

VISUAL IMPACT ASSESSMENT

Little River Trail

December 2021

California Department of Transportation
District 1, Humboldt County, Route 101
01-HUM-101-96.96-97.83
Federal Project No. 01-0J280



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Statement of Compliance: Produced in compliance with National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) requirements, as appropriate, 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 Little River Trail Project (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 VIA follows the guidance outlined in the publication *Visual Impact Assessment for Highway Projects* published by the Federal Highway Administration (FHWA) in March 1981.

Industry-standard methods were used to help ensure the accuracy of photo-simulations and other project representations that inform the subsequent analysis. These methods included the following:

- A field survey was conducted August 13, 2021, to obtain project key view simulation photography using a full-frame digital camera equipped with a fixed 50mm lens. This lens produces images that closely approximates what the human eye sees in focus within a fixed view.
- Construction of a three-dimensional digital model of the proposed project improvements using preliminary engineering files.
- Composition of simulated views that overlay existing, removed, and proposed project elements within the corridor.

As shown in Figure 1, three key views (KVs) were selected to depict visual changes to the project area:

- KV 1 is located on Clam Beach Drive and U.S. Highway 101 (US 101) looking north-northeast from the proposed location of the southern trailhead. This provides a view of the project from Clam Beach Drive, where the southern portion of the project would be visible from highway viewers.
- KV 2 is located at the US 101 Clam Beach Drive off-ramp looking southwest. This provides a view of the project from the US 101 off-ramp, where the project would be visible on the west side of the road.
- KV 3 is located on US 101 looking south-southwest. This is representative of viewers traveling along US 101. The project would be visible and extend across the view.

In addition, a character view (CV), which is not relied upon in the formal visual analysis as a KV, serves to supplement discussions of visual character.

Conditions visible in photographs collected reflect a marine layer typical for the project area during this time of year, as well as smoke from nearby wildfires inland from the area.

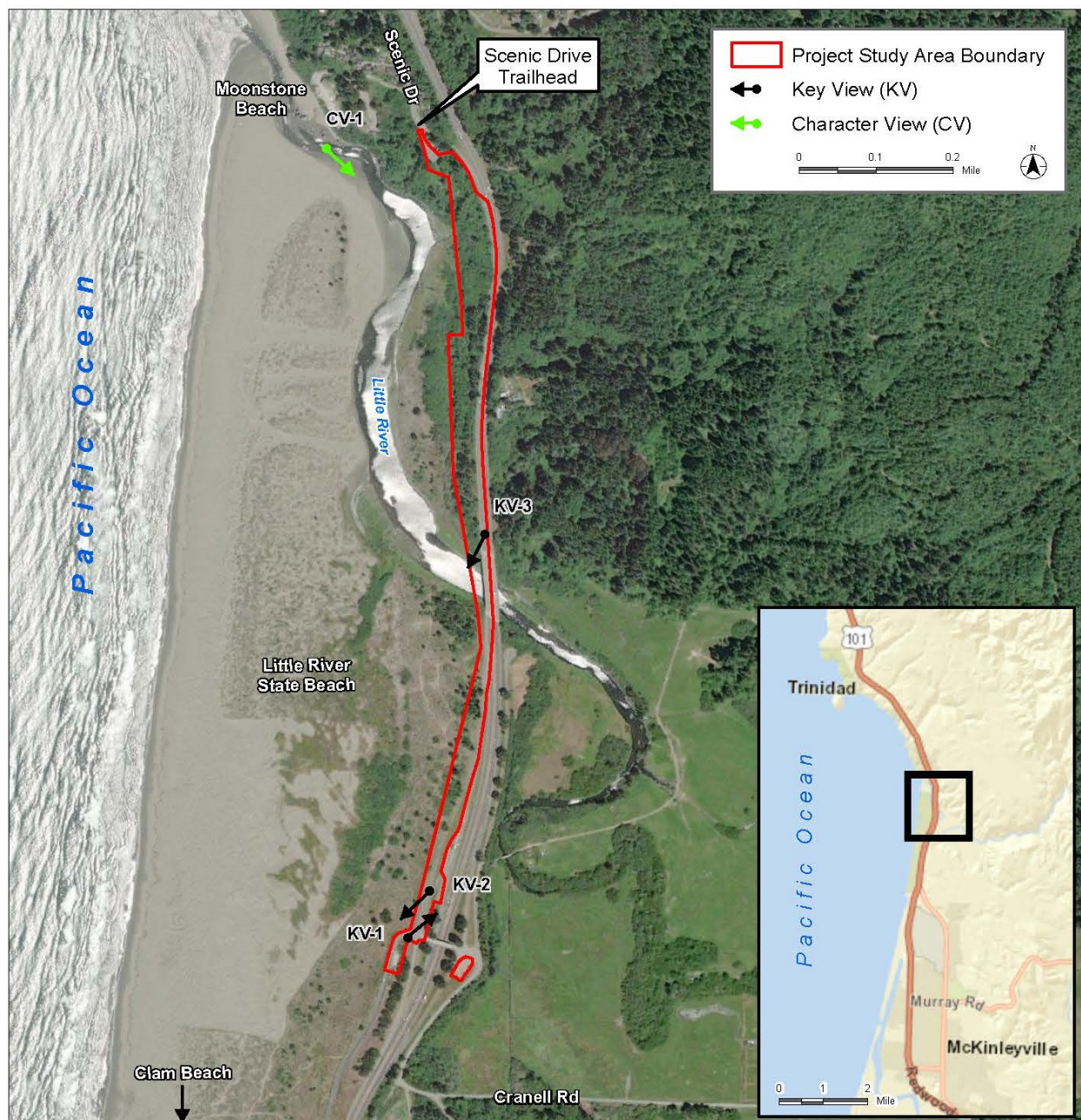


Figure 1: Project Location and Viewpoints

PROJECT DESCRIPTION

The project proposes to construct an approximately 1-mile Class I Bike Path (i.e., pedestrian and bicycle trail) from Scenic Drive to Clam Beach. The trail would be a paved pathway, alternating between an approximately 10-foot-wide trail (5 feet per travel lane) with 2-foot-wide shoulders on either side and an approximately 8-foot-wide trail (4 feet per travel lane) with 2-

foot-wide shoulders on either side, depending on-site constraints. The trail would cross the Little River via the existing US 101 bridge, which would be widened to accommodate the additional width required for the trail.

