

CHRIS JOHNSON HAMER
ERIC V. KIRK
JASON J. EADS
JOSHUA KAUFMAN
JEFFREY W. MONSELL

JOHN R. STOKES, III *RETIRED

THOMAS D. ROWE (1948-2011)
JOHN R. STOKES (1917-2001)
DOROTHY L. STEEVES (1926-1996)

STOKES, HAMER, KIRK & EADS, LLP
ATTORNEYS AT LAW
A LIMITED LIABILITY PARTNERSHIP

381 BAYSIDE ROAD, STE. A
ARCATA, CALIFORNIA
95521

AREA CODE 707

TELEPHONE
822-1771

FAX 822-1901

May 3, 2022

VIA E-MAIL ONLY

Humboldt County Planning Commission
3015 H St.
Eureka, California 95501
Attn: Planning Clerk planningclerk@co.humboldt.ca.us
Alan Bongio alanbongio@gmail.com
Thomas Mulder hrh707@outlook.com
Noah Levy 3noah@landwaterconsulting.com
Mike L Newman 4hcpcnewman@yahoo.com
Brian Mitchell mbrian707@gmail.com
Melanie McCavour hcpcmccavour@gmail.com
Peggy O'Neill sregon@aol.com

**Re: Old Arcata Road Rehabilitation and Pedestrian/Bikeway Improvements
Coastal Development Permit; Bayside Area; Record Number PLN-2022-1764
(filed 2/28/2022)
Meeting Date: May 5, 2022 at 6 p.m.**

Objection Based Adverse Effects on Public Safety

Dear Members of the Humboldt County Planning Commission:

On behalf of Bayside Cares, we are writing to request that the Humboldt County Planning Commission deny approval of a Coastal Development Permit for the above-referenced Project because of the increased danger of serious injury or death to pedestrians and bicyclists posed by the Project.

The Humboldt Bay Area Plan of the Humboldt County Local Coastal Program, (hereinafter referred to as the "Coastal Plan") prohibits you from approving any Project which does not comply with the Coastal Plan. (Chapter 1, pg. 1, section 1.10)

Chapter 3, page 1 of the Coastal Plan states: "the Coastal Act requires that all development be subject to standards designed to protect natural and cultural resources, **as well as to protect public safety.**" [Emphasis added.]

There are no standards in this Project to protect public safety. Public safety is endangered by this Project. The City was so preoccupied with trying to keep the roundabout within the public right-of-way, the City ignored the danger to public safety that its design would pose.

The dangers inherent in the roundabout which is part of the Project, are not disclosed in the Environmental Impact Report.

Dangers Posed to Bicyclists and Pedestrians by the Roundabout

As traffic engineer, Daniel T. Smith, Jr., states in his attached letter, putting bicycles and pedestrians together on a narrow, shared path as proposed in the Project has dangers of collisions, as does mixing bicyclists with motor vehicles, many of which are focused on negotiating the roundabout, none of which dangers have been analyzed.

As stated by traffic engineer, Daniel T. Smith, in his letter February 3, 2022 letter (attached):

“In the existing situation, clear bikeable shoulders extend up to the intersection in the northbound direction of Old Arcata with a clear path outside the Old Arcata northbound traffic lane across it ahead of the STOP line on westbound Jacoby Creek. In the southbound direction of Old Arcata, bicyclists have a bikeable shoulder clear through the intersection. On Jacoby Creek, which has defined bikeable shoulders farther east, on the last 200 feet to the intersection in both directions, the shoulder limit is undefined and there is poor pavement quality. This condition could be improved without building the roundabout.”

“In the proposed roundabout design, northbound bicyclists have an undesirable choice. They must merge (perhaps abruptly if unfamiliar with the route) from the bikeable shoulder into the northbound traffic lane on Old Arcata, through the roundabout in mixed and crossing traffic before regaining the bikeable shoulder at the intersection with the branch of Old Arcata serving the Post Office and the pump station.

“Or, they can go up a ramp, making an abrupt reverse S turn to a path shared by pedestrians and bicyclists that leads circuitously around the east side of the roundabout.”

