[Revised 6/03/13]

VISUAL IMPACT ASSESSMENT
Islais Creek Bridge Rehabilitation Project

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California Department of Transportation

City and County of San Francisco, CA
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Federal Project No. BHLO-5934 (168)

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Statement of Compliance: Produced in compliance with National Environmental Policy Act (NEPA) to meet the level of analysis and documentation that has been determined necessary for this project.

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PURPOSE OF STUDY AND ASSESSMENT METHOD

The purpose of this visual impact assessment (VIA) is to document potential visual impacts caused by the proposed project and propose measures to lessen any detrimental impacts that are identified. Visual impacts are demonstrated by identifying visual resources in the project area, measuring the amount of change that would occur as a result of the project, and predicting how the affected public would respond to or perceive those changes. This visual impact assessment follows the guidance outlined in the publication *Visual Impact Assessment for Highway Projects* published by the Federal Highway Administration (FHWA) in March 1981.

REGULATORY SETTING

The National Environmental Policy Act (NEPA) of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and aesthetically (emphasis added) and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). To further emphasize this point, the Federal Highway Administration (FHWA), in its implementation of NEPA (23 USC 109[h]), directs that final decisions on projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

PROJECT DESCRIPTION

San Francisco Public Works (SFPW) is proposing to replace the superstructure of the Islais Creek Bridge (Bridge No. 34C0024) (officially named the Levon Hagop Nishkian Bridge) along Third Street in the City and County of San Francisco (CCSF). The bridge is approximately 1,700 feet east of Interstate 280, and approximately 3,300 feet west of San Francisco Bay (the Bay). The bridge spans the Islais Creek Channel, a dredged, channelized, tidal embayment with predominantly armored shorelines that extends from the Bay to the site of the former outfall of the now culverted and buried Islais Creek.

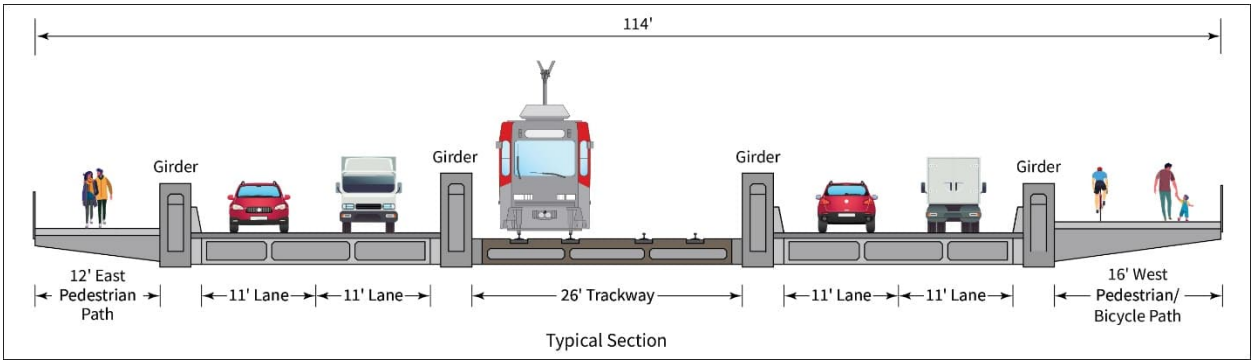
The existing bridge is a double-leaf bascule structure (drawbridge) constructed in 1949 with an open steel-grate roadway draining to the bay, and concrete abutments. It is approximately 114 feet long and 100 feet wide. A California Department of Transportation evaluation in 2004 determined that the bridge was significant as an example of Art Moderne style applied to a bridge.

The project area is very susceptible to seismic liquefaction and the condition of the bridge's structural system is poor. The bridge originally carried only vehicular traffic, but now additionally carries MUNI light-rail tracks. The deteriorated condition of the bridge makes the bridge deck susceptible to vibration induced by heavy vehicles, trucks, and light-rail vehicles crossing the span.

