

LAGUNITAS CREEK BRIDGE PROJECT

PUBLIC INVOLVEMENT

STEP 1: SCOPING ◊ We are here

- Start Early Consultation with permitting agencies and interested members of the public.

STEP 2: DRAFT ENVIRONMENTAL DOCUMENT (DED)

- The DED will be written based on the results of studies done to assess the impacts of each of the proposed alternatives and mitigation/minimization measures.

STEP 3: PUBLIC REVIEW AND COMMENT PERIOD

- The DED is made available for review and comments to the public and agencies.
- A public hearing will be held for the DED to encourage comments from the public.

STEP 4: REVIEW AND APPROVAL

- Comments on the DED are addressed in the final environmental document (FED) and a favored alternative is chosen.
- The finalized document is made publicly available.

SCOPING

Purpose of Scoping

- Identify a reasonable number of viable project alternatives. A viable alternative is one that is structurally sound and not cost prohibitive.
- Identify significant issues and concerns that will need to be addressed early on in the environmental process.
- Identify state and local agency requirements that must be addressed.
- Start Early Consultation with the Permitting Agencies.

How the Public can Participate

Please provide written comments on:

- The significant impacts or concerns that should be studied;
- What foreseeable problems may be caused by the alternatives;
- Suggestions for improvements on the alternatives;
- Suggestions for new viable alternatives.

Useful comments are specific! Please avoid generalizations and instead focus on the impacts and alternatives you think should be included and the reason why.

How We Use Public Comments

The comments that we receive from the partner agencies and the public will be consolidated into a Scoping Summary Report. This report will highlight the significant concerns and suggestions that have been identified by the public and partner agencies and discuss how they will be addressed in the Draft Environmental Document.

PUBLIC REVIEW AND COMMENT PERIOD

Purpose of Purpose of the Public Review

| | | |
|--------------------|--------------------------|---------------------------|
| To Share Expertise | Discover Public Concerns | Detect Omissions |
| Check for Accuracy | Disclose Agency Analysis | Solicit Counter Proposals |

How the Public can Participate

Please provide written comments on:

- The sufficiency of the document in identifying and analyzing possible impacts on the environment.
- Were there significant impacts and/or resources that were not included in the analysis?
- Is there a potential for a greater impact to a resource than what was anticipated in the document?
- The sufficiency of the document in identifying and analyzing ways to mitigate significant impacts (substantial, adverse changes that would be caused by the project).
- Are there other suggestions for ways to mitigate significant impacts?

Comments are most helpful when they:

- Suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate the significant environmental effects;
- Provide an explanation for the basis for the comments; and
- Include any data and/or references reinforcing the statements in the comments.

How We Use Public Comments

Complete and well reasoned comments that are received for the DED from the public and participating agencies will be addressed in the FED. The FED must either show how the project was revised in response to the comment, or a detailed, good faith, reasoned response must be provided explaining why the comment was not accepted.

LAGUNITAS CREEK BRIDGE & THE COMMUNITY



The existing Lagunitas Creek Bridge is a 3-span structure, with a total length of 152 feet. It has two 26 ft. long reinforced concrete approach spans, and a 100 ft. long riveted steel pony truss center span.

The bridge was constructed in 1929 and serves both local residents and visitors. It has been the southern gateway to and from Point Reyes Station along Highway 1 for the past 86 years.

LAGUNITAS CREEK BRIDGE PROJECT

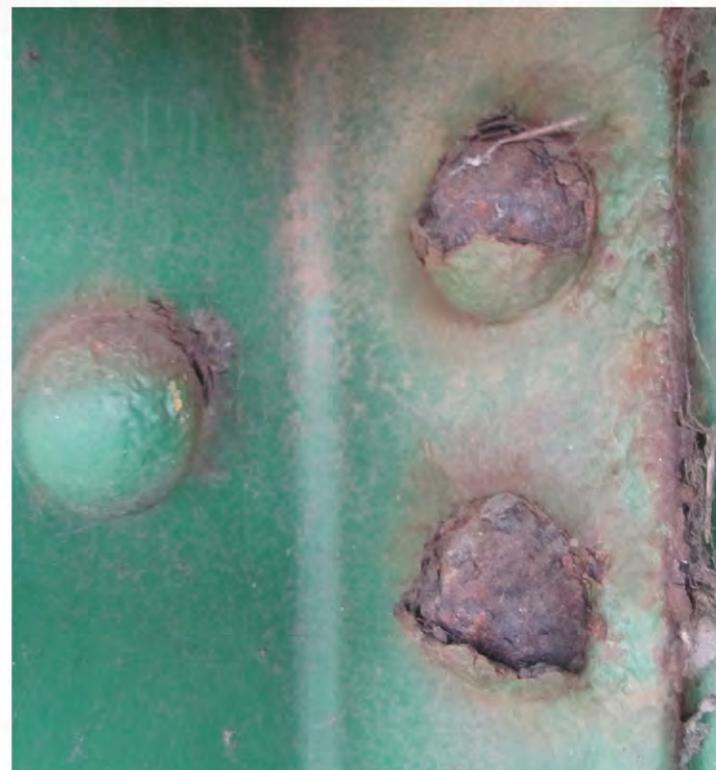
THE BRIDGE IS WEARING OUT



Caltrans engineers performed a structural assessment of the existing bridge and found the following:

- The steel portions of the bridge are deteriorating. This reduces original design strength of the bridge.
- The bridge was not originally designed to meet current standards for earthquake resistance.