The project is being designed in accordance with the California Department of Transportation (Caltrans) Highway Design Manual, 7th Edition (Caltrans 2020). In addition, the project would be designed in accordance with other specific applicable standards, including the California Manual on Uniform Traffic Control Devices (Caltrans 2021a) and the Americans with Disabilities Act Standards for Accessible Design (Department of Justice 2010).

The project includes the components described below. These details are consistent with the project as described in the November 2021 draft of the Natural Environment Study being prepared for the project.

Geotechnical Investigations

A Preliminary Foundation Report has been prepared for the Project and includes a review of geologic literature for the area, site reconnaissance and geologic mapping, results from shallow hand auger borings, review of historic photos of US 101 construction, review of proposed retaining wall concepts, and preliminary geotechnical recommendations (SHN 2021). The Preliminary Foundation Report the proposed trail alignment is comprised of highway fill related to the modern, late 1960s highway alignment, unconsolidated alluvium, floodplain alluvium, beach/dune deposits, Falor Formation, and Franciscan Complex mélange. The Preliminary Foundation Report notes trail development will require removal of unsuitable (unstable) soils and imported fill and/or engineered fill and may require geotextiles.

Consistent with the recommendations of the Preliminary Foundation Report, additional geotechnical investigations are required during the project design phase in order to obtain necessary information to support retaining wall type selection and design. The investigation would occur north of Little River, between the Scenic Drive trailhead and the Little River. The geotechnical investigations would employ drill rigs and ancillary equipment and would require tree and vegetation removal along the trail alignment for access. Any excess sediments that result from geological investigations are expected to be relatively small in quantity and would be hauled offsite by the contractor for legal disposal or reuse.

Retaining Walls

Two retaining walls would be necessary to maintain accessible slopes and minimize the construction footprint along the northern trail alignment between the Scenic Drive trailhead and the Little River. The final retaining wall design would follow further geotechnical investigations. Construction scenarios for the retaining walls are summarized below and include a soldier pile wall with ground anchors, cantilever soldier pile walls, a mechanically stabilized earth (MSE) wall, and a concrete boardwalk structure. More than one retaining wall construction scenario may be included in the final design, which would also determine the final number, length, and heights of required retaining wall structures. The retaining wall structures would not be easily visible since there is no access or use on the west side of the trail.

The location and stationing of retaining walls may adjust in the future as the design progresses. However, based on the 30% design, the northern retaining wall is proposed from Station 50+41 to Station 57+86.

The trail would cross an existing culvert (perennial unnamed tributary) at Station 46+06. To separate the trail from the culvert outlet, a second retaining wall would be constructed near the unnamed tributary (Station 45+86 to Station 46+38), ensuring the trail does not encroach into the stream. The retaining wall would be located approximately ten feet upslope and upstream of the unnamed tributary, on top of the existing buried culvert. One large Sitka spruce would be removed in order to construct the retaining wall.

Retaining walls would not be necessary on the sand slopes adjacent to portions of the southern end of the proposed trail alignment (the southbound US 101 off-ramp between the Little River and Crannell Road). Based on field reconnaissance, the subject sand slopes adjacent to US 101 have gradients slightly steeper than the angle of repose due to root reinforcement associated with significant ground cover vegetation (SHN 2021).

Soldier Pile Wall with Ground Anchors

The soldier pile wall construction scenario would include a retaining wall on the western edge of the trail only. Soldier piles would be installed in a drilled hole approximately 18 feet below grade and anchored into the ground with horizontal ground anchors. A lagging would extend above the soldier piles, above grade. A structural concrete water beam and concrete cap would be installed on top of the lagging, resulting in a total above grade height of approximately 8 feet, although final structure heights would vary based on-site-specific conditions and final designs. A safety railing would be attached to the structural concrete cap. Temporary sheet piling would be installed on the western and eastern edge of the trail to facilitate the drilling process for the soldier piles and construction of the retaining wall.

Cantilever Soldier Pile Wall 14-Foot Design Height

The 14-foot maximum design height cantilever soldier pile wall includes retaining structures on both the western and eastern edge of the trail. On the western edge, soldier piles would be installed in a drilled hole approximately 30 feet below grade and anchored into the ground. A lagging would be installed on top of the soldier piles above grade, with a maximum height limit of 14 feet. A concrete cap and safety railing would be installed on top of the lagging. Temporary sheet piling would be installed on the western and eastern edge of the trail to facilitate the drilling process for the soldier piles and construction of the retaining wall.

Cantilever Soldier Pile Wall 12-Foot Design Height

The 12-foot maximum design height cantilever soldier pile wall includes retaining structures on both the western and eastern edge of the trail. On the western edge, soldier piles would be installed in a drilled hole approximately 20 feet below grade and anchored into the ground. Lagging would be installed on top of the soldier piles above grade, with a maximum height limit of 12 feet. A concrete cap and safety railing would be installed on top of the lagging. A concrete retaining wall would also be constructed on the eastern edge of the trail with an above-grade height of approximately 6 feet. Temporary sheet piling would be installed on the western

and eastern edge of the trail to facilitate the drilling process for the soldier piles and construction of the retaining wall.