“On the way around it, they cross Jacoby Creek Road on a crosswalk that is roughly halfway between the roundabout and the branch of Old Arcata serving the Post Office. For a bicyclist deciding whether to enter the crosswalk, there will be uncertainty whether a motorist approaching westbound on Jacoby Creek and signaling for a right turn is turning into the Post Office segment and hence not a threat or is turning into the roundabout and is one.”

“This same dilemma faces pedestrians headed southbound into the crosswalk. Southbound cyclists who currently have a clear bikeable shoulder through the intersection will have to make a choice whether to ride through the roundabout in mixed traffic or ride around the west side of it on a shared path with pedestrians. Although the transition from the shoulder to the traffic lane is less abrupt than in the northbound direction, the narrowness of the lane as it continues southward means that the cyclist will have to fully occupy the traffic lane instead of traveling to the right of motor vehicle paths. If the cyclist chooses to use the shared path, the transition is via abrupt reverse S curve at the last private driveway north of the roundabout or an even more abrupt reverse S curve

at the ramp closer to the roundabout itself. On the whole, it seems more likely than not that the roundabout will be more detrimental to cyclists than the existing situation.”

“Intersections and Driveways Close to the Roundabout Compound the Difficulty of Driver Decisions in and Near the Roundabout and May Result in Decreased, not Increased Safety”

“Another part of the improved safety claim is that roundabouts decrease conflict points. But in this case, there are two private driveways on the west side of Old Arcata, one in the striped portion of the north separator island, one that causes the raised portion of the south separator island to be split with a striped section in between. There is the Post Office access portion of Old Arcata, one end of which intersects within the striped opening of the north separator island; the other of which intersects Jacoby Creek just to the east of the raised portion. Two private driveways intersect Jacoby Creek near the roundabout within the striped portion of the easterly separator, one of which is commercial, island and also a lengthy portion of the Bayside Community Hall parking area that has continuous mountable curb access along the striped portion of the easterly separator island.”

“If, as it appears, the intent is to continue to have full movements access/egress at all of these points, they constitute additional conflict points that would constitute additional conflict points that compound operational and safety issues associated with the roundabout. If the intent is to limit some or all of these points to right turn in/right turn out, this could trigger severance damage payments, which is akin to a taking of right of way.”

Daniel T. Smith, Jr. notes in his second attached letter that, just a few months ago, there were three injury or fatality collisions at or in the close proximity of roundabouts in the Arcata vicinity involving motor vehicles with bicyclists or pedestrians, two along Old Arcata Road itself and another near the roundabout at the intersection of Spear Avenue, St. Louis Road and West End Road. While the causation analysis of these accidents has not yet been completed, their occurrence makes obvious that the lack of analysis of the history, causation and severity at the intersection of Old Arcata Road and Jacoby Creek Road is a major flaw in the justification of the roundabout feature of the Project.

In addition, he also notes that Arcata Fire’s Critical Emergency Response Vehicle, a quint, will not be able to negotiate the roundabout, further endangering public safety.

As explained in the attached letter from traffic engineer, Daniel T. Smith, Jr., based on the latest photo of the entire vehicle fleet operated by the Arcata Fire District posted on the District’s web site, the District operates a unique type of fire vehicle known generically as a “quint”. A quint combines the functions of an aerial ladder truck and an engine (“pumper”) truck. The vehicle operated by the Arcata Fire District is a 2001 American LaFrance 3-axle quint with an overall width of 10.25 feet (instead of the 8.5 feet width of a normal design truck), a relatively short wheelbase of 21.5 feet but large overhangs front and rear. The front overhang

is 8.5 feet to the front bumper and about 12.5 feet counting the overhang to the ladder platform. The rear overhang from the center of the rear axles is 16 feet. Its maximum steering angle is 39.3 degrees. Traffic engineer, Daniel T. Smith, Jr., states, that “these unique dimensions make this fire apparatus a design vehicle of particular concern at any roundabout.”

There is no analysis in the Environmental Impact Report whether this critical emergency response vehicle can negotiate the proposed roundabout successfully and at satisfactory emergency response speed. There is no analysis of the potential adverse effects on both public safety and traffic flow, if the quint cannot negotiate the proposed roundabout, or if the quint can only negotiate the proposed roundabout at extremely slow speeds, backing up traffic and other emergency response vehicles such as ambulances and other fire fighting vehicles.