The areas surrounding Islais Creek are at risk of flooding from heavy rainfall events, coastal storm surge, and wave hazards, which will be exacerbated by sea-levels rise and rising groundwater. The steel sections of the bridge are increasingly subject to the deleterious effects of corrosion and saltwater intrusion.

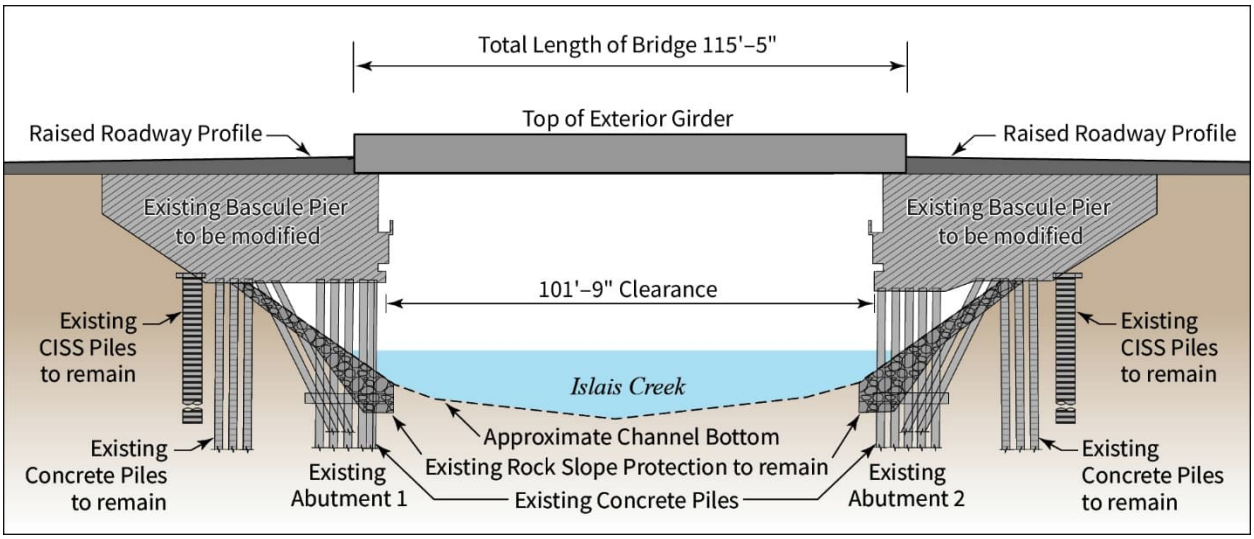
The Standard Project Alternative will remove the existing drawbridge leaves, which have not been opened for navigation for over ten years, and all other drawbridge features. These will be replaced by a single-span concrete through-girder bridge with a concrete deck at a higher elevation to improve freeboard for flood flows and to accommodate sea-level rise.

Figure 1: Proposed Bridge Cross Section



In addition to dedicated light-rail-vehicle trackways and two 11-foot travel lanes in each direction, the bridge will support a 12-foot-wide pedestrian path on its eastern side and a 16-foot-wide Class I shared pedestrian/bicycle path on its western side. The reconstructed trackway and roadway will be designed to convey surface runoff to the existing combined sewer/stormwater system. The control tower will be demolished down to the sidewalk level and the remaining portion will be used to create a public observation platform.

Figure 2: Proposed Bridge Longitudinal Section



The project's accommodation of a shared bicycle/pedestrian facility (Class I or Class IV) is based on advanced planning between the San Francisco Public Utilities Commission, Port of San Francisco, and the San Francisco Municipal Transportation Agency in response to opportunities presented by the removal of the bridge's drawbridge function per the City's *Islais Creek Southeast Mobility Adaptation Strategy*). Although not yet officially designated a bicycle facility, the Islais Creek Bridge and portion of Third Street connecting to Cargo Way will be adopted as part of the updated San Francisco Bicycle Network and citywide active transportation plan that is currently under way and expected to be completed in 2024.