Mechanically Stabilized Earth Wall

An MSE wall approximately 18 feet tall would be constructed on the eastern edge of the trail to retain the cutslope above and below grade. On the western edge of the trail, MSE wall panels approximately 16 feet tall would be installed below existing grade to elevate and retain the trail. The MSE wall would be capped with structural concrete and a safety railing.

Concrete Boardwalk Structure

Cast-in-drilled-hole piles approximately 16 feet tall would be installed below grade with a drill rig. The piles would be topped with bent caps approximately 2 feet tall to form the base of the trail. The bent caps would be topped with an 8-inch-thick concrete slab.

Grading and Fill

Grading would need to occur along the entire trail alignment to achieve accessible slopes and suitable trail width. Similarly, fill would be placed and compacted along the alignment to establish the trail prism.

Barrier Installation

South of the Little River, barriers may be installed to separate the trail from US 101 or the Crannell Road off-ramp. Crash cushions or similar safety modifications may be installed at the end of the barriers in coordination with Caltrans.

Ancillary Trail Features Construction

Ancillary trail features, such as lookouts or other nature viewing areas, would be constructed adjacent to the primary alignment. Ancillary trail features may include benches, interpretive signage, and other features related to public access and education. Ancillary trail features would include up to three nature viewing areas are anticipated for this project, preliminarily being located at Stations 19+50, 34+00, and 59+50. These areas would not be visible from US 101. The footprint of each nature viewing area, including the trail to access the area would be approximately 1,000 square feet in size. Each area would likely contain one to two benches, a picnic table, a trash/recycling receptacle, and interpretive signage.

US Route 101 Little River Crossing

The trail would cross the Little River via the existing US 101 bridge. The existing travel lanes would be reconfigured to support the multiuse trail. The bridge deck would be widened two feet on the western edge. Additional pilings or in-water work would not be required to support reconfiguring the travel lanes or widening the bridge deck. The existing lanes would be reconfigured to accommodate a 10-foot trail in addition to Caltrans standard shoulder and travel lane widths (Figure 1). As a result of the widening and lane shifts, the bridge and portions of US 101 immediately north and south of the bridge would need to be repaved and restriped. To accommodate lane shifts on the bridge, the existing vegetation in the median between the

northbound and southbound lanes of US 101 in these areas would be removed and replaced with pavement. The existing barrier between the travel lanes would be replaced and extended.

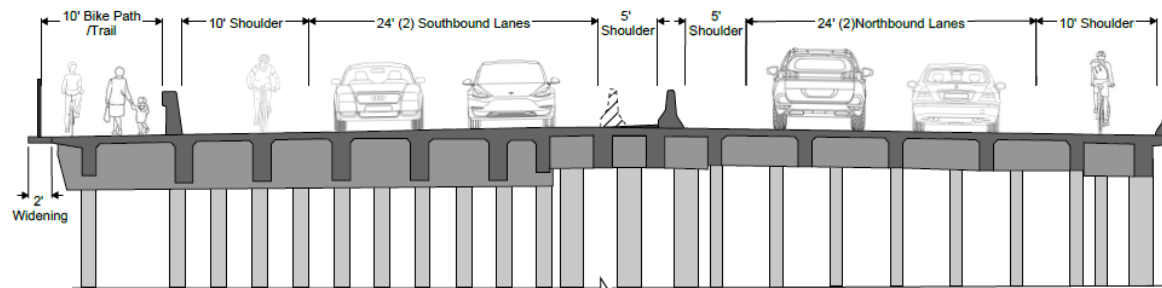


Figure 2: Conceptual Overview of Little River Bridge Design Approach

Bridge deck widening would include removing the existing concrete bridge barrier and installing additional concrete reinforcement, a new barrier, and railings to widen the bridge by approximately 2 feet. To widen the bridge, a temporary shoulder closure would be established with a k-rail for the duration of work. A temporary work platform and debris containment system would be installed below the existing bridge deck using a snoopers truck on the bridge deck, which would require lane closure. Overhanging brackets to support the platform and debris containment system would be installed on the face of the existing edge girder using drilled-in anchors. The existing concrete barrier and edge of the deck would be removed by chipping. Existing reinforcement bars would be extended with mechanical couplers. Formwork would be installed below the edge of the bridge deck. Bridge reinforcement would be completed, followed by pouring a widened deck. Forms would be stripped, and the railing would be installed. The temporary work platform would be removed, and drill holes would be patched using a snoopers truck from the bridge deck.

Temporary lane closures on the US 101 Little River Bridge would be required for bridge widening, barrier construction, and striping. Temporary lane closures would follow Caltrans requirements for temporary roadway closures, including signage and public noticing.

Drainage and Stormwater Improvements

The Class 1 facility will be exempt from municipal separate storm sewer system requirements. The trail would be constructed to mimic the existing site topography and be outsloped to the maximum extent feasible. In localized areas where outsloping is not feasible, traditional drainage inlets and storm drainage piping would be deployed to convey stormwater through the trail prism. Stormwater would be discharged through energy dissipation devices such as riprap aprons and/or outlet basins to prevent scour, protect the outlet structure, and minimize the potential for downstream erosion. A drainage inlet located adjacent to the US 101 off-ramp and one located just north of the Little River Bridge in the highway median would need to be modified to accommodate planned improvements for this project. Additionally, trenching for storm drain pipes and related infrastructure is proposed in the following locations:

- New drainage inlets along US 101 southbound off-ramp from Station 7+50, Station 10+50, and Station 13+60;
- New drainage piping along US 101 southbound off-ramp from Station 7+50 to Station 13+60;
- The existing drainage inlet located just north of the Little River bridge (at Station 32+20) would be moved north approximately 150 feet along the US 101, which would also require the installation of approximately 150 feet of new storm drain piping from Station 32+20 to Station 33+70; and
- Two drainage inlets with downdrains along the retaining wall at Station 50+50, Station 53+00, and Station 55+50, along the northern trail segment.