The result of these findings is that the bridge could fail during a seismic event.



WHY NOT RETROFIT THE CURRENT BRIDGE?

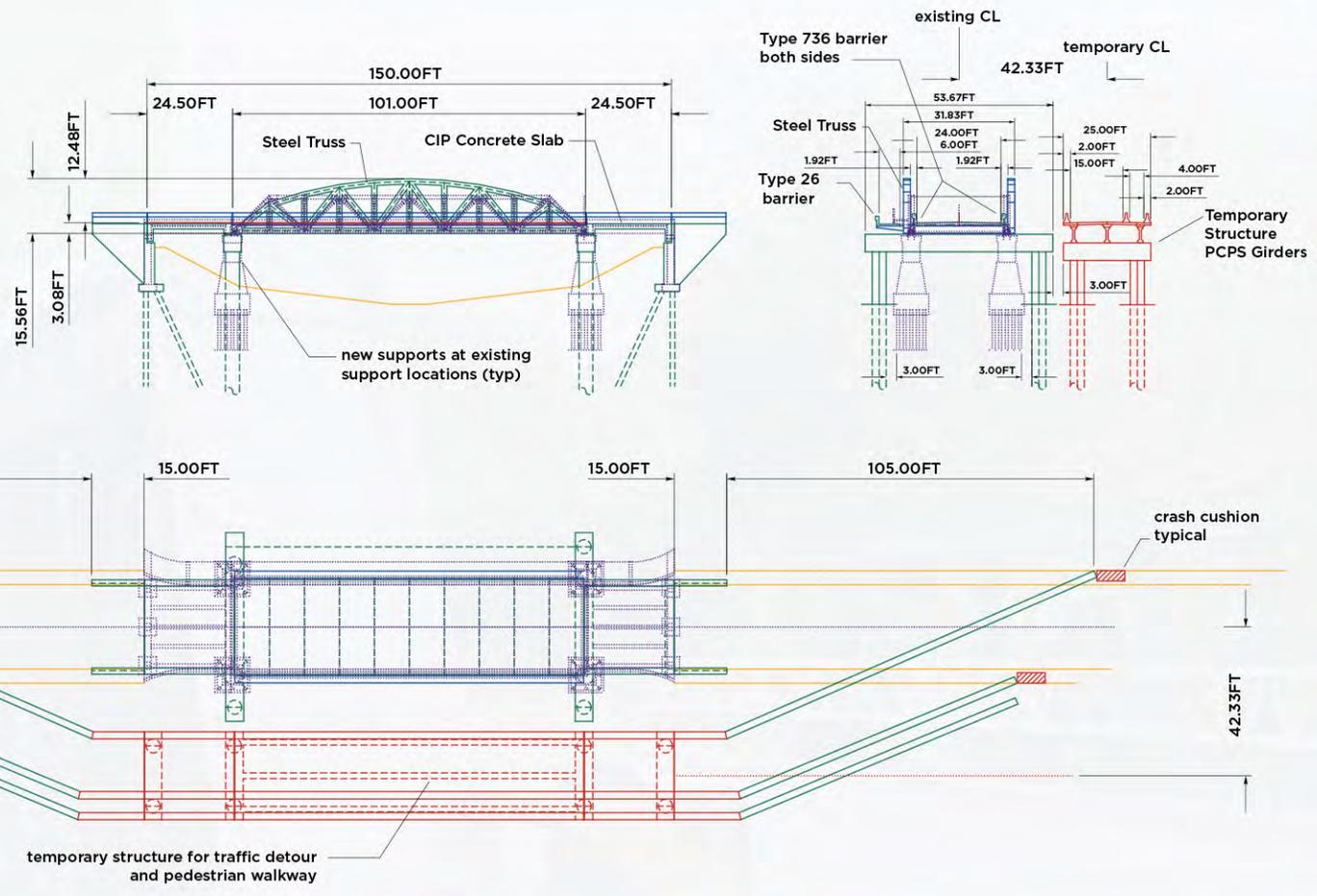


- Retrofitting the bridge would require a significant amount of steel to be added in order to strengthen the existing structure. The additional weight would decrease the weight capacity of the bridge, which is already less than what is considered standard for modern bridges.
- Steel bridges are susceptible to fatigue with constant use, and have a finite lifespan. There is a certain point after which it is not cost-effective to retrofit the bridge.
- The depth and type of piles used for supporting the current bridge were not documented. This makes it impossible to determine the ability of the current foundation to withstand seismic activity.

