CITY OF
HAYWARD
HEART OF THE BAY

DATE: July 22, 2010

TO: Planning Commission

FROM: Richard Patenaude, AICP, Planning Manager

SUBJECT: Site Plan Review Application No. PL-2009-0200; Robert Hatton, Clear Channel Outdoor, Inc. (Applicant) / Robert S. Figone, Jr. *et al* (Owner) – Request for Demolition of Existing Double-Faced Conventional Billboard and Replacement with New Billboard Structure with Faces Containing LED Technology and of the Same Size and Height as the Existing.

The Project Site is Breakwater Avenue (APN 439-0099-017-04), approximately 550 feet westerly of Whitesell Street and one mile easterly of the Hayward Shoreline Interpretive Center, in the Industrial Corridor General Plan Land Use Designation and the Industrial (I) Zoning District.

Removal of Five Billboard Structures at 21330 Foothill Boulevard, 22385 Mission Boulevard, 27630 Mission Boulevard, 28000 Mission Boulevard, and 28049 Mission Boulevard, Located on Properties in Various General Plan Land Use Designations and Zoning Districts.

RECOMMENDATION

That the Planning Commission adopts the attached Mitigated Negative Declaration and associated Mitigation Monitoring Program subject to the attached findings (Attachment III), and approves the Site Plan Review Application, subject to the attached findings (Attachment IV) and conditions of approval (Attachment V).

BACKGROUND

The project involves the demolition of an existing conventional double-faced billboard and replacement with a new, single-pole, double-faced billboard containing digital LED (light-emitting diode) technology. The project is located along Breakwater Avenue, running parallel to State Route 92 at its approach to the Hayward-San Mateo Bridge toll plaza (Attachment I). The dimensions of the sign faces (14 feet high by 48 feet wide) and the height (45 feet) of the new billboard would be the same as the existing. The new billboard would display multiple advertisements, cycling between ads every eight seconds. It would be equipped with ambient light sensors, which would adjust the brightness of the display correlating with lighting conditions. It would also be equipped with "shaders" to prohibit the dispersal of light into the night sky.
The City Sign Ordinance prohibits new billboards. However, replacement billboards may be

approved under a Relocation & Settlement Agreement with the City of Hayward. Prior to installation of any advertising material on the new billboard structure, Clear Channel Outdoor shall enter into such an Agreement regarding the installation and operation of the proposed billboard on Breakwater Avenue. The Agreement shall provide that a minimum of 12.5% of the advertising space on the west-facing panel will be provided to promote City and community events at no cost to City and will require the removal of five billboard structures (with a total of eight display faces) at 21330 Foothill Boulevard, 22385 Mission Boulevard, 27630 Mission Boulevard, 28000 Mission Boulevard, and 28049 Mission Boulevard (Attachment II). These billboard structures and faces would not be replaced.

Project Description and Setting

Breakwater Avenue – The project site is located at the interface of extensive urban development, consisting of industrial and commercial structures and uses to the east, and reclaimed undeveloped baylands, consisting of diked salt marsh associated with the Hayward Regional Shoreline, to the west. The site is adjacent to and along the north side of State Route 92, a freeway providing access to the Hayward-San Mateo Bridge, easterly of the bridge's toll plaza. The adjacent segment of State Route 92 is not a state scenic highway. The new single-pole support structure would provide less visual clutter than the existing multi-pole support and provide greater opportunities for advertising, including opportunity for public information messages. The existing billboard faces are perpendicular to the freeway, directing night-time light toward the baylands. The proposed billboard faces would be angled so that they are directed toward the freeway, and away from the baylands.

The terrain of the area surrounding the Breakwater Avenue site is flat with no short-range scenic vistas; the long-range vista provides a view of the mountains on the San Francisco Peninsula. Within the Hayward Regional Shoreline, and east-bound freeway vehicles, the long-range vista would not compromised by the project. From the Shoreline, a user would view the billboard against a backdrop of industrial buildings. From the Bay Trail pedestrian bridge over the freeway, the vista would not be compromised beyond the current condition. As a trail user descends the northerly ramp toward Breakwater Avenue, the bridge fencing directs the user to a view northerly of the project site. The new billboard's support structure would be less intrusive on both short- and long-range vistas over the existing condition.

Foothill/Mission Boulevard Corridor – The existing billboards are located in an urban setting along a major auto-oriented transportation corridor. State Route 238 (Foothill and Mission Boulevards) is not a state scenic highway, but removal of the billboards along Foothill and Mission Boulevards would substantially improve short-term vistas from adjacent properties and the roadway. Removal of the billboards would also substantially improve the visual character of the roadway and its surroundings, which will be improved with the Route 238 Corridor Improvement Project, scheduled for construction between this fall and 2013.

DISCUSSION AND STAFF ANALYSIS

The proposed replacement billboard for the Breakwater Avenue site would not be in conflict with City land use plans, policies or regulations or with any conservation plan. The Hayward Area

Shoreline Planning Program designates the project site as "Industrial/Public Utilities." A Program policy states "Promote industrial in-fill development in areas designated for industrial and public utilities …." As this project is on a boundary between "Industrial/Public Utilities" and "Marshes (to be enhanced)" it is acknowledged that development on the project site should be sensitive to the Marsh area. The replacement billboard is of the same size and height as the existing, and impacts associated with the LED lighting can be mitigated to insignificant levels as addressed below.

The proposed billboard structure is designed to direct light toward State Route 92 and away from the Hayward Regional Shoreline. The State Route corridor, a major freeway, is characterized by heavy traffic, automobile and truck lights, noise, numerous lighted directional signs, and a brightly-lit toll plaza approximately 1¼ mile westerly of the site. The billboard will comply with Department of Transportation regulations that stipulate a change in display no more often than once every four seconds; Clear Channel will change displays once every eight seconds.

The proposed billboard will use an estimated average of 5,000 to 8,000 KW of electricity per month. This is a wide range as there are several variables which affect power consumption. Clear Channel would be removing ten conventional sign faces and replacing them with two digital faces. It is estimated that the current power usage for the ten conventional faces is 1,125 KW per month. While direct electrical power consumption would increase, the new digital sign would not require any service trucks on the road using diesel fuel, petroleum-based products to manufacture vinyl ad copy, and other energy-intensive processes used in the traditional business. Thus, the net effect of the new sign on energy use is anticipated to be negligible.

Regarding driver safety, a study of the Virginia Tech Transportation Institute, Center for Automotive Safety Research, dated March 22, 2007 (Attachment IX), concludes that LED billboards were considered safety-neutral in their design and operation from a human factors perspective, compared with conventional billboards. The project site is located along a section of State Route 92 that offers few other distractions, as it is located away from interchanges that would require attention to lane merging.

Aesthetics

The project involves the demolition of an existing conventional double-faced billboard and replacement with a new, single-pole, double-faced billboard containing digital LED (light-emitting diode) technology. The dimensions of the sign faces (14 feet high by 48 feet wide) and the height (45 feet) of the new billboard would be the same as the existing. The new single-pole support structure would provide less visual clutter than the existing multi-pole support.

There are several light sources in the vicinity of the Breakwater Avenue site. To the south, approximately 75 feet from the billboard, the freeway is illuminated for safety. Approximately 200 feet east of the billboard, the intersection of the Bay Trail bridge access and Breakwater Avenue is illuminated by two street lamps approximately 25-30 feet in height. Northeasterly of the billboard is the equipment yard for United Rentals, which is illuminated by safety lamps approximately 20 feet in height.

Lamphier-Gregory, environmental consultant for Clear Channel Outdoor, took light meter measurements from five locations relative to the westerly face of the existing billboard, which faces the Hayward Regional Shoreline[1]. The first location, 500 feet west of the billboard along Breakwater Avenue, was established to measure the cumulative ambient light in the general vicinity. The second location, 250 feet west of the billboard along Breakwater Avenue, was established to measure the ambient light generated primarily from the billboard. Three additional measurement locations were established within the Shoreline approximately 100, 211 and 215 feet from the existing billboard to get a sense of the degree to which the existing billboard illuminates the protected area within the baylands. Figure 1 illustrates the five measurement points relative to the billboard. Table 1 presents the light readings taken from four sites on February 18, 2010, and Table 2 presents the readings from all five sites taken on February 24. As both tables indicate, it appears the distances from which the measurements were taken were too great to generate large readings.

Figure 1

[1] *Light Meter Readings, Clear Channel Billboard, Highway 92, Hayward, California, FINAL*, **Lamphier-Gregory, March 5, 2010 (Attachment G)**

Table 1

Feb. 17, 2010

Measurement Locations and Illuminance Measurements

Measurement Location	Distance from Billboard (ft)	Illuminance (foot-candles)
1	500	0.000
2	250	0.006
3	211	0.032
4	215	0.000

Table 2

Feb. 24, 2010

Measurement Locations and Illuminance Measurements

Measurement Location	Distance from Billboard (ft.)	Billboard Unlit Meter Reading (foot-candles)	Billboard Lit Meter Reading (foot-candles)
1	500	0.000	0.000
		0.000	0.000
2	250	0.000	0.000
		0.000	0.000
3	211	0.000	0.000
		0.000	0.000
4	215	0.000	0.000
		0.000	0.000
5	100	0.000	0.082
		0.000	0.081

Lamphier-Gregory then conducted a billboard light meter reading of a recently-installed Clear Channel LED billboard adjacent to the Interstate 80 approach to the Bay Bridge[2] to show the impact of the proposed Breakwater Avenue billboard. Regarding estimated illuminance, the proposed LED billboard is expected to provide a maximum of 1.12 foot-candles of additional illuminance (above and beyond ambient light conditions) at 100 feet within its viewing angle (see Figures 2 and 3 below). The figures indicate that the viewing angle of the proposed billboard would be directed toward the freeway and away from the wetlands. Illuminance would decrease with lateral distance from the center of the viewing angle, so that areas 100 feet on either side of the center of the viewing angle would experience even less illuminance. The viewing angle of the proposed LED billboard would be ± 30° vertically and ± 60° horizontally on each side, while the viewing angle of the current billboard approaches 180° on each side with its nondirectional lighting. Thus, the area of land illuminated by the proposed sign would be less than that of the existing sign.

[2] ***Light Meter Readings, Clear Channel Billboard, Bay Bridge, Oakland, California*, Lamphier-Gregory, April 12, 2010 (Attachment H)**

Table 3

April 8, 2010

Measurement Locations and Illuminance Measurements

	Measurement Location	Distance from Billboard (ft.)	Ambient Light Measurements: Billboard Unlit (Baseline) (foot-candles)	Ambient Light Measurements: Billboard Lit (foot-candles)	Difference from ambient light (foot-candles)
West toward San Francisco	1	500	0.150	0.278	0.128
↑	**2**	**350**	**0.268**	**0.296**	**0.028**
↑	3	250	0.178	0.323	0.145
↑	4	100	0.209	0.727	0.518
	Clear Channel Billboard				
↓	5	100	0.115	1.234	1.119
↓	6	250	0.062	0.523	0.461
↓	**7**	**350**	**0.131**	**0.344**	**0.213**
East toward Oakland	8	500	0.177	0.344	0.167

Figure 2

Figure 3

Biological Resources[3]

Habitat Modification – The project site is located within a small lot that is dominated by weedy vegetation. No areas supporting or showing any other characteristics of wetlands or riparian habitats are present within this lot. Due to the highly-disturbed nature of the area immediately surrounding the sign, it is extremely unlikely that any special-status plant species would occur in the project area. The vast majority of plant and animal species occurring within the small lot in which the billboard is located are very common species associated with urban and developed conditions throughout the Bay Area.

During removal of the existing conventional billboard and installation of the LED billboard, heavy equipment will enter the site through a gate along Breakwater Avenue. All activity associated with conversion of the sign would be presumed to take place within the small, fenced lot, with most such activity concentrated in the immediate vicinity of the billboard.

The only wildlife species that may be using the immediate vicinity of the billboard during conversion of the billboard are common burrowing mammals, such as the California ground squirrel and Botta's pocket gopher, and common birds such as the house finch, golden-crowned sparrow,

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[3] ***Biotic Assessment for Proposed LED Billboard along Highway 92 in Hayward, California (HTH #2973-01)*, H.T. Harvey & Associates, September 25, 2008 (Attachment F)**

and northern mockingbird. These species are regionally abundant, and project effects on these species would not be significant.

Several California ground squirrel burrows have been observed immediately below the sign, but there was no evidence that sensitive species, such as the burrowing owl, a California species of special concern, have been present at the site. Due to the burrows' proximity to shrubs along the edge of the site, it is not expected that burrowing owls would use these burrows. The diked marsh to the west supports pickleweed and is thus presumed to provide habitat for the federally-endangered salt marsh harvest mouse and the salt marsh wandering shrew, a California species of special concern. However, no pickleweed is present on the site, and these special-status mammals are thus not likely to occur in the project site. Two special-status bird species may nest close to the site: Bryant's savannah sparrow nests in the diked marsh immediately west of the site, and the shrubs along the fenceline separating the project site from Breakwater Avenue provide potential nesting sites for the loggerhead shrike. Both of these birds are California species of special concern. However, neither species is expected to nest within the lot where the billboard is located. No bird nests were detected on the existing billboard structure. Although rock pigeons were roosting on the sign, no other birds were seen on or in the immediate vicinity of the sign during field visits.

If conversion of the billboard were to occur during the avian breeding season (February 1 – August 31), it is possible that birds nesting in adjacent areas may be disturbed by construction activities. Such species could possibly include special-status species such as the loggerhead shrike and Bryant's savannah sparrow. Due to the extremely limited size of the project area, no more than one pair of each species could potentially be directly disturbed by project activities.

However, these and other native birds are protected from take by the federal Migratory Bird Treaty Act and the California Fish & Game Code, and abandonment of an active nest as a result of project construction activities could be considered a "take" under the Fish & Game Code. Therefore, the following mitigation measures, as conditions of approval, are recommended:

1. The conversion of the sign may only take place during the non-breeding season (September 1 – January 31), unless a preconstruction survey is conducted prior to construction to determine whether any nests of protected birds are present in areas where they may be disturbed; if nests are found, such survey must include a determination from a qualified biologist of the sizes of buffers around the nest necessary to avoid nest abandonment during construction.

2. Anti-perching material shall be placed on horizontal structural members that may provide perching opportunities for predators.

Wetlands – No wetlands, riparian habitats, or other sensitive habitats are present on the site, and thus none will be impacted by the conversion of the billboard. There is a very low probability that any special-status plant species occur on the site. The only species known to occur in the area and that may tolerate such disturbed conditions is Congdon's tarplant. No individuals of any tarplant species were observed during site visits.

Movement of Wildlife – Many animals are extremely sensitive to light cues, which influence their physiology and shape their behaviors, particularly during the breeding season. Artificial lighting

may indirectly impact mammals and birds by increasing the nocturnal activity of predators like owls, hawks and mammalian predators. The presence of artificial light may also influence habitat use by rodents such as salt marsh harvest mouse and salt marsh wandering shrew by causing avoidance of well-lit areas and resulting in a net loss of habitat availability and quality.

Areas to the north, northeast, east and southeast of the site are all developed urban habitats that do not support sensitive species that might be impacted by illuminance from the proposed LED billboard. However, the salt ponds to the south and the diked marsh areas to the west provide suitable habitat for a variety of wildlife, including sensitive species such as salt marsh harvest mouse, salt marsh wandering shrew, western snowy plover, loggerhead shrike and Bryant's savannah sparrow. These species and others using the salt ponds or marsh habitats may be subject to increased predation, decreased habitat availability (for species that show aversions to increased lighting), and alterations of physiological processes if the proposed LED billboard produces substantially greater illuminance than the existing billboard.

Light reflecting off the existing conventional billboard illuminates adjacent areas to some extent. Shadows cast by light reflected off this billboard have been observed at a distance exceeding 500 feet. Thus, assessment of the impact of illuminance of adjacent areas by the LED billboard must take into account the existing condition and any expected changes in illuminance that will result from conversion to an LED billboard.

The LED billboard would be angled in such a way as to maximize the amount of visibility from a specific portion of Highway 92, so the area of brightest night illuminance projected by the proposed billboard would form a narrow cone directed at oncoming traffic and falling on only a small portion of marsh habitat (Figures 2 and 3 above). Light overflow from the billboard into the adjacent marsh would be reduced both as a result of the change in angle of the sign (rather than being perpendicular to the highway and facing into the marsh as the existing conventional billboard does) and because the majority of the marsh is outside the beam angle of the LED billboard. Thus, illuminance of the marsh is expected to be much less than the illuminance currently projected into those areas by the existing billboard. The illuminance would dissipate so that illuminance beyond 100 feet would be minimal and that beyond 500 feet would be negligible.

It appears that the LED billboard will illuminate much less of the adjacent marsh than the current billboard does, and the illuminance values predicted for this billboard do not appear to be substantially greater than (and may be less than) those produced by the existing billboard. Therefore, the LED billboard is not expected to substantially increase the amount of illuminance currently experienced by sensitive habitats in nearby areas.

There are two primary ways in which the luminance of an LED billboard might impact the movement of birds. First, nocturnally migrating birds may alter their orientation upon sighting the light and become drawn toward the sign, potentially striking objects such as buildings, adjacent power lines, or even the sign itself. Second, local seabirds, shorebirds and passerines using the marsh, salt ponds and estuarine habitats adjacent to the billboard may become disoriented during flights among foraging areas and fly toward the sign, colliding with it or with nearby structures,

such as power lines. Both migrating birds and local birds are much more likely to be impacted by the billboard's luminance during foggy or rainy weather, when visibility is poor.

Migrating Birds – Hundreds of bird species migrate nocturnally in order to avoid diurnal predators and to minimize energy expenditures. Although the mechanism causing migrating birds to be attracted to bright light is unknown, the attraction is well documented. Migrating birds are frequently drawn from their migratory flight paths into the vicinity of an artificial light source, where they end up circling the lit area, effectively "captured" by the light. When birds are drawn to artificial lights during their migration, they become disoriented and possibly blinded by the intensity of the light. The disorienting and blinding effects of artificial lights directly impact migratory birds by causing collisions with light structures, buildings, communication and power structures, or even ground. Indirect impacts on migrating birds might include orientation mistakes and increased length of migration due to light-driven detours.

Local Birds – Seabirds may be especially vulnerable to artificial lights because many species are nocturnal foragers that have evolved to search out bioluminescent prey, and thus are strongly attracted to bright light sources. Seabirds using the Hayward area include primarily gulls, terns, cormorants, and the state-endangered brown pelican, none of which are primarily nocturnal foragers; however, they may still forage to some extent during the night. When seabirds approach an artificial light, they seem unwilling to leave it and may become "trapped" within the sphere of the light source for hours or even days, often flying themselves to exhaustion or death. Shorebirds forage in the San Francisco Bay nocturnally as well as diurnally, and move frequently between foraging locations in response to tide levels and prey availability. Biologists and hunters have long used sudden bright light as a means of blinding and trapping shorebirds, so evidence that shorebirds are affected by bright light is well established, though impacts of a consistent bright light are undocumented. However, based on the above studies, it is reasonable to conclude that shorebirds, like other bird species, may be disoriented by a very bright light in their flight path. Passerine species have been documented responding to increased illumination in their habitats with nocturnal foraging and territorial defense behaviors, but absent significant illumination, they typically do not forage at night, leaving them less susceptible to the attraction and disorientation caused by luminance when they are not migrating.

Effects of the Project on Flight Behavior – The visibility of the proposed LED billboard to birds in flight, and thus the risk it poses to flying birds, depends primarily on the beam angle of the sign relative to the flightlines of birds and on the luminance (brightness) of the sign as perceived by the birds. The directional nature of LED lighting and the projected viewing angle values of ±30° vertically and ±60° horizontally suggest that the viewing angle of the sign will be narrow enough to preclude attracting migrating birds on clear nights, when they fly high enough to be outside the viewing angle of the sign. Shaders located above each row of lights will prevent light from projecting upward into the sky. As a result, birds flying more than 30° above the center of the sign's beam angle will not be able to see light from the sign at all. However, migrating birds are forced to fly low during foggy and rainy conditions, which may bring them into the viewing angle of the billboard. Likewise, any foraging birds flying into the sign's viewing angle may be susceptible to effects of the sign's luminance. For example, any bird flying low along the bay edge between the vicinity of Hayward Regional Shoreline north of Highway 92 and the Eden Landing Ecological

Reserve south of Highway 92 is expected to cross the viewing angle of the proposed LED billboard, and birds flying across the bay toward the Hayward area may enter the viewing angle as well.

The proposed project will replace a conventionally lit billboard that produces an estimated luminance of 23 cd/ft^2, with an LED billboard that would be operated so that its peak luminance will be approximately 46 cd/ft^2 in the center of the beam angle. For comparison, a full moon at its brightest produces approximately 232 cd/ft^2. The proposed billboard will be equipped with a light sensor that would adjust the brilliance of the billboard in response to available ambient lighting, dimming the luminance as ambient light lessens.

Additionally, the LED display on the billboard can be changed every eight seconds from a static image to a static image, resulting in a changing light source. Colors and patterns of color on the billboard would thus be changing, and birds flying near the sign would not perceive it as a fixed, unchanging light, the type of light that appears to be most attractive to birds.

The proposed billboard is expected to produce more than twice the luminance of the existing billboard, at the center of its beam angle, which would make it more visible to passing birds within its beam angle. It is possible that some birds that find themselves near the center of the beam angle may be attracted to the sign. However, this effect is not expected to have long-term consequences for such birds leading to bird-strike mortality or substantial interference with bird movements, for several reasons. The sign will be focused on the highway, not on airspace above the highway or on bayside habitats. Thus, a relatively limited area at low altitude above Highway 92 will be within the center of the sign's beam angle.

Because the area east of the sign is heavily urbanized and contains no habitats of value to estuarine birds using the Bay and bayside habitats to the west, few birds are expected to be flying in a west-east direction directly toward the sign. As a result, birds are not expected to be flying within the center of the beam angle (where the sign appears brightest) for long periods of time. Rather, most movements that will take birds through the center of the beam angle will be birds moving perpendicular to the sign (e.g. between Hayward Regional Shoreline and the Eden Landing Ecological Reserve). As such birds fly through the beam angle, they will experience the sign becoming brighter and brighter until they reach the center of the beam angle, then dimmer as they move out of the center. If they are disoriented by the sign, this disorientation is likely to stop once the image on the sign, including its color, brightness and pattern change, or once the birds pass through the center of the beam angle and the light becomes dimmer. Thus, birds moving through or around the Hayward area are not expected to be attracted to the sign for such a long duration that bird-strike mortality occurs or substantial interference with bird movements occurs.

Given the relatively low increase in luminance produced by the LED billboard (compared to the existing conventional billboard), the configuration of bird habitats in the site vicinity (which does not lend itself to directed bird flights toward the sign), the changing images that will be displayed on the LED billboard, the narrow viewing angle, and the use of shaders to prevent light from projecting upward into the sky, it is expected that the sign's impacts on avian flight behavior would be less than significant.

Cultural Resources

While there are no known archaeological resources on the project site, the baylands are known to have been inhabited by indigenous peoples. In order to protect unknown, but potential, resources, the following mitigation measure, from the City's new Historic Preservation Ordinance, is required:

In the event that known or suspected Native American remains are encountered or significant historic or archaeological materials are discovered, ground-disturbing activities shall be immediately stopped. Examples of significant historic or archaeological materials include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, groundstone mortars and pestles), culturally altered ash-stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials and historic structure remains, such as stone-lined building foundations, wells or privy pits. Ground-disturbing project activities may continue in other areas that are outside the exclusion zone as defined below.

An "exclusion zone" where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area, plus a reasonable buffer zone, by the contractor foreman or authorized representative, or party who made the discovery and initiated these protocols (typically 25 to 50 feet for single burial or archaeological find). The exclusion zone shall be secured (e.g., 24-hour surveillance) as directed by City representatives, if considered prudent to avoid further disturbances.