Utility Relocation

One Caltrans streetlight located approximately at Station 16+60 south of the Little River along the US 101 off-ramp would be relocated outside the trail footprint in coordination with Caltrans.

Striping and Signage

The trail would include required striping and signage in order to comply with the California Manual on Uniform Traffic Control Devices (Caltrans 2021a). Striping and directional signage would indicate two travel directions.

Signage to direct southbound cyclists to exit northbound US 101 in Trinidad to access the trail may also be incorporated. Interpretive signage along the trail would promote education of the coastal resources and surrounding environment.

Trail Lighting

The project would include streetlight installation at either trailhead and in key locations to improve safety. Any exterior lighting would be designed to protect wildlife and nighttime views, including views of the night sky. The project would be designed to be consistent with the recommendations of the International Dark-Sky Association, which includes standards for fixtures, shielding, wattage, placement, height, and illumination levels. To comply with these requirements, lighting for the project would use the minimum lumens necessary; and it would be directed downward, shielded, and at pedestrian level when feasible. This would help ensure lighting is contained within the site and does not cause significant lighting and glare impacts for surrounding land uses and sensitive habitat areas.

Trenching for the new streetlight pole at the southern end of the trail would include connecting the existing streetlight (at the California Highway Patrol weigh station) at Station 9+60 to the proposed new streetlight pole location at Station 5+40. The trench would be approximately 1 foot wide, 3 feet deep, and 310 feet long. Between station 5+40 and 7+60 the trench would be located under the trail. At station 7+60 the trench would turn to the east and cross through the southbound off ramp and then through an open vegetated area before connecting to the existing street light near the weigh station.

Trenching for the new streetlight pole at the northern end of the trail would connect to the existing power pole at Station 60+20 to the proposed new streetlight pole location at Station 60+30. The pathway of the trench is anticipated to be a straight line from the existing power pole to the proposed light pole. The trench would be approximately 1 foot wide, 3 feet deep, and 60 feet long.

Trailhead Development

Travel lanes at both trailheads would be divided to enhance user safety and discourage motorized vehicles from inadvertently entering the trail. Trailhead improvements would include signage, striping for parking, and additional trail amenities such as benches or picnic tables. At the Scenic Drive trailhead, parking spaces may be delineated within the existing cul-de-sac footprint. The existing Clam Beach parking area near the southern trailhead would continue to be used. At the southern trailhead on the western side of US 101 off-ramp at Clam Beach Drive, a bulb-out would be constructed adjacent to the bike path.

Additional parking at the southern trailhead is not proposed. Crosswalks and shoulder striping improvements may be installed along Clam Beach Road to improve safety between the existing parking area and the new trailhead in coordination with Caltrans and Humboldt County.

Mountable Apron at Southern Trailhead

A mountable apron would be constructed between the southern trailhead and the US 101 southbound off-ramp.

Construction Schedule

Construction would occur within a single construction season. If feasible, vegetation clearing would occur first prior to construction, between September 2 and February 14 (outside of the special-status bird nesting period). Construction would require up to 8 months, beginning in March, and concluding by October 15. The year of planned construction has not yet been determined, pending the allocation of funding for the project.

Construction Activities and Equipment

Equipment required for construction would include drill rigs, concrete mixer and pump trucks, all terrain forklifts, snooper truck, compressors, tracked excavators, backhoes, graders, bulldozers, dump trucks, skid steers, and pick-up trucks. Jackhammers or similar pieces of equipment may be necessary to support bridge widening. It is not anticipated that any temporary utility extensions, such as electric power or water, would be required for trail construction. Trenching and ground disturbance in support of utility connection for relocated and new lighting is anticipated. Water would be used for dust control, compaction, and revegetation.

Construction Access

The project would be accessed via US 101, Scenic Drive, and Clam Beach Drive. No new access roads would need to be constructed to implement the project.

Establish Exclusion Areas and Erosion Control

Sensitive biological areas would be excluded with protective fencing prior to construction, except for areas that would be unavoidably impacted during construction. Erosion control Best Management Practices (BMPs) would also be installed prior to construction.

Vegetation Removal

Clearing and grubbing of vegetation would occur within the construction footprint, including tree removal north of the Little River. During project design, contractors mapped trees 6 inches in diameter at breast height (dbh) or greater. One hundred seventeen (117) trees that are 6-inch dbh or greater would be removed to clear the proposed alignment for trail installation, many of which are Sitka spruce (*Picea sitchensis*) and other native species. One larger Sitka spruce near the unnamed tributary would also be removed. Otherwise, no additional trees (riparian habitat) would need to be removed near the unnamed tributary. Final tree removal numbers by species may be adjusted as the design progresses.

Stockpiling and Staging

Stockpiling and staging would occur in an existing graveled area east of US 101, near Clam Beach Drive at the south end of the project. Stockpiling and staging would also occur within the cul-de-sac at the terminus of Scenic Drive at the north end of the project. Stockpiling and staging areas are located within the existing project area boundary in developed areas and would not require grading. Within the stockpiling and staging areas, BMPs would be used to prevent construction materials and hazardous materials from impacting the environment. Stockpiling and staging is not planned to occur on State Parks property.

