{ext} = \left[k\,(sL)^{0.91} \times (W)^{1.02} \right] (1 - P/4N)$$

Pollutant	Variables					
	k	sL	W	P	N	Emission Factor (lbs per VMT)
PM_{10}	0.0022	0.1	2.4	43	365	0.00064
$PM_{2.5}$	0.00054	0.1	2.4	43	365	0.00016

E = particulate emission factor (lbs of particulate matter/VMT)
k = particle size multiplier (lb/VMT) *default from AP-42*
sL = roadway silt loading (g/m2) *Caleemod Default*
W = average weight of vehicles on the road (tons) *ARB Section 7.9, Table 3, San Diego County*
P = number of wet days with at least 0.254mm of precipitation *from Caleemod for SD County*
N = number of days in the averaging period *annual days*

VOC emissions from Architectural Coatings

Emissions based on Calculation Details in CalEEMod Users Guide, Appendix A, pages 15-16

Eac = Efac x F x Apaint
EFac = Cvoc / 454 (g/lb) x 3.875 (L/GAL) / 180 (sqft)

	Crawford	Mann	*description*
VOC Emissions (E)	16.69	37.85	pounds of VOC per day
Eexterior	12.52	28.39	
Einterior	4.17	9.46	
EF -exterior	0.01187	0.01187	emission factor (lbs per sq. ft.)
EF - interior	0.01187	0.01187	emission factor (lbs per sq. ft.)
Net new construction	7,034	15,950	ft2 building surface area (per Table XX of EIR) - Default assumes painting area is 2.0 times the total square footage for nonresidential land uses
days of coatings	10	10	days
net construction per day	703	1,595	ft2
Fraction exterior	75%	75%	exterior fraction of surface area. Default is 75% of area is exterior surface and 25% interior
Fraction interior	25%	25%	interior fraction of surface area. Default is 75% of area is exterior surface and 25% interior
Cext	**250**	**250**	**Exterior VOC content (g/L)**
Cint	**250**	**250**	**Interior VOC content (g/L)**
scaling factor for A - surface painting	2	2	
g/lb	453.59236	453.59236	
liters per gallon	3.87541178	3.87541178	
	180	180	

VOC emissions from Paving

Emissions based on Calculation Details in CalEEMod Users Guide, Appendix A, pages 16-17

Eap = Efap x Aparking

	Parking Lot	
Crawford	70	spaces
	400	caleemod default, ft2 per space
	0.642792	acre, total
	20	days of paving
	0.032140	acre, daily
EF	2.62	Caleemod default, lbs of VOC per acre paved
VOC Emissions (E)	0.08	pounds of VOC per day

B) Operational Emission Calculations

Crawford old stadium

San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	6.33	Acre	6.33	275,734.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2015
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - New stadium, run as arena b/c no irrigation and to account for lighting

Construction Phase -

Off-road Equipment -

Trips and VMT -

Vehicle Trips - 35.71 ADT/acre based on TIA and 6.33 acre size. Mode purpose adjusted b/c of decimal error in Caleemod defaults. Only 15 trips per year, so ran as Saturday to not overstimate too much, so assumed 52 events.

Water And Wastewater - no outdoor irrigation

Solid Waste - -

Architectural Coating - -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	137,867.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	413,602.00	0.00
tblGrading	AcresOfGrading	0.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00

tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2015
tblTripsAndVMT	VendorTripNumber	45.00	0.00
tblTripsAndVMT	WorkerTripNumber	116.00	0.00
tblTripsAndVMT	WorkerTripNumber	23.00	0.00
tblVehicleTrips	DV_TP	0.28	28.00
tblVehicleTrips	PB_TP	0.60	6.00
tblVehicleTrips	PR_TP	0.66	66.00
tblVehicleTrips	ST_TR	0.00	35.71
tblVehicleTrips	WD_TR	33.33	0.00
tblWater	OutdoorWaterUseRate	543,904.56	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	0.0000	0.0000	0.0000	0.0000	0.5303	0.0000	0.5303	0.0573	0.0000	0.0573	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2015	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.5303**	**0.0000**	**0.5303**	**0.0573**	**0.0000**	**0.0573**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	0.0000	0.0000	0.0000	0.0000	0.5303	0.0000	0.5303	0.0573	0.0000	0.0573	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2015	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.5303**	**0.0000**	**0.5303**	**0.0573**	**0.0000**	**0.0573**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6515	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3900e-003	1.3900e-003	0.0000		1.4700e-003
Energy	0.0961	0.8732	0.7335	5.2400e-003		0.0664	0.0664		0.0664	0.0664		1,047.8367	1,047.8367	0.0201	0.0192	1,054.2136
Mobile	1.8057	1.5809	7.4778	0.0139	0.9286	0.0209	0.9495	0.2479	0.0192	0.2670		1,248.7789	1,248.7789	0.0566		1,249.9684
Total	**9.5533**	**2.4541**	**8.2120**	**0.0192**	**0.9286**	**0.0872**	**1.0158**	**0.2479**	**0.0855**	**0.3334**		**2,296.6170**	**2,296.6170**	**0.0767**	**0.0192**	**2,304.1835**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6515	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3900e-003	1.3900e-003	0.0000		1.4700e-003
Energy	0.0961	0.8732	0.7335	5.2400e-003		0.0664	0.0664		0.0664	0.0664		1,047.8367	1,047.8367	0.0201	0.0192	1,054.2136
Mobile	1.8057	1.5809	7.4778	0.0139	0.9286	0.0209	0.9495	0.2479	0.0192	0.2670		1,248.7789	1,248.7789	0.0566		1,249.9684
Total	**9.5533**	**2.4541**	**8.2120**	**0.0192**	**0.9286**	**0.0872**	**1.0158**	**0.2479**	**0.0855**	**0.3334**		**2,296.6170**	**2,296.6170**	**0.0767**	**0.0192**	**2,304.1835**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2014	1/28/2014	5	20	
2	Site Preparation	Site Preparation	1/29/2014	2/11/2014	5	10	
3	Grading	Grading	2/12/2014	3/11/2014	5	20	
4	Building Construction	Building Construction	3/12/2014	1/27/2015	5	230	
5	Paving	Paving	1/28/2015	2/24/2015	5	20	
6	Architectural Coating	Architectural Coating	2/25/2015	3/24/2015	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Excavators	0	0.00	162	0.38
Demolition	Rubber Tired Dozers	0	0.00	255	0.40
Site Preparation	Rubber Tired Dozers	0	0.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Grading	Excavators	0	0.00	162	0.38
Grading	Graders	0	0.00	174	0.41
Grading	Rubber Tired Dozers	0	0.00	255	0.40
Grading	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction	Cranes	0	0.00	226	0.29
Building Construction	Forklifts	0	0.00	89	0.20
Building Construction	Generator Sets	0	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction	Welders	0	0.00	46	0.45
Paving	Pavers	0	0.00	125	0.42
Paving	Paving Equipment	0	0.00	130	0.36
Paving	Rollers	0	0.00	80	0.38
Architectural Coating	Air Compressors	0	0.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Demolition - 2014

Unmitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Demolition - 2014

Mitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2014

Unmitigated Construction On-Site

Acres of Grading: 10

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2014

Unmitigated Construction Off-Site

Acres of Grading: 10

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2014

Mitigated Construction Off-Site

Acres of Grading: 10

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.4 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.5303**	**0.0000**	**0.5303**	**0.0573**	**0.0000**	**0.0573**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.4 Grading - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.5303**	**0.0000**	**0.5303**	**0.0573**	**0.0000**	**0.0573**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.4 Grading - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.5 Building Construction - 2014

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.5 Building Construction - 2014

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.5 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.5 Building Construction - 2015

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.5 Building Construction - 2015

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.6 Paving - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.6 Paving - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.6 Paving - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.7 Architectural Coating - 2015

Unmitigated Construction On-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.7 Architectural Coating - 2015

Unmitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.7 Architectural Coating - 2015

Mitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.8057	1.5809	7.4778	0.0139	0.9286	0.0209	0.9495	0.2479	0.0192	0.2670		1,248.7789	1,248.7789	0.0566		1,249.9684
Unmitigated	1.8057	1.5809	7.4778	0.0139	0.9286	0.0209	0.9495	0.2479	0.0192	0.2670		1,248.7789	1,248.7789	0.0566		1,249.9684

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	0.00	226.04	0.00	62,709	62,709
Total	0.00	226.04	0.00	62,709	62,709

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	7.30	7.30	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.509603	0.073619	0.192430	0.134105	0.036943	0.005309	0.012459	0.020989	0.001832	0.002087	0.006541	0.000614	0.003471

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0961	0.8732	0.7335	5.2400e-003		0.0664	0.0664		0.0664	0.0664		1,047.8367	1,047.8367	0.0201	0.0192	1,054.2136
NaturalGas Unmitigated	0.0961	0.8732	0.7335	5.2400e-003		0.0664	0.0664		0.0664	0.0664		1,047.8367	1,047.8367	0.0201	0.0192	1,054.2136

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	8906.61	0.0961	0.8732	0.7335	5.2400e-003		0.0664	0.0664		0.0664	0.0664		1,047.8367	1,047.8367	0.0201	0.0192	1,054.2136
Total		**0.0961**	**0.8732**	**0.7335**	**5.2400e-003**		**0.0664**	**0.0664**		**0.0664**	**0.0664**		**1,047.8367**	**1,047.8367**	**0.0201**	**0.0192**	**1,054.2136**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	8.90661	0.0961	0.8732	0.7335	5.2400e-003		0.0664	0.0664		0.0664	0.0664		1,047.8367	1,047.8367	0.0201	0.0192	1,054.2136
Total		**0.0961**	**0.8732**	**0.7335**	**5.2400e-003**		**0.0664**	**0.0664**		**0.0664**	**0.0664**		**1,047.8367**	**1,047.8367**	**0.0201**	**0.0192**	**1,054.2136**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.6515	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3900e-003	1.3900e-003	0.0000		1.4700e-003
Unmitigated	7.6515	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3900e-003	1.3900e-003	0.0000		1.4700e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.7507					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.9007					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.0000e-005	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3900e-003	1.3900e-003	0.0000		1.4700e-003
Total	**7.6515**	**1.0000e-005**	**6.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.3900e-003**	**1.3900e-003**	**0.0000**		**1.4700e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.7507					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.9007					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.0000e-005	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3900e-003	1.3900e-003	0.0000		1.4700e-003
Total	**7.6515**	**1.0000e-005**	**6.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.3900e-003**	**1.3900e-003**	**0.0000**		**1.4700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Crawford old stadium

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	6.33	Acre	6.33	275,734.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2015
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - New stadium, run as arena b/c no irrigation and to account for lighting

Construction Phase -

Off-road Equipment -

Trips and VMT -

Vehicle Trips - 35.71 ADT/acre based on TIA and 6.33 acre size. Mode purpose adjusted b/c of decimal error in Caleemod defaults. Only 15 trips per year, so ran as Saturday to not overstimate too much, so assumed 52 events.