The contractor foreman or authorized representative, or party who made the discovery and initiated these protocols, shall be responsible for immediately contacting by telephone the parties listed, as follows, to report the find and initiate the consultation process for treatment and disposition: a. the City of Hayward Planning Director; b. the contractor's point(s) of contact; c. the Coroner of the County of Alameda (if human remains found); d. the Native American Heritage Commission (NAHC) in Sacramento; and e. the Yrgin band of Ohlones. The Coroner shall examine the remains after being notified of the discovery. If the remains are Native American, the Coroner shall notify the NAHC within 24 hours. The NAHC shall be responsible for identifying and immediately notifying the Most Likely Descendant (MLD) from the Yrgin band of Ohlones. Within 24 hours of notification by the NAHC, the MLD will be granted permission to inspect the discovery site. Within 24 hours of notification by the NAHC, the MLD may recommend to the City's Planning Director the recommended means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses or DNA analyses recommended by the Amah Mutsun Tribal Band may be considered and carried out. If the MLD recommendation is rejected by the City, the parties shall attempt to mediate the disagreement with the NAHC. If mediation fails then the remains and all associated grave offerings shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance.

Findings for Site Plan Review Application

In order to approve a Site Plan Review Application, a series of findings must be made. The following is a summary discussion of each finding, followed by staff's analysis supporting each required finding. The full discussion related to findings for the Site Plan Review Application is included as Attachment IV.

A. The development is compatible with on-site and surrounding structures and uses and is an attractive addition to the City.

The project involves the demolition of an existing conventional double-faced billboard and replacement with a new, single-pole, double-faced billboard. The project is located along Breakwater Avenue, running parallel to State Route 92 at its approach to the Hayward-San Mateo Bridge toll plaza. The dimensions of the sign faces (14 feet high by 48 feet wide) and the height (45 feet) of the new billboard would be the same as the existing. The new billboard would display multiple advertisements using LED technology, cycling between ads every eight seconds. It would be equipped with ambient light sensors, which would adjust the brightness of the display correlating with current lighting conditions. It would also be equipped with "shaders" to prohibit the dispersal of light into the night sky. A minimum of 12.5% of the advertising space on the west-facing panel will be provided to promote City and community events at no cost to City.

The project site is located at the interface of extensive urban development and reclaimed undeveloped baylands associated with the Hayward Regional Shoreline to the west. The site is adjacent to State Route 92, a freeway providing access to the Hayward-San Mateo Bridge, easterly of the bridge's toll plaza. The new single-pole support structure would provide less visual clutter than the existing multi-pole support. The proposed faces would be angled so that they are directed toward the freeway, and away from the baylands.

Within the Hayward Regional Shoreline, vistas would not compromised by the project with a view of the billboard against a backdrop of industrial buildings. From the Bay Trail pedestrian bridge over the freeway, the vista would not be compromised beyond the current condition.

The project also consists of the removal of five billboard structures (containing a total of eight faces) at 21330 Foothill Boulevard and 22385, 27630, 28000 and 28049 Mission Boulevard. These billboard structures and faces would not be replaced.

Therefore, the proposed billboard structure is compatible with the on-site and surrounding industrial development, and with the adjacent Hayward Regional Shoreline, and is an attractive addition to the City in that it is replacing a dilapidated structure and the replacement structure, with mitigation measures, will not have an impact on the environment.

B. The development takes into consideration physical and environmental constraints.

Given the relatively low increase in luminance produced by the LED billboard (compared to the existing conventional billboard), the configuration of bird habitats in the site vicinity (which

does not lend itself to directed bird flights toward the sign), the changing images that will be displayed on the LED billboard, the narrow viewing angle, and the use of shaders to prevent light from projecting upward into the sky, it is expected that the sign's impacts on avian flight behavior would be less than significant.

C. The development complies with the intent of City development policies and regulations.

The proposed replacement billboard for the Breakwater Avenue site would not be in conflict with City land use plans, policies or regulations or with any conservation plan. The Hayward Area Shoreline Planning Program designates the project site as "Industrial/Public Utilities." A Program policy states "Promote industrial in-fill development in areas designated for industrial and public utilities …." As this project is on a boundary between "Industrial/Public Utilities" and "Marshes (to be enhanced)" it is acknowledged that development on the project site should be sensitive to the Marsh area. Potential impacts to the Marsh area can be mitigated to a level of insignificance.

D. The development will be operated in a manner determined to be acceptable and compatible with surrounding development.

The proposed billboard structure will be operated in a manner determined to be acceptable in that it is conditioned to properly regulate the operating procedures and activities associated with the use, pursuant to this permit and a Relocation and Settlement Agreement between the City and Clear Channel Outdoor.

ENVIRONMENTAL REVIEW

It has been determined that the project, with the proposed mitigation measures, will not cause a significant impact on the environment as documented in the Initial Study. A Mitigated Negative Declaration was prepared in accordance with the California Environmental Quality Act (CEQA) guidelines (Attachment III). The review period began June 14, 2010, and ended July 14, 2010. In order to approve the project, the Planning Commission must adopt the Mitigated Negative Declaration and associated Mitigation Monitoring and Reporting Program.

PUBLIC OUTREACH

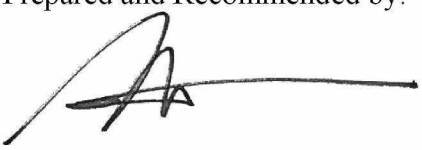
The project was presented to the Hayward Area Shoreline Planning Agency (HASPA) on December 17, 2009 (Attachment X), as a scoping meeting for the CEQA review. Robert Hatton, Clear Channel Outdoor, distributed the biotic assessment prepared by H.T. Harvey & Associates. HASPA moved to send the matter to the Planning Commission with consideration of the following (*responses follow each comment*):

1) An effort would be made to find an alternative site away from the wetlands (*with the addition of a new CBS billboard easterly of the project site, the availability of new sites along the Route 92 corridor are limited*);
2) Public safety differences between the conventional and LED displays would be addressed (addressed in Virginia Tech study, Attachment IX);

3) The cumulative impact of the power plant lighting with the LED display should be addressed (the project site is located greater than 2/3 mile from the proposed power plant; given the separation and the limited light output of the project, the cumulative impact would be insignificant. The Hayward Area Shoreline Planning Program designates the project site as "Industrial/Public Utilities." A Program policy states "Promote industrial in-fill development in areas designated for industrial and public utilities …." Such in-fill development would anticipate the inclusion of lighting along the industrial/shoreline interface);
4) Information would be provided regarding the impact of changing LED lights on people and the natural environment (addressed in Biotic Assessment, Attachment VI, and the Virginia Tech study, Attachment IX);
5) Bay Trail Project comments would be gathered (comments were not submitted, but the issue is addressed in the Project Setting and Description section of this report);
6) Alcohol and tobacco advertisements should be prohibited (prohibition included in recommended conditions of approval);
7) H.T. Harvey & Associates report should address the two-sided nature of the LED display (addressed in Biotic Assessment, Attachment VI; and Light Meter Readings, Attachments VII & VIII);
8) Consider the greater energy use of the LED display vs. the conventional display (addressed in the Discussion and Staff Analysis section of this report);
9) Impact of energy use on the environment (addressed in the Discussion and Staff Analysis section of this report);
10) Comments from Brian Holt, EBRPD (Attachment XI) and the USFWS (Attachment XII) shall be addendums to this action (addressed in Biotic Assessment, Attachment VI; and Light Meter Readings, Attachments VII & VIII); and
11) Anti-perching devices should be required (included as a recommended condition of approval).

An official notice of the availability of the Negative Declaration/Initial Study and of this public hearing was sent on June 14, 2010 to all interested parties and the State Clearinghouse. An update of the project was provided to HASPA as meeting of April 8, 2010. Brian Holt, East Bay Regional Park District, submitted a response on July 1, 2010, stating that the Initial Study/Mitigated Negative Declaration "is inadequate in that it relies upon unsupported conclusions and fails to provide any analysis of the project impacts." No further detail was provided, and City staff believes the reports provided by Lamphier-Gregory and H.T. Harvey & Associates provide appropriate information on which to make a judgment.

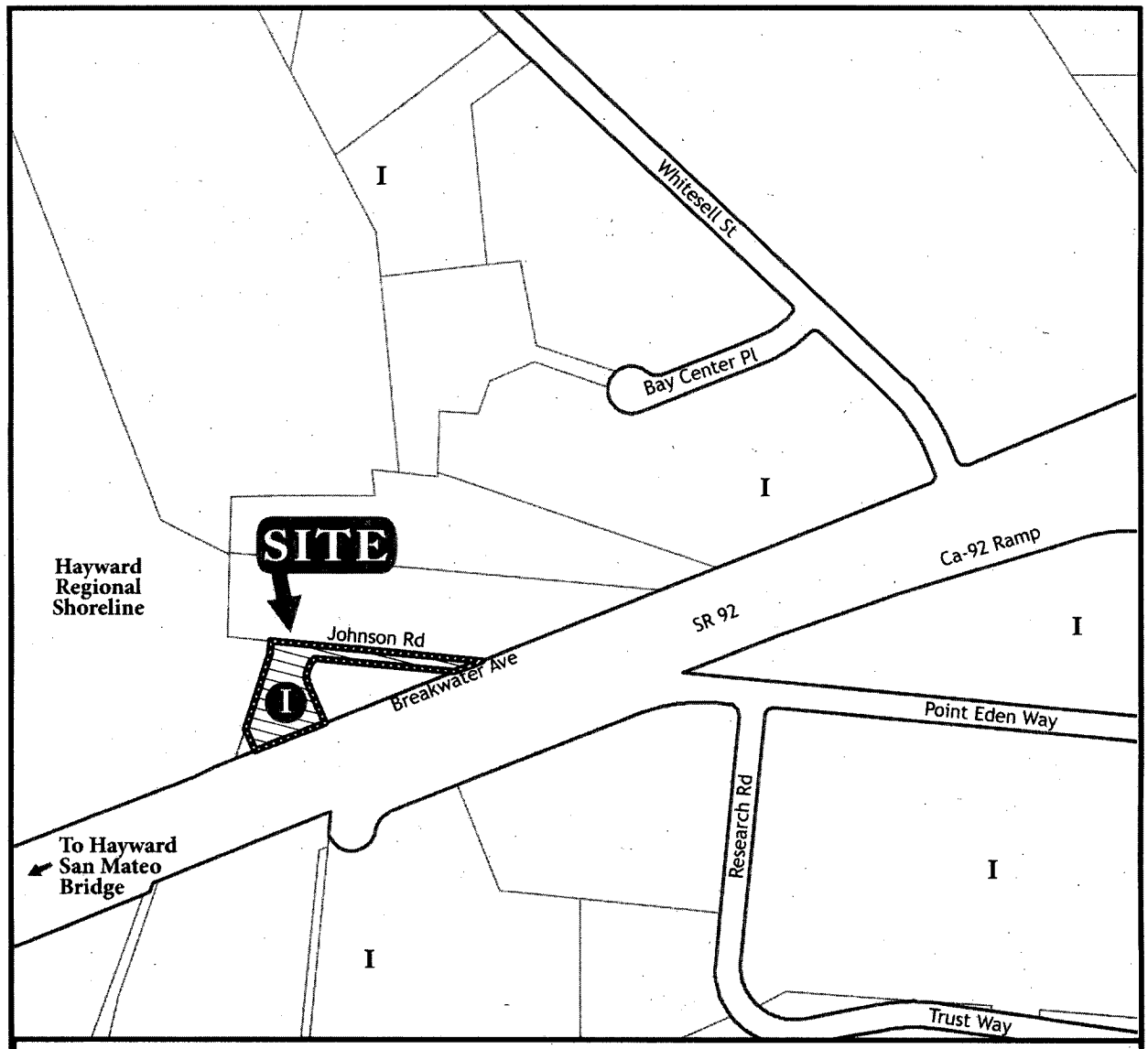
Prepared and Recommended by:



Richard Patenaude, AICP
Planning Manager

Attachments

Attachment I:	Area & Zoning Map – Breakwater Avenue
Attachment II:	Map – Billboards to be Removed
Attachment III:	Initial Study/Mitigated Negative Declaration/Mitigation Monitoring Program
Attachment IV:	Findings for Approval
Attachment V:	Conditions of Approval
Attachment VI:	Biotic Assessment for Proposed LED Billboard along Highway 92 in Hayward, California (HTH #2973-01), H.T. Harvey & Associates, September 25, 2008
Attachment VII:	Light Meter Readings, Clear Channel Billboard, Highway 92, Hayward, California, FINAL, Lamphier-Gregory, March 5, 2010
Attachment VIII:	Light Meter Readings, Clear Channel Billboard, Bay Bridge, Oakland, California, Lamphier-Gregory, April 12, 2010
Attachment IX:	Driving Performance and Digital Billboards, Executive Summary, Virginia Tech Transportation Institute, March 22, 2007
Attachment X:	Draft Minutes, Hayward Area Shoreline Planning Agency, December 17, 2009
Attachment XI:	Letter from Brian Holt, East Bay Regional Parks District, July 1, 2010
Attachment XII:	Letter from United States Department of the Interior, December 17, 2009
Attachment XIII:	Plan



Area & Zoning Map

PL-2009-0200 SPR

Address: Hwy 92 & Johnson Rd

Applicant: Robert Harbin

Owner: Clear Channel Outdoor

Zoning Classifications

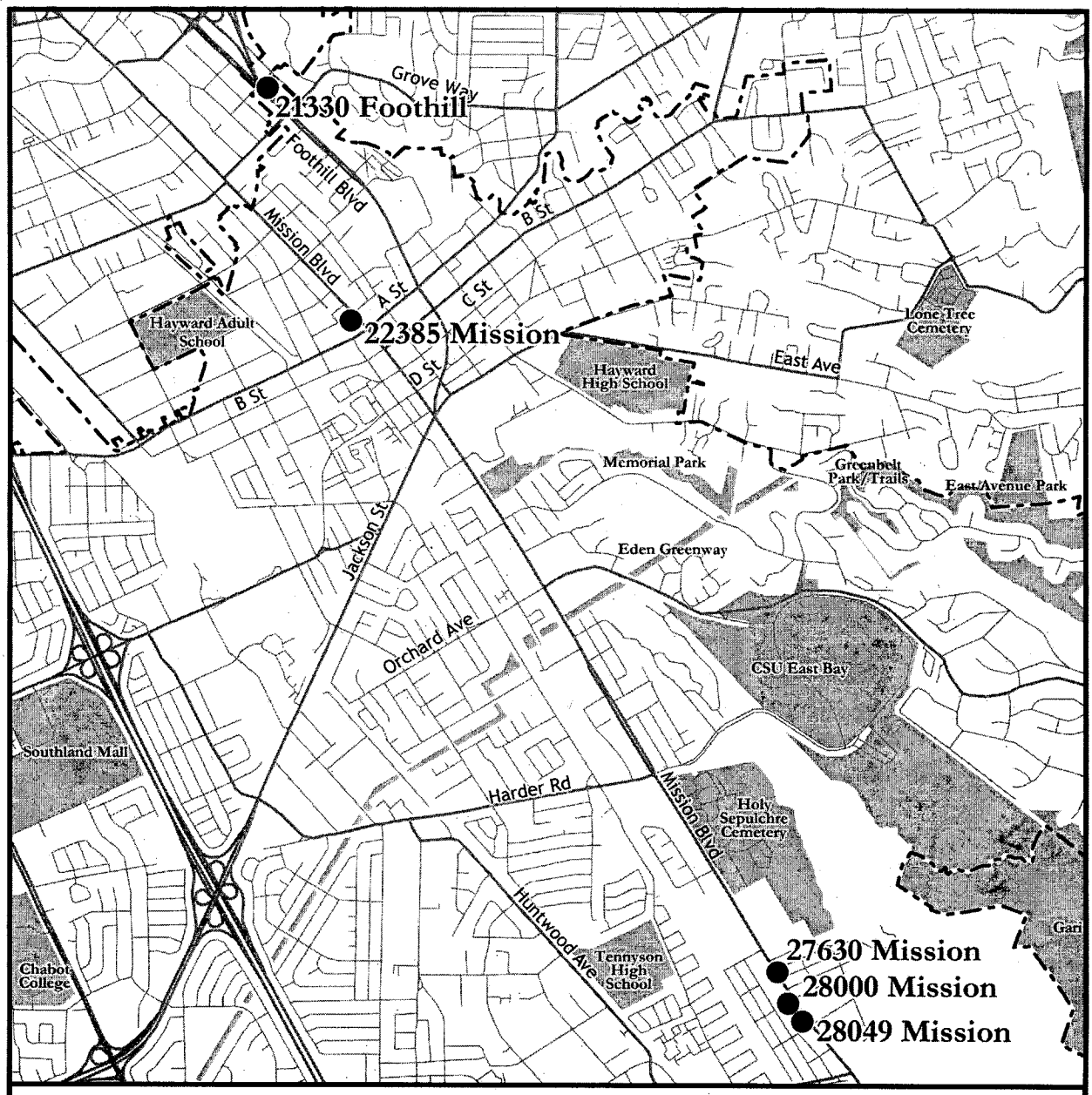
INDUSTRIAL

I Industrial

N

FEET 400 800

Attachment II



Billboards to Be Removed

PL-2009-0200 SPR

CITY OF HAYWARD
MITIGATED NEGATIVE DECLARATION

Notice is hereby given that the City of Hayward finds that could not have a significant effect on the environment as prescribed by the California Environmental Quality Act of 1970, as amended will occur for the following proposed project:

I. PROJECT DESCRIPTION:

Project title: PL-2009-0200 SPR

Description of project: Demolition of existing billboard and construction of new, single-pole, double-faced billboard. The faces of the new billboard will contain digital LED technology. The dimensions of the sign faces of the new LED billboard will be the same as the existing billboard (14 feet high by 48 feet wide). The new billboard will display multiple advertisements, cycling between ads every 8 seconds. It will be equipped with ambient light sensors, which will adjust the brightness of the display correlating with current lighting conditions.

The project also consists of the removal of five billboard structures along Foothill and Mission Boulevards (21330 Foothill Boulevard, 22385 Mission Boulevard, 27630 Mission Boulevard, 28000 Mission Boulevard, and 28049 Mission Boulevard).

II. FINDING PROJECT WILL NOT SIGNIFICANTLY AFFECT ENVIRONMENT:

The proposed project, as mitigated, could not have a significant effect on the environment.

FINDINGS SUPPORTING DECLARATION:

1. The proposed project has been reviewed according to the standards and requirements of the California Environmental Quality Act (CEQA) and an Initial Study Environmental Evaluation Checklist has been prepared for the proposed project. The Initial Study has determined that the proposed project, with the recommended mitigation measures, could not result in significant effects on the environment.

2. The project would not adversely affect any scenic resources. The terrain is flat with no short-range vistas. From the Hayward Area Shoreline, the view of the proposed billboard is set against significant industrial development along a major transportation corridor (State Route 92). Long-range vistas from the Shoreline are not obstructed by the billboard. The support structure of the proposed billboard results in less visual clutter than the existing condition.

3. The project would not have an adverse effect on agricultural land since the subject site is not used for such purposes, and does not contain prime, unique or Statewide important farmland.

4. The project is consistent with the General Plan Land Use designation for the site and does not propose development that would result in significant impacts related to air quality.

5. The project is proposed at the interface of a developed industrial area and a wetland/riparian habitat. However, no sensitive habitats are located on the site, which was previously developed for the existing billboard. The proposed replacement billboard would be equipped with digital LED displays. It is anticipated that the light produced by the new billboard will not create a significantly greater impact than that existing as the display faces are aimed toward the adjacent state highway and the light is focused such that less area of the adjacent sensitive habitat is illuminated than at present. It is also not anticipated that the light will significantly interfere with the movement and flight behavior of birds. Mitigation measures have been proposed to require that construction of the proposed billboard take place during the nonbreeding season and that the billboard be provided with anti-perching devices to protect the sensitive habitat area from predator birds.

6. The project will not result in significant impacts to known cultural resources including historical resources, archaeological resources, paleonotological resources, unique topography or disturb human remains. Mitigation measures have been proposed in case of discovery of any archaeological resources during construction.

7. The project will not result in significant impacts to geology and soils as the site is not located within a geologic hazard zone or liquefaction zone. The project is, however, located west of the Hayward fault, which poses potential risk to any development in the city of Hayward. Recommendations of the project geotechnical engineer will be required to be incorporated into project design and implemented throughout construction, to address such items as expansive soils and seismic shaking. Construction will also be required to comply with the California Building Code standards to minimize seismic risk due to ground shaking.

8. The project does not propose use of any hazardous materials.

9. The project would not impact water quality, does not require the use of water, and would not alter drainage patterns.

10. The project would not be in conflict with any City land use plans, policies or regulations.

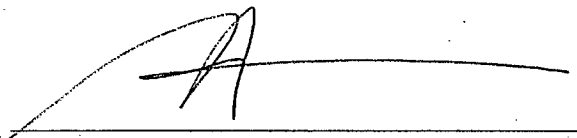
11. The produce would not create any noise or vibrations nor expose populations to noise or vibrations.

12. The project would not result in significant impacts related to population and housing in that new housing, nor services for new housing, are not proposed, nor or populations displaced.

13. The project would not result in a significant impact to public services in that no change of use is proposed.

14. The project would not result in a significant impact to transportation or parking in that the proposal does not create a demand for vehicle trips.

III. PERSON WHO PREPARED INITIAL STUDY:



Richard E. Patenaude, AICP, Planning Manager
Dated: June 11, 2010

IV. COPY OF ENVIRONMENTAL CHECKLIST IS ATTACHED

For additional information, please contact the City of Hayward, Planning Division, 777 B Street, Hayward, CA 94541-5007, telephone (510) 583-4213 or e-mail: richard.patenaude@hayward-ca.gov.

APPENDIX _

Environmental Checklist Form

1. Project title: PL-2009-0200 SPR

2. Lead agency name and address: City of Hayward, 777 B Street, Hayward, CA 94541

3. Contact person and phone number: Richard E. Patenaude, AICP, Planning Manager, 510-583-4213

4. Project location: Breakwater Avenue (APN 439-0099-017-03), approximately 550 feet westerly of Whitesell Street; and various locations along Foothill and Mission Boulevards between the northerly city limit and Industrial Parkway.

5. Project sponsor's name and address:
Robert Hatton, Clear Channel Outdoor, Inc., 555 12th Street #950, Oakland, CA 94607

6. General plan designation: Breakwater Avenue – Industrial Corridor (IC); Foothill and Mission Boulevards – Various

7. Zoning: Breakwater Avenue – Industrial (I); Foothill and Mission Boulevards – Various

8. Description of project:
Demolition of existing billboard and construction of new, single-pole, double-faced billboard. The faces of the new billboard will contain digital LED technology. The dimensions of the sign faces of the new LED billboard will be the same as the existing billboard (14 feet high by 48 feet wide). The new billboard will display multiple advertisements, cycling between ads every 8 seconds. It will be equipped with ambient light sensors, which will adjust the brightness of the display correlating with current lighting conditions.

   The project also consists of the removal of five billboard structures along Foothill and Mission Boulevards (21330 Foothill Boulevard, 22385 Mission Boulevard, 27630 Mission Boulevard, 28000 Mission Boulevard, and 28049 Mission Boulevard).

9. Surrounding land uses and setting:
The billboard is located at the interface of extensive urban development, consisting of industrial and commercial structures and uses to the east, and reclaimed undeveloped baylands, consisting of diked salt marsh associated with the Hayward Regional Shoreline, to the west. The site is adjacent to State Route 92, a freeway providing access between Hayward and the Hayward-San Mateo Bridge, easterly of the bridge's toll plaza.