Excess soils, aggregate road base, and construction materials would be stored on-site within designated stockpiling and staging areas. Excess materials may be re-used on-site for backfill and finished grading. Excess materials would not be stockpiled on-site once the project is complete. The contractor would haul additional excess materials off-site for beneficial reuse, recycling, or legal disposal.

Groundwater Dewatering

Groundwater dewatering is generally not expected to be required. However, if needed, temporary groundwater dewatering would involve pumping water out of a trench or excavation area. Groundwater would typically be pumped to a settling pond, Baker tanks (or other similar type of settling tank), or into a dewatering bag. The water may also be percolated back into the ground in the uplands. Discharge to regulated waters would not occur.

Site Restoration and Closure

Following construction, the contractor would demobilize and remove equipment, supplies, and construction wastes. The disturbed areas would be restored to pre-construction conditions or stabilized with a combination of grass seed (through broadcasting or hydroseeding), straw mulch, rolled erosion control fabric, and revegetation. Disturbed areas resulting from construction in the undeveloped area west of the Crannell Road off-ramp would be revegetated

with appropriate native species. Revegetation would include replanting and compliance monitoring if mitigation is required by resource agencies for impacts to sensitive habitats.

PROJECT LOCATION AND SETTING

The project location and setting provides the context for determining the type of changes to the existing visual environment. The proposed project is located on US 101 between post miles 96.96 and 97.83, between the communities of McKinleyville and Trinidad in Humboldt County, California. The project study area is approximately 1 mile long and is located alongside US 101 and the Pacific Ocean. It is shown on the Crannell, California U.S. Geological Survey 7.5' quadrangle (Figure 1). The northern extent of the project study area is located near where Scenic Drive intersects with US 101, while the southern extent is located at Clam Beach Drive. The entire alignment would be located within the Caltrans right-of-way, with the exception of the most northern section, which would be located within the Trinidad Coastal Land Trust property. Caltrans would acquire the right-of-way from the Trinidad Coastal Land Trust property, either in fee or in as a permanent easement. The project is located in both the State and Appeal Zone jurisdiction of the Coastal Zone; thus, a consolidated Coastal Development Permit would be submitted to the California Coastal Commission.

The landscape is characterized by a stream floodplain and fresh emergent wetland/riparian habitat that is associated with the Little River. The topography raises up to an upland terrace south, north, and east of the Little River. Little River generally has a broad floodplain, except near the US 101 bridge where it is steep. The elevation ranges from 0 to about 80 feet above mean sea level. The land use within the project corridor is primarily US 101 and a few other roads, natural resources, and recreation on the adjacent public beaches and the Little River State Beach that generally border the alignment to the west. Aside from US 101, the project area is generally undeveloped and does not include residential, commercial, or other public facilities. The project corridor is defined as the area of land that is visible from, adjacent to, and outside the highway right-of-way; and it is determined by topography, vegetation, and viewing distance.

Humboldt County and the project area are located along the Pacific Ocean coastline, which allows for a wide range of scenic vistas from US 101, beaches, state parks, and coastal access points. The entire length of US 101 in Humboldt County is listed in Sections 263.1 through 263.8 of the California Streets and Highways Code as eligible for scenic highway designation (Caltrans 2021b).

VISUAL RESOURCES AND RESOURCE CHANGE

Visual resources of the project setting are defined and identified below by assessing visual character¹ and visual quality² in the project corridor. Resource change is assessed by evaluating the visual character and the visual quality of the visual resources that compose the project corridor before and after the construction of the proposed project.

Of the project components described in the Project Description, the most visible would be the segments of the proposed trail added to the Little River Bridge and the area adjacent to the US 101 southbound off-ramp at Clam Beach Drive, including the new southern trailhead. Trailhead design features, new barriers along the bridge and in the median, and vegetation removal west of US 101 and within the highway median north and south of the bridge would be visible, as described further in this section.

The visual character of the proposed project would be compatible with the existing visual character of the corridor. The linear form, color, and materials of the new bike path and associated striping, signage, lighting, and materials are similar in form, color, and material to the existing roadway. The existing roadway and metal guard rail and barrier are shades of gray; new walls and concrete and metal barriers and striping of the roadway and bike path would present a much lighter grey and uniform texture, with additional lighting, signage, and striping. The bike path and striping would increase the visual dominance of the roadway with the addition of a light gray vertical concrete barrier and bike path. On the south end of the project, the construction of the bike path, bulb out, signage, and concrete barrier would change the form of the roadway edge on the side of the roadway from varied and natural to fixed. Construction is anticipated to represent a slight reduction in compatibility of visual character due to removal of mature vegetation west of US 101. However, vegetation is dense in this area; and surrounding vegetation would remain.

The visual quality of the existing corridor would not be substantially altered by the proposed project. The bike path and concrete barrier would present a taller, much lighter gray and uniform texture than the existing metal guard rail. The bike path and the associated lighting, signage, and striping would increase the visual dominance of the roadway and increase the vividness, intactness, and unity of the setting. Permanent removal of mature vegetation along US 101 to the west is expected. However, visual quality is expected to remain equivalent to the existing corridor; and vividness of views may remain similar due to open views from US 101 and the surrounding dense vegetation that would remain.

¹ A project site's visual character is informed by basic attributes such as form, line, color, and texture. Depending on a view's elements and composition, concepts such as dominance, scale, diversity, and continuity may also be incorporated into descriptions of visual character. These attributes serve as the basis for discussion of a project's compatibility with existing visual character.

² Visual quality is evaluated by identifying the vividness, intactness, and unity present in the project area. Vividness is the extent to which the landscape is memorable and is associated with distinctive, contrasting, and diverse visual elements. Intactness is the integrity of visual features in the landscape and the extent to which the existing landscape is free from non-typical visual intrusions. Unity is the extent to which all visual elements combine to form a coherent, harmonious visual pattern.