Besides the Standard project alternative described above, there are two other alternatives under consideration.

Under the project's No Build Alternative, no modifications will be made to the Islais Creek Bridge; only routine maintenance will be performed. Deterioration will continue to be addressed through short-term remedies but existing bridge structural and seismic deficiencies will remain and worsen. There will be no increase in bridge freeboard, so flood risks to the bridge and light-rail operations will remain and will increase with sea-level rise.

The Partial Preservation Alternative includes the project features described above for the Proposed Project, but will include salvage, rehabilitation, and reinstallation of as many of the historic character-defining features of the original bridge as feasible. If it is determined that for reasons of safety, construction standards, or sound engineering practice any of the character-defining features are not salvageable for reinstallation, these elements will be replicated with substitute materials to recreate the historic appearance. The Control Tower will be retained, its foundation and window system retrofitted, and its damaged concrete repaired.

A more extensive description of the project and its alternatives is available in the project's Environmental Assessment.

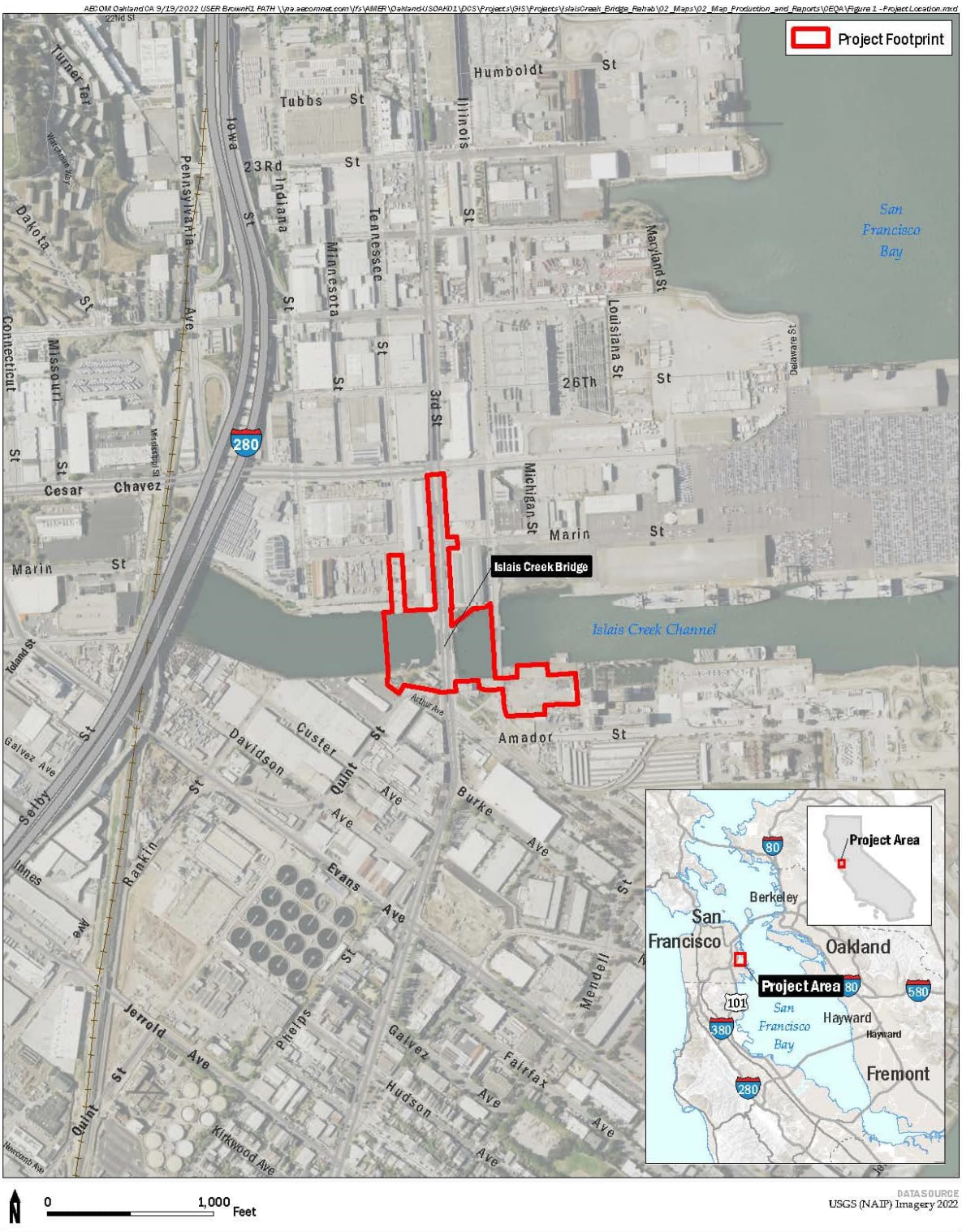
Construction will last 24 months and is assumed to begin no sooner than spring 2025. Bridge closure is expected to last the duration of construction. Detours that will route traffic to arterials that have capacity for the additional vehicles will be established to re-route traffic around the construction site. Detour routes will be developed during final design. The City of San Francisco will develop plans for substitute forms of transit to provide a comparable level of service during construction. The most probable replacement for disrupted light-rail service is a temporary bus service. Construction is anticipated to use typical eight-hour work shifts during daylight hours; nighttime and weekend construction is not anticipated. In addition to staging areas on the bridge approaches and on anchored barges, three potential off-site construction staging area options owned by the Port of San Francisco that are currently used for Port-related industrial purposes have been identified.