10. Other public agencies whose approval is required:
Department of Transportation

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

☒ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Geology /Soils
☐ 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	

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

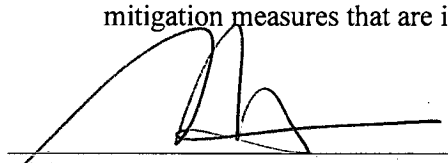
☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ 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 in 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 a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, 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 EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Richard Patenaude, Planning Manager

6.11.10
Date

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
I. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
The terrain of the area surrounding the Breakwater Avenue site is flat with no short-range scenic vistas; the long-range vista provides a view of the mountains on the San Francisco Peninsula. Within the Hayward Regional Shoreline, the long-range vista is not compromised by the project. From the Shoreline, a user would view the existing and proposed billboards against a backdrop of industrial buildings. From the Bay Trail pedestrian bridge, the vista is not compromised beyond the current condition. As a trail user descends the northerly ramp, the bridge fencing directs the user to a view northerly of the project site. The new billboard's support structure will be less intrusive on both short- and long-range vistas over the existing condition.				
Removal of the billboards along Mission Boulevard will substantially improve short-term vistas from adjacent properties and the roadway.				
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
The adjacent segment of State Route 92 is not a state scenic highway. State Route 238 (Mission Boulevard) is not a state scenic highway.				
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
The proposed billboard would replace an existing one of the same display size. The new support structure will provide less visual clutter than that existing.				
Removal of the billboards along Mission Boulevard will substantially improve the visual character of the roadway and its surroundings.				
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
See attached Supplement.				

II. AGRICULTURE RESOURCES: 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? ☐ ☐ ☐ ☒

The Breakwater Avenue site is not designated as Farmland.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? ☐ ☐ ☐ ☒

The Breakwater Avenue site is currently zoned Industrial District.

c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use? ☐ ☐ ☐ ☒

There is no Farmland in the vicinity of any of the subject sites.

III. AIR QUALITY -- Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan? ☐ ☐ ☐ ☒

The project provides no impacts controlled by an air quality plan.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? ☐ ☐ ☐ ☒

The project releases no emissions controlled by air quality standards.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? ☐ ☐ ☐ ☒

The project releases no emissions controlled by air quality standards.

d) Expose sensitive receptors to substantial pollutant concentrations? ☐ ☐ ☐ ☒

The project releases no emissions that may impact sensitive receptors.

e) Create objectionable odors affecting a substantial number of people? The project releases no odors.	☐	☐	☐	☒
IV. BIOLOGICAL RESOURCES – 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? See attached Supplement.	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? See attached Supplement.	☐	☒	☐	☐
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, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? See attached Supplement.	☐	☐	☐	☒
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? See attached Supplement.	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? This project is not in conflict with any local policies or ordinances protecting biological resources.	☐	☐	☐	☒
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? The project is not in conflict with any	☐	☐	☐	☒

conservation plan. The Hayward Area Shoreline Planning Program designates the project site as "Industrial/Public Utilities." A Program policy states "Promote industrial in-fill development in areas designated for industrial and public utilities ...." As this project is on a boundary between "Industrial/Public Utilities" and "Marshes (to be enhanced)" it is acknowledged that development on the project site should be sensitive to the Marsh area. Potential impacts to the Marsh area are addressed in Sections I. Aesthetics and IV. Biological Resources.

V. CULTURAL RESOURCES -- Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in '15064.5?	☐	☐	☐	☒
There are no historical resources affected by this project.				
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?	☐	☒	☐	☐
See attached Supplement.				
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
See attached Supplement.				
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐
See attached Supplement.				

VI. GEOLOGY AND SOILS -- 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?	☐	☐	☐	☒
The project area is not located within an Earthquake Fault Zone.				

ii) Strong seismic ground shaking?

The project area is subject to strong ground shaking, but no people or structures would be subject to adverse effects due to this project. ☐ ☐ ☐ ☒

iii) Seismic-related ground failure, including liquefaction? ☐ ☐ ☐ ☒

The project area is subject to ground failure, but no people or structures would be subject to adverse effects due to this project.

iv) Landslides? ☐ ☐ ☐ ☒

The project area is not subject to landslides.

b) Result in substantial soil erosion or the loss of topsoil? ☐ ☐ ☐ ☒

The project would not result in soil erosion or 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 on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? ☐ ☐ ☐ ☒

The project would not cause instability of a geologic unit or soil.

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? ☐ ☐ ☐ ☒

The project would not create impacts to people or structures due to the presence of expansive soils.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? ☐ ☐ ☐ ☒

The project does not require the use of waste disposal systems.

VII. HAZARDS AND HAZARDOUS MATERIALS -- Would the project:

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

The project does not include the use 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? The project does not include the use of hazardous materials.	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? The project does not include the use of hazardous materials.	☐	☐	☐	☒
d) Be located on a site which 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? The project site is not listed as a hazardous materials site.	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two 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? The project is not located within an airport land use plan.	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? The project is not located in the vicinity of a private airstrip.	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? The project would not interfere with any emergency 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? The project would not expose people or structures to wildland fires.	☐	☐	☐	☒

VIII. HYDROLOGY AND WATER QUALITY
-- Would the project:

a) Violate any water quality standards or waste discharge requirements? The project would not impact water quality or waste discharge.	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be 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)? The project does not require the use of water.	☐	☐	☐	☒
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 which would result in substantial erosion or siltation on- or off-site? The project would not alter any drainage patterns.	☐	☐	☐	☒
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 which would result in flooding on- or off-site? The project would not alter any drainage patterns.	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? The project would not contribute runoff water.	☐	☐	☐	☒
f) Otherwise substantially degrade water quality? The project would not cause water quality degradation.	☐	☐	☐	☒
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? The project does not provide housing.	☐	☐	☐	☒

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
The project would not impede 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?	☐	☐	☐	☒
The project would not expose people or structures to flooding.				
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
The project would not be impacted due to inundation.				
IX. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
The project would not divide any established community. State Route 92 is itself a barrier between segments of the Industrial Corridor.				
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
The new billboard would not be in conflict with City land use plans, policies or regulations. The structure is designed to direct light toward State Route 92 and away from the Hayward Regional Shoreline. The State Route corridor, a major freeway, is characterized by heavy traffic, automobile and truck lights, noise, numerous lighted directional signs, and a brightly-lit toll plaza approximately 1¼ westerly of the site and approximately one mile westerly of the Hayward Shoreline Interpretive Center.				
The proposed billboard will use an estimated average of 5,000 to 8,000 KW per month. This is a wide range as there are several variables which affect power consumption. Clear Channel would be removing eight sign faces and replacing two. The new digital sign will also not require any trucks on the road using diesel fuel, petroleum-based products to manufacture vinyl ad copy, and other energy-intensive processes used in our traditional business. Thus the net effect of the new sign is anticipated to be negligible.				

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☒	☐
The project is not in conflict with any conservation plan. The Hayward Area Shoreline Planning Program designates the project site as "Industrial/Public Utilities." A Program policy states "Promote industrial in-fill development in areas designated for industrial and public utilities ...." As this project is on a boundary between "Industrial/Public Utilities" and "Marshes (to be enhanced)" it is acknowledged that development on the project site should be sensitive to the Marsh area. Potential impacts to the Marsh area are addressed in Sections I. Aesthetics and IV. Biological Resources.				
X. MINERAL RESOURCES -- 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?	☐	☐	☐	☒
The project would not result in the loss of mineral resources.				
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?	☐	☐	☐	☒
The project would not result in the loss of mineral resource recovery site.				
XI. NOISE – Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒
The project would not create noise nor expose people to noise.				
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
The project would not generate nor expose people groundborne vibration or noise.				
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
The project would not create additional noise.				

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? The project would not create additional noise.	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? The project is not located within an airport land use plan.	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? The project is not located within the vicinity of a private airstrip.	☐	☐	☐	☒
XII. POPULATION AND HOUSING -- Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? The project does not induce population growth nor extend infrastructure.	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere. The project does not displace housing units.	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? The project does not displace any people.	☐	☐	☐	☒
XIII. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 public services:				

Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

The project would not result in the provision of new or altered governmental facilities or services.

XIV. RECREATION --

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?	☐	☐	☐	☒

The project would not cause an increase in the use of parks or recreational facilities.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

The project would not provide nor require new or expanded recreational facilities.

XV. TRANSPORTATION/TRAFFIC -- Would the project:

a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☐	☒

The project would not generate traffic.

b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒

The project would not generate traffic and, therefore, would not impact levels of service.

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?	☐	☐	☐	☒

The project would not impact air traffic patterns.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? A study of the Virginia Tech Transportation Institute, Center for Automotive Safety Research, dated March 22, 2007, concludes that LED billboards were considered safety-neutral in their design and operation from a human factors perspective, and that conventional billboards were shown to be very similar in terms of driver behavior and performance. The billboard will comply with Department of Transportation regulations that stipulate a change in display no more often than once every 4 seconds.	☐	☐	☐	☒
e) Result in inadequate emergency access? The project would not impact emergency access.	☐	☐	☐	☒
f) Result in inadequate parking capacity? The project does not require parking facilities.	☐	☐	☐	☒
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)? The project would not be in conflict with any alternative transportation plans.	☐	☐	☐	☒

XVI. UTILITIES AND SERVICE SYSTEMS – Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? The project does not require wastewater treatment.	☐	☐	☐	☒
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? The project does not require wastewater treatment.	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? The project does not require stormwater drainage facilities.	☐	☐	☐	☒

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? The project does not require a water supply.	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider which 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? The project does not require wastewater treatment.	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project=s solid waste disposal needs? The project does not generate solid waste.	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste? The project does not generate solid waste.	☐	☐	☐	☒

XVII. MANDATORY FINDINGS OF SIGNIFICANCE --

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, 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 which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

SUPPLEMENT TO ENVIRONMENTAL CHECKLIST FORM

I.d)

There are several light sources in the vicinity of the Breakwater Avenue site. To the south, approximately 75 feet from the billboard, the freeway is illuminated for safety. Approximately 200 feet east of the billboard, the intersection of the Bay Trail bridge access and Breakwater Avenue is illuminated by two street lamps approximately 25-30 feet in height. Northeasterly of the billboard is the equipment yard for United Rentals, which is illuminated at regular intervals by safety lamps approximately 20 feet in height.

On February 18, 2010, Lamphier-Gregory took light meter measurements from four locations relative to the westerly face of the billboard, which faces the Hayward Regional Shoreline. The first location, 500 feet west of the billboard along Breakwater Avenue, was established to measure the cumulative ambient light in the general vicinity. The second location, 250 feet west of the billboard along Breakwater Avenue, was established to measure the ambient light generated primarily from the billboard. Two additional measurement locations were established within the Shoreline approximately 211 and 215 feet from the billboard to get a sense of the degree to which the existing billboard illuminates the protected area within the park. On February 24, light meter measurements were taken from an additional location approximately 100 feet from the westerly face of the billboard. Figure 1 illustrates the five measurement points relative to the billboard. Table 1 presents the light readings taken on February 18, 2010, and Table 2 presents the readings from light measurements taken on February 24. As both tables indicate, it appears the distances from which the measurements were taken were not sufficient to generate large readings.

Table 1

Feb. 17, 2010

Measurement Locations and Illuminance Measurements

Measurement Location	Distance from Billboard (ft)	Illuminance (foot-candles)
1	500	0.000
2	250	0.006
3	211	0.032
4	215	0.000

Table 2

Feb. 24, 2010

Measurement Locations and Illuminance Measurements

Measurement Location	Distance from Billboard (ft.)	Billboard Unlit Meter Reading (foot-candles)	Billboard Lit Meter Reading (foot-candles)
1	500	0.000	0.000
		0.000	0.000
2	250	0.000	0.000
		0.000	0.000
3	211	0.000	0.000
		0.000	0.000
4	215	0.000	0.000
		0.000	0.000
5	100	0.000	0.082
		0.000	0.081

Figure 1

On April 8, 2010, Lamphier-Gregory then conducted a billboard light meter reading of a recently-installed Clear Channel digital billboard adjacent to the Interstate 80 approach to the Bay Bridge. In addition to the Clear Channel billboard, there are two additional digital billboards of similar size located approximately 500 feet and 1,000 feet to the west, contributing to the overall level of ambient light. On April 9, 2010, light levels were measured from a total of eight locations, four locations relative to westward face and four to the eastward. The range of distances from the billboard at which illuminance was measured was established with respect to measurements taken at the Breakwater Avenue project site (see Tables 1 and 2 above). Table 3 presents the light readings taken on April 8. At a distance of 100 feet, the contrast between ambient level and the billboard's illuminance is greatest.

The proposed LED billboard is expected to provide a maximum of 1.12 fc of illuminance (above and beyond ambient light conditions) at 100 feet within its viewing angle (see Figures 2 and 3 below). Illuminance would decrease with lateral distance from the center of the viewing angle, so that areas 100 feet on either side of the center of the viewing angle would experience even less illuminance. The viewing angle of the proposed LED billboard would be ± 30° vertically and ± 60° horizontally on each side, while the viewing angle of the current billboard would approach 180° on each side with its nondirectional lighting. Thus, the area of land illuminated by the proposed sign would be less than that of the existing sign.

Table 3

April 8, 2010

Measurement Locations and Illuminance Measurements

			Ambient Light Measurements		Difference
	Measurement Location	Distance from Billboard (ft.)	Billboard Unlit (Baseline) (foot-candles)	Billboard Lit (foot-candles)	from ambient light (foot-candles)
West toward San Francisco	1	500	0.150	0.278	0.128
↑	2	350	0.268	0.296	0.028
	3	250	0.178	0.323	0.145
	4	100	0.209	0.727	0.518
	Clear Channel Billboard				
↓	5	100	0.115	1.234	1.119
	6	250	0.062	0.523	0.461
	7	350	0.131	0.344	0.213
East toward Oakland	8	500	0.177	0.344	0.167

Figures 2 & 3

IV.a) & b)

The project site is located within a small lot that is dominated by disturbance-associated (ruderal), weedy vegetation. No areas supporting hydrophytic vegetation or showing any other characteristics of wetlands or riparian habitats are present within this lot. Due to the highly-disturbed nature of the area immediately surrounding the sign, it is extremely unlikely that any special-status plant species would occur in the project area. The vast majority of plant and animal species occurring within the small lot in which the billboard is located are very common species associated with urban, developed and ruderal conditions throughout the Bay Area.

During removal of the existing conventional billboard and installation of the LED billboard, heavy equipment will enter the site through a gate along Breakwater Avenue. All activity associated with conversion of the sign is presumed to take place within the small, weedy, fenced lot, with most such activity concentrated in the immediate vicinity of the billboard.

The only wildlife species that may be using the immediate vicinity of the billboard during conversion of the billboard are common burrowing mammals, such as the California ground squirrel and Botta's pocket gopher, and common birds such as the house finch, golden-crowned sparrow, and northern mockingbird. These species are regionally abundant, and project effects on these species will not be significant.

Several California ground squirrel burrows were observed immediately below the sign, but there was no evidence that sensitive species, such as the burrowing owl, a California species of special concern, were present at the site. Due to the burrows' proximity to shrubs along the edge of the site, it is not expected that burrowing owls would use these burrows. The diked marsh to the west supports pickleweed and is thus presumed to provide habitat for the federally-endangered salt marsh harvest mouse and the salt marsh wandering shrew, a California species of special concern. However, no pickleweed is present on the site, and these special-status mammals are thus not likely to occur in the project footprint. Two special-status bird species may nest close to the site: Bryant's savannah sparrow nests in the diked marsh immediately west of the site, and the shrubs along the fenceline separating the project site from Breakwater Avenue provide potential nesting sites for the loggerhead shrike. Both of these birds are California species of special concern. However, neither species is expected to nest within the lot where the billboard is located.

No bird nests were detected on the existing billboard structure. Although rock pigeons were roosting on the sign, no other birds were seen on or in the immediate vicinity of the sign during field visits.

If conversion of the billboard were to occur during the avian breeding season (February 1 – August 31), it is possible that birds nesting in adjacent areas may be disturbed by construction activities. Such species could possibly include special-status species such as the loggerhead shrike and Bryant's savannah sparrow. Due to the extremely limited size of the project area, no more than one pair of each species could be disturbed directly by project activities. A single pair of each of these species represents a very small proportion of their regional populations, and disturbance of a single breeding pair of loggerhead shrikes and Bryant's savannah sparrows would not be considered significant.

However, these and other native birds are protected from take by the federal Migratory Bird Treaty Act and the California Fish & Game Code, and abandonment of an active nest as a result of project construction activities could be considered "take" under the Fish & Game Code.

MITIGATION:
The conversion of the sign may only take place during the nonbreeding season (September 1 – January 31), unless a preconstruction survey is conducted prior to construction to determine whether any nests of protected birds are present in areas where they may be disturbed; such survey must include a determination from a biologist of the sizes of buffers around the nest necessary to avoid nest abandonment during construction.

MITIGATION:
Anti-perching material shall be placed on horizontal structural members that may provide perching opportunities for predators.

IV.c)

No wetlands, riparian habitats, or other sensitive habitats are present on the site, and thus none will be impacted by the conversion of the billboard. There is a very low probability that any special-status plant species occur on the site. The only species known to occur in the area and that may tolerate such disturbed conditions is Congdon's tarplant. No individuals of any tarplant species were seen during site visits.

IV.d)

Many animals are extremely sensitive to light cues, which influence their physiology and shape their behaviors, particularly during the breeding season. Artificial lighting may indirectly impact mammals and birds by increasing the nocturnal activity of predators like owls, hawks and mammalian predators. The presence of artificial light may also influence habitat use by rodents such as salt marsh harvest mouse and salt marsh wandering shrew by causing avoidance of well-lit areas and resulting in a net loss of habitat availability and quality.

Areas to the north, northeast, east and southeast of the site are all developed urban habitats that do not support sensitive species that might be significantly impacted by illuminance from the proposed LED billboard. However, the salt ponds to the south and the diked marsh areas to the west provide suitable habitat for a variety of wildlife, including sensitive species such as salt marsh harvest mouse, salt marsh wandering shrew, western snowy plover, loggerhead shrike and Bryant's savannah sparrow. These species and others using the salt ponds or marsh habitats may be subject to increased predation, decreased habitat availability (for species that show aversions to increased lighting), and alterations of physiological processes if the proposed LED billboard produces substantially greater illuminance than the existing billboard.

Light reflecting off the existing conventional billboard illuminates adjacent areas to some extent. Shadows cast by light reflected off this billboard have been observed at a distance exceeding 500 feet. Thus assessment of the impact of illuminance of adjacent areas by the LED billboard must take into account the existing condition and any expected changes in illuminance that will result from conversion to an LED billboard.

The proposed LED billboard is expected to provide a maximum of 1.12 fc of illuminance (above and beyond ambient light conditions) at 100 feet within its viewing angle. Illuminance would decrease with lateral distance from the center of the viewing angle, so that areas 100 feet on either side of the center of the viewing angle would experience even less illuminance. The viewing angle of the proposed LED billboard would be ± 30° vertically and ± 60° horizontally on each side, while the viewing angle of the current billboard would approach 180° on each side with its nondirectional lighting. Thus, the area of land illuminated by the proposed sign would be less than that of the existing sign.

The LED billboard would be angled in such a way as to maximize the amount of visibility from a specific portion of Highway 92, so the area of brightest night illuminance projected by the proposed billboard would form a narrow cone directed at oncoming traffic and falling on only a small portion of marsh habitat (Figures 2 and 3 above). Light overflow from the billboard into the adjacent marsh would be reduced both as a result of the change in angle of the sign (rather than being perpendicular to the highway and facing into the marsh as the existing conventional billboard does) and because the majority of the marsh is outside the beam angle of the LED billboard. Thus, illuminance of the marsh is expected to be much less than the illuminance currently projected into those areas by the existing billboard. The illuminance would dissipate so that illuminance beyond 100 feet would be minimal and that beyond 500 feet would be negligible.

It appears that the LED billboard will illuminate much less of the adjacent marsh than the current billboard does, and the illuminance values predicted for this billboard do not appear to be substantially greater than (and may be less than) those produced by the existing billboard. Therefore, the LED billboard is not expected to substantially increase the amount of illuminance currently experienced by sensitive habitats in nearby areas.

There are two primary ways in which the luminance of an LED billboard might impact the movement of birds. First, nocturnally migrating birds may alter their orientation upon sighting the light and become drawn toward the sign, potentially striking objects such as buildings, adjacent power lines, or even the sign itself. Second, local seabirds, shorebirds and passerines using the marsh, salt ponds and estuarine habitats adjacent to the billboard may become disoriented during flights among foraging areas and fly toward the sign, colliding with it or with nearby structures, such as power lines. Both migrating birds and local birds are much more likely to be impacted by the billboard's luminance during foggy or rainy weather, when visibility is poor.

Migrating Birds. Hundreds of bird species migrate nocturnally in order to avoid diurnal predators and to minimize energy expenditures. Evidence that migrating birds are attracted to artificial light sources is abundant in the literature as early as the late 1800s. Although the mechanism causing migrating birds to be attracted to bright light is unknown, the attraction is well documented. Migrating birds are frequently drawn from their migratory flight paths into the vicinity of an artificial light source, where they end up circling the lit area, effectively "captured" by the light. When birds are drawn to artificial lights during their migration, they become disoriented and possibly blinded by the intensity of the light. The disorienting and blinding effects of artificial lights directly impact migratory birds by causing collisions with light structures, buildings, communication and power structures, or even ground. Indirect impacts on migrating birds might include orientation mistakes and increased length of migration due to light-driven detours.

Local Birds. Seabirds may be especially vulnerable to artificial lights because many species are nocturnal foragers that have evolved to search out bioluminescent prey, and thus are strongly attracted to bright light sources. Seabirds using the Hayward area include primarily gulls, terns, cormorants, and the state-endangered brown pelican, none of which are primarily nocturnal foragers; however, they may still forage to some extent during the night. When seabirds approach an artificial light, they seem unwilling to leave it and may become "trapped" within the sphere of the light source for hours or even days, often flying themselves to exhaustion or death. Shorebirds forage in the San Francisco Bay nocturnally as well as diurnally, and move frequently between foraging locations in response to tide levels and prey availability. Biologists and hunters have long used sudden bright light as a means of blinding and trapping shorebirds, so evidence that shorebirds are affected by bright light is well established, though impacts of a consistent bright light are undocumented. However, based on the above studies, it is reasonable to conclude that shorebirds, like other bird species, may be disoriented by a very bright light in their flight path. Passerine species have been documented responding to increased illumination in their habitats with nocturnal foraging and territorial

defense behaviors, but absent significant illumination, they typically do not forage at night, leaving them less susceptible to the attraction and disorientation caused by luminance when they are not migrating.

Effects of the Project on Flight Behavior. The visibility of the proposed LED billboard to birds in flight, and thus the risk it poses to flying birds, depends primarily on the beam angle of the sign relative to the flightlines of birds and on the luminance (brightness) of the sign as perceived by the birds. The directional nature of LED lighting and the projected viewing angle values of ±30° vertically and ±60° horizontally suggest that the viewing angle of the sign will be narrow enough to preclude attracting migrating birds on clear nights, when they fly high enough to be outside the viewing angle of the sign. Shaders located above each row of lights will prevent light from projecting upward into the sky. As a result, birds flying more than 30° above the center of the sign's beam angle will not be able to see light from the sign at all. However, migrating birds are forced to fly low during foggy and rainy conditions, which may bring them into the viewing angle of the billboard. Likewise, any foraging birds flying into the sign's viewing angle may be susceptible to effects of the sign's luminance. For example, any bird flying low along the bay edge between the vicinity of Hayward Regional Shoreline north of Highway 92 and the Eden Landing Ecological Reserve south of Highway 92 is expected to cross the viewing angle of the proposed LED billboard, and birds flying across the bay toward the Hayward area may enter the viewing angle as well.