Temporary changes, including construction and grading activities, would temporarily reduce visual quality; this reduction in quality would be addressed with minimization measures coordinated with rehabilitation of vegetated areas (see Avoidance and Minimization Measures).

Resource Change (changes to visual resources as measured by changes in visual character and visual quality) would be moderate.

VIEWERS AND VIEWER RESPONSE

Neighbors, visitors, and highway users would be affected by the proposed project to varying degrees.

Neighbors include residents at the north end of the project on Scenic Drive. Views to the project from Scenic Drive are heavily screened by existing vegetation, and viewers are expected to have low viewer exposure and a moderate viewer sensitivity to visual change.

Visitors include viewers who have traveled to Moonstone Beach County Park, Little River State Beach, Clam Beach County Park, Moonstone Crossing Winery on Moonstone Cross Road, and other local businesses. Visitors are expected to have low viewer exposure due to the screening of existing vegetation from the beaches and businesses to the project location. Visitors are expected to have a low viewer sensitivity to visual changes.

Highway users is the largest group of viewers and includes workers (e.g., commuters), tourists, and residents. Workers and residents would experience a high viewer exposure due to longer duration of exposure and because a moderate level of visual change is expected following completion of the work. Tourists are likely to have lower viewer sensitivity to visual change because the viewer group is not anticipated to be highly familiar with the visual conditions of the existing location. Highway users overall would have a moderate viewer exposure due to travel speeds and because the focus of passenger travelers is anticipated to be on views beyond the roadway.

It is anticipated that the average response of all viewer groups would be moderate-low.

Additional users of the project include the recreationists who would eventually use the pedestrian and bicycle trail. This VIA does not assess impacts to views from the trail since there are no existing comparative views on which to base such assessment. Recreationists would have relatively higher sensitivity and response to visual change.

Any future visual change to viewer experience along the trail would be assessed against the baseline existing conditions proposed by project design. Under such conditions, cleared vegetation would provide intermittently unobstructed views toward the ocean, while retained vegetation would, in many areas (particularly north of the bridge) serve to screen views of the highway from the trail. Views by recreationists of project facilities would primarily include design features as described, including trailhead facilities and, atop retaining walls and along the bridge, picket fencing consisting of steel balusters (spaced for low opacity so that viewers can see through the rods to the area beyond). However, trail and bridge infrastructure beneath the trail itself, such as an MSE wall or wall panels other retaining walls, backfill, or any outward

facing architectural treatment included in final engineering and design would be below grade or otherwise out of pedestrian and bicyclist fields of view.

VISUAL IMPACT

Visual impacts are determined by assessing changes to the visual resources and predicting viewer response to those changes. Resource change in VIAs ranges from low to high. This rating is considered in the context of presumed response from the primary viewer group or groups in the area in order to determine the overall impact for each representative view.

Build Alternative

Temporary construction impacts and visual changes would be greater than permanent visual changes associated with the project due to temporary lane closures, the appearance of construction equipment, materials staging, and construction light and glare. Disturbed areas resulting from construction in the undeveloped area west of the Crannell Road off-ramp would be revegetated with appropriate native species.

Three KVs were selected that would most clearly demonstrate the permanent change to visual resources from the project (Figure 1). The KVs also represent the viewer groups that have the highest potential to be affected by the project considering exposure and sensitivity.

Key View 1—Existing Visual Condition

The existing view from KV 1 is located on Clam Beach Drive and US 101 looking north-northeast from the proposed location of the southern trailhead. Figure 3 provides a view of the project from Clam Beach Drive, where the southern portion of the project would be visible to roadway viewers. Primary viewers here would be visitors traveling to Clam Beach and other coastal areas.

The visual environment is comprised of the roadway and related infrastructure, including the metal guard rail and fence, signage, streetlights and other infrastructure in the distance, trees and vegetation on both sides of the roadway, and views of a line of dense mature tree vegetation in the background. The trees and vegetation on both sides of the roadway and vegetation in the median soften the appearance of the infrastructure by introducing texture, color, and reducing the apparent scale and dominance of the roadway elements. The color palette is dominated by the gray of the roadway. Vegetation adjacent to the roadway and in the background introduces greens, browns, yellows, and seasonal variations of color in the spring and fall months.

Existing visual conditions exhibit a moderate vividness, with no unique built features and a notable line of dense mature trees in the background. Views have a moderate-low degree of intactness. The linear components of the roadway and off-ramp appear bounded by vegetation; however, signage and fencing in the foreground and streetlights in the background extend into the view's backdrop, which appears otherwise entirely vegetated. Views have moderate unity, with coherent composition of an off ramp and roadside vegetation elements.

Key View 1—Resource Change

The visual conditions at KV 1 would be altered by the addition of the bike path and associated grading, guard rail, concrete barrier, traffic bulb-out, striping, signage, and streetlight. The bike path, concrete barrier, and guard rail would be similar in color to the adjacent roadway infrastructure; but it would have different form, line, color, and texture of the natural vegetation it would replace. The project also introduces a new form of scale and dominance in the view and would slightly alter the character of the existing view from a somewhat naturalized, vegetated view to a slightly more built-form view, particularly with the obstruction caused by the new streetlight pole, addition of the traffic bulb out, and signage. The intactness and unity of the view of the dense mature tree line in the distance would be reduced. The overall level of resource change is expected to be moderate.



Figure 3: KV 1 Existing View and Simulated Conditions. The view is to the north-northeast from the top of the US 101 off-ramp at Clam Beach Drive.

