OUTSTANDING LOCAL STREETS AND ROADS

PROJECT AWARDS PROGRAM

2017

NOMINATION SUBMITTAL

CANAL ROAD SIDEWALK AND BIKE LANE PROJECT

Location: Canal Road, Bay Point

City or County Responsible for Project: Contra Costa County

Project Designer: Quincy Engineering, Inc.

Construction Management: The Hanna Group, Inc

Contractor: Bay Cities Paving and Grading, Inc

Project Description:

The Canal Road Sidewalk and Bike Lane Project (Project) is a Safe Route to School Project that closed a critical sidewalk gap adjacent to Bel Air Elementary School in Bay Point. This project installed 3,650 feet of sidewalk, widened the roadway to provide a Class II bike lane on both sides of the road, and installed 13 inlets and 800 feet of storm drain.

The Project construction contract cost was $1.4 million funded by 35% Congestion Mitigation and Air Quality Lifeline Transportation Grant Funds, 16% Safe Routes to School Funds and 49% Local Gas Tax Funds.

The Project has had a number of engineering challenges with the constrained right-of-way, multiple utility conflicts (both anticipated and unexpected), and working around sensitive creek and wetland area. In spite of challenges the Project was delivered on time and within budget. However, the biggest accomplishment of this Project is in providing a tremendous benefit to the community, pedestrians and bicycle users in the form of safe corridor to get to and from Bel Air Elementary School.

Construction

This contract originally allowed for 80 working days to complete the Project. Due to working day modifications explained below, the final number of working days allowed was 84. The contract work began on July 20, 2016, and was deemed complete on October 12, 2016, for a total of 82 working days.

Due to a value engineering change proposal (VECP) from the contractor related to modifications to the proposed traffic control plan, the working day schedule was reduced by 5 days.

A time extension was granted for the removal of an unanticipated asbestos pipeline. This abandoned facility was discovered during excavation and needed to be removed and disposed of

appropriately to allow for installation of the new storm drain. An additional 5 working days was granted.

A time extension was also granted due to minor regrading required by the contractor due to a survey staking discrepancy. This added 4 working days to the Project schedule.

Prior to the beginning of construction, the contractor presented a value engineering change proposal (VECP) for the contract documents. Upon inspection, the contractor noted that they could complete the construction without installing the k-rail as was indicated in the traffic control plans. The contractor would be able to button the site up at night so as not to leave excavation depths greater than 0.15 feet open adjacent to a lane of traffic, a requirement of the Special Provisions. Without installing the k-rail, the costs associated with mobilizing the equipment and materials would be saved, and in addition the time it would take to install and move the k-rail would also be eliminated. This resulted in a reduction of 5 working days.

The construction management team (CM team) for this Project was exceptionally proactive. There were several issues that arose during construction which needed to be addressed quickly to keep construction moving and to ensure work progressed such that subcontractor schedules and tasks didn't slip. The CM team held weekly meetings with all relevant personnel, sometimes on-site if it was determined that it would be helpful to discuss the various topics at hand. The CM team had many tools in their tool box and used them appropriately to confirm construction progress and provide information to ensure that construction was moving along per plan. They did a great job of staying ahead of the contractor and often anticipated or recognized potential issues and identified a solution before the issue could stall construction progress.

Due to unsuitable material discovered at the existing headwall location at Willow Creek, the contractor was unable to adequately compact the in-situ material adjacent to the headwall behind the new sidewalk at the creek bank as was originally planned. Upon reviewing several alternatives, it was decided the most appropriate solution was to install a gravity retaining wall built of Ultrablock adjacent to the existing headwall to retain the material and provide long-term stabilization to the creek bank. Ultrablock was chosen for several reasons. First, this work was

occurring directly adjacent to a creek and therefore environmental considerations were high. The Ultrablock is poured and cured off-site and then transported and placed on-site which eliminates the need to pour concrete and have it cure in a waterway. It is also fabricated from surplus/waste concrete and is considered a recycled product. Secondly, the Ultrablock system doesn't require a deep or wide foundation which minimizes the amount of additional disturbance (excavation) at the creek itself to facilitate the wall. Lastly, the Ultrablock material was readily available at a nearby supplier and cost effective, so any impacts to the Project schedule, including completing any work near the creek prior to the start of the wet season and the permit deadline, October 31, could be avoided.

The contractor held regular "tool box" meetings at the start of each shift to discuss the potential hazards that may be encountered during that day's activities.

Safety of the workers and the traveling public was maintained through the site for the entire construction duration. Any noted deficiencies were addressed immediately and corrected.

Environmental considerations

Environmentally sensitive area (ESA) and silt fencing were installed at the creek and adjacent to its bank to delineate this sensitive environmental feature and discourage construction personnel from entering the area.