The proposed project will replace a conventionally lit billboard that produces an estimated luminance of 23 cd/ft^2, with an LED billboard that could produce a peak value of approximately 641 cd/ft^2 of luminance. However, in practice, the LED billboard will be operated so that its peak luminance will be approximately 46 cd/ft^2 in the center of the beam angle. For comparison, a full moon at its brightest produces approximately 232 cd/ft^2. The proposed billboard will be equipped with a light sensor that adjust the brilliance of the billboard in response to available ambient lighting, dimming the luminance as ambient light lessens. The peak luminosity for an LED billboard assumes that the display on the billboard is solid white. In practice, the displays on the planned LED billboard will contain a variety of colors, which will substantially reduce the amount of luminance produced.

Additionally, the LED display on the billboard can be changed every 8 seconds from a static image to a static image, resulting in a changing light source. Colors and patterns of color on the billboard would thus be changing, and birds flying near the sign would not perceive it as a fixed, unchanging light, the type of light that appears to be most attractive to birds.

The proposed billboard is expected to produce more than twice the luminance of the existing billboard, at the center of its beam angle, which would make it more visible to passing birds within its beam angle. It is possible that some birds that find themselves near the center of the beam angle may be attracted to the sign. However, this effect is not expected to have long-term consequences for such birds leading to bird-strike mortality or substantial interference with bird movements, for several reasons. The sign will be focused on the highway, not on airspace above the highway or on bayside habitats. Thus, a relatively limited area at low altitude above Highway 92 will be within the center of the sign's beam angle.

Because the area east of the sign is heavily urbanized and contains no habitats of value to estuarine birds using the Bay and bayside habitats to the west, few birds are expected to be flying in a west-east direction directly toward the sign. As a result, birds are not expected to be flying within the center of the beam angle (where the sign appears brightest) for long periods of time. Rather, most movements that will take birds through the center of the beam angle will be birds moving perpendicular to the sign (e.g. between Hayward Regional Shoreline and the Eden Landing Ecological Reserve). As such birds fly through the beam angle, they will experience the sign becoming brighter and brighter until they reach the center of the beam angle, then dimmer as they move out of the center. If they are disoriented by the sign, this disorientation is likely to stop once the image on the sign, including its color, brightness and pattern change, or once the birds pass through the center of the beam angle and the light becomes dimmer. Thus, we do not expect birds moving through or around the Hayward area to be attracted to the sign for such a long duration that bird-strike mortality occurs or substantial interference with bird movements occurs.

Given the relatively low increase in luminance produced by the LED billboard (compared to the existing conventional billboard), the configuration of bird habitats in the site vicinity (which does not lend itself to directed bird flights toward the sign), the changing images that will be displayed on the LED billboard, the narrow viewing angle, and the use of shaders to prevent light from projecting upward into the sky, we expect the sign's impacts on avian flight behavior to be less than significant.

Sources:
Biotic Assessment for Proposed LED Billboard along Highway 92 in Hayward, California (HTH #2973-01), H.T. Harvey & Associates, September 25, 2008
Light Meter Readings, Clear Channel Billboard, Highway 92, Hayward, California, FINAL, Lamphier-Gregory, March 5, 2010
Light Meter Readings, Clear Channel Billboard, Bay Bridge, Oakland, California, Lamphier-Gregory, April 12, 2010

V.b), c) and d)

While there are no known archaeological resources on the project site, the baylands are known to have been inhabited by indigenous peoples. In order to protect unknown, but potential, resources, the following mitigation measure is required.

MITIGATION:
In the event that known or suspected Native American remains are encountered or significant historic or archaeological materials are discovered, ground-disturbing activities shall be immediately stopped. Examples of significant historic or archaeological materials include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, groundstone mortars and pestles), culturally altered ash-stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials and historic structure remains, such as stone-lined building foundations, wells or privy pits. Ground-disturbing project activities may continue in other areas that are outside the exclusion zone as defined below.

An "exclusion zone" where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area, plus a reasonable buffer zone, by the contractor foreman or authorized representative, or party who made the discovery and initiated these protocols (typically 25 to 50 feet for single burial or archaeological find). The exclusion zone shall be secured (e.g., 24-hour surveillance) as directed by City representatives, if considered prudent to avoid further disturbances.

The contractor foreman or authorized representative, or party who made the discovery and initiated these protocols, shall be responsible for immediately contacting by telephone the parties listed, as follows, to report the find and initiate the consultation process for treatment and disposition: a. the City of Hayward Planning Director; b. the contractor's point(s) of contact; c. the Coroner of the County of Alameda (if human remains found); d. the Native American Heritage Commission (NAHC) in Sacramento; and e. the Yrgin band of Ohlones. The Coroner shall examine the remains after being notified of the discovery. If the remains are Native American, the Coroner shall notify the NAHC within 24 hours. The NAHC shall be responsible for identifying and immediately notifying the Most Likely Descendant (MLD) from the Yrgin band of Ohlones. Within 24 hours of notification by the NAHC, the MLD will be granted permission to inspect the discovery site. Within 24 hours of notification by the NAHC, the MLD may recommend to the City's Planning Director the recommended means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses or DNA analyses recommended by the Amah Mutsun Tribal Band may be considered and carried out. If the MLD recommendation is rejected by the City, the parties shall attempt to mediate the disagreement with the NAHC. If mediation fails then the remains and all associated grave offerings shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance.

MITIGATION MONITORING PROGRAM

Site Plan Review Application No. PL-2009-0200; Robert Hatton, Clear Channel Outdoor, Inc. (Applicant) / Robert S. Figone, Jr. *et al* (Owner) – Request for Demolition of Existing Double-Faced Standard Billboard and Replacement with New Billboard Structure with Faces Containing LED Technology and of the Same Size and Height as the Existing. The Project Site is Breakwater Avenue (APN 439-0099-017-04), approximately 550 feet westerly of Whitesell Street and one mile easterly of the Hayward Shoreline Interpretive Center, in the Industrial Corridor General Plan Land Use Designation and the Industrial (I) Zoning District.

Removal of Five Billboard Structures at 21330 Foothill Boulevard, 22385 Mission Boulevard, 27630 Mission Boulevard, 28000 Mission Boulevard, and 28049 Mission Boulevard, with No Replacement, located in Various General Plan Land Use Designations and Zoning Districts.

1. ***AESTHETICS – No mitigation required***

2. ***AGRICULTURAL & FORESTRY RESOURCES – No mitigation required***

3. ***AIR QUALITY – No mitigation required***

4. ***BIOLOGICAL RESOURCES***

Mitigation Measure: The conversion of the sign may only take place during the nonbreeding season (September 1 – January 31) unless a preconstruction survey is conducted prior to construction to determine whether any nests of protected birds are present in areas where they may be disturbed; such survey must include a determination from a biologist of the sizes of buffers around the nest necessary to avoid nest abandonment during construction.
Implementation Responsibility: Applicant
Verification Responsibility: City Planning Division
Monitoring Schedule during Plan Review: N/A
Monitoring Schedule During Construction/Implementation: Condition of Approval - Required during the pre-construction period

Mitigation Measure: Anti-perching material shall be placed on horizontal structural members that may provide perching opportunities for predators.
Implementation Responsibility: Applicant
Verification Responsibility: City Planning Division
Monitoring Schedule during Plan Review: Condition of Approval – to be shown on construction plans
Monitoring Schedule During Construction/Implementation: Condition of Approval – City inspector to verify installation

5. *CULTURAL RESOURCES*

Mitigation Measure: ***In the event that known or suspected Native American remains are encountered or significant historic or archaeological materials are discovered, ground-disturbing activities shall be immediately stopped. Examples of significant historic or archaeological materials include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, groundstone mortars and pestles), culturally altered ash-stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials and historic structure remains, such as stone-lined building foundations, wells or privy pits. Ground-disturbing project activities may continue in other areas that are outside the exclusion zone as defined below.***

An "exclusion zone" where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area, plus a reasonable buffer zone, by the contractor foreman or authorized representative, or party who made the discovery and initiated these protocols (typically 25 to 50 feet for single burial or archaeological find). The exclusion zone shall be secured (e.g., 24-hour surveillance) as directed by City representatives, if considered prudent to avoid further disturbances.

The contractor foreman or authorized representative, or party who made the discovery and initiated these protocols, shall be responsible for immediately contacting by telephone the parties listed, as follows, to report the find and initiate the consultation process for treatment and disposition: a. the City of Hayward Planning Director; b. the contractor's point(s) of contact; c. the Coroner of the County of Alameda (if human remains found); d. the Native American Heritage Commission (NAHC) in Sacramento; and e. the Yrgin band of Ohlones. The Coroner shall examine the remains after being notified of the discovery. If the remains are Native American, the Coroner shall notify the NAHC within 24 hours. The NAHC shall be responsible for identifying and immediately notifying the Most Likely Descendant (MLD) from the Yrgin band of Ohlones. Within 24 hours of notification by the NAHC, the MLD will be granted permission to inspect the discovery site. Within 24 hours of notification by the NAHC, the MLD may recommend to the City's Planning Director the recommended means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses or DNA analyses recommended by the Amah Mutsun Tribal Band may be considered and carried out. If the MLD recommendation is rejected by the City, the parties shall attempt to mediate the disagreement with the NAHC. If mediation fails then the remains and all associated grave offerings shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance.

Implementation Responsibility: Applicant
Verification Responsibility: City Planning Division
Monitoring Schedule during Plan Review: N/A
Monitoring Schedule During Construction/Implementation: City Planning Director, Applicant's Contractor, County Coroner, NAHC, Yrgin Band of Ohlones

6. ***GEOLOGY/SOILS – No mitigation required***

7. ***GREENHOUSE GAS EMISSIONS – No mitigation required***

8. ***HAZARDS & HAZARDOUS MATERIALS – No mitigation required***

9. *HYDROLOGY/WATER QUALITY – No mitigation required*

10. *LAND USE/PLANNING – No mitigation required*

11. *MINERAL RESOURCES – No mitigation required*

12. *NOISE – No mitigation required*

13. *POPULATION/HOUSING – No mitigation required*

14. *PUBLIC SERVICES – No mitigation required*

15. *RECREATION – No mitigation required*

16. *TRANSPORTATION/TRAFFIC – No mitigation required*

17. *UTILITIES/SERVICE SYSTEMS – No mitigation required*

18. *MANDATORY FINDINGS OF SIGNIFICANCE – No mitigation required*

CITY OF HAYWARD
PLANNING DIVISION
SITE PLAN REVIEW APPLICATION

July 22, 2010

Site Plan Review Application No. PL-2009-0200; Robert Hatton, Clear Channel Outdoor, Inc. (Applicant) / Robert S. Figone, Jr. *et al* (Owner) – Request for Demolition of Existing Double-Faced Standard Billboard and Replacement with New Billboard Structure with Faces Containing LED Technology and of the Same Size and Height as the Existing. The Project Site is Breakwater Avenue (APN 439-0099-017-03), approximately 550 feet westerly of Whitesell Street and one mile easterly of the Hayward Shoreline Interpretive Center, in the Industrial Corridor General Plan Land Use Designation and the Industrial (I) Zoning District.

Removal of Five Billboard Structures at 21330 Foothill Boulevard, 22385 Mission Boulevard, 27630 Mission Boulevard, 28000 Mission Boulevard, and 28049 Mission Boulevard, with No Replacement, located in Various General Plan Land Use Designations and Zoning Districts.

FINDINGS FOR APPROVAL

A. It has been determined that the project, with the proposed mitigation measures, will not cause a significant impact on the environment as documented in the Initial Study. A Mitigated Negative Declaration was prepared in accordance with the California Environmental Quality Act (CEQA) guidelines. The review period began June 14, 2010, and ended July 14, 2010. The project reflects the City's independent judgment.

B. The development is compatible with on-site and surrounding structures and uses and is an attractive addition to the City.

The project involves the demolition of an existing conventional double-faced billboard and replacement with a new, single-pole, double-faced billboard. The project is located along Breakwater Avenue, running parallel to State Route 92 at its approach to the Hayward-San Mateo Bridge toll plaza. The dimensions of the sign faces (14 feet high by 48 feet wide) and the height (45 feet) of the new billboard would be the same as the existing. The new billboard would display multiple advertisements using LED technology, cycling between ads every eight seconds. It would be equipped with ambient light sensors, which would adjust the brightness of the display correlating with current lighting conditions. It would also be equipped with "shaders" to prohibit the dispersal of light into the night sky.

The project site is located at the interface of extensive urban development, consisting of industrial and commercial structures and uses to the east, and reclaimed undeveloped baylands, consisting of diked salt marsh associated with the Hayward Regional Shoreline, to the west. The site is adjacent to State Route 92, a freeway providing access to the Hayward-San Mateo Bridge, easterly of the bridge's toll plaza. The adjacent segment of State Route 92 is not a state scenic highway. The new single-pole support structure would provide less visual clutter than the existing multi-pole support. The existing billboard faces

are perpendicular to the freeway, directing light directly toward the baylands. The proposed faces would be angled so that they are directed toward the freeway, and away from the baylands.

The terrain of the area surrounding the Breakwater Avenue site is flat with no short-range scenic vistas; the long-range vista provides a view of the mountains on the San Francisco Peninsula. Within the Hayward Regional Shoreline, the long-range vista would not compromised by the project. From the Shoreline, a user would view the billboard against a backdrop of industrial buildings. From the Bay Trail pedestrian bridge over the freeway, the vista would not be compromised beyond the current condition. As a trail user descends the northerly ramp toward Breakwater Avenue, the bridge fencing directs the user to a view northerly of the project site. The new billboard's support structure would be less intrusive on both short- and long-range vistas over the existing condition.

The project also consists of the removal of five billboard structures (containing a total of eight faces) at 21330 Foothill Boulevard and 22385, 27630, 28000 and 28049 Mission Boulevard. These billboard structures and faces would not be replaced.

Therefore, the proposed billboard structure is compatible with the on-site and surrounding industrial development, and with the adjacent Hayward Regional Shoreline, and is an attractive addition to the City in that it is replacing a dilapidated structure and the replacement structure, with mitigation measures, will not have an impact on the environment.

C. The development takes into consideration physical and environmental constraints.

The project site is located at the interface of extensive urban development, consisting of industrial and commercial structures and uses to the east, and reclaimed undeveloped baylands, consisting of diked salt marsh associated with the Hayward Regional Shoreline, to the west. The site is adjacent to State Route 92, a freeway providing access to the Hayward-San Mateo Bridge, easterly of the bridge's toll plaza. The adjacent segment of State Route 92 is not a state scenic highway. The existing billboard faces are perpendicular to the freeway, directing light directly toward the baylands. The proposed faces would be angled so that they are directed toward the freeway, and away from the baylands.

The terrain of the area surrounding the Breakwater Avenue site is flat with no short-range scenic vistas; the long-range vista provides a view of the mountains on the San Francisco Peninsula. Within the Hayward Regional Shoreline, the long-range vista would not compromised by the project. From the Shoreline, a user would view the billboard against a backdrop of industrial buildings. From the Bay Trail pedestrian bridge over the freeway, the vista would not be compromised beyond the current condition. As a trail user descends the northerly ramp toward Breakwater Avenue, the bridge fencing directs the user to a view northerly of the project site. The new billboard's support structure would be less intrusive on both short- and long-range vistas over the existing condition.

Given the relatively low increase in luminance produced by the LED billboard (compared to the existing conventional billboard), the configuration of bird habitats in the site vicinity

(which does not lend itself to directed bird flights toward the sign), the changing images that will be displayed on the LED billboard, the narrow viewing angle, and the use of shaders to prevent light from projecting upward into the sky, it is expected that the sign's impacts on avian flight behavior would be less than significant.

D. The development complies with the intent of City development policies and regulations.

The proposed replacement billboard for the Breakwater Avenue site would not be in conflict with City land use plans, policies or regulations or with any conservation plan. The Hayward Area Shoreline Planning Program designates the project site as "Industrial/Public Utilities." A Program policy states "Promote industrial in-fill development in areas designated for industrial and public utilities ...." As this project is on a boundary between "Industrial/Public Utilities" and "Marshes (to be enhanced)" it is acknowledged that development on the project site should be sensitive to the Marsh area. Potential impacts to the Marsh area can be mitigated to a level of insignificance.

The proposed billboard structure is designed to direct light toward State Route 92 and away from the Hayward Regional Shoreline. The State Route corridor, a major freeway, is characterized by heavy traffic, automobile and truck lights, noise, numerous lighted directional signs, and a brightly-lit toll plaza approximately 1¼ mile westerly of the site. The billboard will comply with Department of Transportation regulations that stipulate a change in display no more often than once every four seconds.

The proposed billboard will use an estimated average of 5,000 to 8,000 KW per month. This is a wide range as there are several variables which affect power consumption. Clear Channel would be removing ten sign faces and replacing two. The new digital sign will also not require any trucks on the road using diesel fuel, petroleum-based products to manufacture vinyl ad copy, and other energy-intensive processes used in our traditional business. Thus the net effect of the new sign on energy use is anticipated to be negligible.

A study of the Virginia Tech Transportation Institute, Center for Automotive Safety Research, dated March 22, 2007, concludes that LED billboards were considered safety-neutral in their design and operation from a human factors perspective, and that conventional billboards were shown to be very similar in terms of driver behavior and performance. The project site is located along a section of State Route 92 that offers few other distractions, as it is located away from interchanges that would require attention to lane merging.

E. The development will be operated in a manner determined to be acceptable and compatible with surrounding development.

The proposed billboard structure will be operated in a manner determined to be acceptable in that it is conditioned to properly regulate the operating procedures and activities associated with the use, pursuant to this permit and a Relocation and Settlement Agreement between the City and Clear Channel Outdoor.

CITY OF HAYWARD
PLANNING DIVISION
SITE PLAN REVIEW APPLICATION

July 22, 2010

Site Plan Review Application No. PL-2009-0200; Robert Hatton, Clear Channel Outdoor, Inc. (Applicant) / Robert S. Figone, Jr. *et al* (Owner) – Request for Demolition of Existing Double-Faced Standard Billboard and Replacement with New Billboard Structure with Faces Containing LED Technology and of the Same Size and Height as the Existing. The Project Site is Breakwater Avenue (APN 439-0099-017-03), approximately 550 feet westerly of Whitesell Street and one mile easterly of the Hayward Shoreline Interpretive Center, in the Industrial Corridor General Plan Land Use Designation and the Industrial (I) Zoning District.

Removal of Five Billboard Structures at 21330 Foothill Boulevard, 22385 Mission Boulevard, 27630 Mission Boulevard, 28000 Mission Boulevard, and 28049 Mission Boulevard, with No Replacement, located in Various General Plan Land Use Designations and Zoning Districts.

CONDITIONS OF APPROVAL

Site Plan Review Application No. PL-2009-0200 is approved subject to the plans labeled "Exhibit A", and the conditions listed below.

1. This approval is void three years after the effective date of approval unless a building permit application has been submitted and accepted for processing by the Building Official. Improvements shall be installed per the approved plan labeled Exhibit "A". Any modification to this permit, which are minor in nature and do not require a variance, requires review, and may be approved, by the Planning Director.

2. Prior to installation of any advertising material on the new billboard structure, Clear Channel Outdoor shall enter into a Relocation & Settlement Agreement with the City of Hayward regarding the installation and operation of the proposed billboard on Breakwater Avenue and the removal of the billboards at 21330 Foothill Boulevard, 22385 Mission Boulevard, 27630 Mission Boulevard, 28000 Mission Boulevard, and 28049 Mission Boulevard. Advertisement of alcohol and tobacco products shall be prohibited. The Agreement shall provide that a minimum of 12.5% of the advertising space on the west-facing panel will be provided to promote City and community events at no cost to City. City will be responsible for providing Clear Channel with completed art work consistent with Clear Channel's technical standards.

3. Prior to installation of any advertising material on the new billboard structure, Clear Channel Outdoor will remove the Existing Billboards located at 21330 Foothill Boulevard, 22385 Mission Boulevard, 27630 Mission Boulevard, 28000 Mission Boulevard, and 28049 Mission Boulevard in the City of Hayward in accordance with

the terms of the Relocation and Settlement Agreement between Clear Channel Outdoor and the City.

4. The conversion of the sign may only take place during the nonbreeding season (September 1 – January 31) unless a preconstruction survey is conducted prior to construction to determine whether any nests of protected birds are present in areas where they may be disturbed; such survey must include a determination from a biologist of the sizes of buffers around the nest necessary to avoid nest abandonment during construction.

5. The new double-faced "V" structure shall hold no more than two display facings measuring any larger than 14' x 48'. The structure shall be painted a dark, saturated, flat brown in color. Illumination shall be directed such that there is no impact of glare on surrounding streets and highways. Ladders and working platforms shall be integral parts of the structure.

6. Anti-perching material shall be placed on horizontal structural members that may provide perching opportunities for predators.

7. The building permit for the new structure may not be finaled before removing the existing billboard at this location.

8. The structure shall be maintained in good condition. Graffiti shall be removed within 48 hours of its application.

9. No outdoor storage of materials, equipment or supplies related to this structure shall be permitted.

10. The applicant shall provide signage that is visible to the public at the base of the structure, including phone numbers of emergency contact persons, in case of an emergency involving the structure.

11. In the event that known or suspected Native American remains are encountered or significant historic or archaeological materials are discovered, ground-disturbing activities shall be immediately stopped. Examples of significant historic or archaeological materials include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, groundstone mortars and pestles), culturally altered ash-stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials and historic structure remains, such as stone-lined building foundations, wells or privy pits. Ground-disturbing project activities may continue in other areas that are outside the exclusion zone as defined below.

An "exclusion zone" where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area, plus a reasonable buffer

zone, by the contractor foreman or authorized representative, or party who made the discovery and initiated these protocols (typically 25 to 50 feet for single burial or archaeological find). The exclusion zone shall be secured (e.g., 24-hour surveillance) as directed by City representatives, if considered prudent to avoid further disturbances.

The contractor foreman or authorized representative, or party who made the discovery and initiated these protocols, shall be responsible for immediately contacting by telephone the parties listed, as follows, to report the find and initiate the consultation process for treatment and disposition: a. the City of Hayward Planning Director; b. the contractor's point(s) of contact; c. the Coroner of the County of Alameda (if human remains found); d. the Native American Heritage Commission (NAHC) in Sacramento; and e. the Yrgin band of Ohlones. The Coroner shall examine the remains after being notified of the discovery. If the remains are Native American, the Coroner shall notify the NAHC within 24 hours. The NAHC shall be responsible for identifying and immediately notifying the Most Likely Descendant (MLD) from the Yrgin band of Ohlones. Within 24 hours of notification by the NAHC, the MLD will be granted permission to inspect the discovery site. Within 24 hours of notification by the NAHC, the MLD may recommend to the City's Planning Director the recommended means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses or DNA analyses recommended by the Amah Mutsun Tribal Band may be considered and carried out. If the MLD recommendation is rejected by the City, the parties shall attempt to mediate the disagreement with the NAHC. If mediation fails then the remains and all associated grave offerings shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance.

12. If determined to be necessary for the protection of the public peace, safety and general welfare, the City of Hayward may impose additional conditions or restrictions on this permit.

13. Violation of these conditions, or of the Relocation and Settlement Agreement between the City and Clear Channel Outdoor, may be grounds for revocation of this permit pursuant to Section 10-1.3060 of the Hayward Municipal Code (Zoning Ordinance).