Key View 2—Existing Visual Condition

The existing view from KV 2 is located at the US 101 Clam Beach Drive off-ramp looking southwest (Figure 4) toward the proposed trail. This provides a view of the project from the US 101 off-ramp, where the project would be visible on the west side of the road. Because this view approximates that from the highway, the primary viewers here would be highway users. The visual environment is comprised of the roadway and related infrastructure and the vegetation adjacent to the roadway, such as the grasses, berm, natural vegetation, and trees. The grasses, trees, and natural landscape provide a moderate degree of texture. The color palette is dominated by the gray of the roadway. Vegetation adjacent to the roadway introduces greens, browns, yellows, with some seasonal variations of color in the spring and fall months.

Existing visual conditions exhibit a moderate vividness, with no unique built features but some variety vegetation. Views have a moderate-low degree of intactness and unity due to the multilinear character of the roadway intersection and the signs and fencing appearing from this vantage point outside of the roadway corridor.

Key View 2—Resource Change

The visual conditions at this KV would be altered by the addition of the bike path and associated grading, a concrete barrier, traffic bulb-out, striping, signage, and streetlight. The bike path, concrete barrier, and guard rail would be similar in color to adjacent roadway infrastructure; however, the project would be different in form, line, color, and texture of the natural vegetation it would replace. The project also introduces a new form of scale and dominance in the view and would slightly alter the character of the existing view from a somewhat naturalized vegetated view to a slightly more built-form view with a mostly linear character, particularly with the addition of the vertical concrete barrier that introduces a thick, white band across the view, the traffic bulb out, striping, and signage. The overall level of resource change is expected to be moderate.



Figure 4: KV 2 Existing View and Simulated Conditions. The view is to the southwest from the US 101 Clam Beach Drive off-ramp.

Key View 3—Existing Visual Condition

KV 3 is located on US 101 looking south-southwest toward the Little River bridge and proposed trail. This is representative of viewers traveling along US 101. The project would be visible and extend across the view (Figure 5). The primary viewers here would be highway users, which likely include neighbors in nearby residential areas who have just entered the highway.

The visual environment is comprised of the roadway and related infrastructure, including the metal guard rail and fence, signage, streetlights, mature trees, vegetation, and grasses adjacent to the roadway. The trees, vegetation, and grasses adjacent to the roadway soften the appearance of the infrastructure by introducing texture and color and reducing the apparent scale and dominance of the infrastructure elements. The color palette is dominated by the gray of the roadway, and vegetation adjacent to the roadway introduces greens, browns, yellows, and seasonal variations of color in the spring and fall months.

Existing visual conditions exhibit a moderate vividness, intactness, and unity. The visible built features are not memorable, but the roadside vegetation reduces the scale of the roadway and introduces texture. The overall composition of the view is coherent, showing a highway corridor bounded by a more natural-appearing landscape.

Key View 3—Resource Change

The visual conditions at KV 3 would be altered by the removal of mature trees in the view and the addition of the bike path, guard rail, striping, and signage. The bike path, concrete barrier, and guard rail would be similar in color to adjacent roadway infrastructure. The construction of the project would necessitate the removal of mature trees in the view. Although the dense vegetation would remain, the removal of the mature trees would break the pattern of trees framing the roadway and result in more visibility of the sky, power lines, and potential ocean views. The overall level of resource change is expected to be moderate.



Figure 5: KV 3 Existing View and Simulated Conditions. The view is to the south-southwest from the southbound lane of US 101, just north of the Little River Bridge.

Summary of Visual Impacts

Scenic Vistas

Important scenic vistas and resources in Humboldt County include those that are visible from major public roadways and public areas, such as views of the coast, forests, open space or agricultural lands, historic districts, landmarks, and cultural sites. Coastal views are assumed scenic vistas even though, to date, scenic resources in Humboldt County have not been mapped (Humboldt County 2017). US 101 in the project area is an eligible Scenic Highway. However, scenic vistas have not been established in the project corridor; views of the coast are not visible from the project; and the project would not introduce elements that would constitute visual intrusions into nor obscure or change the coastal views.

As shown in the views from KV 1 and KV 3, views of the dense tree lines would be slightly changed. In the view from KV 1, the project signage, streetlight, and bike path infrastructure slightly alter the character of the existing foreground from a somewhat naturalized, vegetated view to a slightly more built-form view and would reduce the intactness and unity of the view of the dense mature tree line in the background. In addition, approximately 117 trees that are 6-inch dbh or greater would be removed to clear the proposed one-mile alignment for trail installation, many of which are Sitka spruce and other native species. The 117 trees to be removed would be located throughout the one-mile alignment, avoiding a significant visual change in a single location only. As shown in the view from KV 3, even though dense vegetation would remain, the removal of the mature trees would break the pattern of trees adjacent to the roadway and would result in more visibility of the sky, power lines, and potential ocean views. Because adjacent, similarly dense but differently sized vegetation would remain visible, this would not constitute substantial damage to scenic resources. These visual changes would not be significant, and lack of designation as a scenic vista do not constitute a significant visual concern.

Scenic Resources

The US 101 within the project corridor is eligible for designation as a State Scenic Highway. However, there are no officially designated scenic roadways within the project alignment; and no scenic resources or views in the project corridor have been designated as such. In addition, the project is not located near any rock outcroppings or historic buildings. The project would not affect these types of scenic resources.

Visual Character

Highway users would experience short-term visual impacts, adding visual intrusion and disturbances to the project area due to presence of construction equipment and machinery stationed within the project limits. Tree removal, as shown in the view from KV 3, would have a moderate visual impact on the existing visual character, as the existing trees are mature and help to soften the view by offsetting the scale and visual dominance of the roadway. The remaining vegetation would continue to do so, but to a lesser extent.