LAGUNITAS CREEK BRIDGE PROJECT

WHY NOT KEEP THE SAME BRIDGE DESIGN?

Steel Truss - 3 Span
(all dimensions are approximate)



The current bridge width does not meet modern design standards. These standards are set by the Caltrans Division of Design (DOD). These standards are based on criteria that meet DOD's approval for safety and intended level of service.

Caltrans has identified the Lagunitas Creek Bridge as providing service to both traditional and alternative transportation users. The new bridge will have the following features to meet current design standards for safety and intended use:

| Existing Bridge Features | Current Design Standards |
|--|--|
| Two lanes - 11 ft each. | Two Lanes - 12 ft each. |
| No shoulders. | A minimum of 4 ft wide shoulders on both sides. |
| One 4 ft wide sidewalk on the West side of the bridge. | Sidewalks on bridges should be provided wherever there are sidewalks or other pedestrian facilities along the highway. The minimum width of a bridge sidewalk is 6 feet. |
| There are no ADA-accessible ramps at bridge sidewalk access locations. | ADA-accessible ramps at each sidewalk access location. |

LAGUNITAS CREEK BRIDGE PROJECT

WHO WE PLAN TO WORK WITH

GOVERNMENT AGENCIES

- US Fish and Wildlife Service
- National Marine Fisheries Service
- California Department of Fish and Wildlife
- US Army Corps of Engineers
- San Francisco Regional Water Quality Control Board
- National Park Service
- State Lands Commission
- County of Marin
- Marin County Parks and Open Space
- Coastal Commission

STAKEHOLDER GROUPS TO BE INVITED

- Point Reyes National Seashore Association
- Environmental Action Committee of West Marin
- Marin Resource Conservation District
- Marin Conservation League
- Turtle Island Restoration Network – SPAWN
- Tomales Bay Watershed Council
- Audubon Canyon Ranch, Cypress Grove
- Sierra Club, Marin Group
- Marin Agricultural Land Trust

LAGUNITAS CREEK BRIDGE PROJECT

THREATENED SPECIES



Photo Credit: US Fish & Wildlife Service, public domain



Photo Credit: Madeline Cooper



Photo Credit: US Fish & Wildlife Service, public domain



Photo Credit: Eric Ettlinger

California red-legged frog (*Rana draytonii*): The largest of all native frog species, the California red-legged frog requires standing freshwater such as ponds and wetlands for breeding during winter. They can disperse 2 miles or more during wet periods to establish in new habitat, often moving at night. The project may impact freshwater wetlands habitat used by this species.

Chinook salmon (*Oncorhynchus tshawytscha*): The California coastal Evolutionary Significant Unit (ESU) migrates up Lagunitas Creek through the project area to spawn in the middle reaches of the watershed. Coastal Chinook only occur in central and northern California creeks and rivers. The project will take place immediately above, and possibly within aquatic critical habitat for this species. The project will take place immediately above, and possibly within, aquatic habitat for this species.

Northern spotted owl (*Strix occidentalis caurina*): A medium-sized, chocolate brown owl, the northern spotted owl nests in the tops of or in cavities of mature trees and will mate for life during its lifespan of up to 20 years. There are mature forest stands nearby that are populated by this species. Normal foraging, roosting, and breeding behaviors of this species can be impacted by construction noise.

Steelhead (*Oncorhynchus mykiss*): The Central California Coastal ESU of steelhead migrates up Lagunitas Creek through the project area to spawn in the upper reaches of the watershed. Central Coast steelhead only occur in creeks and rivers with unimpeded access to the ocean. Juveniles migrate to the ocean where they grow large and obtain a steel-grey color and can return to spawn several times throughout their life. The project will take place immediately above, and possibly within, aquatic critical habitat for this species.

ENDANGERED SPECIES



Photo Credit: US Fish & Wildlife Service, public domain



Photo Credit: Ken Davis



Photo Credit: US Fish & Wildlife Service, public domain



Photo Credit: US Fish & Wildlife Service, public domain

California freshwater shrimp (*Syncaris pacifica*): The small, translucent crustaceans are found only in streams within Marin, Sonoma, and Napa counties. They grow to be 1-2 inches long during their 3-year lifespan. They occupy in-stream habitat in the project area that may be impacted by construction activity.

Coho salmon (*Oncorhynchus kisutch*): Lagunitas Creek is home to one of the strongest remaining runs of federally endangered California Central Coast coho salmon. Coho typically have a three-year life history with life-stages in Lagunitas Creek, Tomales Bay, and the Pacific Ocean. Mature coho migrate back to their natal stream each fall and winter to spawn, expiring soon after spawning is complete. The project will take place immediately above, and possibly within, aquatic critical habitat for this species.