H. T. HARVEY & ASSOCIATES
ECOLOGICAL CONSULTANTS

Project #
PL-2009-0200 SPR

25 September 2008

Mr. Scott Gregory
Lamphier-Gregory
1944 Embarcadero
Oakland, CA 94606

Subject: Biotic Assessment for Proposed LED Billboard along Highway 92 in Hayward, California (HTH #2973-01)

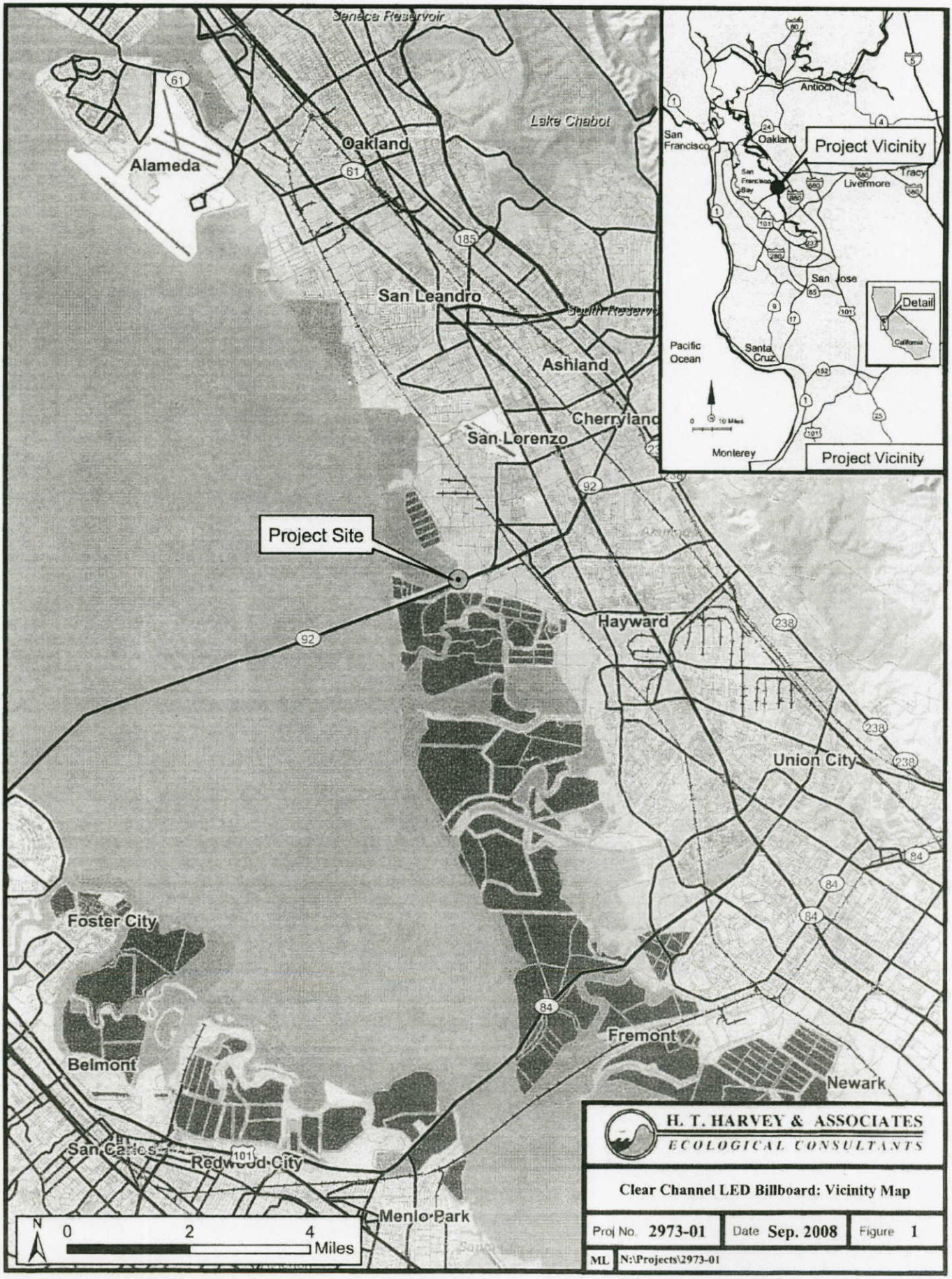
Dear Mr. Gregory:

Per your request, H. T. Harvey & Associates has performed a biotic assessment for the conversion of an existing conventional billboard to an LED billboard in Hayward, California. This billboard is located on the northwest side of Breakwater Avenue approximately 550 ft southwest of Whitesell Street, right at the interface between extensive urban development to the east/northeast and undeveloped baylands habitats to the west/southwest (Figure 1). The project site is bounded to the south by Breakwater Avenue and Highway 92, to the west by diked salt marsh associated with Hayward Regional Shoreline, and to the north/northeast by industrial and commercial development.

Our analysis has benefited from a considerable amount of discussion with, and information provided by, Clear Channel Outdoor personnel regarding the features of the existing and proposed billboards. According to the information provided, it is our understanding that the dimensions of the LED billboard will be the same as the existing billboard (14 ft high by 48 ft wide). The existing billboard is lit by two 400-Watt Hyalophane lights on each side that illuminate the face. The new LED billboard will display multiple advertisements, cycling between ads every 8 s. It will be equipped with ambient light sensors, which will adjust the brightness of the display correlating with ambient lighting conditions.

METHODS

H. T. Harvey & Associates ecologists Steve Rottenborn, Ph.D., and Scott Demers, M.S., conducted a daytime site visit on 26 August 2008 to inspect habitat conditions immediately surrounding the sign (which could potentially be disturbed during the removal of the existing billboard and installation of the LED sign) and in adjacent areas that could be indirectly affected by the project. Scott returned to the site that evening to observe qualitatively the illuminance of adjacent areas by the existing billboard and to observe the relative prominence of the sign in the context of the relatively poorly lit open space areas to the west and urban development to the east. Wildlife ecologist Nellie Thorngate, M.S., visited the site during the day on 4 September as well.


Seneca Reservoir
Lake Chabot
Oakland
Alameda
San Leandro
South Reservoir
Ashland
Cherryland
San Lorenzo
Project Site
Hayward
Union City
Foster City
Belmont
San Carlos
Redwood City
Menlo Park
Fremont
Newark
0 2 4 Miles
Antioch
San Francisco
Oakland
Project Vicinity
Tracy
Livermore
San Jose
Detail
California
Pacific Ocean
Santa Cruz
Monterey
Project Vicinity
H. T. HARVEY & ASSOCIATES
ECOLOGICAL CONSULTANTS
Clear Channel LED Billboard: Vicinity Map
Proj No. 2973-01
Date Sep. 2008
Figure 1
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EXISTING SITE CONDITIONS

The project site is located within a small lot that is dominated by ruderal (i.e., disturbance-associated), weedy vegetation. No areas supporting hydrophytic vegetation or showing any other characteristics of wetlands or riparian habitats are present within this lot. Due to the highly disturbed nature of the area immediately surrounding the sign, it is extremely unlikely that any special-status plant species would occur in the project area. The vast majority of plant and animal species occurring within the small lot in which the billboard is located are very common species associated with urban, developed, and ruderal conditions throughout the Bay area.

Several California ground squirrel (*Spermophilus beecheyi*) burrows were observed immediately below the sign, but there was no evidence that sensitive species such as the burrowing owl (*Athene cunicularia*), a California species of special concern, were present on the site. Due to the burrows' proximity to shrubs along the edge of the site, we would not expect burrowing owls to use these burrows. The diked marsh to the west supports pickleweed (*Salicornia virginica*) and is thus presumed to provide habitat for the federally endangered salt marsh harvest mouse (*Reithrodontomys raviventris*) and the salt marsh wandering shrew (*Sorex vagrans halicoetes*), a California species of special concern. However, no pickleweed is present on the site, and these special-status mammals are thus not likely to occur in the project footprint. Two special-status bird species may nest close to the site: Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*) nests in the diked marsh immediately west of the site, and the shrubs along the fenceline separating the project site from Breakwater Avenue provide potential nesting sites for the loggerhead shrike (*Lanius ludovicianus*). Both of these birds are California species of special concern. However, neither species is expected to nest within the lot where the billboard is located.

No bird nests were detected on the existing billboard structure. Although rock pigeons (*Columba livia*) were roosting on the sign, no other birds were seen on or in the immediate vicinity of the sign during our 26 August and 4 September field visits.

BIOLOGICAL IMPACTS ASSESSMENT

Potential project impacts to biotic resources were evaluated from three different perspectives:

- The direct effects of the physical removal of the existing sign and installation of the LED billboard on biotic resources
- The indirect effects of illuminance from the LED billboard (i.e., the amount of light from the billboard that lands on a certain area) on sensitive species in adjacent areas
- The potential effects of the LED billboard's luminance (i.e., the amount of light leaving the billboard's surface in a particular direction, or brightness of the LED billboard's surface as seen by the eye) on the behavior of birds flying in the site vicinity

These potential impacts are assessed in detail below.

Direct Effects of Sign Removal/Installation

During removal of the existing conventional billboard and installation of the LED billboard, heavy equipment will enter the site through a gate along Breakwater Avenue. All activity associated with conversion of the sign is presumed to take place within the small, weedy, fenced lot, with most such activity concentrated in the immediate vicinity of the billboard.

No wetlands, riparian habitats, or other sensitive habitats are present on the site, and thus none will be impacted by the conversion of the billboard. There is a very low probability that any special-status plant species occur on the site. The only such species known to occur in the Newark/Fremont vicinity and that may tolerate such disturbed conditions is Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*). Rottenborn looked for but did not see any individuals of any tarplant species during our site visits. Therefore, we do not expect the project to impact special-status plants.

The only wildlife species that may be using the immediate vicinity of the billboard during conversion of the billboard are common burrowing mammals, such as the California ground squirrel and Botta's pocket gopher (*Thomomys bottae*), and common birds such as the house finch (*Carpodacus mexicanus*), golden-crowned sparrow (*Zonotrichia atricapilla*), white-crowned sparrow (*Zonotrichia leucophrys*), and northern mockingbird (*Mimus polyglottos*). These species are locally and regionally abundant, and project effects on these species will not be significant under CEQA.

If conversion of the billboard were to occur during the avian breeding season (roughly 1 February-31 August), it is possible that birds nesting in adjacent areas may be disturbed by construction activities. Such species could possibly include special-status species such as the loggerhead shrike and Bryant's savannah sparrow. Due to the extremely limited size of the project area, no more than one pair of each species could be disturbed directly by project activities. A single pair of each of these species represents a very small proportion of their regional populations, and we would not consider disturbance of a single breeding pair of loggerhead shrikes and Bryant's savannah sparrows to be significant under CEQA. Note, however, that these and other native birds are protected from take by the federal Migratory Bird Treaty Act and the California Fish and Game Code, and that the abandonment of an active nest as a result of project construction activities could be considered "take" under the Fish and Game Code. As a result, we recommend that conversion of the sign take place during the nonbreeding season (1 September-31 January), or that preconstruction surveys be conducted to determine whether any nests of protected birds are present in areas where they may be disturbed prior to construction (in which case a biologist should determine the sizes of buffers around the nest necessary to avoid nest abandonment during construction).

In summary, no biological impacts that are significant under CEQA will occur as a result of the direct removal and installation of the billboard at this location.

Indirect Effects of Illuminance of Adjacent Areas

Many animals are extremely sensitive to light cues, which influence their physiology and shape their behaviors, particularly during the breeding season (Ringer 1972, de Molenaar et al 2006). Artificial light has been used as a means of manipulating breeding behavior and productivity in captive birds for decades (de Molenaar et al 2006), and has been shown to influence the territorial singing behavior of wild birds (Longcore and Rich 2004, Miller 2006, de Molenaar et al 2006). While it is difficult to extrapolate results of experiments on captive birds to wild populations, it is known that photoperiod (the relative amount of light and dark in a 24 hr period) is an essential cue triggering physiological processes as diverse as growth, metabolism, development, breeding behavior, and molting (de Molenaar et al 2006). This holds true for birds, mammals (Beier 2006), and other taxa as well, suggesting that increases in ambient light may interfere with these processes across a wide range of species, resulting in impacts to wildlife populations.

Artificial lighting may indirectly impact mammals and birds by increasing the nocturnal activity of predators like owls, hawks, and mammalian predators (Negro et al 2000, Longcore and Rich 2004, DeCandido and Allen 2006, Beier 2006). The presence of artificial light may also influence habitat use by rodents such as salt marsh harvest mouse and salt marsh wandering shrew (Beier 2006), and by breeding birds (Rogers et al 2006, de Molenaar et al 2006), by causing avoidance of well-lit areas and resulting in a net loss of habitat availability and quality.

Areas to the north, northeast, east, and southeast of the site are all developed urban habitats that do not support sensitive species that might be significantly impacted by illuminance from the proposed LED billboard. However the salt ponds in the south (part of the Eden Landing Ecological Reserve) and the diked marsh areas in the west (part of the Hayward Shoreline Regional Park) provide suitable habitat for a variety of wildlife, including sensitive species such as salt marsh harvest mouse, salt marsh wandering shrew, western snowy plover (*Charadrius alexandrinus nivosus*), loggerhead shrike, and Bryant's savannah sparrow.

The salt ponds to the south support breeding snowy plovers, and foraging populations of snowy plovers and other shorebirds. The marshes in the west support a variety of wildlife including salt marsh harvest mouse, salt marsh wandering shrew, loggerhead shrike, and Bryant's savannah sparrow. These species and others using the salt ponds or marsh habitats may be subject to increased predation, decreased habitat availability (for species that show aversions to increased lighting), and alterations of physiological processes if the proposed LED billboard produces substantially greater illuminance than the existing billboard.

Light reflecting off the existing conventional billboard illuminates adjacent areas to some extent. For example, on the evening of 26 August 2008, Scott Demers observed shadows cast by light reflected off this billboard at a distance exceeding 500 ft. Thus, assessment of the impact of illuminance of adjacent areas by the LED billboard must take into account the existing condition (i.e., illuminance produced by the existing billboard) and any expected changes in illuminance that will result from conversion ton an LED billboard.

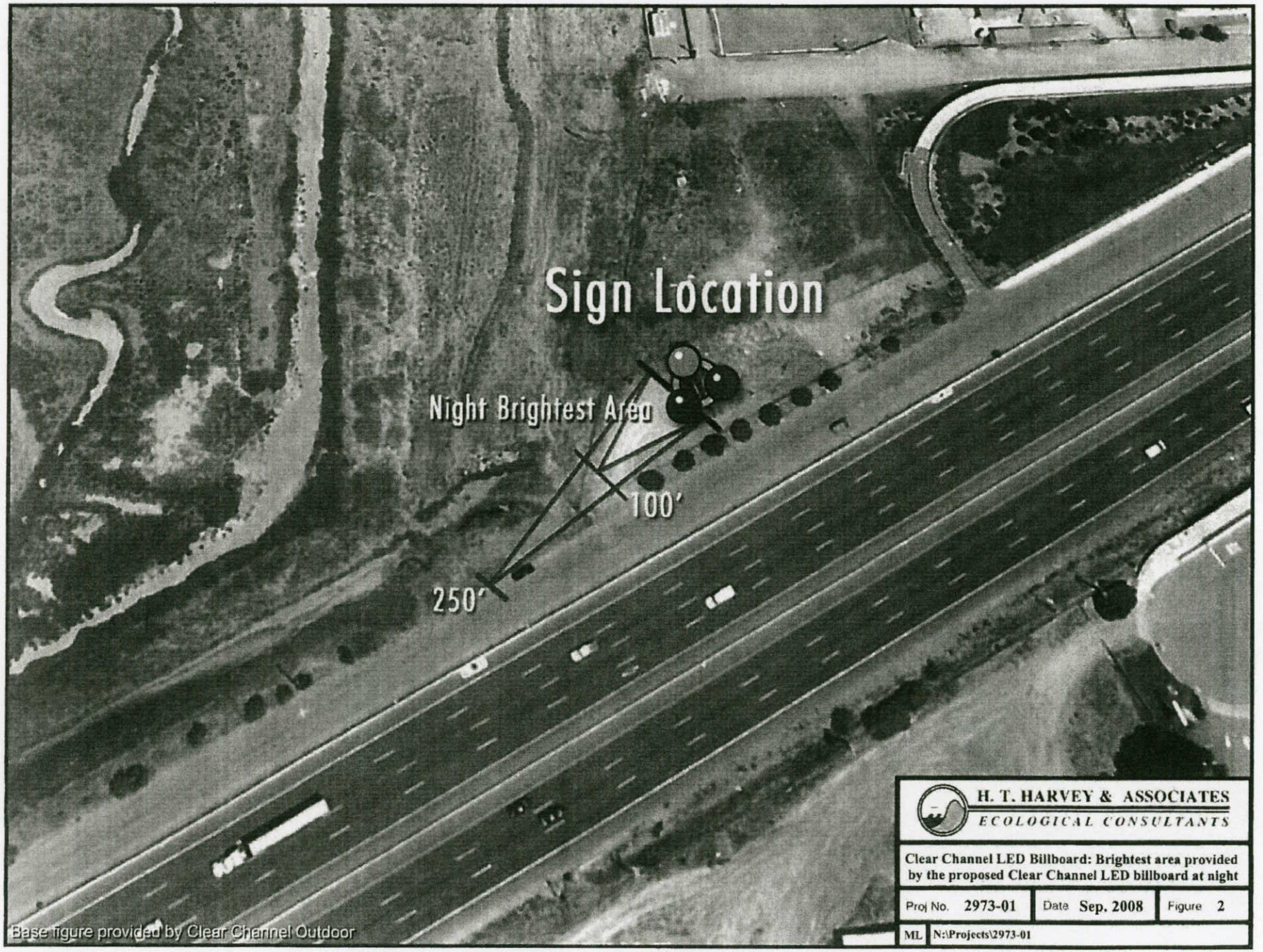
According to material on the characteristics of the LED billboard provided by Clear Channel Outdoor, the proposed LED billboard is expected to provide a maximum of 2.23 fc of illuminance (above and beyond ambient light conditions) at 100 ft (M. Scott, pers. comm.) within its viewing angle. Illuminance would decrease with lateral distance from the center of the viewing angle, so that areas 100 ft from the billboard on either side of the center of the viewing angle would experience even less illuminance. How this level of illuminance compares with the illuminance from the existing billboard is unknown, as there are no available data describing the illuminance produced by the existing conventional billboard. However, the viewing angle of the proposed LED billboard would be ± 30° vertically and ± 60 ° horizontally on each side (R. Hatton, pers. comm.), while we would expect the viewing angle of the current billboard with its nondirectional lighting to approach 180° on each side. Thus, the area of land illuminated by the proposed sign would be less than that illuminated by the current sign.

The LED billboard would be angled in such a way as to maximize the amount of visibility from a specific portion of Highway 92, so the area of brightest night illuminance projected by the proposed billboard would form a narrow cone directed at oncoming traffic and falling on only a small portion of marsh habitat (Figure 2). Light overflow from the billboard into the adjacent marsh would be reduced both as a result of the change in angle of the sign (i.e., the sign would be directed more toward the highway rather than being perpendicular to the highway and facing into the marsh as the existing conventional billboard does) and because the majority of the marsh is outside the beam angle of the LED billboard. Thus, illuminance of the marsh is expected to be much less than the illuminance currently projected into those areas by the existing billboard. The illuminance would dissipate so that illuminance beyond 100 ft would be minimal and that beyond 500 ft negligible (Figure 3, LSI 2006).

Based on the materials provided by Clear Channel Outdoor, it appears that the LED billboard will illuminate much less of the adjacent marsh than the current billboard does, and the illuminance values predicted for this billboard (2.33 fc at 100 ft and dissipating rapidly at greater distances) do not appear to be substantially greater than (and may be less than) those produced by the existing billboard. Therefore, the LED billboard is not expected to substantially increase the amount of illuminance currently experienced by sensitive habitats (and the species inhabiting them) in nearby areas, and we do not expect the LED billboard to result in significant impacts on the nearby marsh, the salt ponds south of Highway 92, or their wildlife species relative to existing conditions.

Potential Effects of LED Billboard's Luminance on Avian Flight Behavior

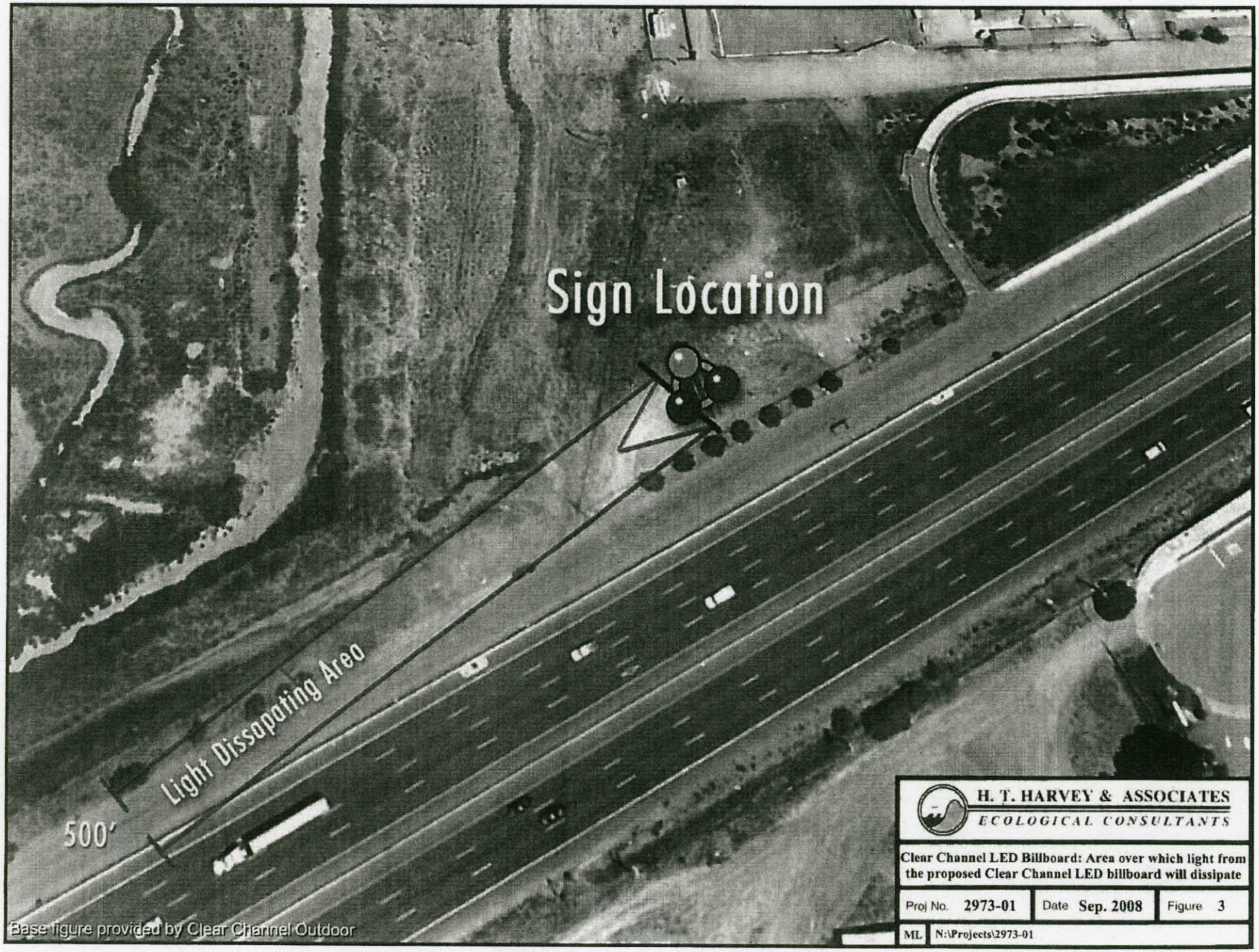
There are two primary ways in which the luminance of an LED billboard might impact the movements of birds. First, nocturnally migrating birds may alter their orientation upon sighting the light and become drawn toward the sign, potentially striking objects such as buildings, adjacent power lines, or even the sign itself. Second, local seabirds, shorebirds, and passerines using the marsh, salt ponds, and estuarine habitats adjacent to the billboard may become disoriented during flights among foraging areas and fly toward the sign, colliding with it or with nearby structures such as power lines. Both migrating birds and local birds are much more likely to be impacted by the billboard's luminance during foggy or rainy weather, when visibility is poor (Longcore and Rich 2004, Gauthreaux and Belser 2006).