PROJECT LOCATION AND SETTING

The project location and setting provide context for determining the type of changes to the existing visual environment. The project corridor is defined as the area of land that is visible from, adjacent to, and outside the roadway right-of-way, and is determined by topography, vegetation, and viewing distance.

The Islais Creek Bridge is on Third Street over the Islais Creek Channel in the Bayview neighborhood of San Francisco (Figure 3). The bridge is approximately 1,700 feet east of Interstate 280 (I-280), and approximately 3,300 feet west of San Francisco Bay (the Bay). Third Street is a major arterial connecting the downtown area to the industrial area of the southern San Francisco waterfront. The channel is a dredged, channelized, tidal embayment with predominantly armored shorelines. It extends from the Bay to the site of the former outfall of the culverted and buried Islais Creek.

Figure 3: Project Area



The landscape surrounding the project area is characterized by expansive views both east and west of the bridge. Foreground views to the east of the bridge include the Islais Creek Channel, the Illinois Street Bridge, shipping cranes at the Port of San Francisco, and abandoned grain silos that contain the mural Bayview Rise at Port Pier 92; middle ground and background views to the east of the bridge include the Bay and the distant Oakland hills (Figure 4). Foreground views west of the bridge include the Islais Creek Channel, Islais Creek Park and shoreline access, and the I-280 bridge that crosses the channel; middle ground and background views to the west of the bridge include Bernal Heights Park and Sutro Tower on top of Twin Peaks (Figure 5). Foreground views both north of and south of the bridge include low-rise warehouse development with more distant views of Rincon Hill high-rises to the north and the hills of Bayview Hunters Point to the south (Figures 6 and 7, respectively).

Land uses in the project area are a mix of low-rise commercial and light industrial. There is a SFMTA bus facility northwest of the bridge, a fire station (San Francisco Fire Station 25) in the southeastern quadrant, and a concrete batch plant and Port of San Francisco uses east of the bridge. Several wastewater treatment system assets are situated along the channel. The San Francisco Public Utilities Commission outfall from the Southeast Treatment Plant, and the Booster Pump Station are just southwest of the bridge. The outfall pipes run across the creek adjacent to the bridge (below the channel) and along the northern side of the channel to the Bay.