Myrtle's silverspot butterfly (*Speyeria zerene myrtleae*): A medium sized butterfly with a wingspan 2.1 to 2.3 inches, the Myrtle's silverspot relies on its larval host plant, *Viola adunca* (western dog violet), and coastal prairie, coastal scrub, and coastal dune ecosystems. This beautiful butterfly only occurs in West Marin and Southern Sonoma counties along the coast. The project site is within their dispersal range, putting them at risk during construction.

Tidewater goby (*Eucyclogobius newberryi*): These small, bottom-dwelling fish reach a maximum size of 2 inches during their 1-year lifespan. Tidewater goby prefer brackish, tidally influenced habitat within channels and along sandbars in Lagunitas Creek and the adjacent Giacomoni wetlands. The area under Lagunitas Bridge is populated by these fish. Construction activity within the creek could impact this species.

LAGUNITAS CREEK BRIDGE PROJECT

PROJECT ALTERNATIVES COMPARISON

| | ALTERNATIVE 1 Steel Truss - Short | ALTERNATIVE 2 Steel Truss - Long | ALTERNATIVE 3 Pre-cast Concrete Girder | ALTERNATIVE 4 Suspension Cable |
|--|--|---|---|--|
| Bridge Design (All dimensions are approximate) | | | | |
| Pier Location in Stream Channel (May increase environmental impacts) | The piers will be in the outer edge of the stream channel. | No piers will be in the creek channel. | The piers will be in the outer edge of the stream channel. | No piers will be in the creek channel. |
| Impacts to Roadway Alignment | No change to current roadway alignment. | Minimum change to road elevation with minor impacts to adjacent properties. | The bridge deck will be 2 ft thicker, and thus higher, which will require a larger footprint for the bridge approach. This may result in moderate impacts to adjacent properties. | No change to current roadway alignment. |
| Notable Features | <ul style="list-style-type: none"> This is a very similar type of bridge to the current bridge. | <ul style="list-style-type: none"> This bridge will be taller than Alternative 1. It will have an overhead bracing which will put a height limit on vehicles. | <ul style="list-style-type: none"> This alternative is a simple and common type of structure used for California highways. It will have a deeper bridge deck than the other alternatives. | <ul style="list-style-type: none"> This bridge will have towers at both ends. Suspension cables will be anchored to the towers and will support the bridge deck. |

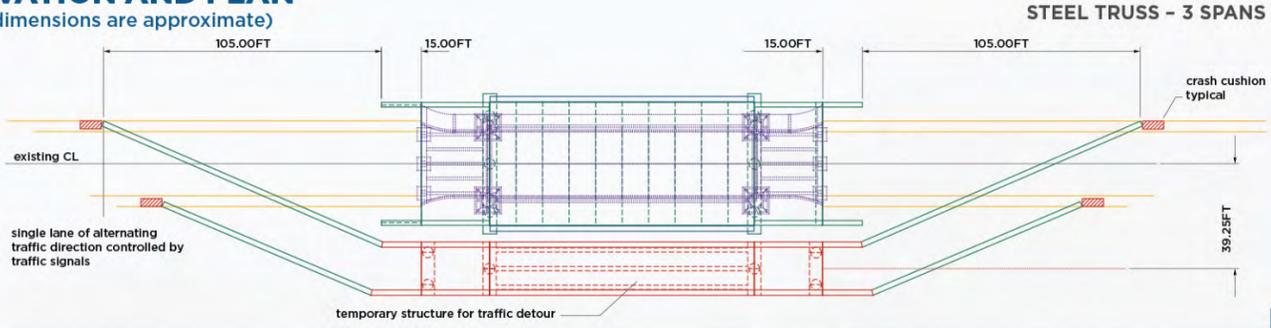
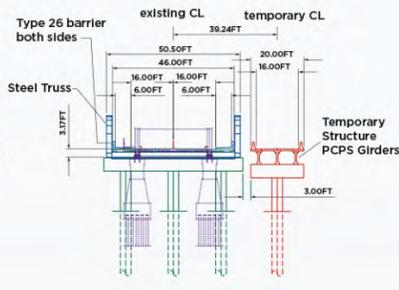
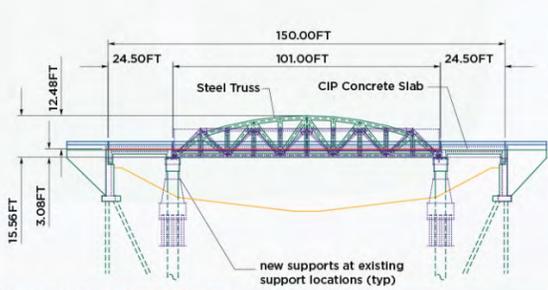
What are project alternatives and why do we have them?