H. T. HARVEY & ASSOCIATES
ECOLOGICAL CONSULTANTS

Clear Channel LED Billboard: Brightest area provided by the proposed Clear Channel LED billboard at night

Proj No. 2973-01	Date Sep. 2008	Figure 2
ML	N:\Projects\2973-01	



H. T. HARVEY & ASSOCIATES
ECOLOGICAL CONSULTANTS

Clear Channel LED Billboard: Area over which light from the proposed Clear Channel LED billboard will dissipate

Proj No. 2973-01	Date Sep. 2008	Figure 3
ML	N:\Projects\2973-01	

Migrating Birds. Hundreds of bird species migrate nocturnally in order to avoid diurnal predators and to minimize energy expenditures. Evidence that migrating birds are attracted to artificial light sources is abundant in the literature as early as the late 1800s (Gauthreaux and Belser 2006). Although the mechanism causing migrating birds to be attracted to bright lights is unknown, the attraction is well documented (Longcore and Rich 2004, Gauthreaux and Belser 2006). Migrating birds are frequently drawn from their migratory flight paths into the vicinity of an artificial light source, where they end up circling the lit area, effectively "captured" by the light (Herbert 1970, Gauthreaux and Belser 2006). When birds are drawn to artificial lights during their migration, they become disoriented and possibly blinded by the intensity of the light (Gauthreaux and Belser 2006). The disorienting and blinding effects of artificial lights directly impact migratory birds by causing collisions with light structures, buildings, communication and power structures, or even the ground (Gauthreaux and Belser 2006). Indirect impacts on migrating birds might include orientation mistakes and increased length of migration due to light-driven detours.

Local Birds. Seabirds may be especially vulnerable to artificial lights because many species are nocturnal foragers that have evolved to search out bioluminescent prey (Imber 1975, Reed et al 1985, Montevecchi 2006), and thus are strongly attracted to bright light sources. Seabirds using the Hayward area include primarily gulls, terns, cormorants, and the state endangered brown pelican (*Pelecanus occidentalus*), none of which are primarily nocturnal foragers; however, they may still forage to some extent during the night. When seabirds approach an artificial light, they seem unwilling to leave it and may become "trapped" within the sphere of the light source for hours or even days, often flying themselves to exhaustion or death (Montevecchi 2006). Shorebirds forage in the San Francisco Bay nocturnally as well as diurnally, and move frequently between foraging locations in response to tide levels and prey availability. Biologists and hunters have long used sudden bright light as a means of blinding and trapping shorebirds (Gerstenberg and Harris 1976, Potts and Sordahl 1979), so evidence that shorebirds are affected by bright light is well established, though impacts of a consistent bright light are undocumented. However based on the above studies, it is reasonable to conclude that shorebirds, like other bird species, may be disoriented by a very bright light in their flight path. Passerine species have been documented responding to increased illumination in their habitats with nocturnal foraging and territorial defense behaviors (Longcore and Rich 2004, Miller 2006, de Molenaar et al 2006), but absent significant illumination, they typically do not forage at night, leaving them less susceptible to the attraction and disorientation caused by luminance when they are not migrating.

Effects of the Hayward LED Billboard on Flight Behavior. The visibility of the proposed LED billboard to birds in flight, and thus the risk it poses to flying birds, depends primarily on the beam angle of the sign relative to the flightlines of birds and on the luminance (brightness) of the sign as perceived by the birds. The directional nature of LED lighting and the projected viewing angle values of ± 30° vertically and ± 60° horizontally suggest that the viewing angle of the sign will be narrow enough to preclude attracting migrating birds on clear nights, when they fly high enough to be outside the viewing angle of the sign. Shaders located above each row of lights will prevent light from projecting upward into the sky. As a result, birds flying more than 30° above the center of the sign's beam angle will not be able to see light from the sign at all. However, migrating birds are forced to fly low during foggy and rainy conditions, which may bring them into the viewing angle of the billboard. Likewise, any foraging birds flying into the

sign's viewing angle may be susceptible to effects of the sign's luminance. For example, any bird flying low along the bay edge between the vicinity of Hayward Regional Shoreline north of Highway 92 and the Eden Landing Ecological Reserve south of Highway 92 is expected to cross the viewing angle of the proposed LED billboard, and birds flying across the bay toward the Hayward area may enter the viewing angle as well.

The proposed project will replace a conventionally lit billboard that produces an estimated luminance of 23 cd/ft^2 (LSI 2006), with an LED billboard that could produce a peak value of approximately 641 cd/ft^2 of luminance (LSI 2006). However, in practice, the LED billboard will be operated so that its peak luminance will be approximately 46 cd/ft^2 in the center of the beam angle (R. Hatton, pers. comm.). For comparison, a full moon at its brightest point produces approximately 232 cd/ft^2 (LRC 2006). The proposed billboard will be equipped with a light sensor that adjusts the brilliance of the billboard in response to available ambient light, dimming the luminance as ambient light lessens. The peak luminosity for an LED billboard cited in the 2006 Light Sciences Inc. report to the Outdoor Advertising Association of America (LSI 2006) and indicated above assumes that the display on the billboard is solid white. In practice, the displays on the planned LED billboard will contain a variety of colors, which will substantially reduce the amount of luminance produced.

Additionally, the LED display on the billboard can be changed every 8 seconds from a static image to a static image, resulting in a changing light source. Colors and patterns of color on the billboard would thus be changing, and birds flying near the sign would not perceive it as a fixed, unchanging light, the type of light that appears to be most attractive to birds (Jones and Francis 2003, Gauthreaux and Belser 2006).

The proposed billboard is expected to produce more than twice the luminance of the existing billboard, at the center of its beam angle, which would make it more visible to passing birds within its beam angle. It is possible that some birds that find themselves near the center of the beam angle may be attracted to the sign. However, we do not expect this effect to have long-term consequences for such birds leading to bird-strike mortality or substantial interference with bird movements, for several reasons. The sign will be focused on the highway, not on airspace above the highway or on bayside habitats. Thus, a relatively limited area at low altitude above Highway 92 will be within the center of the sign's beam angle.

Because the area east of the sign is heavily urbanized and contains no habitats of value to estuarine birds using the Bay and bayside habitats to the west, few birds are expected to be flying in a west-east direction (or, more accurately given the slightly modified angle of the sign, in a southwest-northeast direction) directly toward the sign. As a result, birds are not expected to be flying within the center of the beam angle (where the sign appears brightest) for long periods of time. Rather, most movements that will take birds through the center of the beam angle will be by birds moving perpendicular to the sign (e.g., between Hayward Regional Shoreline and the Eden Landing Ecological Reserve). As such birds fly through the beam angle, they will experience the sign becoming brighter and brighter until they reach the center of the beam angle, then dimmer as they move out of the center. If they are disoriented by the sign, this disorientation is likely to stop once the image on the sign, including its color, brightness, and pattern change or once the birds pass through the center of the beam angle and the light becomes

dimmer. Thus, we do not expect birds moving through or around the Hayward area to be attracted to the sign for such a long duration that bird-strike mortality occurs or substantial interference with bird movements occurs.

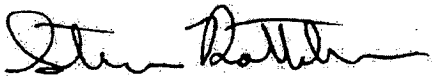
Given the relatively low increase in luminance produced by the LED billboard (compared to the existing conventional billboard), the configuration of bird habitats in the site vicinity (which does not lend itself to directed bird flights toward the sign), the changing images that will be displayed on the LED billboard, the narrow viewing angle, and the use of shaders to prevent light from projecting upward into the sky, we expect the sign's impacts on avian flight behavior to be less than significant.

SUMMARY

Based on the information provided by Clear Channel Outdoor concerning the LED billboard, our review of literature concerning lighting effects on wildlife, our reconnaissance-level surveys of the site, and our knowledge of likely avian flightlines in the site vicinity, we do not expect the conversion of the conventional billboard to an LED billboard to result in significant impacts to wildlife. If the assumptions made concerning the LED billboard's characteristics (e.g., illuminance, luminance, or beam angle) in our analysis differ from actual characteristics of the billboard, additional analysis may be necessary to determine whether impacts are significant.

Please feel free to contact me at srottenborn@harveyecology.com or (408) 458-3205 if you have any questions regarding our report. Thank you very much for contacting H.T. Harvey & Associates regarding this project.

Sincerely,



Stephen C. Rottenborn, Ph.D.
Principal – Wildlife Ecologist

LITERATURE CITED

Beier, P. 2006. Effects of Artificial Night Lighting on Mammals *in* Rich, C. and T. Longcore, eds. Ecological Consequences of Artificial Night Lighting. Covelo, CA: Island Press. Pp 19-42.

DeCandido R. and D. Allen. 2006. Nocturnal hunting by Peregrine Falcons at the Empire State Building, New York City. Wilson J. Ornithol. 118(1): 53-58.

de Molenaar, J. G., M. E. Sanders and D. A. Jonkers. 2006. Road Lighting and Grassland Birds: Local Influence of Road Lighting on a Black-tailed Godwit Population *in* Rich, C. and T. Longcore, eds. Ecological Consequences of Artificial Night Lighting. Covelo, CA: Island Press. Pp 114-136.

Gauthreaux, S. A. and C. G. Belser. 2006. Effects of Artificial Night Lighting on Migrating Birds *in* Rich, C. and T. Longcore, eds. Ecological Consequences of Artificial Night Lighting. Covelo, CA: Island Press. Pp 67-93.

Gerstenberg, R. H. and S. W. Harris. 1976. Trapping and Marking of Shorebirds at Humboldt Bay, California. Bird Banding 47(1): 1-7.

Herbert, A. D. 1970. Spatial Disorientation in Birds. Wilson Bull. 82(4): 400-419.

Imber, M. J. 1975. Behavior of Petrels in Relation to the Moon and Artificial Lights. Notornis 22: 302-306.

Jones, J. and C. M. Francis. 2003. The Effects of Light Characteristics on Avian Mortality at Lighthouses. J. Avian Biol. 34(4): 328-333.

Longcore, T. and C. Rich. 2004. Ecological Light Pollution. Front. Ecol. Environ. 2(4): 191-198.

[LRC] Lighting Research Center. 2006. Illumination Fundamentals. Pasadena, CA: Optical Research Associates. 48 pp.

[LSI] Light Sciences Inc. 2006. Comparison of Digital and Conventional Billboards. Report prepared for the Outdoor Advertising Association of America. November 29, 2006.

Miller, M. W. 2006. Apparent Effects of Light Pollution on Singing Behavior of American Robins. Condor 108(1): 130-139.

Montevecchi, W. A. 2006. Influences of Artificial Light on Marine Birds *in* Rich, C. and T. Longcore, eds. Ecological Consequences of Artificial Night Lighting. Covelo, CA: Island Press. Pp 95-113.

Negro, J. J., J. Bustamante, C. Melguizo, J. L. Ruiz, and J. M. Grande. 2000. Nocturnal activity of Lesser Kestrels under artificial lighting conditions in Seville, Spain. J. Raptor Res. 34(4): 327-329.

Potts, W. K. and T. A. Sordahl. 1979. The Gong Method for Capturing Shorebirds and Other Ground-roosting Species. North Amer. Bird Band. 4(3): 106-107.

Reed, J. R., J. L. Sincock, and J. P. Hailman. 1985. Light Attraction in Endangered Procellariiform Birds: Reduction by Shielding Upward Radiation. Auk 102(2): 377-383.

Ringer, R. K. 1972. Effect of Light and Behavior on Nutrition. J. Anim. Sci. 35: 642-647.

Rogers, D. I., T. Piersma, and C. J. Hassell. 2006. Roost availability may constrain shorebird distribution: Exploring the energetic costs of roosting and disturbance around a tropical bay. Biol. Conserv. 33(4): 225-235.

PERSONAL COMMUNICATIONS

Hatton, Robert. Clear Channel Outdoor, Inc. Personal communication with Steve Rottenborn of H. T. Harvey & Associates, on 18 September 2008.

Powers, Patrick. Clear Channel Outdoor, Inc. Personal communication with Scott Gregory of Lamphier-Gregory, on 03 September 2008.

Powers, Patrick. Clear Channel Outdoor, Inc. Personal communication with Steve Rottenborn of H. T. Harvey & Associates, on 04 September 2008.

LAMPHIER-GREGORY

URBAN PLANNING
ENVIRONMENTAL ANALYSIS

March 5, 2010

Robert Hatton
Clear Channel
555 12th St. Suite, 950
Oakland, CA 94607

Re: Light Meter Readings, Clear Channel Billboard, Highway 92, Hayward California, FINAL

Mr. Hatton,

At your request, Lamphier-Gregory conducted night-time light meter readings of an existing conventional billboard adjacent to Breakwater Avenue, itself adjacent the Highway 92 approach to the San Mateo Bridge in Hayward California. This letter presents our results.

Setting

The billboard site is located in Hayward on the north side of Highway 92 along Breakwater Avenue, approximately 1.25 miles east of the San Mateo Bridge toll plaza at the edge of an area with land uses that can generally be described as light-industrial. West of the billboard and north of Breakwater Avenue is the Hayward Regional Shoreline, which is under the jurisdiction of the East Bay Regional Parks District (EBRPD). The billboard is located adjacent to the Regional Shoreline's southeastern-most boundary. Northeast of the billboard is United Rentals, an industrial equipment and tool rental business, and beyond that, further to the northeast, is the Bay Center III light-industrial office park. East of the billboard is Salt Way, a paved pedestrian and bicycle trail that becomes a bridge that crosses Highway 92. South of the billboard is the freeway, Highway 92.

In addition to the billboard, there are several additional light sources in the vicinity. To the south, approximately 75 feet from the billboard, the freeway is illuminated for safety. Approximately 200 feet east of the billboard, the intersection of the Salt Way bicycle/pedestrian path and Breakwater Avenue is illuminated by two street-lamps approximately 25-30 feet in height. North and northeast of the billboard is the equipment yard for United Rentals, which is illuminated at regular intervals by safety lamps approximately 20 feet in height.

Methods

Lamphier-Gregory planner Jason Chafin conducted a reconnaissance visit on the evening of February 17, between approximately 8:00 pm and 9:30 pm. A second visit was conducted on February 18, between approximately 7:00 pm and 8:00 pm to measure the light levels from four locations relative to the existing billboard's westward face (see attached figure), and a third visit

was conducted on February 24 between approximately 6:45 pm and 8:00 pm to take a second series of measurements.

During the February 18 visit, light meter measurements were taken from four locations relative to the westerly face of the billboard, which also faces the Hayward Regional Shoreline park. The first location, 500 feet west of the billboard along Breakwater Avenue, was established to measure the cumulative ambient light in the general vicinity. The second location, 250 feet west of the billboard along Breakwater Avenue, was established to measure the ambient light generated primarily from the billboard. Two additional measurement locations were established within the Hayward Regional Shoreline park approximately 211 and 215 feet from the billboard, respectively. These points were established to get a sense of the degree to which the existing billboard illuminates the protected area within the park. The second location (L2) at 250 feet is the Outdoor Advertising Association of America's (OAAA) recommended distance for measuring foot-candle variance of ambient light from a digital billboard of the same face size, 14 feet by 48 feet, according to industry standard measurement practices.[1]

During the February 24 visit, two sets of light meter measurements were taken from five locations. Light readings were taken from the same four locations as the previous visit, plus one additional location approximately 100 feet from the western face of the billboard. Additionally, a Clear Channel electrician met Jason Chafin at the site to turn the billboard's lights off. A series of measurements were taken with the lights off and a series of measurements were taken with the lights on.

Measurements were taken at night using an Extech EA33 EasyView Light Meter, which measures illuminance up to 99;990 foot-candles (fc) or 999,990 Lux (lx).

Results

Figure 1 illustrates the five measurement points relative to the billboard. **Figure 2** shows two photographs of the billboard with the lights on. Photos with the lights off did not turn out, likely due to user error. **Table 1** presents the light readings taken on February 18 and **Table 2** presents the readings from light measurements taken on February 24. As **Table 2** shows, two measurements were taken at each location with the billboard's lights off and with the billboard's lights on. As both tables indicate, it appears the distances from which the measurements were taken were not sufficient to generate large readings. During the Feb. 18 visit, Locations 2 & 3 registered respective readings of 0.006 and 0.032 foot-candles; however, during the Feb. 24 visit, the meter did not register readings from these locations. During the Feb. 24 visit, Location 5, approximately 100 feet from the western face of the lit billboard, registered respective

[1] As recommended in a March 2008 report to the OAAA by Dr. Ian Lewin, Light Sciences, Inc., based on established scientific methodology and established industry standards from the Illuminating Engineering Society of North America (IESNA) publication TM-11-00 "light trespass" theory.

measurements of 0.082 and 0.081; no measurements were registered from this location with the billboard's lights out.

Table 1

Feb. 17, 2010

Measurement Locations and Illuminance Measurements

Measurement Location	Distance from Billboard (ft)	Illuminance (foot-candles)
1	500	0.000
2	250	0.006
3	211	0.032
4	215	0.000

Table 2

Feb. 24, 2010

Measurement Locations and Illuminance Measurements

Measurement Location	Distance from Billboard (ft.)	Billboard Unlit Meter Reading (foot-candles)	Billboard Lit Meter Reading (foot-candles)
1	500	0.000	0.000
		0.000	0.000
2	250	0.000	0.000
		0.000	0.000
3	211	0.000	0.000
		0.000	0.000
4	215	0.000	0.000
		0.000	0.000
5	100	0.000	0.082
		0.000	0.081

If you have any questions or would like to discuss this further, please call me at (510) 535-6690.

Sincerely,

Jason Chafin
LAMPHIER-GREGORY

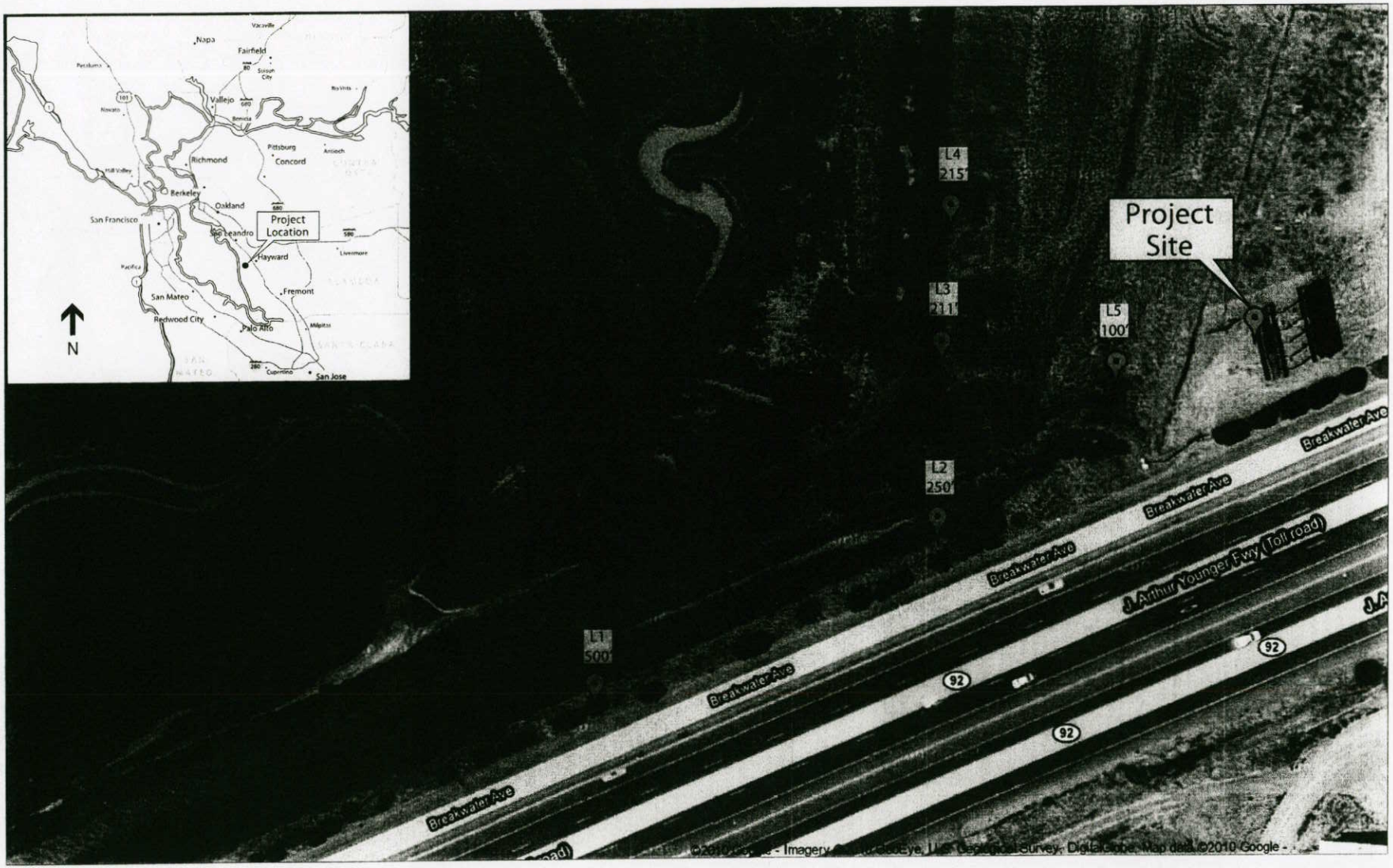
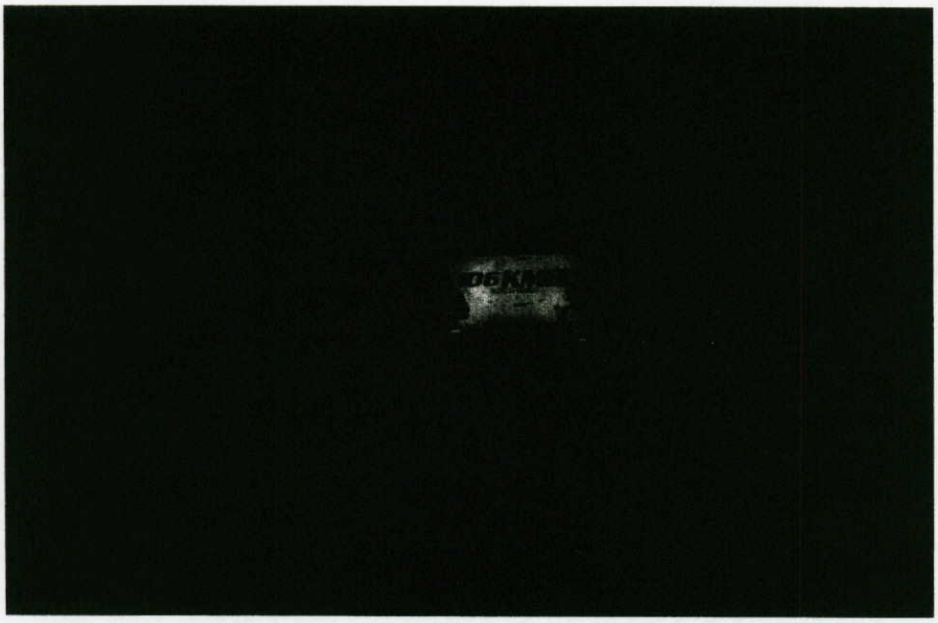


Figure 1
Illuminosity Measurement Locations and Distances

Source: Google



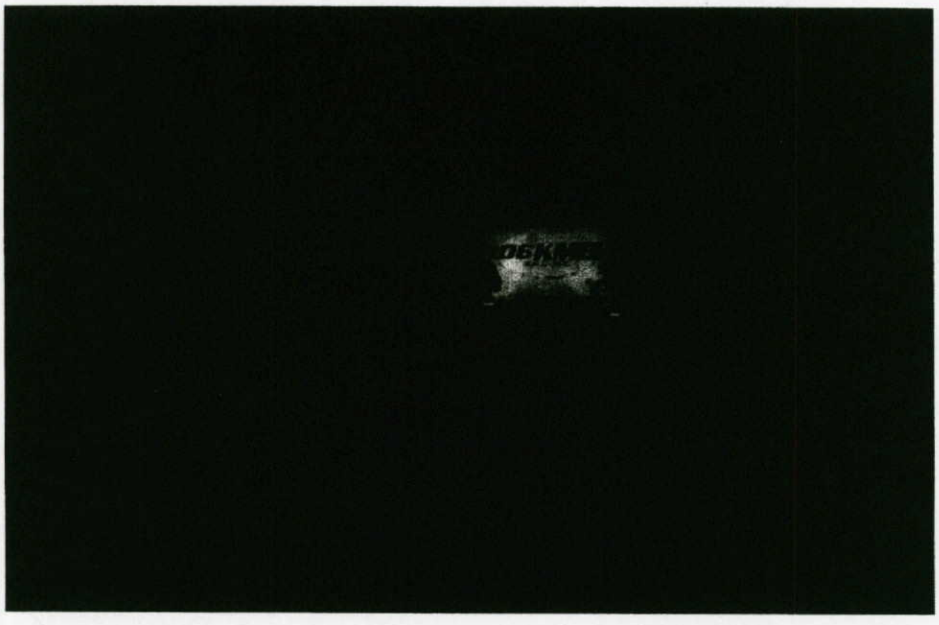


Figure 2
Photograph of lit billboard at approx. 200'

Source: Lamphier-Gregory

L A M P H I E R • G R E G O R Y

URBAN PLANNING
ENVIRONMENTAL ANALYSIS

April 12, 2010

Robert Hatton
Clear Channel
555 12th St. Suite, 950
Oakland, CA 94607

Re: Light Meter Readings, Clear Channel Billboard, Bay Bridge, Oakland California

Mr. Hatton,

At your request, Lamphier-Gregory conducted a second night-time billboard light meter reading of a recently installed digital billboard on Burma Road in Oakland, adjacent to the Interstate 80 approach to the Bay Bridge. This letter presents our results.