Figure 4: View from Islais Creek Bridge facing East
Photo Date August 27, 2015.

Figure 5: View from North End of Islais Creek Bridge facing West
Photo Date May 28, 2022.

Figure 6: View from Islais Creek Bridge facing North
Photo Date April 26, 2022.

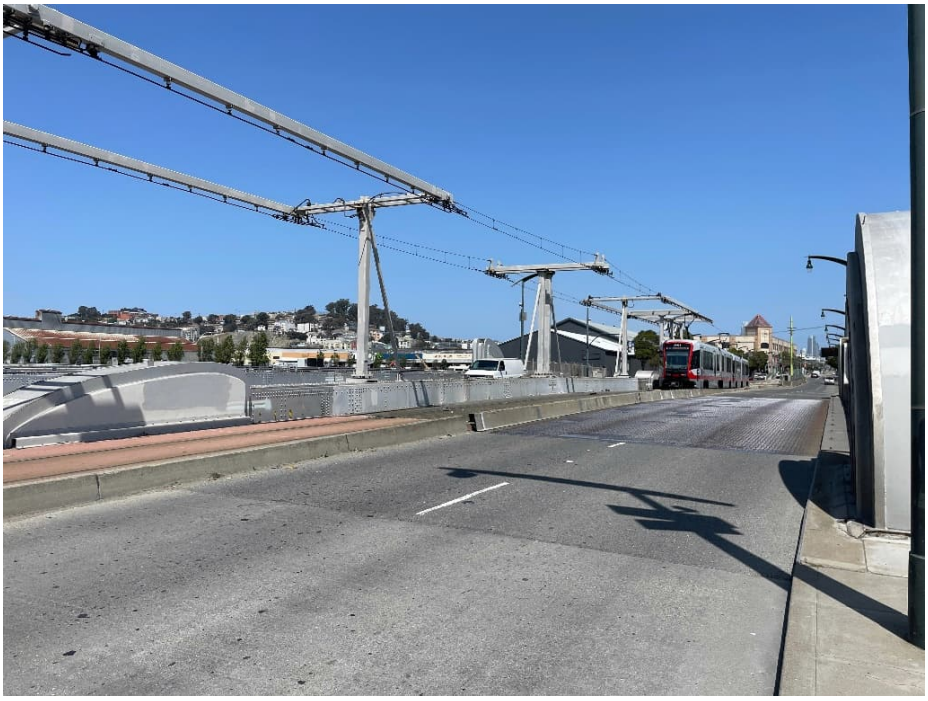


Figure 7: View from Islais Creek Bridge facing South
Photo Date May 28, 2022.

Bayview Gateway (which includes Rosa Parks Skate Plaza) on Illinois Street north of Cargo Way is a Port of San Francisco facility that is actively in use as a recreation area; Tulare Park is a Port of San Francisco open-space area on the north side of the channel between Third Street and Illinois Street constructed in the early 1970s that has not been maintained and is without any currently funded projects to address its current state of disrepair; and Islais Creek Park at the corner of Third Street and Arthur Avenue is a Port of San Francisco open space and recreational area maintained by a non-profit paddling club who act as park stewards in exchange for space for a boat-storage area. Islais Creek Park also includes a high-freeboard dock and adjoining gravel beach which constitute "Water Trail Backbone Site" SF4 of the San Francisco Bay Area Water Trail Plan administered principally by the State Coastal Conservancy.

In the vicinity of the project, I-280 is an Eligible Scenic Highway (Caltrans 2022). The City of San Francisco's General Plan does not contain a Scenic Highways Element. However, its Urban Design Element includes policies related to the protection of major views of open space and water in the city and the protection and reinforcement of the existing street patterns (City/County of San Francisco 2022). The Urban Design Element also includes policies to promote and maintain landscaping in public and private areas and improve pedestrian areas by providing features along streets to support pedestrian activity.