Project alternatives are used to develop a reasonable range of options that can be evaluated based on the positive and negative effects that each would have on the natural and human environments. These alternatives can then be compared to each other based on the types and severity of impacts that would result from each alternative. Project alternatives are the different strategies that Caltrans uses to meet the purpose and need for the project.

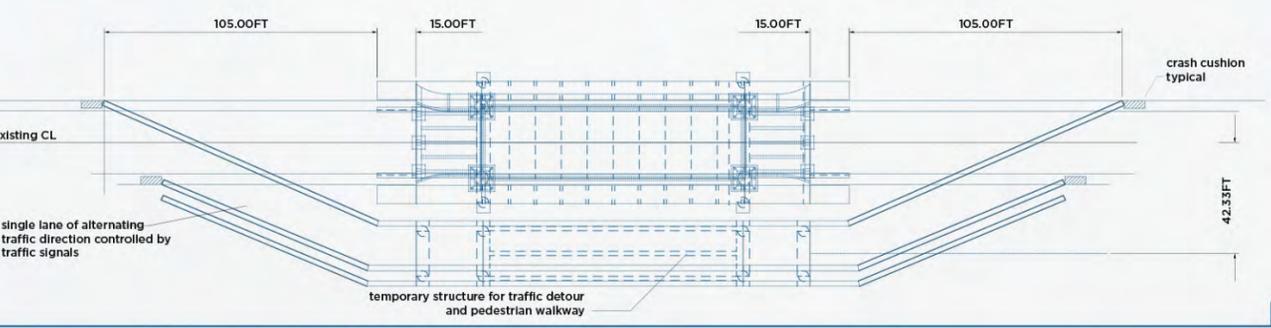
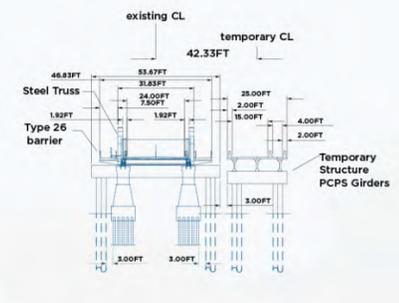
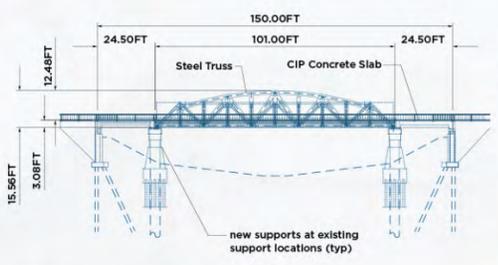
LAGUNITAS CREEK BRIDGE PROJECT

ALTERNATIVE 1: STEEL TRUSS – SHORT

ELEVATION AND PLAN (all dimensions are approximate)



SIDEWALK AT ROAD



CANTILEVER SIDEWALKS



EXISTING CONDITIONS



ALTERNATIVE 1A: CANTILEVER SIDEWALK



ALTERNATIVE 1B: SIDEWALK ADJACENT TO STREET



ALTERNATIVE 1C: SIDEWALK ADJACENT TO STREET WITH GUARDRAIL

Features

- The deck of the bridge will be constructed with three sections, supported by piers where they meet.
- Abutments will be 50 ft wide and 25 ft tall.
- Wing Wall will be 15 ft long and 20 ft tall.
- Piers will be 50 ft wide and 25 ft tall.
- The bridge will have a vertical steel truss panel 101 feet long and approximately 12 ft high on each side of the bridge.

Pros

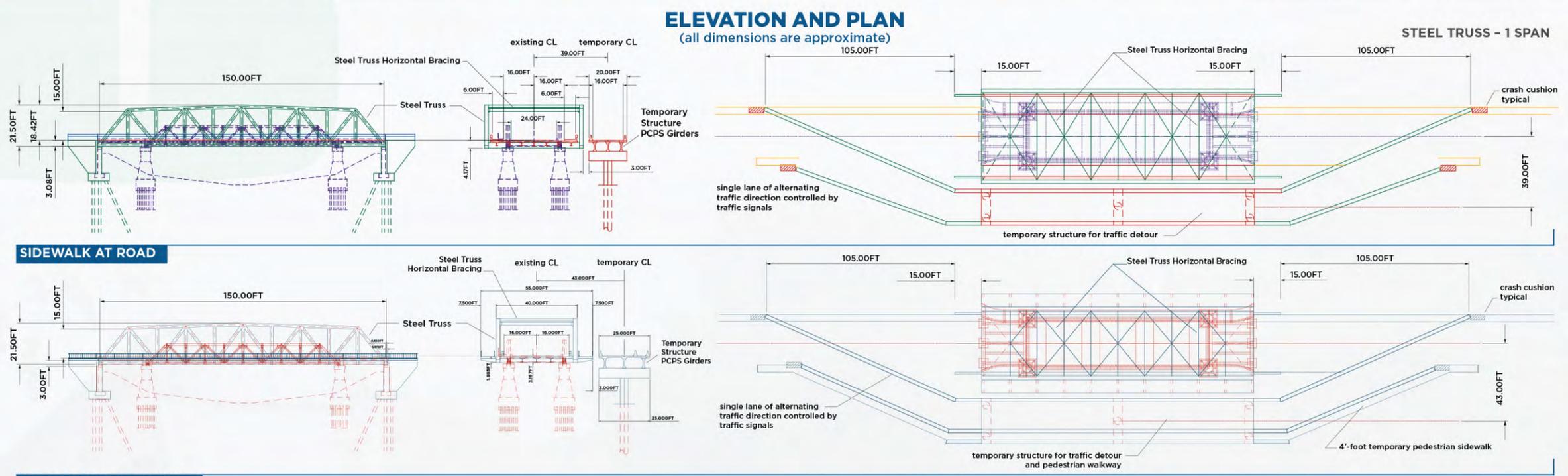
- This alternative will not significantly change the visual appearance of the bridge.
- There will be no change in the road profile. This will reduce the impacts to the private properties adjacent to the bridge.