Mr. Smith also notes in his February 3, 2022 letter that the roundabout, as designed, will not accommodate oversized vehicles. All the other roundabouts on Old Arcata Road accommodate oversized vehicles. So--if an oversized vehicles comes onto Old Arcata Road, it will be blocked once it encounters the roundabout, leading to traffic backup and creating a risk to public safety, particularly emergency vehicle access to the Project area.

The City of Arcata Gives No Evidence Based Justification for the Roundabout.

As traffic engineer, Daniel T. Smith, Jr., notes in his attached letter:

“The environmental documents contain no formal analysis of documented accident experience and causation justifying provision of a roundabout. Claimed need is purely anecdotal reports and hypothetical conjecture that building a roundabout here would improve safety when there is no evidence that there is a safety problem that would justify such a drastic measure.”

“Nowhere does any version of the EIR or related documents, such as the Project Study Report, establish that there is a fundamental need for the roundabout feature by operational analysis (level-of-service), nor is adequacy of the roundabout as proposed, demonstrated through this form of analysis.”

“In the EIR, in the “Purpose and Need” section of the Project Description states as follows:

“The Project is intended and designed to serve current City population.”

Yet curiously and inconsistently, within the same Purpose and Need section, it attempts to justify the roundabout by citing a very poor Level-of-Service (“LOS”) prediction for the current Jacoby Creek/Old Arcata intersection configuration and control based upon a Caltrans study *estimated volumes for Year 2041.*”

“--Yet nowhere, not even in the related Project Study Report, does the Project documentation ever demonstrate that the roundabout as proposed would have adequate capacity to service Year 2041 volumes or even current year volumes.”

“The EIR documents are also inconsistent in dismissing alternatives that involve adding improved traffic control (3-way STOP or Traffic Signal) to the current intersection alignment, stating that all-way STOP and Signal warrants are not met. However, there is no evidence that the EIR considered the 2041 volumes predicted by Caltrans in making these warrant assessments. The City could obviously add all-way STOP control as soon as traffic growth results in these warrants being met.”

Conclusion

The Humboldt Bay Area Plan of the Humboldt County Local Coastal Program, (hereinafter referred to as the “Coastal Plan”) prohibits you from approving any Project which does not comply with the Coastal Plan. (Chapter 1, pg. 1, section 1.10)

Chapter 3, page 1 of the Coastal Plan states: “the Coastal Act requires that all development be subject to standards designed to protect natural and cultural resources, **as well as to protect public safety.**” [Emphasis added.]

There are no standards in this Project to protect public safety. Public safety is endangered by this Project, as described in detail above, and in the attached letters from traffic engineer, Daniel T. Smith, Jr. There also is no evidence-based justification for the roundabout feature of the project, which will cause such a radical modification of the intersection and area.

On the basis of the foregoing, the Planning Commission must deny approval of a Coastal Development Permit for the Project.

Very truly yours,

STOKES, HAMER, KIRK & EADS, LLP

Chris Johnson Hamer

By: _____
Chris Johnson Hamer

CJH/ja
Encls: Two letters from
Daniel T. Smith, Traffic Engineer



February 3, 2022

Mr Chris Johnson Hamer
Stokes, Hamer, Kirk & Eads, LLP
381 Bayside Road
Arcata, CA 95521

**Subject: Old Arcata Road Rehabilitation and Pedestrian/Bikeway
Improvements** P22001

Dear Mr. Hamer:

Per your request, I reviewed the Final Environmental Impact Report (the "FEIR"), the Partially Recirculated Draft Environmental Impact Report (the "RDEIR"), and the original Draft Environmental Impact Report (the "DEIR"), including the 30% Design Plans appended thereto for the Old Arcata Road Rehabilitation and Pedestrian/Bikeway Improvements Project (the "Project") in the City of Arcata (the "City"). My review is focused on the roundabout component of the Project proposed for the intersection of Old Arcata Road and Jacoby Creek Road.

My qualifications to perform this review include registration as a Civil and Traffic Engineer in California, over 50 years professional consulting practice in these fields. My professional resume is attached herewith.