VISUAL RESOURCES AND RESOURCE CHANGE

Visual resources of the project setting are defined and identified below by assessing *visual character* and *visual quality* in the project corridor. *Resource change* is assessed by evaluating the visual character and the visual quality of the visual resources that comprise the project corridor before and after the construction of the project.

Visual Character. The visual character of either the Standard Project Alternative or the Partial Preservation Alternative will be compatible with the existing visual character of the corridor. Visual character includes attributes such as form, line, color, texture, and is used to describe, not evaluate; that is these attributes are neither considered good nor bad. However, a change in visual character can be evaluated when it is compared with the viewer response to that change. Changes in visual character can be identified by how visually compatible a proposed project would be with the existing condition by using visual character attributes as an indicator. For this project the following attributes were considered:

- Form – visual mass or shape
- Lines – edges or linear definition
- Texture – surface coarseness
- Color – reflective brightness (light, dark) and hue (red, green)

The form of the project area is dominated by roadways, bridges, open space, and urban/low-rise warehouse development. Both the Standard Project Alternative and the Partial Preservation Alternative would maintain the horizontal geometry of the existing bridge, roadway, and sidewalk. Although the vertical profile of the roadway and LRT trackway would be modified under both build alternatives to improve freeboard for flood flows and accommodate sea-level rise, the increase in the profile would not result in a substantial change to the form of the bridge or the project area. The most noticeable change in the form of the bridge and immediate project area associated with implementation of the Standard Project Alternative would be the loss of the quarter-circle gear housings on the bridge deck and the control tower. Under the Partial Preservation Alternative, the quarter-circle gear housings on the bridge deck would either be retained or replicated and the control tower would be retained.

The lines of the project area include those of the existing Islais Creek Bridge, Illinois Street Bridge, I-280, and local arterial roads. These existing lines will not be altered by the project since the existing Islais Creek Bridge would be replaced with a similar type of structure under both build alternatives.

Visual texture in the project area is marked by a mixture of manmade structures; roadways; and naturally occurring features such as the Islais Creek Channel, street trees, the Bay, and hills. The modifications to the existing Islais Creek Bridge included in the build alternatives would not alter the visual texture of the project area, as the texture of project components would not contrast with existing textures.

Existing color, represented by reflective brightness (light, dark) and hue (red, green), will not be altered by the either the Standard Project Alternative or the Partial Preservation Alternative. The colors of the project area are primarily composed of grays, greens, and browns. The build alternates do not include new features such as retaining walls, cuts and fills, or removal of existing landscaping and would therefore not change the balance of colors in the project area. New sources of light and glare may be introduced through the proposed lighting. However, the proposed lighting would be configured at the minimum necessary illumination level and optimal angle to restrict light to the paved roadway and shared pedestrian/bicycle path, thus reducing glare. New lighting will be visible to users of the bridge at night, but the lighting will not be visible to nearby residents, as views from the nearest houses are blocked by existing buildings.

Visual Quality. Visual quality is evaluated by identifying the vividness, intactness, and unity present in the project corridor. Public attitudes validate the assessed level of quality and predict how changes to the project corridor can affect these attitudes. This process helps identify specific methods for addressing each visual impact that may occur as a result of the project. The three criteria for evaluating visual quality are defined below:

- Vividness – the extent to which the landscape is memorable and is associated with distinctive, contrasting, and diverse visual elements

- Intactness – the integrity of visual features in the landscape and the extent to which the existing landscape is free from non-typical visual intrusions
- Unity – the extent to which all visual elements combine to form a coherent, harmonious visual pattern

The visual quality of the existing corridor will not be altered by the Standard Project Alternative or the Partial Preservation Alternative.

The existing vividness of the project area is moderate. The project area is marked by diverse views of the natural and urban environment, including the channel and the Bay, open space areas, low-rise warehouse and industrial development, and distant views of low-rise residential uses. The replacement of the bridge deck and removal of the control tower (with the Standard Project Alternative only) would not detract from the vividness of the project area. Therefore, the level of vividness would remain moderate with implementation of either build alternative.