Cons

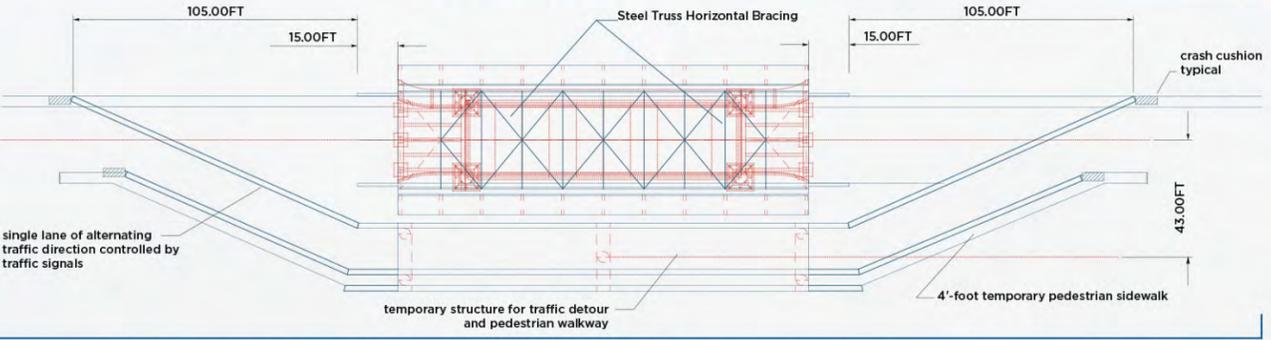
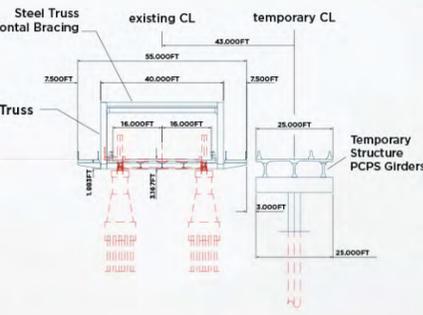
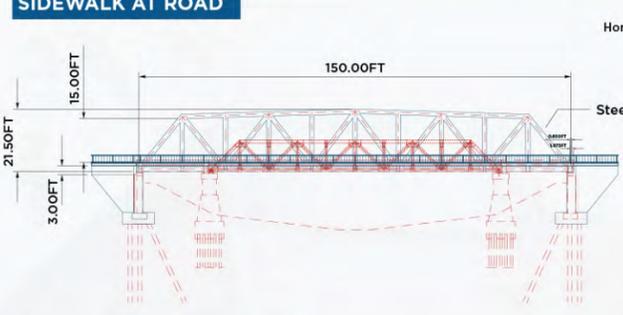
- Erecting the trusses will require falsework in the stream channel. This will cause temporary and permanent in-stream effects from construction.
- The new piers will be located in the outer edge of the creek channel, in the same location as the current bridge piers. This will cause both temporary and permanent in-stream impacts.

LAGUNITAS CREEK BRIDGE PROJECT

ALTERNATIVE 2: STEEL TRUSS – LONG



SIDWALK AT ROAD



CANTILEVER SIDEWALKS



EXISTING CONDITIONS



ALTERNATIVE 2A: CANTILEVER SIDEWALK



ALTERNATIVE 2B: SIDEWALK ADJACENT TO STREET



ALTERNATIVE 2C: SIDEWALK ADJACENT TO STREET WITH GUARDRAIL

Features

- The deck of the bridge will be constructed with one section supported by piers.
- Abutments will be 50 ft wide and 25 ft tall.
- Wing Walls will be 15 ft long and 20 ft tall.
- Two 150 ft long vertical steel truss panels that are approximately 20 ft tall on each side of the bridge.
- Overhead lateral bracing for the vertical steel truss panels.