Water And Wastewater - no outdoor irrigation

Solid Waste - -

Architectural Coating - -

Energy Use - just outdoor lighting

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	137,867.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	413,602.00	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	1.48	0.00
tblEnergyUse	T24NG	4.54	0.00
tblGrading	AcresOfGrading	0.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00

tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2015
tblTripsAndVMT	VendorTripNumber	45.00	0.00
tblTripsAndVMT	WorkerTripNumber	116.00	0.00
tblTripsAndVMT	WorkerTripNumber	23.00	0.00
tblVehicleTrips	DV_TP	0.28	28.00
tblVehicleTrips	PB_TP	0.60	6.00
tblVehicleTrips	PR_TP	0.66	66.00
tblVehicleTrips	ST_TR	0.00	35.71
tblVehicleTrips	WD_TR	33.33	0.00
tblWater	OutdoorWaterUseRate	543,904.56	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.0000	0.0000	0.0000	0.0000	5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2015	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.3000e-003**	**0.0000**	**5.3000e-003**	**5.7000e-004**	**0.0000**	**5.7000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.0000	0.0000	0.0000	0.0000	5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2015	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.3000e-003**	**0.0000**	**5.3000e-003**	**5.7000e-004**	**0.0000**	**5.7000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3964	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	0.0000	1.2000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	292.8658	292.8658	0.0118	2.4400e-003	293.8694
Mobile	0.0490	0.0434	0.2031	3.5000e-004	0.0236	5.4000e-004	0.0241	6.3100e-003	5.0000e-004	6.8000e-003	0.0000	28.2243	28.2243	1.3300e-003	0.0000	28.2524
Waste						0.0000	0.0000		0.0000	0.0000	0.1096	0.0000	0.1096	6.4800e-003	0.0000	0.2457
Water						0.0000	0.0000		0.0000	0.0000	2.7034	36.2608	38.9642	0.2791	6.8600e-003	46.9518
Total	**1.4454**	**0.0434**	**0.2032**	**3.5000e-004**	**0.0236**	**5.4000e-004**	**0.0241**	**6.3100e-003**	**5.0000e-004**	**6.8000e-003**	**2.8130**	**357.3510**	**360.1640**	**0.2987**	**9.3000e-003**	**369.3193**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3964	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	0.0000	1.2000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	292.8658	292.8658	0.0118	2.4400e-003	293.8694
Mobile	0.0490	0.0434	0.2031	3.5000e-004	0.0236	5.4000e-004	0.0241	6.3100e-003	5.0000e-004	6.8000e-003	0.0000	28.2243	28.2243	1.3300e-003	0.0000	28.2524
Waste						0.0000	0.0000		0.0000	0.0000	0.1096	0.0000	0.1096	6.4800e-003	0.0000	0.2457
Water						0.0000	0.0000		0.0000	0.0000	2.7034	36.2608	38.9642	0.2791	6.8500e-003	46.9475
Total	**1.4454**	**0.0434**	**0.2032**	**3.5000e-004**	**0.0236**	**5.4000e-004**	**0.0241**	**6.3100e-003**	**5.0000e-004**	**6.8000e-003**	**2.8130**	**357.3510**	**360.1640**	**0.2987**	**9.2900e-003**	**369.3150**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0167**	**0.1075**	**1.1670e-003**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2014	1/28/2014	5	20	
2	Site Preparation	Site Preparation	1/29/2014	2/11/2014	5	10	
3	Grading	Grading	2/12/2014	3/11/2014	5	20	
4	Building Construction	Building Construction	3/12/2014	1/27/2015	5	230	
5	Paving	Paving	1/28/2015	2/24/2015	5	20	
6	Architectural Coating	Architectural Coating	2/25/2015	3/24/2015	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Excavators	0	0.00	162	0.38
Demolition	Rubber Tired Dozers	0	0.00	255	0.40
Site Preparation	Rubber Tired Dozers	0	0.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Grading	Excavators	0	0.00	162	0.38
Grading	Graders	0	0.00	174	0.41
Grading	Rubber Tired Dozers	0	0.00	255	0.40
Grading	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction	Cranes	0	0.00	226	0.29
Building Construction	Forklifts	0	0.00	89	0.20
Building Construction	Generator Sets	0	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction	Welders	0	0.00	46	0.45
Paving	Pavers	0	0.00	125	0.42
Paving	Paving Equipment	0	0.00	130	0.36
Paving	Rollers	0	0.00	80	0.38
Architectural Coating	Air Compressors	0	0.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2014

Unmitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2014

Mitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2014

Unmitigated Construction On-Site

Acres of Grading: 10

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2014

Unmitigated Construction Off-Site

Acres of Grading: 10

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2014

Mitigated Construction Off-Site

Acres of Grading: 10

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.3000e-003**	**0.0000**	**5.3000e-003**	**5.7000e-004**	**0.0000**	**5.7000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.3000e-003**	**0.0000**	**5.3000e-003**	**5.7000e-004**	**0.0000**	**5.7000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2014

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2014

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2015

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2015

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2015

Unmitigated Construction On-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2015

Unmitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2015

Mitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0490	0.0434	0.2031	3.5000e-004	0.0236	5.4000e-004	0.0241	6.3100e-003	5.0000e-004	6.8000e-003	0.0000	28.2243	28.2243	1.3300e-003	0.0000	28.2524
Unmitigated	0.0490	0.0434	0.2031	3.5000e-004	0.0236	5.4000e-004	0.0241	6.3100e-003	5.0000e-004	6.8000e-003	0.0000	28.2243	28.2243	1.3300e-003	0.0000	28.2524

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	0.00	226.04	0.00	62,709	62,709
Total	0.00	226.04	0.00	62,709	62,709

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	9.50	7.30	7.30	0.00	81.00	19.00	66	28	6

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.509603	0.073619	0.192430	0.134105	0.036943	0.005309	0.012459	0.020989	0.001832	0.002087	0.006541	0.000614	0.003471

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	292.8658	292.8658	0.0118	2.4400e-003	293.8694
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	292.8658	292.8658	0.0118	2.4400e-003	293.8694
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	896138	292.8658	0.0118	2.4400e-003	293.8694
Total		**292.8658**	**0.0118**	**2.4400e-003**	**293.8694**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	896138	292.8658	0.0118	2.4400e-003	293.8694
Total		**292.8658**	**0.0118**	**2.4400e-003**	**293.8694**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3964	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	0.0000	1.2000e-004
Unmitigated	1.3964	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	0.0000	1.2000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3195					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0769					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	0.0000	1.2000e-004
Total	**1.3964**	**0.0000**	**6.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.0000**	**1.2000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3195					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0769					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	0.0000	1.2000e-004
Total	**1.3964**	**0.0000**	**6.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.0000**	**1.2000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	38.9642	0.2791	6.8500e-003	46.9475
Unmitigated	38.9642	0.2791	6.8600e-003	46.9518

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	8.52117 / 0	38.9642	0.2791	6.8600e-003	46.9518
Total		**38.9642**	**0.2791**	**6.8600e-003**	**46.9518**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	8.52117 / 0	38.9642	0.2791	6.8500e-003	46.9475
Total		**38.9642**	**0.2791**	**6.8500e-003**	**46.9475**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.1096	6.4800e-003	0.0000	0.2457
Unmitigated	0.1096	6.4800e-003	0.0000	0.2457

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.54	0.1096	6.4800e-003	0.0000	0.2457
Total		**0.1096**	**6.4800e-003**	**0.0000**	**0.2457**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.54	0.1096	6.4800e-003	0.0000	0.2457
Total		**0.1096**	**6.4800e-003**	**0.0000**	**0.2457**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Crawford old stadium

San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	6.33	Acre	6.33	275,734.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2015
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Existing stadium irrigation and lanscaping only. Assumed same size playing area.

Construction Phase -

Off-road Equipment -

Trips and VMT -

Vehicle Trips - no trips

Solid Waste - -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	137,867.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	413,602.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00

tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2015
tblSolidWaste	SolidWasteGenerationRate	0.54	0.00
tblTripsAndVMT	VendorTripNumber	45.00	0.00
tblTripsAndVMT	WorkerTripNumber	116.00	0.00
tblTripsAndVMT	WorkerTripNumber	23.00	0.00
tblVehicleTrips	ST_TR	1.59	0.00
tblVehicleTrips	SU_TR	1.59	0.00
tblVehicleTrips	WD_TR	1.59	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2015	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2015	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6515	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3900e-003	1.3900e-003	0.0000		1.4700e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**7.6515**	**1.0000e-005**	**6.7000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**1.3900e-003**	**1.3900e-003**	**0.0000**	**0.0000**	**1.4700e-003**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.6515	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3900e-003	1.3900e-003	0.0000		1.4700e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**7.6515**	**1.0000e-005**	**6.7000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**1.3900e-003**	**1.3900e-003**	**0.0000**	**0.0000**	**1.4700e-003**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2014	1/28/2014	5	20	
2	Site Preparation	Site Preparation	1/29/2014	2/11/2014	5	10	
3	Grading	Grading	2/12/2014	3/11/2014	5	20	
4	Building Construction	Building Construction	3/12/2014	1/27/2015	5	230	
5	Paving	Paving	1/28/2015	2/24/2015	5	20	
6	Architectural Coating	Architectural Coating	2/25/2015	3/24/2015	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Excavators	0	0.00	162	0.38
Demolition	Rubber Tired Dozers	0	0.00	255	0.40
Site Preparation	Rubber Tired Dozers	0	0.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Grading	Excavators	0	0.00	162	0.38
Grading	Graders	0	0.00	174	0.41
Grading	Rubber Tired Dozers	0	0.00	255	0.40
Grading	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction	Cranes	0	0.00	226	0.29
Building Construction	Forklifts	0	0.00	89	0.20
Building Construction	Generator Sets	0	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction	Welders	0	0.00	46	0.45
Paving	Pavers	0	0.00	125	0.42
Paving	Paving Equipment	0	0.00	130	0.36
Paving	Rollers	0	0.00	80	0.38
Architectural Coating	Air Compressors	0	0.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Demolition - 2014

Unmitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Demolition - 2014

Mitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2014

Unmitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Site Preparation - 2014

Mitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.4 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.4 Grading - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.4 Grading - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.5 Building Construction - 2014

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.5 Building Construction - 2014

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.5 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.5 Building Construction - 2015

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.5 Building Construction - 2015

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.6 Paving - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.6 Paving - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.6 Paving - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.7 Architectural Coating - 2015

Unmitigated Construction On-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.7 Architectural Coating - 2015

Unmitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.7 Architectural Coating - 2015

Mitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.509603	0.073619	0.192430	0.134105	0.036943	0.005309	0.012459	0.020989	0.001832	0.002087	0.006541	0.000614	0.003471

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.6515	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3900e-003	1.3900e-003	0.0000		1.4700e-003
Unmitigated	7.6515	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3900e-003	1.3900e-003	0.0000		1.4700e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.7507					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.9007					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.0000e-005	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3900e-003	1.3900e-003	0.0000		1.4700e-003
Total	**7.6515**	**1.0000e-005**	**6.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.3900e-003**	**1.3900e-003**	**0.0000**		**1.4700e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.7507					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.9007					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.0000e-005	1.0000e-005	6.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.3900e-003	1.3900e-003	0.0000		1.4700e-003
Total	**7.6515**	**1.0000e-005**	**6.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.3900e-003**	**1.3900e-003**	**0.0000**		**1.4700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Crawford old stadium

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	6.33	Acre	6.33	275,734.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2015
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Existing stadium irrigation and lanscaping only. Assumed same size playing area.

Construction Phase -

Off-road Equipment -

Trips and VMT -

Vehicle Trips - no trips

Solid Waste - -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	137,867.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	413,602.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00

tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2015
tblSolidWaste	SolidWasteGenerationRate	0.54	0.00
tblTripsAndVMT	VendorTripNumber	45.00	0.00
tblTripsAndVMT	WorkerTripNumber	116.00	0.00
tblTripsAndVMT	WorkerTripNumber	23.00	0.00
tblVehicleTrips	ST_TR	1.59	0.00
tblVehicleTrips	SU_TR	1.59	0.00
tblVehicleTrips	WD_TR	1.59	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2015	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2015	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3964	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	0.0000	1.2000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	27.3841	27.3841	1.1000e-003	2.3000e-004	27.4780
Total	**1.3964**	**0.0000**	**6.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**27.3842**	**27.3842**	**1.1000e-003**	**2.3000e-004**	**27.4781**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3964	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	0.0000	1.2000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	27.3841	27.3841	1.1000e-003	2.3000e-004	27.4780
Total	**1.3964**	**0.0000**	**6.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**27.3842**	**27.3842**	**1.1000e-003**	**2.3000e-004**	**27.4781**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2014	1/28/2014	5	20	
2	Site Preparation	Site Preparation	1/29/2014	2/11/2014	5	10	
3	Grading	Grading	2/12/2014	3/11/2014	5	20	
4	Building Construction	Building Construction	3/12/2014	1/27/2015	5	230	
5	Paving	Paving	1/28/2015	2/24/2015	5	20	
6	Architectural Coating	Architectural Coating	2/25/2015	3/24/2015	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Excavators	0	0.00	162	0.38
Demolition	Rubber Tired Dozers	0	0.00	255	0.40
Site Preparation	Rubber Tired Dozers	0	0.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Grading	Excavators	0	0.00	162	0.38
Grading	Graders	0	0.00	174	0.41
Grading	Rubber Tired Dozers	0	0.00	255	0.40
Grading	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction	Cranes	0	0.00	226	0.29
Building Construction	Forklifts	0	0.00	89	0.20
Building Construction	Generator Sets	0	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction	Welders	0	0.00	46	0.45
Paving	Pavers	0	0.00	125	0.42
Paving	Paving Equipment	0	0.00	130	0.36
Paving	Rollers	0	0.00	80	0.38
Architectural Coating	Air Compressors	0	0.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2014

Unmitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2014

Mitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2014

Unmitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2014

Mitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2014

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2014

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2015

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2015

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2015

Unmitigated Construction On-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2015

Unmitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2015

Mitigated Construction Off-Site

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.509603	0.073619	0.192430	0.134105	0.036943	0.005309	0.012459	0.020989	0.001832	0.002087	0.006541	0.000614	0.003471

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3964	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	0.0000	1.2000e-004
Unmitigated	1.3964	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	0.0000	1.2000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3195					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0769					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	0.0000	1.2000e-004
Total	**1.3964**	**0.0000**	**6.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.0000**	**1.2000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3195					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0769					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	0.0000	1.2000e-004
Total	**1.3964**	**0.0000**	**6.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.0000**	**1.2000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	27.3841	1.1000e-003	2.3000e-004	27.4780
Unmitigated	27.3841	1.1000e-003	2.3000e-004	27.4780

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 7.54208	27.3841	1.1000e-003	2.3000e-004	27.4780
Total		**27.3841**	**1.1000e-003**	**2.3000e-004**	**27.4780**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 7.54208	27.3841	1.1000e-003	2.3000e-004	27.4780
Total		**27.3841**	**1.1000e-003**	**2.3000e-004**	**27.4780**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