The level of intactness of the visual environment is moderate. Structures such as the I-280 overcrossing to the west and the abandoned grain silos and shipping cranes at the Port of San Francisco to the east and are prominent within the viewshed of the project area. The build alternatives do not include features that would alter this intactness. The level of intactness with the Standard Project Alternative or the Partial Preservation Alternative would remain moderate.

The existing unity of the project area is also moderate, due to the presence of natural, industrial, and urban features. The level of unity with the project would remain moderate, as none of the project features included in either build alternative would substantially alter or interrupt the existing visual pattern.

Resource Change. Resource change (changes to visual resources as measured by changes in visual character and visual quality) would be moderate-low (Standard Project Alternative) or low (Partial Preservation Alternative). Within the immediate area of the bridge, the Standard Project Alternative would make minor modifications to form, lines, texture, vividness, intactness, and unity due to the loss of the quarter-circle gear housings on the bridge deck and the control tower. These minor changes would not occur with the Partial Preservation Alternative. However, neither of the build alternatives include features that would alter the visual character or reduce the visual quality of the surrounding environment.

VIEWERS AND VIEWER RESPONSE

Individuals that may be affected by visual impacts of a project are referred to as *viewers.* Viewers for this project include neighbors and bridge users. *Neighbors* (people with views *to* the road) and *bridge users* (people with views *from* the bridge) may be affected by the project. The extent to which viewers are affected by a project is quantified using viewer exposure and viewer sensitivity. Viewer exposure refers to the ability of an individual to see project elements, and viewer sensitivity refers to an individual's recognition of a particular object.

BRIDGE NEIGHBORS (Views *to* the Bridge)

Bridge neighbors are people who have views *to* the bridge. Due to the built-up urban nature of the project area, views to the bridge are limited. For this project the following bridge neighbors were considered:

- Users of the recreational and open space areas along the banks of the Islais Creek channel.
- Travelers along the Illinois Street Bridge and the northbound I-280 freeway bridge.

Users of recreational and open space areas along the banks of the Islais Creek channel are likely to have a high level of familiarity with the surrounding environment, and a direct line of site towards the bridge.

Consequently, this group is likely to have high viewer exposure and viewer sensitivity. Travelers along the Illinois Street Bridge and the northbound I-280 freeway bridge have low viewer exposure and low viewer sensitivity. Users of the Illinois Street Bridge would have limited exposure to the Islais Creek Bridge while crossing on Illinois Street. Users of I-280 would have limited exposure to the Islais Creek Bridge due to topographic conditions and the high rate of speed of these users.

BRIDGE USERS (Views *from* the Bridge)

Bridge users are people who have views *from* the bridge. They can be subdivided into different viewer groups in two different ways—by mode of travel or by reason for travel. For example, subdividing bridge users by mode of travel may yield pedestrians, bicyclists, transit riders, car drivers and passengers, and truck drivers. Dividing bridge users or viewer groups by reason for travel creates categories like tourists, commuters, and haulers. For this project the following bridge users were considered:

- Regular commuters that travel frequently along the corridor
- Pedestrians and bicyclists that use the bridge

Bridge users have low viewer exposure and low viewer sensitivity. Travelers crossing the bridge may notice superficial changes to the immediate area, such as the change in lane widths and size of girders, the change in bridge material (steel roadway deck to concrete), and the loss of the quarter-circle gear housings on the bridge deck and the control tower under the Standard Project Alternative. None of these features would substantially alter the view from the bridge. In addition, this group would have a low degree of exposure due to the short duration of travel through the project area.

VISUAL IMPACT

Visual impacts are determined by assessing changes to the visual resources and predicting viewer response to those changes.

No Build Alternative

The No Build Alternative would have no inherent temporary or permanent impacts on the visual character and quality of the project area.