Setting

The billboard is located along a frontage road adjacent to the westbound I-80 approach to the Bay Bridge in Oakland. The billboard is accessed via the Maritime Road entrance to the former Oakland Army Base, currently utilized by the Port of Oakland. To the north is I-80, immediately beyond that is the San Francisco Bay. To the south is the Oakland Outer Harbor.

In addition to the subject Clear Channel digital billboard, there are two additional digital billboards of similar size located, respectively, approximately 500-feet and 1,000-feet to the west, which were illuminated during our visit and which contribute to the overall level of ambient light.

The Clear Channel billboard is illuminated on two sides, westward facing toward San Francisco and eastward facing toward Oakland. The images on the billboard's westward face rotated periodically among six advertisements, whereas the eastward face was a single advertisement for Sprint Telecommunications.

Methods

Lamphier-Gregory planner Jason Chafin conducted a site visit on the evening of April 9, 2010 to measure the light levels from a total of eight locations, four locations relative to the existing billboard's westward face, and four locations relative to the billboard's eastern face. (see **Figure 1**).

Prior to conducting the site visit, Jason Chafin used a scaled aerial photograph to establish measurement points at 100-, 250-, 350-, and 500-feet from each of the western and eastern faces

of the billboard. Sunset on April 8 was at 7:38 p.m.[1] Jason Chafin arrived to the site at approximately 7:30 p.m. in order to utilize the waning daylight to re-locate the measurement points on the ground based on the scaled aerial.

Clear Channel arranged for the billboard to be turned off between 8:30 and 9:00 p.m. Shortly after the billboard went black, working from west to east, Jason Chafin conducted ambient light measurements from each of the pre-determined locations. At 9:00 p.m., the billboard was re-lit, and shortly afterward Jason Chafin conducted the second set of ambient light measurements, again working from west to east.

The range of distances from the billboard at which ambient illuminance was measured were established based on conversations with Clear Channel and in reference to the Outdoor Advertising Association of America's (OAAA) guidelines. In February 2010, Lamphier-Gregory conducted ambient light readings relative to an existing conventional billboard (i.e., not digital) adjacent to the westbound Hwy 92 approach to the San Mateo Bridge in Hayward, Ca. Ambient light measurements with respect to the Hayward billboard were taken at 500-, 250- and 100-foot distances. Therefore, Clear Channel requested that illuminance measurements with respect to the digital billboard along the Bay Bridge be taken from these same points. The 350-foot point was chosen because that is the distance the OAAA recommends measuring from to determine whether a billboard of that size, 20 feet by 60 feet, complies with the recommended brightness level.[2] According to the OAAA, a billboard is in compliance with the recommended illuminance levels if the difference between the baseline measurement (i.e., ambient illuminance with billboard off) and a subsequent measurement with the billboard turned on is 0.3 foot-candles or less.[3]

Measurements were taken at night using an Extech EA33 EasyView Light Meter, which measures illuminance up to 99,990 foot-candles (fc) or 999,990 Lux (lx).

Results

Figure 1 illustrates the eight measurement points relative to the billboard. As shown, measurements were taken at four points to the west of the billboard and four points to the east. **Table 1** presents the light readings taken on April 8, 2010. As **Table 1** shows, the illuminance readings at the 350-foot distance are 0.028 and 0.213 foot-candles, on the billboard's western and eastern faces, respectively, demonstrating compliance with the brightness levels

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[1] NOAA, www.weather.gov., Oakland, CA., accessed April 8, 2010.

[2] The non-digital billboard adjacent to the westbound Hwy 92 approach to the San Mateo Bridge in Hayward, Ca. is 14 feet by 48 feet. The OAAA recommended distance for determining compliance of a billboard of that size is 250 feet.

[3] According to *OAAA Methodology to Determine Billboard Luminance Levels*, provided by Clear Channel.

recommended by the OAAA.[4] As the readings presented in **Table 1** show, ambient light measurements from the westward face registered less of a difference between unlit and lit measurements at the 350-foot location than the eastward face. As described, the westward face cycled between six advertisements with varying color profiles, some "brighter" than others, providing greater potential for variation in the measurements. Nevertheless, at 350 feet, both sides of the lit billboard currently comply with OAAA guidelines.

The greatest difference measured was at Location 5 (L5) at 100 feet east of the Clear Channel billboard's eastward face (as one looks west). This is likely because the image on this side of the billboard was a single Sprint Telecommunications advertisement, which utilizes predominantly light colors. At a distance of 100 feet, the contrast between the baseline level and the billboard's illuminance is the greatest.

[4] Lamphier-Gregory understands that the proposed Hayward billboard will be 14 feet by 48 feet. In that case, the recommended distance from which to determine compliance with OAAA recommendations is 250 feet.

Table 1

April 8, 2010

Measurement Locations and Illuminance Measurements

			Ambient Light Measurements		Difference
	Measurement Location	Distance from Billboard (ft.)	Billboard Unlit (Baseline) (foot-candles)	Billboard Lit (foot-candles)	from ambient light (foot-candles)
West toward San Francisco	1	500	0.150	0.278	0.128
	2	**350**	**0.268**	**0.296**	**0.028**
↑	3	250	0.178	0.323	0.145
	4	100	0.209	0.727	0.518
	Clear Channel Billboard				
	5	100	0.115	1.234	1.119
↓	6	250	0.062	0.523	0.461
	7	**350**	**0.131**	**0.344**	**0.213**
East toward Oakland	8	500	0.177	0.344	0.167

If you have any questions or would like to discuss this further, please call me at (510) 535-6690.

Sincerely,

Jason Chafin

Jason Chafin
LAMPHIER-GREGORY

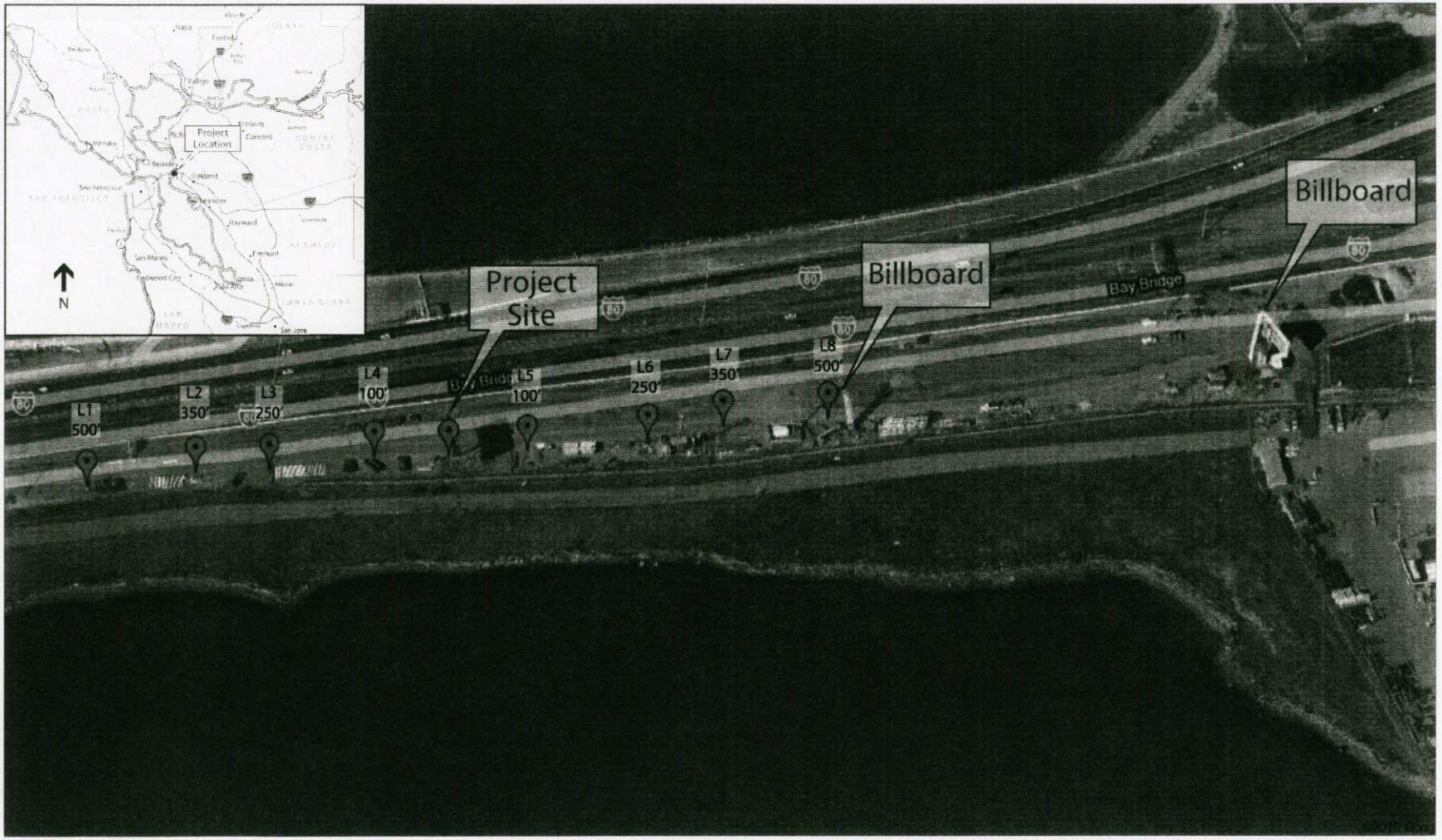


Figure 1
Ambient Light Measurement Locations and Distances

Source: Google

Attachment IX

Driving Performance and Digital Billboards

EXECUTIVE SUMMARY OF FINAL REPORT

Prepared for:

Foundation for Outdoor Advertising Research and Education

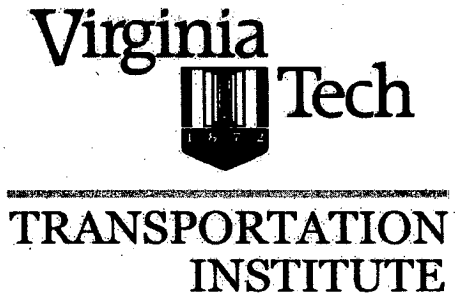
By:

Suzanne E. Lee

Melinda J. McElheny

and

Ronald Gibbons



Center for Automotive Safety Research

March 22, 2007

EXECUTIVE SUMMARY

The most notable findings from this study are as follows:

- Eyeglance results showed that there were no differences in the overall glance patterns between digital billboards, conventional billboards, comparison events, and baseline events during the daytime.
- Drivers did not glance more frequently in the direction of digital billboards than in the direction of other event types during the daytime.
- Drivers took longer glances in the direction of digital billboards and comparison sites than in the direction of conventional billboards and baseline sites during the daytime.
- An analysis of glances lasting longer than 1.6 seconds indicated that these longer glances were distributed evenly across the digital billboards, conventional billboards, comparison events, and baseline events during the daytime
- The nighttime results indicate that digital billboards and comparison events may be associated with more active glance patterns, as well as with more frequent and longer glances towards the digital billboards and comparison events.
- For the post-drive questionnaire, 42% of drivers mentioned billboards as one of the top five items that caught their attention; note that drivers did not know this was billboard study.
- In an open-ended question, three drivers mentioned billboards as the single most memorable item on the trip, and two referred specifically to the digital billboards as being memorable.

The motivation for the current study was to examine driver performance in the presence of digital billboards, as compared to other driving locations without them. There is a long history of studying billboards in the context of traffic safety but, although the research record covers many years (1951 until the present), it is lacking in volume and is primarily focused on conventional billboards. There were a few epidemiological studies performed in the early 1950's examining traffic accidents in the presence and absence of billboards; however, much of this early work was methodologically flawed. After a long gap in research, there were a few additional studies in the 1960's through the 1980's, none of which demonstrated that billboards are unsafe. More recent studies conducted in Canada have shown that there may be changes in driver behavior associated with video billboards (those with full motion), but those studies do not address the digital billboards of interest in the current study (with a static message that changes instantaneously without special effects).

Traffic accident analysis techniques have improved in recent years with the creation and maintenance of national crash databases. A careful examination of these databases shows that distraction caused by billboards fails to show up in any of the accident databases as an accident cause. Likewise, an examination of numerous driver distraction studies demonstrates that billboards fail to show up as a cause of driver distraction. The overall conclusion from all past research is that conventional billboards in general have not been shown to cause traffic accidents or change driver behavior. However, the question of whether digital billboards change driver behavior in some way cannot be answered by these previous studies; this is the motivation for the current study.

The current study was conducted in Cleveland, OH to assess the effects, if any, of digital billboards on driver behavior and performance. The study was conducted following the model of a previous study conducted in Charlotte, NC that showed no measurable effects of conventional billboards on eyeglance patterns, speed maintenance, or lane keeping. Thirty-six drivers were recruited with males and females equally represented; they were also equally divided by age (older: 50-75, younger: 18-35). Participants drove an instrumented vehicle on their own (without an experimenter in the vehicle) on a 50-mile loop route in the daytime along some of the interstates and surface streets in Cleveland. Participants were not informed about the true purpose of the experiment, and were told that the purpose was to help understand the way people drive in a natural environment. Along the route, participants encountered the following items:

- 5 digital billboards (all that were available on the route). The digital billboards were the standard bulletin size (14 ft x 48 ft) and the copy changed instantaneously every eight seconds (there were no special effects during the transition).
- 15 conventional billboards (similar to those studied in the Charlotte study).
- 12 comparison sites (similar to items you might encounter in everyday driving; comparable to digital billboards in terms of visual activity/attractiveness, including on-premises signs [some with digital elements], logo placards, landmark buildings, and murals).
- 12 baseline sites (sites with no signs).

After the drive, participants completed a questionnaire regarding which types of items and activities they had noticed along the route. Participants were paid a nominal amount for their participation. Twelve participants returned for a nighttime session to explore the potential effects of the digital billboards at night.

The eight seconds leading up to the events of interest were then analyzed in terms of eyeglance patterns, speed maintenance behavior, and lane keeping behavior. With 36 participants and 44 sites, there were 1,584 events available for analysis from approximately 63 hours of data collection. A small amount of data was lost due to cell phone use, sensor outages, sun angle, and vehicle stoppages, leaving 1,540 events for eyeglance analyses. Altogether, 124,740 video frames were analyzed and 10,073 individual glances were identified. The speed data were filtered to remove events as described above, and then further filtered to remove low speed events, leaving 1,494 events in this dataset, with 121,014 data points. The lane position dataset was further filtered to remove events indicating a possible lane change or lane position sensor failure (often due to poor lane markings). After filtering, there were 1,188 events remaining in the lane position dataset, with 96,228 data points.

In terms of demographics, the average age was 28 years for younger drivers and 59 years for older drivers. Most had completed high school, but few had attended college. All participants lived in the Cleveland area, and were familiar with at least some parts of the route. For the post-drive questionnaire, 42% of drivers mentioned billboards as one of the top five items that caught their attention (out of 18 choices). In a later open-ended question, three drivers mentioned billboards as the single most memorable item on the trip, and two referred specifically to the digital billboards as being memorable. By way of contrast, only 25% of drivers in the Charlotte study checked off billboards in their top five list (of 18 choices), and none mentioned billboards as being the most memorable aspect of the trip. Recall that drivers did not know that the purpose

of the study was to examine performance in the presence of billboards; in fact, they did not know that the study had anything to do with billboards.

Eyeglance results showed that there were no differences in the overall glance patterns (percent eyes-on-road and overall number of glances) between event types (digital billboard, conventional billboard, comparison events, and baseline events). Drivers also did not glance more frequently in the direction of digital billboards than in the direction of other event types. However, drivers did take longer glances in the direction of digital billboards and comparison sites than in the direction of conventional billboards and baseline sites. Given that three of the comparison sites had digital components, the similar eyeglance findings for these two event types are not surprising. An analysis of glances lasting longer than 1.6 seconds showed no obvious differences in the distribution of these longer glances across event types.

There were differences in speed maintenance, with conventional billboards showing greater variation in speed than digital billboards. However, this was thought to be the result of a road type interaction, given that all of the digital billboards were on interstates. When only interstate events were considered in the analysis, there were no significant differences in speed maintenance across event types. There was a trend towards poorer lane keeping performance for digital billboards and conventional billboards; however, this trend failed to reach significance.

A smaller exploratory study was also conducted at nighttime using a slightly shortened route. Given that the digital signs being studied were intrinsically illuminated, this was felt to be an important first step in determining whether there are driver performance differences in the presence of these signs under different levels of ambient illumination. Twelve drivers were used, again divided equally by age and gender. All of the nighttime drivers had previously driven the route during the daytime and were thus somewhat familiar with the route (so were unlikely to get lost or go off route). The nighttime study was exploratory in nature with fewer data points, so these data were examined descriptively rather than analyzed statistically (due to lack of statistical power).

Four eyeglance measures were examined for the nighttime data: eyes-on-road percent, overall glance frequency, mean glance duration in the direction of an event, and mean number of glances in the direction of an event. The eyes-on-road measure showed that digital billboards and comparison events tended to have less eyes-on-road time at nighttime than either baseline events or conventional billboards. The overall glance frequency was also higher in the presence of digital billboards and comparison events than in the presence of baseline events and conventional billboards. These two findings taken together show a more active glance pattern at nighttime in the presence of these two event types. The mean glance duration for glances in the direction of an event also showed higher values for digital billboards and comparison events. Finally, the mean number of glances in the direction of an event also showed digital billboards and comparison events as having higher values than either baseline events or conventional billboards. Taken together, these four findings indicate that digital billboards and comparison events *may* result in more active glance patterns overall, as well as more frequent and longer glances towards the digital billboards and comparison events at nighttime.

Two driving performance measures were examined for the nighttime data: standard deviation of speed and standard deviation of lane position. The standard deviation of speed appeared to be higher in the presence of both conventional and digital billboards than for baseline and comparison events. Lane keeping also showed a trend towards greater lane deviations in the presence of both digital billboards and conventional billboards.

The luminance values of many of the billboards, comparison events, and baseline events were also measured at nighttime. The digital billboards had noticeably higher luminance values than any of the other event types, even though their luminance was automatically reduced at night. This probably explains some of the driver performance findings in the presence of the digital billboards. The overall ranking of luminance by event (digital billboards were the highest, followed in order by comparison events, conventional billboards, and baseline events) closely mirrors the rankings of many of the performance measures for both daytime and nighttime, including eyeglance, speed maintenance, and lane keeping.

The overall conclusion, supported by both the eyeglance results and the questionnaire results, is that the digital billboards seem to attract more attention than the conventional billboards and baseline sites (as shown by a greater number of spontaneous comments regarding the digital billboards and by longer glances in the direction of the billboards). The comparison events, 25% of which included signs with digital components, showed very similar results to the digital billboards. Thus, there appears to be some aspect of the digital billboards and comparison events that holds the driver's attention, once the driver has glanced that way. This is most likely the result of the intrinsic lighting of these signs, which is noticeable even during the daytime. Drivers may also have maintained longer glances towards the digital billboards in the hopes of catching the next message (knowing that the message changes periodically). Although exploratory in nature, the nighttime results were very similar to the daytime results, with indications of degraded driving performance for digital billboards and comparison events.

These particular LED billboards were considered safety-neutral in their design and operation from a human factors perspective: they changed only once every eight seconds, they changed instantaneously with no special effects or video, they looked very much like conventional billboards, and their luminance was attenuated at night. It is thus quite likely that digital signs with video, movement, higher luminance, shorter on-message duration, longer transition times, and special effects would also be related to differences in driver behavior and performance. Because of the lack of crash causation data, no conclusions can be drawn regarding the ultimate safety of digital billboards. Although there are measurable changes in driver performance in the presence of digital billboards, in many cases these differences are on a par with those associated with everyday driving, such as the on-premises signs located at businesses. Conventional billboards were shown both in the current study and in the Charlotte study to be very similar to baseline and comparison events in terms of driver behavior and performance; thus, the design of digital billboards should be kept as similar as possible to conventional billboards.

Attachment X

HAYWARD AREA SHORELINE PLANNING AGENCY

Hayward Area Recreation and Park District
East Bay Regional Park District
City of Hayward

Joint Meeting of Board of Trustees and Citizens Advisory Committee
HARD District Office Conference Room
1099 'E' Street
Hayward, CA 94541

December 17, 2009

DRAFT MINUTES

HASPA TRUSTEES PRESENT:
Bill Quirk, City of Hayward
Carol Severin, East Bay Regional Park District (Chair)
Minane Jameson, Hayward Area Recreation and Park District
Paul Hodges, Hayward Area Recreation and Park District (Alternate)

HASCAC MEMBERS PRESENT:
Martin Eschen (Co-Chair)
Audrey LePell (Co-Chair)
Betty Moose
Allen Bertillion
Ron Barklow
Viola Saima-Barklow
Phil Gordon
Evelyn Cormier
Ned Lyke

HASTAC MEMBERS PRESENT:
Mark Taylor, East Bay Regional Park District
Jennifer Koney, Hayward Area Recreation and Park District
Adrienne De Ponte, Hayward Shoreline Interpretive Center

STAFF:
Mike Anderson, East Bay Regional Park District
Patti Zierman, East Bay Regional Park District
Erik Pearson, City of Hayward

VISITORS:
Frank Delfino
Mark Ragatz, East Bay Regional Park District

Richard Patenaude, City of Hayward Planning Division
Robert Hatton, Clear Channel Outdoor
Becca Rosati, Vox Populi
Dave Goggin
Louis Goggin
Ernest Pacheco, CAP
Erika Castillo, Alameda County Mosquito Abatement
Jeremy Lowe, Philip Williams Associates
Bob Battalio, Philip Williams Associates

1. **Call to Order**
The meeting was called to order at 5:07 by Carol Severin.