C) Carbon Monoxide Hotspot Modeling

```
CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
         JUNE 1989 VERSION
         PAGE   1

     JOB: C:\Users\19193\Documents\hotspot modelin
     RUN: CALINE4 RUN      (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide


 I.  SITE VARIABLES

       U=   0.5 M/S            Z0= 100. CM           ALT=     0. (M)
     BRG= WORST CASE           VD=  0.0 CM/S
    CLAS=     7 (G)            VS=  0.0 CM/S
    MIXH= 1000. M             AMB=  0.0 PPM
   SIGTH=    5. DEGREES       TEMP= 20.0 DEGREE (C)


 II.  LINK VARIABLES

      LINK      *  LINK COORDINATES (M)   *              EF     H     W
  DESCRIPTION   *   X1    Y1    X2    Y2   * TYPE  VPH  (G/MI)  (M)   (M)
 ----------------*-------------------------*------------------------------
 A. EBA         * -1000    -5     0    -5 *  AG   1949   6.9    0.0  17.0
 B. EBD         *     0    -5  1000    -5 *  AG    908   6.9    0.0  17.0
 C. WBA         *  1000     5     0     5 *  AG    645   6.9    0.0  17.0
 D. WBD         *     0     4 -1000     4 *  AG   1194   6.9    0.0  13.3
 E. SBA         *     0  1000     0     0 *  AG      0   6.9    0.0  10.0
 F. SBD         *    -4     0    -4 -1000 *  AG   1223   6.9    0.0  13.3
 G. NBA         *     4 -1000     4     0 *  AG    731   6.9    0.0  13.3
 H. NBD         *     0     0     0  1000 *  AG      0   6.9    0.0  10.0


 III.  RECEPTOR LOCATIONS

            *    COORDINATES (M)
  RECEPTOR  *    X      Y      Z
 ------------*---------------------
 1. R_001   *     -7     11   1.8
 2. R_002   *    -11    -15   1.8
 3. R_003   *     11    -15   1.8
 4. R_004   *      6     15   1.8


1

 IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

            *       * PRED  *                CONC/LINK
            *  BRG  * CONC  *                  (PPM)
  RECEPTOR  * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*----------------------------------------
 1. R_001   *  178. *   3.9 *  0.6  0.0  0.0  0.5  0.0  2.1  0.7  0.0
 2. R_002   *  274. *   3.3 *  2.5  0.0  0.0  0.8  0.0  0.0  0.0  0.0
 3. R_003   *  274. *   3.8 *  2.3  0.0  0.0  0.8  0.0  0.4  0.3  0.0
 4. R_004   *  182. *   3.1 *  0.0  0.3  0.3  0.0  0.0  1.3  1.3  0.0


1
EXIT
```

```
CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                    JUNE 1989 VERSION
                    PAGE   1

               JOB: C:\Users\19193\Documents\hotspot modelin
               RUN: CALINE4 RUN      (WORST CASE ANGLE)
          POLLUTANT: Carbon Monoxide


    I.  SITE VARIABLES

           U=   0.5 M/S             Z0= 100. CM            ALT=     0. (M)
         BRG= WORST CASE            VD=  0.0 CM/S
        CLAS=     7 (G)             VS=  0.0 CM/S
        MIXH= 1000. M              AMB=  0.0 PPM
       SIGTH=    5. DEGREES       TEMP= 20.0 DEGREE (C)


   II.  LINK VARIABLES

        LINK      *  LINK COORDINATES (M)   *              EF     H     W
    DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)   (M)
  ----------------*-------------------------*------------------------------
  A. EBA          * -1000    -5     0    -5 *  AG    837   6.9    0.0  17.0
  B. EBD          *     0    -4  1000    -4 *  AG    915   6.9    0.0  13.3
  C. WBA          *  1000     7     0     7 *  AG    888   6.9    0.0  20.6
  D. WBD          *     0     4 -1000     4 *  AG    896   6.9    0.0  13.3
  E. SBA          *    -7  1000    -7     0 *  AG   1093   6.9    0.0  20.6
  F. SBD          *    -4     0    -4 -1000 *  AG   1006   6.9    0.0  13.3
  G. NBA          *     7 -1000     7     0 *  AG    739   6.9    0.0  20.6
  H. NBD          *     4     0     4  1000 *  AG    740   6.9    0.0  13.3


  III.  RECEPTOR LOCATIONS

             *    COORDINATES (M)
    RECEPTOR *    X      Y      Z
  ------------*---------------------
  1. R_001    *    -19     14   1.8
  2. R_002    *    -11    -15   1.8
  3. R_003    *     19    -12   1.8
  4. R_004    *     13     18   1.8


1


   IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

             *       * PRED  *                CONC/LINK
             *  BRG  * CONC  *                  (PPM)
   RECEPTOR  * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*----------------------------------------
  1. R_001    *   93. *   2.4 *  0.0  0.6  1.2  0.0  0.4  0.0  0.0  0.2
  2. R_002    *    3. *   2.7 *  0.3  0.0  0.0  0.3  1.4  0.1  0.0  0.6
  3. R_003    *  273. *   2.5 *  1.2  0.1  0.0  0.7  0.0  0.3  0.3  0.0
  4. R_004    *  183. *   2.3 *  0.0  0.2  0.4  0.0  0.0  0.7  1.0  0.0


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EXIT
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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                    JUNE 1989 VERSION
                    PAGE   1

               JOB: C:\Users\19193\Documents\hotspot modelin
               RUN: CALINE4 RUN      (WORST CASE ANGLE)
          POLLUTANT: Carbon Monoxide


    I.  SITE VARIABLES

           U=   0.5 M/S             Z0= 100. CM            ALT=     0. (M)
         BRG= WORST CASE            VD=  0.0 CM/S
        CLAS=     7 (G)             VS=  0.0 CM/S
        MIXH= 1000. M              AMB=  0.0 PPM
       SIGTH=    5. DEGREES       TEMP= 20.0 DEGREE (C)


   II.  LINK VARIABLES

        LINK      *  LINK COORDINATES (M)   *              EF     H     W
    DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)   (M)
  ----------------*-------------------------*------------------------------
  A. EBA          * -1000    -7     0    -7 *  AG    961   6.9    0.0  20.6
  B. EBD          *     0    -4  1000    -4 *  AG   1147   6.9    0.0  13.3
  C. WBA          *  1000     7     0     7 *  AG    881   6.9    0.0  20.6
  D. WBD          *     0     4 -1000     4 *  AG    850   6.9    0.0  13.3
  E. SBA          *    -7  1000    -7     0 *  AG   1292   6.9    0.0  20.6
  F. SBD          *    -4     0    -4 -1000 *  AG    987   6.9    0.0  13.3
  G. NBA          *     5 -1000     5     0 *  AG    661   6.9    0.0  17.0
  H. NBD          *     4     0     4  1000 *  AG    811   6.9    0.0  13.3


  III.  RECEPTOR LOCATIONS

             *    COORDINATES (M)
    RECEPTOR *    X      Y      Z
  ------------*---------------------
  1. R_001    *    -18     10   1.8
  2. R_002    *    -10    -18   1.8
  3. R_003    *     14    -11   1.8
  4. R_004    *     11     18   1.8


1




   IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

             *       * PRED  *                CONC/LINK
             *  BRG  * CONC  *                  (PPM)
   RECEPTOR  * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*----------------------------------------
  1. R_001    *   93. *   3.1 *  0.0  0.9  1.1  0.3  0.5  0.0  0.0  0.2
  2. R_002    *    2. *   3.2 *  0.4  0.0  0.0  0.2  1.7  0.3  0.0  0.6
  3. R_003    *  273. *   2.7 *  1.3  0.2  0.0  0.7  0.0  0.3  0.3  0.0
  4. R_004    *  183. *   2.6 *  0.0  0.3  0.4  0.0  0.0  0.8  1.0  0.2


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EXIT
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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
         JUNE 1989 VERSION
         PAGE   1

     JOB: C:\Users\19193\Documents\hotspot modelin
     RUN: CALINE4 RUN      (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

 I.  SITE VARIABLES

       U=   0.5 M/S            Z0= 100. CM            ALT=     0. (M)
     BRG= WORST CASE           VD=  0.0 CM/S
    CLAS=     7 (G)            VS=  0.0 CM/S
    MIXH= 1000. M             AMB=  0.0 PPM
   SIGTH=    5. DEGREES       TEMP= 20.0 DEGREE (C)


 II.  LINK VARIABLES

      LINK      *  LINK COORDINATES (M)   *              EF     H     W
  DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)   (M)
 ----------------*-------------------------*------------------------------
 A. EBA          * -1000    -5     0    -5 *  AG   1974   6.9    0.0  17.0
 B. EBD          *     0    -5  1000    -5 *  AG    908   6.9    0.0  17.0
 C. WBA          *  1000     5     0     5 *  AG    645   6.9    0.0  17.0
 D. WBD          *     0     4 -1000     4 *  AG   1194   6.9    0.0  13.3
 E. SBA          *     0  1000     0     0 *  AG      0   6.9    0.0  10.0
 F. SBD          *    -4     0    -4 -1000 *  AG   1248   6.9    0.0  13.3
 G. NBA          *     4 -1000     4     0 *  AG    731   6.9    0.0  13.3
 H. NBD          *     0     0     0  1000 *  AG      0   6.9    0.0  10.0


 III.  RECEPTOR LOCATIONS

            *    COORDINATES (M)
  RECEPTOR  *    X      Y      Z
 ------------*---------------------
 1. R_001    *     -7     11   1.8
 2. R_002    *    -11    -15   1.8
 3. R_003    *     11    -15   1.8
 4. R_004    *      6     15   1.8


1
  IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

            *       * PRED  *                CONC/LINK
            *  BRG  * CONC  *                  (PPM)
  RECEPTOR  * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*----------------------------------------
 1. R_001    *  178. *   4.0 *  0.6  0.0  0.0  0.5  0.0  2.1  0.7  0.0
 2. R_002    *  274. *   3.3 *  2.5  0.0  0.0  0.8  0.0  0.0  0.0  0.0
 3. R_003    *  274. *   3.8 *  2.3  0.0  0.0  0.8  0.0  0.4  0.3  0.0
 4. R_004    *  182. *   3.1 *  0.0  0.3  0.3  0.0  0.0  1.3  1.3  0.0


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EXIT
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           CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                    JUNE 1989 VERSION
                    PAGE   1

               JOB: C:\Users\19193\Documents\hotspot modelin
               RUN: CALINE4 RUN      (WORST CASE ANGLE)
         POLLUTANT: Carbon Monoxide


    I.  SITE VARIABLES

           U=   0.5 M/S             Z0= 100. CM            ALT=     0. (M)
        BRG= WORST CASE             VD=  0.0 CM/S
       CLAS=     7 (G)              VS=  0.0 CM/S
       MIXH= 1000. M               AMB=  0.0 PPM
      SIGTH=    5. DEGREES        TEMP= 20.0 DEGREE (C)


   II.  LINK VARIABLES

        LINK      *  LINK COORDINATES (M)   *              EF     H     W
    DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)   (M)
  ----------------*-------------------------*------------------------------
  A. EBA          * -1000    -5     0    -5 *  AG    938   6.9    0.0  17.0
  B. EBD          *     0    -4  1000    -4 *  AG   1016   6.9    0.0  13.3
  C. WBA          *  1000     7     0     7 *  AG    889   6.9    0.0  20.6
  D. WBD          *     0     4 -1000     4 *  AG    897   6.9    0.0  13.3
  E. SBA          *    -7  1000    -7     0 *  AG   1118   6.9    0.0  20.6
  F. SBD          *    -4     0    -4 -1000 *  AG   1031   6.9    0.0  13.3
  G. NBA          *     7 -1000     7     0 *  AG    750   6.9    0.0  20.6
  H. NBD          *     4     0     4  1000 *  AG    751   6.9    0.0  13.3


  III.  RECEPTOR LOCATIONS

             *    COORDINATES (M)
    RECEPTOR *    X      Y      Z
  ------------*---------------------
  1. R_001    *    -19     14   1.8
  2. R_002    *    -11    -15   1.8
  3. R_003    *     19    -12   1.8
  4. R_004    *     13     18   1.8


1




   IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

             *       * PRED  *                CONC/LINK
