

From: [Schuman, Louis@DOT](mailto:Schuman.Louis@DOT)
To: [Garrett Toy](#); [Wayne Bush](#)
Cc: [Tamannaie, Nader@CALIFSTRUCTURE](mailto:Tamannaie.Nader@CALIFSTRUCTURE); [Kim, Michael L@DOT](mailto:Kim.Michael.L@DOT)
Subject: FW: Meadow Way accelerated construction
Date: Wednesday, October 19, 2016 10:51:32 AM

This e-mail message is in response to your request for federal participation in acceleration costs associated with the replacement of Meadow Way Bridge in the Town of Fairfax.

Although your reasoning to accelerate the project would be beneficial to a small group of residents in the area, we do not find your reasoning adequate to justify a relatively high project cost increase and therefore the cost associated with project acceleration would not be federally eligible.

To justify federal participation in acceleration cost in local highway bridge projects, we need to show that the costs due to delays to the travelling public is greater than additional cost to the project. This is difficult to justify on a roadway with an average daily traffic of 55 vehicles/day. Also note that even with this project spanning 2 construction seasons, much of the time the public will experience no delay at all as construction in the creek can only proceed on for approximately 5 months of the year. Even if the project were accelerated there is a risk that construction may extend more than a single season based on timing of the E-76 and permit requirements.

Louis Schuman
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From: Nader Tamannaie [mailto:ntamannaie@califstructure.com]
Sent: Thursday, October 13, 2016 2:29 PM
To: Schuman, Louis@DOT <louis.schuman@dot.ca.gov>
Subject: FW: Meadow Way accelerated construction

From: Nader Tamannaie [<mailto:ntamannaie@califstructure.com>]
Sent: Wednesday, September 28, 2016 2:12 PM
To: Louis Schuman
Cc: Kim, Michael L@DOT; Garrett Toy; Wayne Bush; 'Wu, Chien@DOT'
Subject: RE: Meadow Way accelerated construction

Hi Louis,

We understand you've seen the initial cost analysis below and discussed the subject with Mike and Linda. We would like to provide justification for accelerating the construction of Meadow Way Bridge and the cost associated with it.

The early start schemes in the email to Garrett, below, may not have a decent chance of happening because permits requests for earlier than July 1st start will likely not have a great chance for various reasons. For such schemes, the climatic conditions must be perfect and agency's permit facilitation at its maximum, while the contractor can mobilize its forces almost instantly. The only viable options may be a normal two-season construction and a highly accelerated, 3.5-month, one-season operations in the creek. The latter is estimated to cost nearly \$1.2 million than the former, a 43% project cost increase. The Town's people have requested to obtain your office's response to the request to approve the accelerated construction's cost.

We understand you may require a detailed economic analysis to justify the increase. While justifications for such are not for purely economic reasons, they have their own compelling elements:

1. Convenience and health of the residents - Private properties stretch to the bridge at all of its four corners. The resident nearest to the bridge will take the brunt of construction noise, dust and other inconveniences for two seasons. Some have expressed health challenges. Other motorists and users on foot and bicycle traveling through the site would also be inconvenienced for the duration.
2. Site Congestion and Safety - The current and the unfinished future bridges will be sitting adjacent to each other for two seasons in a tight and congested site. Chances of collision and accidents will be higher. The current bridge is narrow, not ADA-compliant, and functionally not the safest. Seismically, the site soils are known to be liquefiable under the design earthquake. Under these conditions, the bridge will be required to last another season.
3. Environmental reasons - Slopes and unfinished work in the creek will need to be winterized and made stable through one rainy season. Wildlife (deer, etc.) will be cut off from the site for duration of construction. Between \$50K and \$75K of the cost increase noted above may be saved avoiding the winterization and second season contractor mobilization.

Please discuss these further with your colleagues. We would await your response as to whether these reasons warrant submission of a new 6-D for CON cost increase.

Thank you.

Nader

Hi Garrett,

Per our discussion in our last meeting, we have calculated construction costs for Meadow if its duration were to be accelerated. This mainly relates to concrete bridge option and steel superstructure may fare a bit better. The bench price is for a normally-paced bridge and wall construction, done in 2 seasons. This means seven months total in the creek, but other roadway and miscellaneous work at street level will make it a split, 12-month± job. Below, I have shown the construction cost for the bench project, as well as bridge and wall construction lasting 5, 4.5 and 3.5 months. (Again, outside of the creek work period, each one will have another 3-4 months or so added for additional work outside the creek.) The doability of the faster jobs is pending verification

by at least one bona fide bridge contractor, such as one of the Ghillottis. We will make contact with one later to verify, but we may want to find out if Caltrans supports the higher cost first.

Bridge & wall Construction Duration	7 months (2 Seasons)	5 Months (1 Season)	4.5 Months (1 Season)	3.5 Months (1 Season)
Contractor's work shifts	5 days/week 8-hr days	5 days/week 10-hr days	5 days/week 11-hr days	6 days/week 12 hrs/day
Total construction cost estimate	\$ 2,776,200	\$ 3,450,600	\$ 3,549,700	\$ 3,972,200
Δ Relative to 2-season construction	\$ -	\$ 674,400	\$ 773,500	\$ 1,196,000
% Cost increase over 2-season construction	0%	24%	28%	43%

The bidding process will be complicated. The way I envision for this to have a chance of working is like this:

1. We will prepare the plans and specifications to have the Contractor bid on the job with creek work taking two seasons, 5 months, 4.5 months, 3.5 months, etc. This means 4 (or more) distinct bid, unit prices and overall job prices.
2. We will need to talk about what the basis of the Town's Contractor selection will be, will it be based on the bench project (2 seasons), the highly accelerated version (3.5-month creek work), or one in between. This will be spelled out in the project specifications.
3. In March of the year of construction, we will ask the agencies to okay the Contractor's work, say at the end of April (instead of July 1st, the normal permit period).
 - a. If permit is granted, the Contractor gets paid for a 5-month job and based on those unit prices.
 - b. If not permits are not granted, we'll wait and apply again and the contractor get paid accordingly.
 - c. If permits start on July 1, the job is a 2-season one.

I must note the conditions for earlier permits are hard to come by and agency bureaucracy may bog down, nullifying the acceleration effort. No decision may be granted till last day possible or later. This will mean the Contractor being ready to mobilize on April 30th and, if the permit is not given, idling his equipment and crews (or send them to another job). Then, if the permit is ready a month later, they'll need to mobilize quickly again and show up on the job. The Town' inspection crews will be in a similar boat. The above estimates do not reflect this aspect of the cost; it's something a contractor can figure out based on their own resources. Therefore, the above fast-duration figures may be even higher. This complex bidding may pretty much put the job in the arena of large bridge contractors with multiple crews and sets of equipment.

What do you think? Once we all agree on the process, we can run this by Caltrans to see if they'll fund the project this way.

I'll be looking for your comments.

Nader Tamannaie, P.E.

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