A 6-foot chain link fence was intact at the wetland area which prohibited construction personnel from going outside the work zone and entering into an existing wetland.

Pre-construction surveys were conducted for Western burrowing owl and nesting migratory bird and raptors in accordance with the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (ECCC HCP/NCCP) and the California Department of Fish and Wildlife (CDFW) permit requirements. No sign of burrowing owls or burrows with owl signs were detected during the preconstruction surveys. Although no active bird nests were found within the Project area, within the 500-foot survey buffer one potentially active raptor nest, one active Western scrub jay nest, one active nest colony and four active nests of non-Migratory Bird Treaty Act (MBTA) protected species were found. Buffers were established and a qualified biologist continued to monitor these nests, as well as look for any additional nests which may be occupied. Shortly after identifying the nests with potential activity, it was determined that they were in-fact not active. In addition, shortly after, the birds in those nests that were active fledged. The qualified biologist continued to monitor the site during construction to check for newly active nests, but no additional nest activity, or special status species, were observed.

All workers received environmental training on sensitive habitats and species present and potentially present within or near the Project area prior to beginning work on-site.

Stormwater treatment basins were installed on the north side of Canal Road near Loftus Road. These basins accept storm water runoff from approximately 9,000 square feet of roadway asphalt. They were constructed with a 12-inch Class 2 permeable material blanket at the bottom of the basin to facilitate infiltration and decrease the potential for standing water. With no existing storm

drain infrastructure in the immediate vicinity to tie into and creation of a new underground storm drain infrastructure system extensive and cost prohibitive, the infiltration basins not only addressed handling of the storm water in the area, but they also help to improve water quality by allowing for infiltration into the underlying soil, which assists with the removal of pollutants.

Community relations

This Project is a Safe Route to School and Lifeline Transportation grant funded Project with the goal of improving the quality of life for the community by creating a safer, dedicated route for children walking and biking to school, as well as improving access to the Pittsburg/Bay Point BART station. The Project is also an implementation of community based design efforts as well as a BART accessibility study.

During initial planning efforts for this project, the County reached out to the Bay Point community and gathered their input regarding this Project. County staff coordinated with the Bay Point Municipal Advisory Council (MAC) and the Bel Air Elementary School Parent Teacher Association (Bel Air PTA). Workshops and meetings were conducted to encourage community input and to present and discuss plans specific to the Canal Road project. Both the Bay Point MAC and the Bel Air PTA unanimously supported this project.

This Project is located in a community (Bay Point/Pittsburg/Antioch Community) that is recognized as a Community of Concern as identified on the Metropolitan Transportation Commission's (MTC) website and Regional Snapshot Analysis. The poverty level, as defined for California by MTC as 200% of the Federal average, indicates that 50.3% of the residents in this area are below the poverty level. Approximately 94% of the students at Bel Air Elementary qualify for free and reduced cost lunches.

This Project not only served the school community and aimed to reduce unemployment through improved access to BART, it also addressed a critical safety concern. The community of Bay Point has experienced the most pedestrian and bicycle related collisions in the County. During the past 12 years, 16 pedestrian or bicycle collisions have occurred, three of which resulted in pedestrian fatalities. One fatality occurred within this Project segment in 2014.

To address the high collision rate for pedestrians and bicyclists adjacent to a school and the BART station, the Project included a non-infrastructure element which consisted of funding for education and outreach activities at Bel Air Elementary School. Students engaged in class activities and assemblies regarding healthy choices as well as safety training for walking and biking to school. During these education efforts put on by Contra Costa County Health Services staff, the mother of the victim in the fatal collision spearheaded a campaign called “Because of Love.” Her efforts explained to students that “Because of Love,” students must be aware while they walk or bike to school and must travel with their “head up and phones down.” She extended this same message to drivers who must do their part to stay attentive while driving.

Following completion of construction on this Project, a Walk to School event and assembly, including a ribbon cutting, was held at Bel Air Elementary School to celebrate the new improvements.

This event included a Walk to School campaign which encouraged increased active transportation as each student who walked or biked to school that day received a backpack. The backpacks featured a safety message printed on the backpack, reflective strips for high visibility, and a healthy snack inside. An assembly at the school followed the Walk to School event with educational presentations and exhibits/booths geared toward educating the students on the benefits of walking and biking to school, and to provide tips on how to be safe.

Representatives from the County's Health Services Department, the Public Works Department, Bike East Bay, Contra Costa County Sherriff Department, Bel Air Parent Teacher Association, and the Contra Costa Food Bank assisted in the outreach and education efforts.

The "Because of Love" campaign distributed heart shaped flashers to the students to mount on their bikes or clip to backpacks to increase their visibility while traveling and to reaffirm the message to walk with "heads up and phones down"…because you are loved.