             *  BRG  * CONC  *                  (PPM)
   RECEPTOR  * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*----------------------------------------
  1. R_001    *   93. *   2.4 *  0.0  0.7  1.2  0.0  0.4  0.0  0.0  0.2
  2. R_002    *    3. *   2.8 *  0.4  0.0  0.0  0.3  1.4  0.1  0.0  0.6
  3. R_003    *  273. *   2.6 *  1.3  0.1  0.0  0.7  0.0  0.3  0.3  0.0
  4. R_004    *  183. *   2.4 *  0.0  0.3  0.4  0.0  0.0  0.7  1.0  0.0


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EXIT
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           CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                    JUNE 1989 VERSION
                    PAGE   1

               JOB: C:\Users\19193\Documents\hotspot modelin
               RUN: CALINE4 RUN      (WORST CASE ANGLE)
         POLLUTANT: Carbon Monoxide


    I.  SITE VARIABLES

           U=   0.5 M/S             Z0= 100. CM            ALT=     0. (M)
        BRG= WORST CASE             VD=  0.0 CM/S
       CLAS=     7 (G)              VS=  0.0 CM/S
       MIXH= 1000. M               AMB=  0.0 PPM
      SIGTH=    5. DEGREES        TEMP= 20.0 DEGREE (C)


   II.  LINK VARIABLES

        LINK      *  LINK COORDINATES (M)   *              EF     H     W
    DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)   (M)
  ----------------*-------------------------*------------------------------
  A. EBA          * -1000    -7     0    -7 *  AG    971   6.9    0.0  20.6
  B. EBD          *     0    -4  1000    -4 *  AG   1149   6.9    0.0  13.3
  C. WBA          *  1000     7     0     7 *  AG    886   6.9    0.0  20.6
  D. WBD          *     0     4 -1000     4 *  AG    854   6.9    0.0  13.3
  E. SBA          *    -7  1000    -7     0 *  AG   1304   6.9    0.0  20.6
  F. SBD          *    -4     0    -4 -1000 *  AG    993   6.9    0.0  13.3
  G. NBA          *     5 -1000     5     0 *  AG    675   6.9    0.0  17.0
  H. NBD          *     4     0     4  1000 *  AG    840   6.9    0.0  13.3


  III.  RECEPTOR LOCATIONS

             *    COORDINATES (M)
    RECEPTOR *    X      Y      Z
  ------------*---------------------
  1. R_001    *    -18     10   1.8
  2. R_002    *    -10    -18   1.8
  3. R_003    *     14    -11   1.8
  4. R_004    *     11     18   1.8


1




   IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

             *       * PRED  *                CONC/LINK
             *  BRG  * CONC  *                  (PPM)
   RECEPTOR  * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*-----------------------------------------
  1. R_001    *   93. *   3.1 *  0.0  0.9  1.1  0.3  0.5  0.0  0.0  0.2
  2. R_002    *    2. *   3.2 *  0.4  0.0  0.0  0.2  1.7  0.3  0.0  0.6
  3. R_003    *  273. *   2.7 *  1.3  0.2  0.0  0.7  0.0  0.3  0.3  0.0
  4. R_004    *  183. *   2.7 *  0.0  0.3  0.4  0.0  0.0  0.8  1.0  0.2


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EXIT
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```
CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
         JUNE 1989 VERSION
         PAGE   1

     JOB: C:\Users\19193\Documents\hotspot modelin
     RUN: CALINE4 RUN      (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide


 I.  SITE VARIABLES

       U=   0.5 M/S            Z0= 100. CM           ALT=     0. (M)
     BRG= WORST CASE           VD=  0.0 CM/S
    CLAS=     7 (G)            VS=  0.0 CM/S
    MIXH= 1000. M             AMB=  0.0 PPM
   SIGTH=    5. DEGREES       TEMP= 20.0 DEGREE (C)


 II.  LINK VARIABLES

      LINK      *  LINK COORDINATES (M)   *              EF     H     W
  DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)   (M)
 ----------------*-------------------------*------------------------------
 A. EBA         * -1000    -5     0    -5 *  AG   2033   5.0    0.0  17.0
 B. EBD         *     0    -5  1000    -5 *  AG    976   5.0    0.0  17.0
 C. WBA         *  1000     5     0     5 *  AG    677   5.0    0.0  17.0
 D. WBD         *     0     4 -1000     4 *  AG   1244   5.0    0.0  13.3
 E. SBA         *     0  1000     0     0 *  AG      0   5.0    0.0  10.0
 F. SBD         *    -4     0    -4 -1000 *  AG   1255   5.0    0.0  13.3
 G. NBA         *     4 -1000     4     0 *  AG    765   5.0    0.0  13.3
 H. NBD         *     0     0     0  1000 *  AG      0   5.0    0.0  10.0


 III.  RECEPTOR LOCATIONS

            *    COORDINATES (M)
  RECEPTOR  *    X      Y      Z
 ------------*---------------------
 1. R_001   *     -7     11   1.8
 2. R_002   *    -11    -15   1.8
 3. R_003   *     11    -15   1.8
 4. R_004   *      6     15   1.8


1


 IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

            *       * PRED  *                CONC/LINK
            *  BRG  * CONC  *                  (PPM)
  RECEPTOR  * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*----------------------------------------
 1. R_001   *  178. *   2.9 *  0.4  0.0  0.0  0.4  0.0  1.5  0.6  0.0
 2. R_002   *  274. *   2.4 *  1.9  0.0  0.0  0.6  0.0  0.0  0.0  0.0
 3. R_003   *  274. *   2.9 *  1.7  0.0  0.0  0.6  0.0  0.3  0.2  0.0
 4. R_004   *  182. *   2.3 *  0.0  0.2  0.2  0.0  0.0  0.9  0.9  0.0


1
EXIT
```

```
CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
         JUNE 1989 VERSION
         PAGE   1

     JOB: C:\Users\19193\Documents\hotspot modelin
     RUN: CALINE4 RUN      (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide


 I.  SITE VARIABLES

       U=   0.5 M/S            Z0= 100. CM           ALT=     0. (M)
     BRG= WORST CASE           VD=  0.0 CM/S
    CLAS=     7 (G)            VS=  0.0 CM/S
    MIXH= 1000. M             AMB=  0.0 PPM
   SIGTH=    5. DEGREES       TEMP= 20.0 DEGREE (C)


 II.  LINK VARIABLES

      LINK      *  LINK COORDINATES (M)   *              EF     H     W
  DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)   (M)
 ---------------*-------------------------*-----------------------------
 A. EBA         * -1000    -5     0    -5 *  AG    961   5.0    0.0  17.0
 B. EBD         *     0    -4  1000    -4 *  AG   1072   5.0    0.0  13.3
 C. WBA         *  1000     7     0     7 *  AG    949   5.0    0.0  20.6
 D. WBD         *     0     4 -1000     4 *  AG    924   5.0    0.0  13.3
 E. SBA         *    -7  1000    -7     0 *  AG   1120   5.0    0.0  20.6
 F. SBD         *    -4     0    -4 -1000 *  AG   1033   5.0    0.0  13.3
 G. NBA         *     7 -1000     7     0 *  AG    763   5.0    0.0  20.6
 H. NBD         *     4     0     4  1000 *  AG    764   5.0    0.0  13.3


 III.  RECEPTOR LOCATIONS

            *    COORDINATES (M)
  RECEPTOR  *    X      Y      Z
 ------------*---------------------
 1. R_001   *    -19     14   1.8
 2. R_002   *    -11    -15   1.8
 3. R_003   *     19    -12   1.8
 4. R_004   *     13     18   1.8


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 IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

            *       * PRED  *                CONC/LINK
            *  BRG  * CONC  *                  (PPM)
  RECEPTOR  * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*----------------------------------------
 1. R_001   *   93. *   1.8 *  0.0  0.5  0.9  0.0  0.3  0.0  0.0  0.1
 2. R_002   *    3. *   2.1 *  0.3  0.0  0.0  0.2  1.0  0.1  0.0  0.4
 3. R_003   *  273. *   2.0 *  1.0  0.1  0.0  0.5  0.0  0.2  0.2  0.0
 4. R_004   *  183. *   1.7 *  0.0  0.2  0.3  0.0  0.0  0.5  0.8  0.0


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EXIT
```

```
           CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                    JUNE 1989 VERSION
                    PAGE   1

               JOB: C:\Users\19193\Documents\hotspot modelin
               RUN: CALINE4 RUN      (WORST CASE ANGLE)
         POLLUTANT: Carbon Monoxide


    I.  SITE VARIABLES

          U=   0.5 M/S             Z0= 100. CM            ALT=     0. (M)
        BRG= WORST CASE            VD=  0.0 CM/S
       CLAS=     7 (G)             VS=  0.0 CM/S
       MIXH= 1000. M              AMB=  0.0 PPM
      SIGTH=    5. DEGREES       TEMP= 20.0 DEGREE (C)


   II.  LINK VARIABLES

        LINK      *  LINK COORDINATES (M)   *              EF     H     W
    DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)   (M)
  ----------------*-------------------------*------------------------------
  A. EBA          * -1000    -5     0    -5 *  AG    961   5.0    0.0  17.0
  B. EBD          *     0    -4  1000    -4 *  AG   1072   5.0    0.0  13.3
  C. WBA          *  1000     7     0     7 *  AG    949   5.0    0.0  20.6
  D. WBD          *     0     4 -1000     4 *  AG    924   5.0    0.0  13.3
  E. SBA          *    -7  1000    -7     0 *  AG   1120   5.0    0.0  20.6
  F. SBD          *    -4     0    -4 -1000 *  AG   1033   5.0    0.0  13.3
  G. NBA          *     7 -1000     7     0 *  AG    763   5.0    0.0  20.6
  H. NBD          *     4     0     4  1000 *  AG    764   5.0    0.0  13.3


  III.  RECEPTOR LOCATIONS

              *    COORDINATES (M)
    RECEPTOR  *    X      Y      Z
  ------------*---------------------
  1. R_001    *    -19     14   1.8
  2. R_002    *    -11    -15   1.8
  3. R_003    *     19    -12   1.8
  4. R_004    *     13     18   1.8


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   IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

              *       * PRED  *                CONC/LINK
              *  BRG  * CONC  *                  (PPM)
   RECEPTOR   * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*----------------------------------------
  1. R_001    *   93. *   1.8 *  0.0  0.5  0.9  0.0  0.3  0.0  0.0  0.1
  2. R_002    *    3. *   2.1 *  0.3  0.0  0.0  0.2  1.0  0.1  0.0  0.4
  3. R_003    *  273. *   2.0 *  1.0  0.1  0.0  0.5  0.0  0.2  0.2  0.0
  4. R_004    *  183. *   1.7 *  0.0  0.2  0.3  0.0  0.0  0.5  0.8  0.0


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EXIT
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```
CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
         JUNE 1989 VERSION
         PAGE   1

     JOB: C:\Users\19193\Documents\hotspot modelin
     RUN: CALINE4 RUN      (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide


 I.  SITE VARIABLES

       U=   0.5 M/S            Z0= 100. CM           ALT=     0. (M)
     BRG= WORST CASE           VD=  0.0 CM/S
    CLAS=     7 (G)            VS=  0.0 CM/S
    MIXH= 1000. M             AMB=  0.0 PPM
   SIGTH=    5. DEGREES       TEMP= 20.0 DEGREE (C)


 II.  LINK VARIABLES

      LINK      *  LINK COORDINATES (M)   *              EF     H     W
  DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)   (M)
 ---------------*-------------------------*------------------------------
 A. EBA         * -1000    -5     0    -5 *  AG   2058   5.0    0.0  17.0
 B. EBD         *     0    -5  1000    -5 *  AG    976   5.0    0.0  17.0
 C. WBA         *  1000     5     0     5 *  AG    677   5.0    0.0  17.0
 D. WBD         *     0     4 -1000     4 *  AG   1255   5.0    0.0  13.3
 E. SBA         *     0  1000     0     0 *  AG      0   5.0    0.0  10.0
 F. SBD         *    -4     0    -4 -1000 *  AG   1280   5.0    0.0  13.3
 G. NBA         *     4 -1000     4     0 *  AG    776   5.0    0.0  13.3