Pros

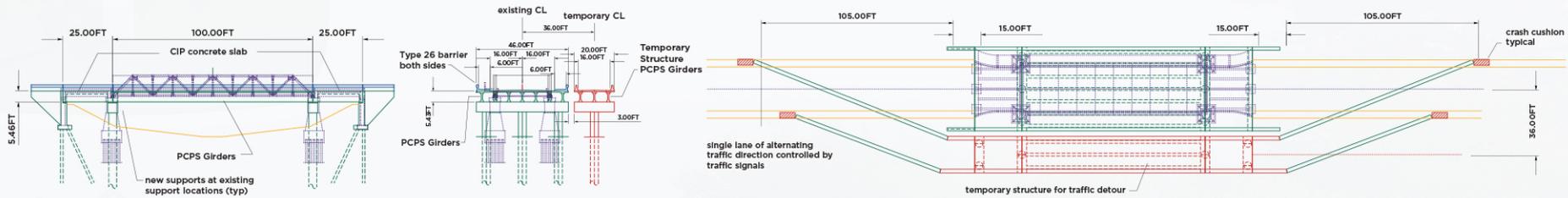
- There will be no piers in the creek channel.
- The type of bridge is similar to the current bridge.

Cons

- Erecting the trusses will require falsework supports in the creek. This will cause temporary and permanent in-stream effects from construction.
- There may be a slight change to road profile that would cause minor impacts to nearby intersections, driveways, and right of way.
- There will be a height clearance limit for traffic on this bridge.

ALTERNATIVE 3: PRE-CAST CONCRETE GIRDER

ELEVATION AND PLAN
(all dimensions are approximate)



SIDEWALK AT ROAD



Features

- The deck of the bridge will be constructed with three sections, supported by piers where they meet.
- Abutments will be 50 ft wide and 25 ft tall.
- Wing Walls will be 15 ft long and 20 ft tall.

Pros

- The bridge can be built relatively quickly. This would reduce the duration of traffic delays and temporary environmental impacts.

Cons

- Falsework required in creek channel.
- The piers will be located in the creek channel, at the outer edge.
- This bridge would require 2 ft increase in roadway profile elevation, which would cause moderate impacts to nearby intersections, driveways, and right of way.

EXISTING CONDITIONS



ALTERNATIVE 3A: CANTILEVER SIDEWALK



ALTERNATIVE 3B: SIDEWALK ADJACENT TO STREET

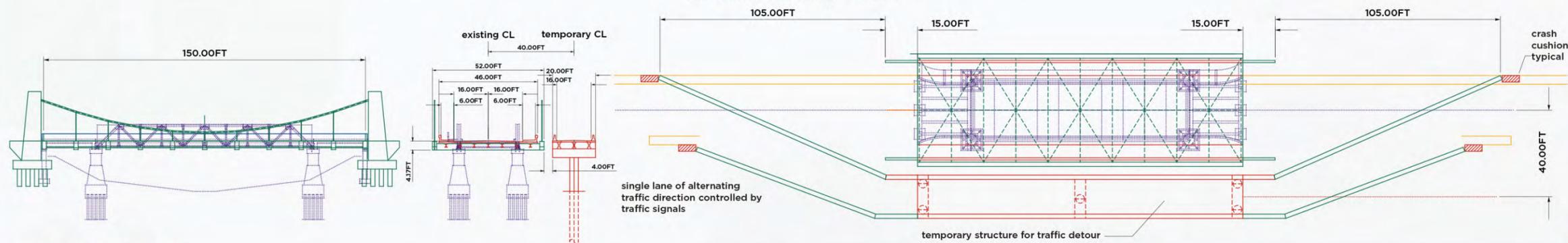


LAGUNITAS CREEK BRIDGE PROJECT

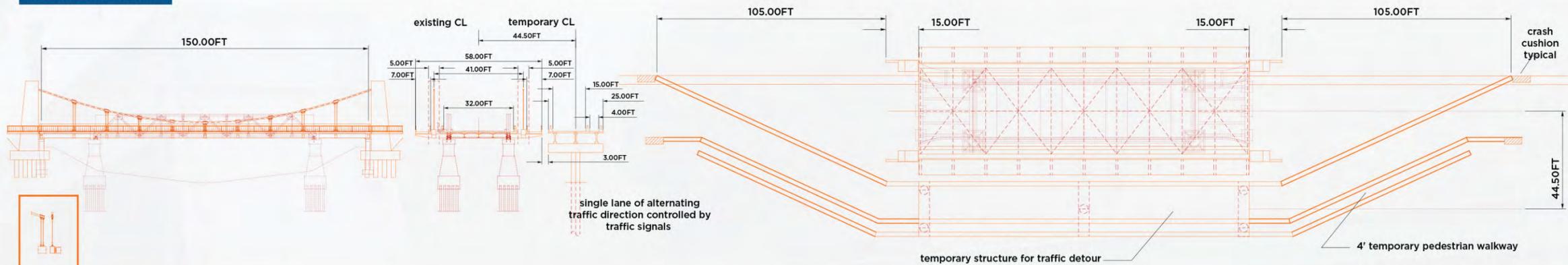
ALTERNATIVE 4: SUSPENSION CABLE

ELEVATION AND PLAN

(all dimensions are approximate)