Short-Term Construction Impacts

As described above, construction staging would occur on the bridge approaches along Third Street. The contractor would use these areas for staging equipment and materials during the demolition of the existing structure components and the construction of the replacement bridge. Construction staging would also occur on barges anchored in the channel and on one of three potential off-site construction staging areas. These construction staging areas could result in short-term visual impacts within the project corridor. However, these impacts would cease at the end of construction. The potential short-term visual impacts are considered to be moderate.

Long-Term Operational Impacts

Implementation of the Standard Project Alternative or the Partial Preservation Alternative will result in low changes to the project corridor. Both of the build alternatives will result in a replacement bridge structure along the existing roadway network within the project corridor.

Stationary viewers (users of the recreational and open space areas) will have long-term views to the new bridge structure and will have a high viewer sensitivity. However, the new bridge structure will be similar

in design to the existing bridge, and existing views of the channel will remain similar to existing conditions, albeit without the quarter-circle gear housings on the bridge deck and the control tower under the Standard Project Alternative. Although the new bridge will be wider than the existing bridge (114 feet verses 100 feet), this additional massing will accommodate pedestrians and bicyclists, rather than travel lanes and will have only a minor effect on views to the bridge. Other than removal of the control tower under the Standard Project Alternative, after construction, the project area's appearance would remain similar to the existing visual character of the site. Project features visible to the public would represent only minor changes in the existing character of the bridge and bridge approaches. None of the project features would be incompatible with the existing roadway and urban visual environment. The anticipated viewer response to the project from these viewers is high. Thus, these resultant visual impacts are low.

Changes along the project corridor that will be visible by motorists, bicyclists, pedestrians, and residents will include the new bridge structure and loss of the quarter-circle gear housings on the bridge deck and the control tower under the Standard Project Alternative. These features would be retained under the Partial Preservation Alternative. Motorists and local street users (pedestrians and bicyclists) are anticipated to have moderate visual responses to the proposed changes in the project corridor. All project features would be constructed in existing public rights-of-way and no existing vegetation would be removed during or after construction. Existing views of the Islais Creek channel from the bridge will remain upon implementation of the project. Thus, implementation of either the Standard Project Alternative or the Partial Preservation Alternative is anticipated to result in low long-term visual impacts.

Scenic Vistas

There are no designated scenic vistas in the project area.

State Scenic Highways

I-280 is the nearest designated State Eligible Scenic Highway to the project site, located approximately 1,700 feet west of the bridge. Views to the project site from I-280 are limited to travelers along the northbound lanes of the freeway due to topographic conditions. Thus, the project features will not substantially degrade scenic resources along a State Eligible Scenic Highway. No impact will result in this regard.

Light and Glare

The project area currently experiences lighting typical of urban areas. The primary source of light and glare in the area is from streetlights, pedestrian lighting, and motor vehicle headlights. Both the Standard Project Alternative and the Partial Preservation Alternative include bridge lighting for pedestrian safety. The new lighting will be consistent with the City's design guidelines and Municipal Code. Thus, the proposed lighting will be similar to existing conditions, and a low visual impact associated with light and glare will occur with both build alternatives.

AVOIDANCE AND MINIMIZATION MEASURES

Avoidance or minimization measures have been identified and can lessen visual impacts caused by short-term construction impacts. The following measure to avoid or minimize visual impacts will be incorporated into the project:

MM-1 All construction staging areas shall be sited and/or screened with temporary fencing in order to minimize public views to the maximum extent feasible. The fencing shall be comprised of opaque material to shield views from surrounding sensitive viewers.

CONCLUSIONS

Implementation of either the Standard Project Alternative or the Partial Preservation Alternative will result in moderate temporary visual impacts, and low long-term visual impacts. With implementation of the recommended minimization measure, moderate temporary visual impacts will be further reduced.

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Caltrans 2004. Department of Parks and Recreation Primary Record. Third Street Bridge over Islais Creek. June.

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