 H. NBD         *     0     0     0  1000 *  AG      0   5.0    0.0  10.0


 III.  RECEPTOR LOCATIONS

            *    COORDINATES (M)
  RECEPTOR  *    X      Y      Z
 ------------*---------------------
 1. R_001   *     -7     11   1.8
 2. R_002   *    -11    -15   1.8
 3. R_003   *     11    -15   1.8
 4. R_004   *      6     15   1.8


1


 IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

            *       * PRED  *                CONC/LINK
            *  BRG  * CONC  *                  (PPM)
  RECEPTOR  * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*----------------------------------------
 1. R_001   *  178. *   3.0 *  0.4  0.0  0.0  0.4  0.0  1.6  0.6  0.0
 2. R_002   *  274. *   2.5 *  1.9  0.0  0.0  0.6  0.0  0.0  0.0  0.0
 3. R_003   *  274. *   2.9 *  1.7  0.0  0.0  0.6  0.0  0.3  0.3  0.0
 4. R_004   *  182. *   2.3 *  0.0  0.2  0.2  0.0  0.0  1.0  1.0  0.0


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EXIT
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```
           CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                    JUNE 1989 VERSION
                    PAGE   1

               JOB: C:\Users\19193\Documents\hotspot modelin
               RUN: CALINE4 RUN      (WORST CASE ANGLE)
         POLLUTANT: Carbon Monoxide


    I.  SITE VARIABLES

          U=   0.5 M/S             Z0= 100. CM            ALT=     0. (M)
        BRG= WORST CASE            VD=  0.0 CM/S
       CLAS=     7 (G)             VS=  0.0 CM/S
       MIXH= 1000. M              AMB=  0.0 PPM
      SIGTH=    5. DEGREES       TEMP= 20.0 DEGREE (C)


   II.  LINK VARIABLES

        LINK      *  LINK COORDINATES (M)   *              EF     H     W
    DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)   (M)
  ----------------*-------------------------*------------------------------
  A. EBA          * -1000    -5     0    -5 *  AG    964   5.0    0.0  17.0
  B. EBD          *     0    -4  1000    -4 *  AG   1075   5.0    0.0  13.3
  C. WBA          *  1000     7     0     7 *  AG    950   5.0    0.0  20.6
  D. WBD          *     0     4 -1000     4 *  AG    925   5.0    0.0  13.3
  E. SBA          *    -7  1000    -7     0 *  AG   1145   5.0    0.0  20.6
  F. SBD          *    -4     0    -4 -1000 *  AG   1058   5.0    0.0  13.3
  G. NBA          *     7 -1000     7     0 *  AG    774   5.0    0.0  20.6
  H. NBD          *     4     0     4  1000 *  AG    775   5.0    0.0  13.3


  III.  RECEPTOR LOCATIONS

             *    COORDINATES (M)
   RECEPTOR  *    X      Y      Z
  ------------*---------------------
  1. R_001    *    -19     14   1.8
  2. R_002    *    -11    -15   1.8
  3. R_003    *     19    -12   1.8
  4. R_004    *     13     18   1.8


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   IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

             *       * PRED  *                CONC/LINK
             *  BRG  * CONC  *                  (PPM)
   RECEPTOR  * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*----------------------------------------
  1. R_001    *   93. *   1.9 *  0.0  0.5  0.9  0.0  0.3  0.0  0.0  0.1
  2. R_002    *    3. *   2.1 *  0.3  0.0  0.0  0.2  1.1  0.1  0.0  0.5
  3. R_003    *  273. *   2.0 *  1.0  0.1  0.0  0.5  0.0  0.2  0.2  0.0
  4. R_004    *  183. *   1.8 *  0.0  0.2  0.3  0.0  0.0  0.5  0.8  0.0


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EXIT
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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
         JUNE 1989 VERSION
         PAGE   1

     JOB: C:\Users\19193\Documents\hotspot modelin
     RUN: CALINE4 RUN      (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide


 I.  SITE VARIABLES

       U=   0.5 M/S            Z0= 100. CM           ALT=     0. (M)
     BRG= WORST CASE           VD=  0.0 CM/S
    CLAS=     7 (G)            VS=  0.0 CM/S
    MIXH= 1000. M             AMB=  0.0 PPM
   SIGTH=    5. DEGREES       TEMP= 20.0 DEGREE (C)


 II.  LINK VARIABLES

      LINK      *  LINK COORDINATES (M)   *              EF     H     W
  DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)   (M)
 ----------------*-------------------------*------------------------------
 A. EBA          * -1000    -7     0    -7 *  AG    980   5.0    0.0  20.6
 B. EBD          *     0    -4  1000    -4 *  AG   1161   5.0    0.0  13.3
 C. WBA          *  1000     7     0     7 *  AG    895   5.0    0.0  20.6
 D. WBD          *     0     4 -1000     4 *  AG    862   5.0    0.0  13.3
 E. SBA          *    -7  1000    -7     0 *  AG   1334   5.0    0.0  20.6
 F. SBD          *    -4     0    -4 -1000 *  AG   1020   5.0    0.0  13.3
 G. NBA          *     5 -1000     5     0 *  AG    698   5.0    0.0  17.0
 H. NBD          *     4     0     4  1000 *  AG    864   5.0    0.0  13.3


 III.  RECEPTOR LOCATIONS

            *    COORDINATES (M)
  RECEPTOR  *    X      Y      Z
 ------------*---------------------
 1. R_001   *    -18     10   1.8
 2. R_002   *    -10    -18   1.8
 3. R_003   *     14    -11   1.8
 4. R_004   *     11     18   1.8


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 IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

            *       * PRED  *                CONC/LINK
            *  BRG  * CONC  *                  (PPM)
  RECEPTOR  * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
-------------*-------*-------*----------------------------------------
 1. R_001   *   93. *   2.3 *  0.0  0.6  0.8  0.2  0.4  0.0  0.0  0.2
 2. R_002   *    2. *   2.4 *  0.3  0.0  0.0  0.2  1.3  0.2  0.0  0.4
 3. R_003   *  273. *   2.0 *  0.9  0.1  0.0  0.5  0.0  0.2  0.2  0.0
 4. R_004   *  183. *   2.0 *  0.0  0.2  0.3  0.0  0.0  0.6  0.8  0.2


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EXIT
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```
CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
         JUNE 1989 VERSION
         PAGE   1

     JOB: C:\Users\19193\Documents\hotspot modelin
     RUN: CALINE4 RUN      (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide


 I.  SITE VARIABLES

       U=   0.5 M/S            Z0= 100. CM           ALT=     0. (M)
     BRG= WORST CASE           VD=  0.0 CM/S
    CLAS=     7 (G)            VS=  0.0 CM/S
    MIXH= 1000. M             AMB=  0.0 PPM
   SIGTH=    5. DEGREES       TEMP= 20.0 DEGREE (C)


 II.  LINK VARIABLES

      LINK      *  LINK COORDINATES (M)   *              EF     H     W
  DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)   (M)
 ----------------*-------------------------*------------------------------
 A. EBA         * -1000    -5     0    -5 *  AG   2190   1.5    0.0  17.0
 B. EBD         *     0    -5  1000    -5 *  AG   1049   1.5    0.0  17.0
 C. WBA         *  1000     5     0     5 *  AG    728   1.5    0.0  17.0
 D. WBD         *     0     4 -1000     4 *  AG   1340   1.5    0.0  13.3
 E. SBA         *     0  1000     0     0 *  AG      0   1.5    0.0  10.0
 F. SBD         *    -4     0    -4 -1000 *  AG   1353   1.5    0.0  13.3
 G. NBA         *     4 -1000     4     0 *  AG    824   1.5    0.0  13.3
 H. NBD         *     0     0     0  1000 *  AG      0   1.5    0.0  10.0


 III.  RECEPTOR LOCATIONS

            *    COORDINATES (M)
  RECEPTOR  *    X      Y      Z
 ------------*---------------------
 1. R_001   *     -7     11   1.8
 2. R_002   *    -11    -15   1.8
 3. R_003   *     11    -15   1.8
 4. R_004   *      6     15   1.8


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 IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

            *       * PRED  *                CONC/LINK
            *  BRG  * CONC  *                  (PPM)
  RECEPTOR  * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*----------------------------------------
 1. R_001   *  178. *   1.0 *  0.1  0.0  0.0  0.1  0.0  0.5  0.2  0.0
 2. R_002   *  274. *   0.8 *  0.6  0.0  0.0  0.2  0.0  0.0  0.0  0.0
 3. R_003   *  274. *   0.9 *  0.6  0.0  0.0  0.2  0.0  0.1  0.1  0.0
 4. R_004   *  182. *   0.8 *  0.0  0.1  0.1  0.0  0.0  0.3  0.3  0.0


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EXIT
```

```
CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
         JUNE 1989 VERSION
         PAGE   1

     JOB: C:\Users\19193\Documents\hotspot modelin
     RUN: CALINE4 RUN      (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide


 I.  SITE VARIABLES

       U=   0.5 M/S            Z0= 100. CM           ALT=     0. (M)
     BRG= WORST CASE           VD=  0.0 CM/S
    CLAS=     7 (G)            VS=  0.0 CM/S
    MIXH= 1000. M             AMB=  0.0 PPM
   SIGTH=    5. DEGREES       TEMP= 20.0 DEGREE (C)


 II.  LINK VARIABLES

      LINK      *  LINK COORDINATES (M)   *              EF     H     W
  DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)   (M)
 ----------------*-------------------------*------------------------------
 A. EBA         * -1000    -5     0    -5 *  AG   1036   1.5    0.0  17.0
 B. EBD         *     0    -4  1000    -4 *  AG   1153   1.5    0.0  13.3
 C. WBA         *  1000     7     0     7 *  AG   1021   1.5    0.0  20.6
 D. WBD         *     0     4 -1000     4 *  AG    996   1.5    0.0  13.3
 E. SBA         *    -7  1000    -7     0 *  AG   1208   1.5    0.0  20.6
 F. SBD         *    -4     0    -4 -1000 *  AG   1114   1.5    0.0  13.3
 G. NBA         *     7 -1000     7     0 *  AG    822   1.5    0.0  20.6
 H. NBD         *     4     0     4  1000 *  AG    824   1.5    0.0  13.3


 III.  RECEPTOR LOCATIONS

            *    COORDINATES (M)
  RECEPTOR  *    X      Y      Z
 ------------*---------------------
 1. R_001   *    -19     14   1.8
 2. R_002   *    -11    -15   1.8
 3. R_003   *     19    -12   1.8
 4. R_004   *     13     18   1.8


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 IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

            *       * PRED  *                CONC/LINK
            *  BRG  * CONC  *                  (PPM)
  RECEPTOR  * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*----------------------------------------
 1. R_001   *   93. *   0.6 *  0.0  0.2  0.3  0.0  0.1  0.0  0.0  0.0
 2. R_002   *    3. *   0.7 *  0.1  0.0  0.0  0.1  0.3  0.0  0.0  0.1
 3. R_003   *  273. *   0.6 *  0.3  0.0  0.0  0.2  0.0  0.1  0.1  0.0
 4. R_004   *  183. *   0.6 *  0.0  0.1  0.1  0.0  0.0  0.2  0.2  0.0


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EXIT
```

```
CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
         JUNE 1989 VERSION
         PAGE   1

     JOB: C:\Users\19193\Documents\hotspot modelin
     RUN: CALINE4 RUN      (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide


 I.  SITE VARIABLES

       U=   0.5 M/S            Z0= 100. CM           ALT=     0. (M)
     BRG= WORST CASE           VD=  0.0 CM/S
    CLAS=     7 (G)            VS=  0.0 CM/S
    MIXH= 1000. M             AMB=  0.0 PPM
   SIGTH=    5. DEGREES       TEMP= 20.0 DEGREE (C)


 II.  LINK VARIABLES

      LINK      *  LINK COORDINATES (M)   *              EF     H     W
  DESCRIPTION   *   X1    Y1    X2    Y2   * TYPE  VPH  (G/MI)  (M)   (M)
 ----------------*-------------------------*------------------------------