SIDEWALK AT ROAD



CANTILEVER SIDEWALKS



EXISTING CONDITIONS



ALTERNATIVE 4A: CANTILEVER SIDEWALK



ALTERNATIVE 4B: SIDEWALK ADJACENT TO STREET

Features

- The deck of the bridge will be constructed with one section and supported by suspension cables anchored to the towers.
- Abutments will be 50 ft wide and 25 ft tall.
- Wing Walls will be 15 ft long and 20 ft tall.
- The towers on either corner of the bridge will require further study to determine their approximate dimensions.

Pros

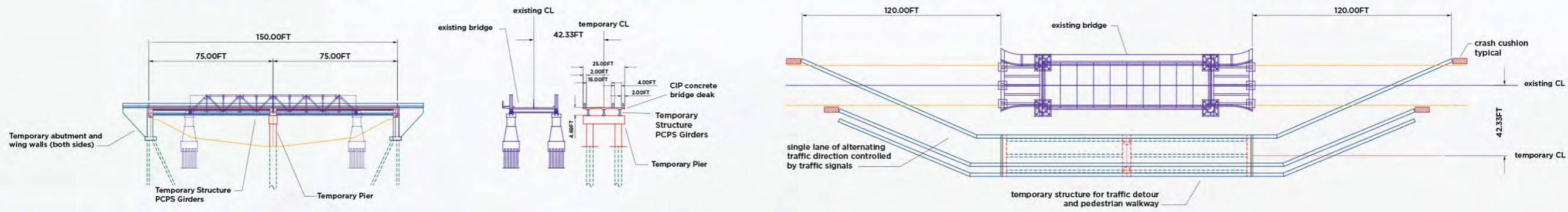
- No piers will be located in the creek.
- This type of bridge will be a unique feature in this region.
- There will be no changes to the road profile.

Cons

- There will be large towers on both ends of the bridge that may not fit the character of the surrounding community.

LAGUNITAS CREEK BRIDGE PROJECT

DETOUR ALTERNATIVES : TEMPORARY BRIDGE A



Features

- The deck of the bridge will be constructed with two sections, supported by a single pier where they meet.
- 1 Temporary pier
- 1 lane of traffic
- 1 walkway for pedestrian and bicycle use

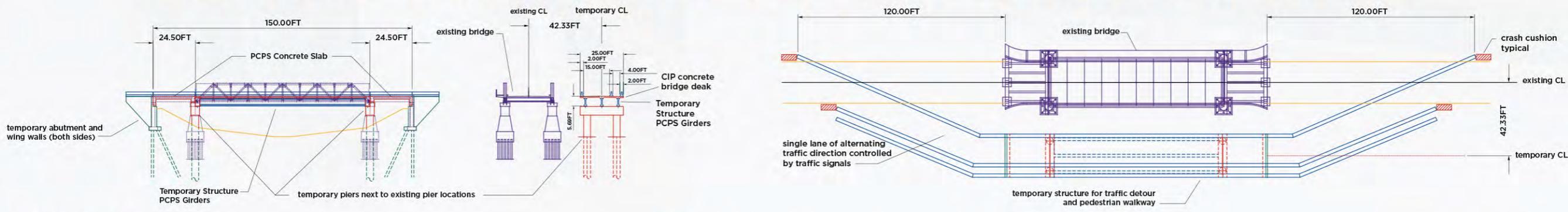
Pros

- The delay in travel time would be about 5 minutes.
- Pedestrian and bicycle traffic would be allowed.

Cons

- 1 temporary pier would be placed in the middle of the creek channel.
- Only 1 lane of motorized vehicle traffic would be allowed through at a time.

DETOUR ALTERNATIVES : TEMPORARY BRIDGE B



Features

- The deck of the bridge will be constructed with three sections, supported by piers where they meet.
 - 2 Spans 25 ft long
 - 1 Span 100 ft long
- 1 lane of traffic
- 1 walkway for pedestrian and bicycle use

Pros

- The delay in travel time would be about 5 minutes.
- Pedestrian and bicycle traffic would be allowed.

Cons

- 2 temporary piers in the creek channel.
- Only 1 lane of motorized vehicle traffic would be allowed through at a time.