The San Francisco Giants donated sweat bands and Bike East Bay provided their smoothie machine, a blender powered by a stationary bike ridden by the students.

Supervisor Federal Glover, representing Contra Costa County District 5, attended and spoke to the students about being active in their community and shared that projects such as this one often begin with a community member phoning their local elected official. In addition, there were several parent volunteers who assisted with the activities.

Communication with the community was continuous in the planning of this Project and during construction. Prior to the start of construction, Public Notices were sent to Bel Air Elementary School and residents and businesses surrounding the project site informing them of upcoming construction activities and providing contact information. During construction, a County representative was on-site every day to monitor construction and interact with the public.

The County spoke with the school principal during construction to keep him apprised of progress and to coordinate construction activities to minimize impacts to the school. To the greatest extent possible, construction activities directly adjacent to the school were scheduled to minimize or avoid impacts during times school was actively in session, especially during morning drop off and afternoon pick up. Access to the school parking lot was maintained at all times during construction. The slurry seal application was performed on a Saturday to minimize conflict with commuters and school operations.

Construction Coordination

This Project required significant utility coordination. Some of the utility conflicts were identified and planned for during the design phase, and, unfortunately, others were found during construction. For instance, an asbestos pipeline was discovered during excavation that ran along the north side of Canal Road for approximately 300 feet and was directly in-line with a new section of storm drain that was to be installed. Removal or relocation of this asbestos line was required, but the utility owner was not apparent. Upon reaching out to utility owners in the area, it was determined that this line most likely belonged to a now defunct irrigation district that had historically operated in the

area. Upon tapping the line, it was confirmed that the line was abandoned, and the contractor subsequently removed the portion of the pipe that was in conflict with the improvements and disposed of it at an appropriate facility.

An active Shell nitrogen pipeline ran the entire length of the Project and required extensive coordination with Shell staff. At the western end of the Project the pipeline ran along the north side of the roadway and transitioned to the south side of the roadway just east of Madison Avenue. This Shell pipeline is relatively shallow and a new roadway structural section was being constructed over a significant length of the pipeline. Shell had specific requirements when excavating or working within 5 feet of this facility, which was the situation for the majority of the Project length. The type of excavation equipment that the contractor was allowed to use was dictated by Shell based on the vicinity to the pipe. Shell staff was on-site every day excavation or work near the pipeline occurred to probe and positively identify the location of their pipeline, on average at 3 foot intervals in advance of excavation and at 1 foot intervals when excavation was within 1 foot of the pipeline. No vibratory equipment was to be used within 2 feet of the pipeline so in nearly every instance the first course of aggregate base was rolled and compacted without vibration.

Further, there are three East Bay Municipal Utility District (EBMUD) aqueducts and a 26” PG&E gas line that run diagonally under Canal Road within the Project limits. Construction of a new roadway section and sidewalk was to occur over these facilities. The criteria regarding excavation and vibratory equipment allowed when working in the vicinity of these facilities varied from typical construction methods, so it was essential that the contractor follow the guidelines prescribed by EBMUD and PG&E to minimize the risk of damage.

In addition, native material at specific locations along both the north and south side of the road had hazardous levels of aerially deposited lead (ADL). The original Project documents indicated that the contractor was to excavate and off haul this material to an appropriate disposal facility. Another alternative was that the material could remain on-site if placed below one foot of clean fill and/or hardscape. Due to the labyrinth of underground utilities in the Project vicinity, it was determined during the design phase that placement of the material contaminated with ADL under future hardscape wouldn’t be feasible. However, the contractor was able to identify areas of sufficient size where the contaminated material could be placed and would be under impermeable cover.

Additional considerations

This Project required extensive collaboration between the public, the school, various County Departments, design and construction management consultants, and Caltrans to procure the funding, generate the plans, specifications and estimate, and get this project to and through construction.

By all accounts, given the issues encountered during construction, this Project would have likely been delayed by 15-20 days. However, the County, the Construction management team, the contractor and third parties (when necessary) partnered closely together by immediately meeting to resolve issues when they arose. In nearly every instance the contractor had written direction within 24 hours of an issue arising. This “partnering” approach brought everyone to the table to quickly resolve issues for the benefit of the public and the Project.

This Project is extraordinary because it fulfills a fundamental need for safety in a community that needs assistance. The Project provided a direct measure to counter the pedestrian fatalities experienced. The community was included in the planning and design of the Project and the Project also included assurances that the new infrastructure will be beneficial through reaching out to the student community with important safety messages and encouragement to choose active transportation for their health and for the environment. Although innovation is a valuable element in outstanding projects, nothing can replace an “old school” approach of listening to the community needs and providing infrastructure to serve the most vulnerable users.