 A. EBA          * -1000    -7     0    -7 *  AG   1047   1.5    0.0  20.6
 B. EBD          *     0    -4  1000    -4 *  AG   1250   1.5    0.0  13.3
 C. WBA          *  1000     7     0     7 *  AG    960   1.5    0.0  20.6
 D. WBD          *     0     4 -1000     4 *  AG    927   1.5    0.0  13.3
 E. SBA          *    -7  1000    -7     0 *  AG   1425   1.5    0.0  20.6
 F. SBD          *    -4     0    -4 -1000 *  AG   1092   1.5    0.0  13.3
 G. NBA          *     5 -1000     5     0 *  AG    737   1.5    0.0  17.0
 H. NBD          *     4     0     4  1000 *  AG    900   1.5    0.0  13.3


 III.  RECEPTOR LOCATIONS

            *    COORDINATES (M)
  RECEPTOR  *    X      Y      Z
 ------------*---------------------
 1. R_001    *    -18     10   1.8
 2. R_002    *    -10    -18   1.8
 3. R_003    *     14    -11   1.8
 4. R_004    *     11     18   1.8


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 IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

            *       * PRED  *                CONC/LINK
            *  BRG  * CONC  *                  (PPM)
  RECEPTOR  * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*----------------------------------------
 1. R_001    *   93. *   0.7 *  0.0  0.2  0.3  0.1  0.1  0.0  0.0  0.1
 2. R_002    *    2. *   0.8 *  0.1  0.0  0.0  0.1  0.4  0.1  0.0  0.1
 3. R_003    *  273. *   0.7 *  0.3  0.0  0.0  0.2  0.0  0.1  0.1  0.0
 4. R_004    *  183. *   0.6 *  0.0  0.1  0.1  0.0  0.0  0.2  0.2  0.1


1
EXIT
```

```
           CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                    JUNE 1989 VERSION
                    PAGE   1

               JOB: C:\Users\19193\Documents\hotspot modelin
               RUN: CALINE4 RUN      (WORST CASE ANGLE)
         POLLUTANT: Carbon Monoxide


    I.  SITE VARIABLES

           U=   0.5 M/S             Z0= 100. CM            ALT=     0. (M)
        BRG= WORST CASE             VD=  0.0 CM/S
       CLAS=     7 (G)              VS=  0.0 CM/S
       MIXH= 1000. M               AMB=  0.0 PPM
      SIGTH=    5. DEGREES        TEMP= 20.0 DEGREE (C)


   II.  LINK VARIABLES

        LINK      *  LINK COORDINATES (M)   *              EF     H     W
    DESCRIPTION   *   X1    Y1    X2    Y2   * TYPE  VPH  (G/MI)  (M)   (M)
  ----------------*-------------------------*------------------------------
  A. EBA          * -1000    -5     0    -5 *  AG   2215   1.5    0.0  17.0
  B. EBD          *     0    -5  1000    -5 *  AG   1049   1.5    0.0  17.0
  C. WBA          *  1000     5     0     5 *  AG    728   1.5    0.0  17.0
  D. WBD          *     0     4 -1000     4 *  AG   1351   1.5    0.0  13.3
  E. SBA          *     0  1000     0     0 *  AG      0   1.5    0.0  10.0
  F. SBD          *    -4     0    -4 -1000 *  AG   1378   1.5    0.0  13.3
  G. NBA          *     4 -1000     4     0 *  AG    835   1.5    0.0  13.3
  H. NBD          *     0     0     0  1000 *  AG      0   1.5    0.0  10.0


  III.  RECEPTOR LOCATIONS

             *    COORDINATES (M)
   RECEPTOR  *    X      Y      Z
  ------------*---------------------
  1. R_001    *     -7     11   1.8
  2. R_002    *    -11    -15   1.8
  3. R_003    *     11    -15   1.8
  4. R_004    *      6     15   1.8


1

   IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

             *       * PRED  *                CONC/LINK
             *  BRG  * CONC  *                  (PPM)
   RECEPTOR  * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*----------------------------------------
  1. R_001    *  178. *   1.0 *  0.1  0.0  0.0  0.1  0.0  0.5  0.2  0.0
  2. R_002    *  274. *   0.8 *  0.6  0.0  0.0  0.2  0.0  0.0  0.0  0.0
  3. R_003    *  274. *   0.9 *  0.6  0.0  0.0  0.2  0.0  0.1  0.1  0.0
  4. R_004    *  182. *   0.8 *  0.0  0.1  0.1  0.0  0.0  0.3  0.3  0.0


1
EXIT
```

```
           CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                    JUNE 1989 VERSION
                    PAGE   1

               JOB: C:\Users\19193\Documents\hotspot modelin
               RUN: CALINE4 RUN      (WORST CASE ANGLE)
         POLLUTANT: Carbon Monoxide


    I.  SITE VARIABLES

          U=   0.5 M/S             Z0= 100. CM            ALT=     0. (M)
        BRG= WORST CASE            VD=  0.0 CM/S
       CLAS=     7 (G)             VS=  0.0 CM/S
       MIXH= 1000. M              AMB=  0.0 PPM
      SIGTH=    5. DEGREES       TEMP= 20.0 DEGREE (C)


   II.  LINK VARIABLES

        LINK      *  LINK COORDINATES (M)   *              EF     H     W
    DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)   (M)
  ----------------*-------------------------*------------------------------
  A. EBA          * -1000    -5     0    -5 *  AG   1039   1.5    0.0  17.0
  B. EBD          *     0    -4  1000    -4 *  AG   1156   1.5    0.0  13.3
  C. WBA          *  1000     7     0     7 *  AG   1022   1.5    0.0  20.6
  D. WBD          *     0     4 -1000     4 *  AG    997   1.5    0.0  13.3
  E. SBA          *    -7  1000    -7     0 *  AG   1238   1.5    0.0  20.6
  F. SBD          *    -4     0    -4 -1000 *  AG   1139   1.5    0.0  13.3
  G. NBA          *     7 -1000     7     0 *  AG    833   1.5    0.0  20.6
  H. NBD          *     4     0     4  1000 *  AG    835   1.5    0.0  13.3


  III.  RECEPTOR LOCATIONS

             *    COORDINATES (M)
   RECEPTOR  *    X      Y      Z
  ------------*---------------------
  1. R_001    *    -19     14   1.8
  2. R_002    *    -11    -15   1.8
  3. R_003    *     19    -12   1.8
  4. R_004    *     13     18   1.8


1



   IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

             *       * PRED  *                CONC/LINK
             *  BRG  * CONC  *                  (PPM)
   RECEPTOR  * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*----------------------------------------
  1. R_001    *   93. *   0.6 *  0.0  0.2  0.3  0.0  0.1  0.0  0.0  0.0
  2. R_002    *    3. *   0.7 *  0.1  0.0  0.0  0.1  0.4  0.0  0.0  0.1
  3. R_003    *  273. *   0.6 *  0.3  0.0  0.0  0.2  0.0  0.1  0.1  0.0
  4. R_004    *  183. *   0.6 *  0.0  0.1  0.1  0.0  0.0  0.2  0.2  0.0


1
EXIT
```

```
CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
         JUNE 1989 VERSION
         PAGE   1

     JOB: C:\Users\19193\Documents\hotspot modelin
     RUN: CALINE4 RUN      (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide


 I.  SITE VARIABLES

       U=   0.5 M/S            Z0= 100. CM           ALT=     0. (M)
     BRG= WORST CASE           VD=  0.0 CM/S
    CLAS=     7 (G)            VS=  0.0 CM/S
    MIXH= 1000. M             AMB=  0.0 PPM
   SIGTH=    5. DEGREES       TEMP= 20.0 DEGREE (C)


 II.  LINK VARIABLES

      LINK      *  LINK COORDINATES (M)   *              EF     H     W
  DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)   (M)
 ----------------*-------------------------*------------------------------
 A. EBA          * -1000    -7     0    -7 *  AG   1057   1.5    0.0  20.6
 B. EBD          *     0    -4  1000    -4 *  AG   1252   1.5    0.0  13.3
 C. WBA          *  1000     7     0     7 *  AG    965   1.5    0.0  20.6
 D. WBD          *     0     4 -1000     4 *  AG    931   1.5    0.0  13.3
 E. SBA          *    -7  1000    -7     0 *  AG   1437   1.5    0.0  20.6
 F. SBD          *    -4     0    -4 -1000 *  AG   1098   1.5    0.0  13.3
 G. NBA          *     5 -1000     5     0 *  AG    751   1.5    0.0  17.0
 H. NBD          *     4     0     4  1000 *  AG    929   1.5    0.0  13.3


 III.  RECEPTOR LOCATIONS

            *    COORDINATES (M)
  RECEPTOR  *    X      Y      Z
 ------------*---------------------
 1. R_001    *    -18     10   1.8
 2. R_002    *    -10    -18   1.8
 3. R_003    *     14    -11   1.8
 4. R_004    *     11     18   1.8


1


 IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

            *       * PRED  *                CONC/LINK
            *  BRG  * CONC  *                  (PPM)
  RECEPTOR  * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*----------------------------------------
 1. R_001    *   93. *   0.7 *  0.0  0.2  0.3  0.1  0.1  0.0  0.0  0.1
 2. R_002    *    2. *   0.8 *  0.1  0.0  0.0  0.1  0.4  0.1  0.0  0.1
 3. R_003    *  273. *   0.7 *  0.3  0.0  0.0  0.2  0.0  0.1  0.1  0.0
 4. R_004    *  183. *   0.6 *  0.0  0.1  0.1  0.0  0.0  0.2  0.2  0.1


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EXIT
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D) Risk Assessment Calculations

Health Risk Calculations

Methods:

$$Dose = (C_{air} * DBR * EF * ED * CF) / AT$$

Dose = dose through inhalation (mg/kg-day)
C_{air} = air concentration ($\mu g/m^3$) from air dispersion model
DBR = daily breathing rate (302 L\kg body weight-day)
EF = exposure frequency (350 days/year)
ED = exposure duration (70 years)
CF = conversion factor (10^{-6} ([mg/µg] * [m^3/L])
AT = averaging time (25,550 days or 70 years)

Step 5. To estimate the cancer risk, the dose is multiplied by the cancer potency factor and the CRAF:

Cancer Risk = (Dose * CRAF * Cancer Potency Factor)

where:

Cancer Risk = risk (potential cases per million people)
Dose = dose through inhalation (mg/kg-day)
CRAF = 1.7 (residential receptors with constant concentrations over 70 years)
Cancer Potency Factor = toxicity factor (mg/kg-day^{-1})

Annual Avg Concnetration Calc

max overall	
4.695	max hourly concentration from AERMOD
0.1	annual conversion
0.4695	avg annual concentration
0.0775	scaling factor for combined construction
0.0364	scaled avg annual concentration (Cair)

		Resident	Worker	Student
Dose		0.000105311	2.07832E-05	1.33965E-05
	Cair	0.0364	0.0364	0.0364
	DBR	302	149	581
	EF	350	245	180
	ED	70	40	9
	CF	1.E-05	1.E-05	1.E-05
	AT	25550	25550	25550
Cancer Potency		1.1	1.1	1.1
Age Sensitivity Factor		1.7	1	3
Cancer Risk		0.000196931	2.28615E-05	4.42084E-05
Hazard Index	Cair	0.4695	0.4695	0.4695
	REL for DPM	5	5	5
Chronic Noncancer Index		0.0939	0.0939	0.0939

AERSCREEN 11126 / AERMOD 1234 09/17/13
09:20:13

TITLE: Crawford Mann HRA

********** AREA PARAMETERS **********

SOURCE EMISSION RATE: 0.618E-02 g/s 0.491E-01 lb/hr

AREA EMISSION RATE: 0.153E-06 g/(s-m2) 0.121E-05 lb/(hr-m2)
AREA HEIGHT: 6.00 meters 19.69 feet
AREA SOURCE LONG SIDE: 201.00 meters 659.45 feet
AREA SOURCE SHORT SIDE: 201.00 meters 659.45 feet
INITIAL VERTICAL DIMENSION: 2.06 meters 6.76 feet
RURAL OR URBAN: URBAN
POPULATION: 40233

INITIAL PROBE DISTANCE = 5000. meters 16404. feet

********** BUILDING DOWNWASH PARAMETERS **********

BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES

********** FLOW SECTOR ANALYSIS **********
25 meter receptor spacing: 1. meters - 5000. meters

MAXIMUM IMPACT RECEPTOR

Zo SECTOR	SURFACE ROUGHNESS	1-HR CONC (ug/m3)	RADIAL (deg)	DIST (m)	TEMPORAL PERIOD
1*	1.000	4.695	40	125.0	WIN

* = worst case diagonal

********** MAKEMET METEOROLOGY PARAMETERS **********

MIN/MAX TEMPERATURE: 282.0 / 298.0 (K)

MINIMUM WIND SPEED: 0.5 m/s

ANEMOMETER HEIGHT: 10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
DOMINANT CLIMATE TYPE: Average Moisture
DOMINANT SEASON: Winter

ALBEDO: 0.35
BOWEN RATIO: 1.50
ROUGHNESS LENGTH: 1.000 (meters)

METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT

```
 YR MO DY JDY HR
 -- -- -- --- --
 10 01 10  10 01

   H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -1.27  0.043 -9.000  0.020 -999.   21.      5.9 1.000   1.50   0.35    0.50

   HT  REF TA     HT
- - - - - - - - - - -
  10.0   298.0    2.0
```

METEOROLOGY CONDITIONS USED TO PREDICT AMBIENT BOUNDARY IMPACT

```
 YR MO DY JDY HR
 -- -- -- --- --
 10 01 16  10 01

   H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -0.40  0.043 -9.000  0.020 -999.   21.     18.9 1.000   1.50   0.35    0.50

   HT  REF TA     HT
- - - - - - - - - - -
  10.0   298.0    2.0
```

********** AERSCREEN AUTOMATED DISTANCES **********
OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE

DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	DIST (m)	MAXIMUM 1-HR CONC (ug/m3)
1.00	3.173	2525.00	0.1885
25.00	3.543	2550.00	0.1873
50.00	3.890	2575.00	0.1860
75.00	4.206	2600.00	0.1848
100.00	4.470	2625.00	0.1836
125.00	4.695	2650.00	0.1824
150.01	4.543	2675.00	0.1812
174.99	3.721	2700.00	0.1801
200.00	3.033	2725.00	0.1790
225.00	2.575	2750.00	0.1778
250.00	2.244	2775.00	0.1768
274.99	1.991	2800.00	0.1757
300.00	1.790	2825.00	0.1746
325.00	1.625	2850.00	0.1736
350.00	1.486	2875.00	0.1726
375.01	1.368	2900.00	0.1715
400.00	1.266	2925.00	0.1705
425.00	1.177	2950.00	0.1696
450.00	1.099	2975.00	0.1686
475.01	1.028	3000.00	0.1676
500.00	0.9663	3025.00	0.1667
525.00	0.9099	3050.00	0.1657
550.00	0.8594	3075.00	0.1648
575.01	0.8138	3100.00	0.1639
599.99	0.7720	3125.00	0.1630
625.00	0.7340	3150.00	0.1621
650.00	0.6993	3175.00	0.1612
675.00	0.6672	3200.00	0.1604
699.99	0.6377	3225.00	0.1595
725.00	0.6106	3250.00	0.1587
750.00	0.5856	3275.00	0.1579
775.00	0.5623	3300.01	0.1571
800.01	0.5408	3325.00	0.1563
825.00	0.5209	3350.00	0.1555
850.00	0.5024	3375.00	0.1547
875.00	0.4852	3400.00	0.1539
900.01	0.4690	3425.00	0.1550
924.99	0.4539	3450.00	0.1542
950.00	0.4400	3475.00	0.1534
975.00	0.4270	3500.00	0.1527
1000.00	0.4148	3525.00	0.1519
1024.99	0.4034	3550.00	0.1511
1050.00	0.3927	3575.00	0.1504
1075.00	0.3825	3600.00	0.1497
1100.00	0.3730	3625.00	0.1489
1125.00	0.3641	3650.00	0.1482
1150.00	0.3557	3675.00	0.1475
1175.00	0.3479	3700.00	0.1468

1200.00	0.3405	3725.00	0.1461
1225.01	0.3335	3750.00	0.1454
1250.00	0.3270	3775.00	0.1448
1275.00	0.3207	3800.00	0.1441
1300.00	0.3148	3825.00	0.1434
1325.00	0.3091	3850.00	0.1428
1350.00	0.3038	3875.00	0.1421
1375.00	0.2986	3900.00	0.1415
1400.00	0.2938	3925.00	0.1409
1425.00	0.2892	3950.00	0.1403
1450.00	0.2848	3975.00	0.1396
1475.00	0.2806	4000.00	0.1390
1500.00	0.2766	4025.00	0.1384
1525.00	0.2728	4050.00	0.1378
1550.00	0.2691	4075.00	0.1372
1575.00	0.2656	4100.00	0.1366
1600.00	0.2623	4125.00	0.1361
1625.00	0.2590	4150.00	0.1355
1650.00	0.2559	4175.00	0.1349
1675.00	0.2529	4200.00	0.1344
1700.00	0.2500	4225.00	0.1338
1725.00	0.2473	4250.00	0.1332
1750.00	0.2445	4275.00	0.1327
1775.00	0.2419	4300.00	0.1322
1800.00	0.2394	4325.00	0.1316
1825.00	0.2369	4350.00	0.1311
1850.00	0.2345	4375.00	0.1306
1875.00	0.2323	4400.00	0.1300
1900.00	0.2301	4425.00	0.1295
1925.00	0.2279	4450.00	0.1290
1950.00	0.2258	4475.00	0.1285
1975.00	0.2237	4500.00	0.1280
2000.00	0.2217	4525.00	0.1275
2025.00	0.2198	4550.00	0.1270
2050.00	0.2178	4575.00	0.1265
2075.00	0.2159	4600.00	0.1261
2100.00	0.2141	4625.00	0.1256
2125.00	0.2124	4650.00	0.1251
2150.00	0.2106	4675.00	0.1246
2175.00	0.2090	4700.00	0.1242
2199.99	0.2073	4725.00	0.1237
2225.00	0.2057	4750.00	0.1233
2250.00	0.2042	4775.00	0.1228
2275.00	0.2026	4800.00	0.1224
2300.01	0.2011	4825.00	0.1219
2325.00	0.1996	4850.00	0.1215
2350.00	0.1981	4875.00	0.1210
2375.00	0.1967	4899.99	0.1206
2400.00	0.1953	4925.00	0.1202
2425.00	0.1939	4950.00	0.1197
2450.00	0.1925	4975.00	0.1193
2475.00	0.1912	5000.00	0.1189
2500.00	0.1898		

********** AERSCREEN MAXIMUM IMPACT SUMMARY **********

3-hour, 8-hour, and 24-hour scaled
concentrations are equal to the 1-hour concentration as referenced in
SCREENING PROCEDURES FOR ESTIMATING THE AIR QUALITY
IMPACT OF STATIONARY SOURCES, REVISED (Section 4.5.4)
Report number EPA-454/R-92-019
http://www.epa.gov/scram001/guidance_permit.htm
under Screening Guidance

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	4.740	4.740	4.740	4.740	N/A

DISTANCE FROM SOURCE 133.00 meters

IMPACT AT THE AMBIENT BOUNDARY	3.173	3.173	3.173	3.173	N/A

DISTANCE FROM SOURCE 1.00 meters