2. **Introductions**
Round robin introductions of all those present were made.

3. **Approval of Agenda**
Agenda was approved as submitted.

4. **Minutes for September 10, 2009**
The minutes from the September 10, 2009 meeting were approved as amended below. Moved by Bill Quirk and seconded by Minane Jameson.

Under #9, at the end of the second paragraph, clarify that the fill in the Bay would be next to the levees. The sentence was changed to say: "In order to raise the height of the levees, fill will be placed on the top and along the slopes of the levees thereby making the levees taller and wider."

5. **Report from HASCAC Co-Chair**
Jennifer Kooney reported there will be a Citizens of the Sea Discussion at the Shoreline Interpretive Center on December 19, 2009. The work of two artists who turn plastic items found along the shoreline into art will be on display.

Audrey LePell announced the CAC's acceptance of the retirement of Martin Eschen as co-chair. Betty Moose was unanimously elected to be vice-chair.

At the CAC meeting prior to the HASPA meeting, Dave Goggin gave a presentation on the affects of overall lighting on the Bay, specifically in the area of the proposed Clear Channel Outdoor project.

NEW BUSINESS

6. **CAC Applicant Recommendations**
The CAC recommended to the Trustees that applicants Ernest Pacheco and Frank Delfino be accepted as members of the CAC. Minane Jameson motioned that the applicants be accepted, Bill Quirk seconded the motion. The Trustees unanimously voted in favor of accepting Ernest Pacheco and Frank Delfino into the CAC.

7. **CAC Recommendation for HASPA Name Change**
Audrey LePell reported that during the CAC meeting a motion was made to change the name of HASPA by removing the word Planning and changing it to Protection with a vote of five in favor, two against, and four abstentions. Each Trustee will take the recommended name change to their agency and ask for a resolution.

8. **CAC Recommendations on Amending CAC By-laws Consistent with the Name Change.**
Hold over to the next meeting.

9. **HASPA meeting dates for 2010**
Betty Moose asked if HASPA can meet more frequently. Bill Quirk responded that the CAC can meet more often and can contact the Chair of the Trustees if there is a need for an emergency HASPA meeting.

Suggested meeting dates for 2010 are March 11, June 24, September 23, and December 16, 2010. Bill Quirk moved acceptance of the dates, Carol Severin seconded the motion. All voted in favor.

10. **Clear Channel Billboard Proposal**
City of Hayward Planning Manager Richard Patenaud reported that the date the Clear Channel billboard proposal will go before the Planning Commission has been changed in order to get input from HASPA before completing the environmental document. The new date is January 28, 2010. He said the existing billboard is on the north side of Highway 92 and is perpendicular to the highway. The proposal is to replace the existing billboard with a new LED display billboard, which will be the same size. The westerly facing side, as well as the easterly facing side, will be an LED display. There will be a relocation agreement with the City in which eight billboards will be removed from Mission Blvd. He asked to hear the concerns of the attendees of the meeting. Below are the concerns that were given:

- Provide protection against predatory birds perching on top.
- Put the billboard further inland away from the shoreline.
- Public safety as it applies to traffic accidents from distracted drivers looking at the sign.
- What is Caltrans role? Has its biologist weighed in on the project?
- Evaluation of the cumulative effect of the lights on wildlife from this project and the power plant.
- Will the light provide an unnatural advantage for predators?
- Can we look at the new power plant lighting plan?
- LED signage is so new that the effects are unknown.
- The sign will devalue the park experience.
- Malfunctions/Technical problems – does the sign go all "black "or "white" when it is having technical issues?
- It will degrade the community Image – more like Los Angeles, not a small town.

- What will be the content of the signage – the sign is in full view of visiting school children on a regular basis.
- Can the lighted side face away from salt marsh?
- Address the comments from Brian Holt at East Bay Regional Park District.
- Address the letter from Fish and Wildlife Service.

Robert Hatton from Clear Channel Outdoor distributed a biotic assessment of the project that was prepared by H.T. Harvey & Associates. He said bird roosting is addressed in the report and there is no reason the new sign will have more predatory birds roosting on it than on the current sign. Betty Moose asked what the main purpose of the sign is. Mr. Hatton explained that it will be used for advertising and he said the Economic Development Department from the City of Hayward approached Clear Channel about ways to advertise businesses in Hayward. The City could expand the usage to promote other causes, civic events and emergency messages such as Amber alerts or rerouting of traffic. Betty Moose asked if Caltrans has been informed. Mr. Hatton replied saying the regulations Caltrans has for signage would allow for a digital sign at this location. He said the road has not been designated as scenic or landscaped. Minane Jameson asked who owns the land under the billboard. Mr. Hatton explained that the land is privately owned, industrial zoned property and the owners sold Clear Channel an easement for the sign. Minane Jameson said she can't support the lighted sign at this location based on her research on how the lighted sign will affect wildlife. She would like to see the sign located further east. Mr. Hatton said suitable properties must meet the characteristics the City requires, and there must be a long-term lease for more than 20 years and most property owners won't consider that long of a lease. He said he hasn't looked at any other locations.

Richard Patenaude said no other locations have been investigated and he isn't aware of any City owned property in the area. Carol Severin suggested possibly Caltrans owns some property that could be used. Bill Quirk said the City owns property just east of the overpass where the industrial buildings are located and perhaps the City could possibly give Clear Channel an easement on a spot that is not on the shoreline. He would like Clear Channel and the City to keep an open mind and think about it. Richard Patenaude said there has already been a replacement billboard for CBS close to Johnson Road, and Caltrans requires a 1,000 foot separation. Bill Quirk suggested Salt Way or Pt. Eden Way on the South side of the freeway, or Breakwater Ave. on the north side of the freeway.

Frank Delfino showed photos of the existing billboard and said even the current sign should be removed. He would like alternative sights looked at. Viola Barklow said the H.T. Harvey report was done in September 2008 and they made only two day visits and one night visit. None of the visit dates are during the prime spring or fall migration seasons. Ron Barklow said he is concerned about the experience of park users at night because the LED sign at the Bay Bridge toll plaza looks like it's on fire at night. He is also concerned that the new sign will make it difficult to get into the correct lane at the toll plaza. Evelyn Cormier inquired about what time the lights will come on. Mr. Hatton replied that the lights will be turned off from midnight until 6 a.m., and that the sign will also have dimming technology and "will not put out any more light than the

current sign". He said the sign at the Bay Bridge toll plaza is not Clear Channel's. Phil Gordon said no one knows if there is any data on the existing billboard's affect on birds. He thinks the issues of distraction are very valid, and he spoke to a CHP officer about it because people naturally go towards bright light. He is also concerned because the compound effect of the billboard and the proposed power plant are unknown and because Caltrans has not involved their own biologists to study the impact on traffic. He would like to know if there can be a guarantee that there won't be 8 or 10 bright advertisements in a row? Can the brightness and color of the light be controlled? He also shared concern about the sign being very near the new pedestrian crossover and he said visual affect of the new sign will reach further than the existing sign and will impact migrating birds.

Mike Anderson clarified that this is now a two sided LED sign, not the proposed one sided sign. He said the Park District's stand is that it will have a substantial aesthetic impact on the view shed on the shoreline. He also shared a letter he received from Fish and Wildlife Service indicating there is a concern about the cumulative affect of the power plant and proposed billboard, and the affects it will have on wildlife.

Richard Patenaude said the environmental document will be available December 31st. Mark Taylor clarified that it is an environmental assessment, not an environment impact report. Phil Gordon said digital billboards are not green and he submitted a set of data regarding an analysis of carbon usage for LED signs.

Bill Quirk made a motion that the following requests be sent to the Planning Commission for consideration in their review of the Clear Channel LED sign proposal. He requested that staff present our resolution in an appropriate form and that we all review the minutes and resolution to make sure that we capture the essence of our arguments. 1) Clear Channel make an effort to find alternative sites away from the marsh. 2) Clear Channel will answer the questions regarding the affects the new sign will have on public safety compared to the current conventional sign. 3) The cumulative affect of the power plant lights and LED sign be addressed. 4) Information be provided to the Planning Commission regarding the affect changing LED sign lights have on people and plants and animals in the environment vs. a conventional sign. 5) City staff will ask the Bay Trail Project for comments. 6) No liquor and no cigarette advertisements be allowed. 7) City staff will obtain comments from the environmental consultants H. T. Harvey & Associates on how their evaluation changes now that the proposed sign is two sided rather than the one-sided sign they considered. 8) The Planning Commission consider the much greater energy use in the LED billboard vs. the current billboard. 9) Is there any impact the environment, since the lights will be on during the day as well as the night. 10) Comments from Brian Holt (EBRPD) and USFWS will be addendums to this resolution. 11) City to require anti-perching devices for any billboards in this area.

Robert Hatton from Clear Channel Outdoor agreed that the signs would not have smoking and liquor adds. He did not reject considerations of moving the sign.

Minane Jameson seconded the motion made by Bill Quirk. All voted in favor.

11. **Update on Collecting HASPA History**
Betty Moose explained that this is a continuation of the records from the 20th anniversary celebration. She would like to have a written account of people's knowledge of the history of HASPA, even if it is only one paragraph. She asked Marty Eschen to write about how the name HASPA came about.

UNFINISHED BUSINESS

12. **Presentation of the Sea Level Rise Study**
A presentation was given by Jeremy Lowe from Phillip Williams and Associates (PWA), the consultant hired to write an initial study of the potential affects of the sea level rise on the shoreline in Hayward. He said there are very few such studies on the Bay. He said there is uncertainty in how much sea level will change, but there is certainty that sea level will rise. Even with reductions in green house gas emissions, there will be a sea level rise. He showed a graph of the sea level rise from 1900 to 2000 and the general trend is upwards, seven inches in the last century. Since there is uncertainty in the amount and timing of the sea level rise, the Governor issued an executive order for agencies to use the same numbers, which are reviewed every five years. They aren't necessarily the right numbers, but everyone is using the same numbers

He explained that waves come in and stir up the mud and then the mud goes up onto the marsh. The landward edge of the marsh moves up the land and moves the marsh onward. With a levee, the sediment piles up on the outboard side of the levee and it can't get to the mudflats. The levee doesn't allow the Bay to respond as it normally would. If the marshes disappear in front of the levees, larger waves hit the shoreline and damage it. Larger and larger waves will hit the levees and erode them. Maintaining a levee will cost more because they must be made stronger.

The levees on Hayward shoreline are protecting landfills, utility corridors, trails, sewage treatment plants, storm drainage, and an urban area. As the sea level rises bigger and stronger levees will be needed to protect these areas. Also, the flap gates for storm water channels will need to be modified to keep the water from going back up the channels from the Bay.

To protect the improvements of the shoreline there are three alternative strategies. One strategy would be to hold the line. To do this the levees would need to be armored by increasing the size of the rock on the outward side of the levee and by making the levees taller, which means a wider levee and the structure gets further and further out into the Bay. There isn't another alternative at landfills because they must be protected. Levees can fail, particularly in an earthquake, and if that happened the flood could be catastrophic.

Another option is realignment, take down the levees and build them further back. This creates the salt marsh in front of the new levee. Wave impact can be reduced if a salt marsh is maintained in front of the levee. Wetlands have very high flood protection

value. However, because our marshes are relatively flat it would not be long until the new levee would be overtopped.

A better solution would be to utilize the "fresh" water flowing through the EBDA pipeline to irrigate sediment taken out of flood control channels and marinas and placed over the existing salt water marshes creating brackish water wetland system that can support cattails. This method will result in making large berms with vegetation on them that will reduce the forces of the waves. The berms could be gradually steepened by adding more sediment as the sea level rises creating a dynamic system of shoreline protection.

Betty Moose said ABAG and Bay Trail Project want to be involved with this sea level rise research.

Mike Anderson stated that HAPSA was well ahead of other agencies in considering sea level rise. He thanked Jeremy Lowe from Philip Williams and Associates (PWA) for a study that went well beyond the scope originally envisioned for the study.

Bill Quirk left the meeting as it was running overtime and he had another engagement. He stated that the City of Hayward, HARD, and EBRPD got more than their money's worth, and HASPA should be proud of their role in asking for the report.

13. **Calpine Power Plant Project – Update**

Erik Pearson said the PSD permit from BAAQMD is delayed until January. Calpine submitted a second amendment to modify staging and parking areas for the construction and rerouting of some water and sewer lines. Also, the amendment will bring the Federal and State permits into sync. Mark Taylor asked if the City received a map showing the new laydown areas, Erik said he thinks they are in the appendices. Audrey LePell said the laydown area and the entire site have been expanded.

Ernie Pacheco said the amendment to the CEC relates to HASPA because they are changing where they bring in the natural gas pipe and water pipe. He wants to know what will happen to the foundation and underground pipes as the ground water rises. There are special problems where there is tidal action. He thinks HASPA should comment to the CEC about the groundwater rise issue because the lines need to be built to handle the tidal action. Bob Battalio of Philip Williams Associates mentioned that ground water will also rise and one of the objects in their freshwater linear marsh system was to create a barrier to the salt water so some of the water won't be so salty and corrosive. Audrey LePell asked the Trustees to write a letter to CEC inquiring if it considered inundation. Ernie Pacheco also mentioned that if the FCC changes its rules, planes might be required to fly over the HASPA shoreline because pilots must go upwind of power plant plumes. Mike Anderson said he would draft a letter of comment from HASPA on these issues.

14. **CAC/TAC/Board Comments**

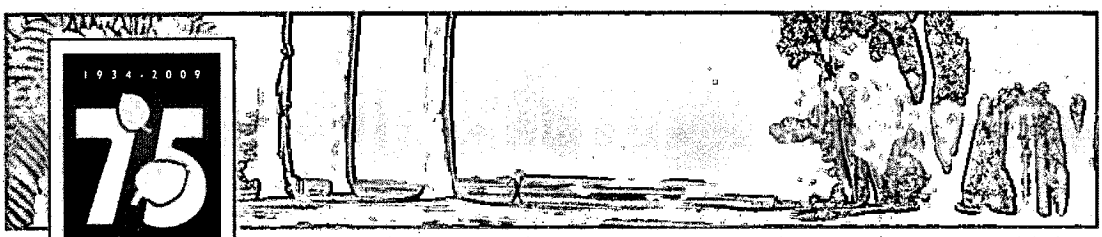
Mark Taylor said Coastal Cleanup Day was successful. He said the Park District was not able to obtain permits from the Corp to repair the levees this year, so the District will have to reapply. Phil Gordon said the annual Christmas bird count is this weekend

and 80 to 90 people will participate. Betty Moose said the Bay Trail Project would like HAPSA to respond to them about its thinking about motor vehicles on the Bay Trail, and have the item on the agenda for the next meeting.

15. **Agenda Building**
HASPA Name Change (action)
LED Billboard - update
Calpine - update
Motor Vehicles on the Bay Trail - informational (Moose)

16. **Public Comments**
None

17. **Adjournment**
Meeting adjourned by Carol Severin at 7:33 pm.



Attachment XI

East Bay Regional Park District

2950 PERALTA OAKS COURT P.O. BOX 5381 OAKLAND CALIFORNIA 94605-0381
T. 1 888 EBPARKS F. 510 569 4319 TDD. 510 633 0460 WWW.EBPARKS.ORG

July 1, 2010

Richard E. Patenaude, AICP
Planning Manager
City of Hayward – Planning Division
777 B Street
Hayward, CA 94541

Subject: **HAYWARD REGIONAL SHORELINE**
LED Billboard Development (PL-2009-0200 SPR) – Mitigated Negative Declaration

Dear Mr. Patenaude:

The East Bay Regional Park District (the 'District') has had the opportunity to review the Initial Study and Mitigated Negative Declaration (IS/MND) for the proposed development of an LED billboard. The project proposes removal of existing billboards along Foothill and Mission Boulevard and replacement of the existing billboard off of Breakwater Avenue with a two sided digital LED billboard. The digital LED billboard would be located directly adjacent to the Hayward Regional Shoreline. The APN listed as the project location appears to be incorrect. According to the City of Hayward's GIS mapping system, APN 439-0099-017-03 is located to the west of the site with an existing billboard and is owned by the State of California.

The District has commented before regarding the installation of structures on the Hayward Shoreline that negatively impact the aesthetics and biologic resources of the shoreline. While the District applauds the City for removing billboards throughout the City, it should not be done to the detriment of one of the City's most vital scenic and biotic resources.

The District urges the City to fully evaluate and disclose all of the potential effects of development of a digital billboard on the shoreline and to explore all possible alternatives. The current IS/MND is inadequate in that it relies upon unsupported conclusions and fails to provide any analysis of the projects impacts. Further, the document does not adequately describe the project or provide visual simulations necessary to assess the aesthetic effects.

The City should explore alternatives in a manner that avoids the potential significant impacts of development of a digital billboard at one of the City's most scenic and biologically rich areas. Please feel free to contact me at (510) 544-2623 or bholt@ebparks.org should you have any questions.

Respectfully,

Brian W. Holt, AICP
Senior Planner

RECEIVED
JUL 02 2010
PLANNING DIVISION

Cc: Robert Doyle – AGM
Mark Taylor – Park Supervisor
Hayward Area Shoreline Planning Agency (HASPA)

Attachment XII

United States Department of the Interior

FISH AND WILDLIFE SERVICE
San Francisco Bay National Wildlife Refuge Complex
9500 Thornton Avenue
Newark, California 94560

December 17, 2009

Mike Anderson, HASPA
c/o East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, CA 94605-0381

SUBJECT: Comments regarding the Mission Boulevard Sign Relocation Proposal

Dear Mr. Anderson:

The Don Edwards San Francisco Bay National Wildlife Refuge (Refuge) would like to comment on the proposal to relocate Mission Boulevard signage and convert signs to digital technology. We have some concerns with the potential impacts of the proposal.

The comments of the Refuge are in relation to the resources of our agency. While public safety is a concern, we will rely on CalTrans and other agencies to comment on the issues of traffic accidents from distracted drivers looking at the sign. As adjacent landowners and managers we are concerned about the effects this type of sign might have on the wildlife in the area, which includes endangered species such as the California clapper rail, salt marsh harvest mouse, and western snowy plover. In addition, thousands of migratory shorebirds and waterfowl use Hayward Area Recreation and Park District (HARD), California Department of Fish and Game and East Bay Regional Parks properties in the adjacent areas.

There has been no analysis on the cumulative effect of the power plant and this project, in addition to the other the lights and structures around the marsh in this area. LED signage is a relatively new development, and the effects of this type of signage on wildlife are unknown. Would the light provide an unnatural advantage for predators? How do migratory birds relate to this type of lighting? Would they avoid the area or be drawn to the lights? Also, what are the anticipated maintenance needs and environmental impacts (e.g., noise, vibrations) required of this type of signage? This type of sign would seem to draw away from the experience of being in the HARD park area, one of the few, relatively "natural" areas open to the public in this part of the East Bay.

Thank you for including our comments. Because of the potential impact to federally-listed species, we recommend that you coordinate with the Ecological Service Division of the Fish and Wildlife office in Sacramento at (916) 414-6600. Please keep us informed of this process,

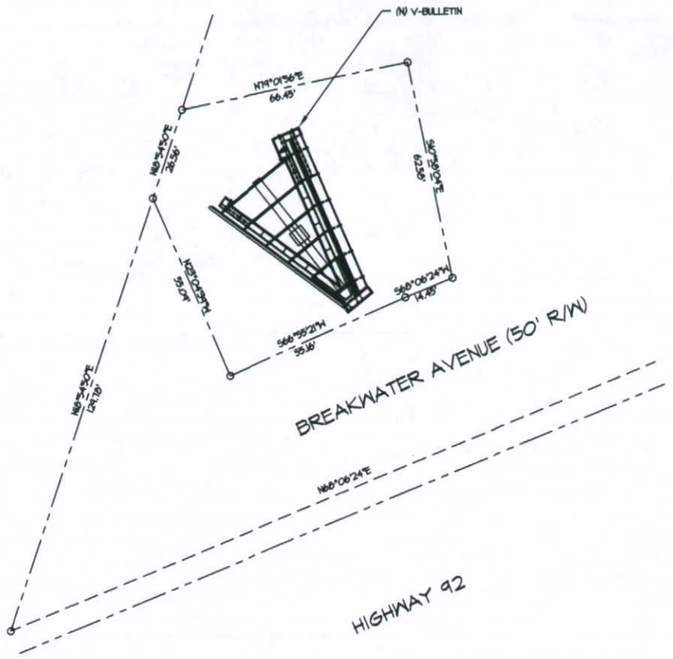
especially any future opportunities to provide comment. If you have questions regarding our comments, please contact me at 510-792-0222.

Sincerely,

Eric C. Mruz

Digitally signed by Eric Mruz
DN: cn=Eric Mruz, o=US Fish and Wildlife Service, ou=Don Edwards San Francisco Bay NWR, email=eric_mruz@fws.gov, c=US
Date: 2009.12.17 10:35:58 -08'00'

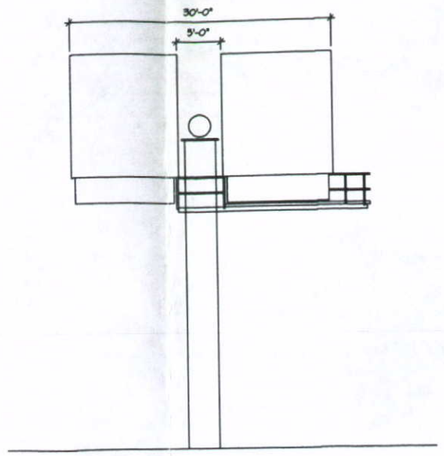
Eric Mruz
Refuge Manager,
Don Edwards San Francisco Bay
National Wildlife Refuge



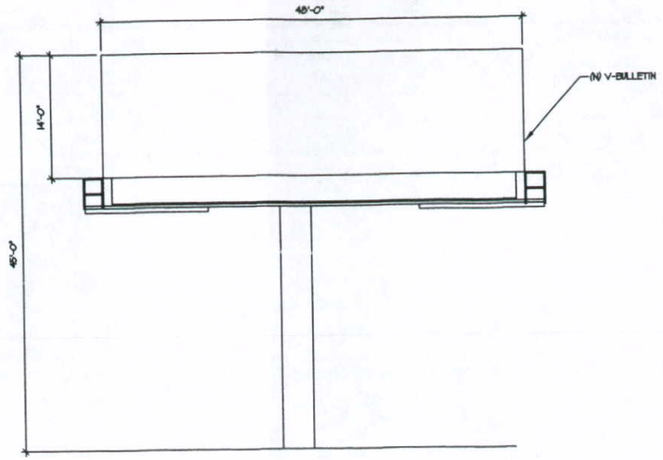
SITE PLAN
1" = 20'-0"

NORTH

LEGEND
(E) EXISTING CONSTRUCTION
(N) NEW CONSTRUCTION



SOUTH ELEVATION
1/8" = 1'-0"



EAST ELEVATION
1/8" = 1'-0"

VICINITY MAP
NTS

N

Project #
PL-2009-0200 SPR

evision	Date	By	App'd	

THOMAS P. CHRISTIAN Structural Engineer
267 Fourth Street / Oakland, California 94607 / 510-452-2488

BULLETIN REPLACEMENT
BREAKWATER AVE., HAYWARD
CLEAR CHANNEL OUTDOOR

SITE PLAN, ELEVATIONS,
GENERAL NOTES & VICINITY MAP

Drawn By	TC
Date	4/9/09
Approved By	
Project No.	T04001

Revision △
Sheet No.
1 of 1