Visibility of the project would be limited to the immediate area in which viewers are located and would be obscured from other locations by topography and vegetation. Views toward the

project from adjacent public viewing areas (e.g., Little River State Beach and Moonstone Beach County Park) show that there would be little to no change in the view from beach areas. For visitors and recreational users at Little River State Beach, the bike path added to the bridge would be barely noticeable and would not appear out of character with the existing roadway corridor. The project would be visible to the north and south of the bridge mainly as the removal of a relatively thin, horizontal band of trees to accommodate the trail. Given the sloped location and adjacent vegetation that would remain in view, this removal would likely be difficult to discern in views from the west. The northern trail segment would be even more difficult to discern in coastal views, such as that from Character View 1 (Figure 6), located along the southern edge of Moonstone Beach County Park. From here, tree removal associated with the trail would potentially be detectable but not prominently visible given the density of adjacent forest. The canopy of the trees both up- and down-slope from the trail would generally mask or otherwise offset the removal of trees for the trail.



Figure 6. Character view looking east toward the project area.

As such, the visual character and quality of the proposed project would be similar to the existing visual character and quality of the project area in its current state.

Light and Glare

The proposed project would include a new streetlight at each trail head, which are not anticipated to result in substantial light and glare impacts. Lighting and glare associated with construction activities would be temporary and minimized with incorporation of minimization

measures described below. New permanent sources of lighting would be designed to protect wildlife and nighttime views, including views of the night sky. The project would be designed to be consistent with the recommendations of the International Dark-Sky Association, which includes standards for fixtures, shielding, wattage, placement, height, and illumination levels. To comply with these requirements, lighting for the project would use the minimum lumens necessary and it would be directed downward, shielded, and at pedestrian level when feasible. This would help ensure lighting is localized and would not cause significant lighting and glare impacts on adjacent land uses and sensitive habitat areas. Lighting along the bikeway is not anticipated to result in adverse effects to daytime or nighttime views in or adjacent to the project area.

Conclusion

Resource Change (i.e., changes to visual resources as measured by changes in visual character and visual quality) is anticipated to be moderate. Construction of the proposed project would temporarily change views experienced by drivers, pedestrians, and other people in the project area since construction equipment would be visible from neighboring areas. However, because these impacts are temporary, they are not considered substantial. Visual character and quality of the proposed project would be similar to the existing visual character and quality of the project area in its current state. Overall visual impacts as a result of proposed project implementation would be moderate-low, as the viewer response would be moderate-low for residents, visitors, and highway users.

No Build Alternative

The No-Build Alternative would maintain the existing conditions and no work would be conducted to construct an approximately 1-mile Class I bike path (i.e., pedestrian and bicycle trail) from Scenic Drive to Clam Beach. Vegetation and tree removal would not occur. Visual change would not occur.

AVOIDANCE AND MINIMIZATION MEASURES

Avoidance and minimization measures have been identified that can lessen visual impacts caused by the project. This section describes additional avoidance and/or minimization measures to address specific visual impacts. These would be designed and implemented with the concurrence of Caltrans' District 1 Landscape Architect.

The following avoidance and minimization measures designed to avoid or minimize visual impacts would be incorporated into the project:

- Preserve existing trees, vegetation, and associated root systems to the maximum extent feasible.
- Protect existing trees outside of the clearing and grubbing limits from contractor's operations, equipment, and materials storage.

- Utilize staging areas that do not damage existing vegetation or require vegetation or tree removal.
- Revegetate disturbed soil areas with native and climatically appropriate species.
- Limit construction lighting to the area of work and avoid light trespass with the use of directional lighting, shielding, and other measures as needed.
- Minimize appearance of construction equipment and staging areas to the maximum extent feasible.
- Use contour grading and slope rounding to produce smooth, flowing contours consistent with site topography, to increase context sensitivity and reduce engineered appearance of slopes.
- Use construction materials that are visually compatible with the landscape (e.g., non-glare metal guard rails and low-chroma pavement consistent with colors found in the adjacent landscape).
- Use reflective road paint (if pavement is used) and highly reflective signs only as required by law.

In addition to the above avoidance and mitigation measures, the following considerations could, depending upon final design, further help the project integrate into its aesthetic surroundings and enhance viewer experience along the trail:

- Make the barrier rails context sensitive with relief patterns and / or earth tone colors and apply architectural treatment.
- Use Caltrans Type 85 barriers on the bridge to maximize visibility of Little River, retain scenic views, and maintain consistency of new bridge rail design throughout the North Coast area.

As with the avoidance and mitigation measures, implementation of any of the above approaches would be initiated with the concurrence of Caltrans' District 1 Landscape Architect.

REFERENCES

Caltrans. 2020. Highway Design Manual, 7th Edition. Online:

<https://dot.ca.gov/programs/design/manual-highway-design-manual-hdm>

Caltrans. 2021a. CA Manual on Uniform Traffic Control Devices (CA MUTCD). Online:

<https://dot.ca.gov/programs/safety-programs/camutcd>. Accessed November 10, 2021.

Caltrans. 2021b. California State Scenic Highways. Online:

<https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>. Accessed November 5, 2021.

Department of Justice. 2010. 2010 ADA Standards for Accessible Design. Online:
https://www.ada.gov/2010ADASTandards_index.htm. Accessed November 10, 2021.

Humboldt County. 2017. General Plan Environmental Impact Report. Online:
<https://humboldt.gov/626/Draft-Environmental-Impact-Report-EIR>. Accessed
November 5, 2021.

SHN. 2021. Preliminary Foundation Report for the Proposed Little River Trail, Clam Beach to
Westhaven, Humboldt County, California, Revision 2. Prepared for GHD.