Overview

The above referenced documents do not provide any quantitative justification for including the roundabout in the Project, do not provide any quantitative assessment of its performance, do not provide a comparison of its features to design standards and operational performance criteria or assess what design vehicles it is capable of serving. There is no assessment of some of the complicating operational considerations that exist at this intersection. The only assessments of the roundabout are in qualitative platitudes. In short, the situation is as if someone decided it would be nice to have a roundabout at this location, drew the largest one that could be squeezed into the public right-of-way

and said, “This is perfection.” Such an approach does not meet the requirements of the good faith effort to disclose impact that CEQA demands.

There Is No Evidence of Actual Collision Experience Justifying The Proposed Roundabout

The environmental documents have provided no formal analysis of documented accident experience and causation justifying provision of a roundabout. Claimed need is purely anecdotal reports and hypothetical conjecture that building a roundabout here would improve safety when there is no evidence that there is a safety problem that would justify such a drastic measure. The EIR or design study should have done a formal study of accident records and causation at this location and compared the incidence to statewide records of accidents per million vehicles at intersections of this type. The EIR is deficient not having done so.

Nowhere Does Any Version of the EIR or Related Document Such As the Project Study Report Establish Fundamental Need for the Roundabout Feature By Operational Analysis (Level-of-Service) Nor Is Adequacy of the Roundabout As Proposed Demonstrated Through This Form of Analysis

The RDEIR, in the Purpose and Need section of the Project Description states as follows:

“The Project is intended and designed to serve current City population.”¹
Yet curiously and inconsistently, within the same Purpose and Need section, it attempts to justify the roundabout by citing a very poor Level-of-Service (“LOS”) prediction for the current Jacoby Creek/Old Arcata intersection configuration and control based upon a Caltrans study *estimated volumes for Year 2041*.² Yet nowhere, not even in the related Project Study Report, does the Project documentation ever demonstrate that the roundabout as proposed would have adequate capacity to service Year 2041 volumes or even current year volumes. While the City and its consultants may argue that LOS is no longer a CEQA criterion for transportation impacts, it is a recognized and necessary criterion for adequacy of design and the EIR must disclose to the public whether or not the design meets conventional adequacy tests.

The EIR documents are also inconsistent in dismissing alternatives that involve adding improved traffic control (3-way STOP or Traffic Signal) to the current intersection alignment, stating that all-way STOP and Signal warrants are not met. However, there is no evidence that the EIR considered the 2041 volumes predicted by Caltrans in making these warrant assessments. The City could obviously add all-way STOP control as soon as traffic growth results in these warrants being met.

¹ RDEIR, page 2-2.

² Eureka-Arcata Route 101 Corridor Improvement Project EIR, Caltrans, Dec. 2016, Table 3-13, p 166.

The Extent to which the Roundabout Would Reduce Traffic Speeds Is Undisclosed

The EIR claims the roundabout would engender safety by reducing vehicle speeds through the intersection. This claim is solely based on generalizations in guidance literature. The EIR and its supporting documentation have not produced any computations of entry speeds and speeds of various movements through the roundabout. These can be computed using methods detailed in Sections 6.7.1 through 6.7.2 of NCHRP Research Report 672: Roundabouts, An Informational Guide, Second Edition, a document that the EIR claims to have relied on. The Project documentation contains no data on observed existing speed distribution and critical speed through the intersection.

Creation of a Roundabout at the Intersection of Old Arcata and Jacoby Creek Roads Existing Public Right of Way Results in a Design Inconsistent With Standards and Fundamental Needs

For single lane roundabouts in rural areas, FHWA guidance³ recommends the WB-67 tractor-trailer truck (STAA truck) as the design vehicle. Caltrans most recent edition of the California Highway Design Manual⁴ recommends an inscribed Roundabout diameter of 130 to 180 feet to accommodate WB-67 trucks and an inscribed diameter of 105 to 130 feet to accommodate WB-50 (California Legal) trucks. At an inscribed diameter of only 107 feet, the proposed roundabout is far too small for the WB-67 design vehicle and barely meets the minimum for the WB-50 truck⁵.

It is noteworthy that the proposed roundabout is considerably smaller than roundabouts to the north and south on Old Arcata Road at Buttermilk Lane and at Indianola Cut. We summarize the differences below.

	Old Arcata/Jacoby Creek	Old Arcata/Buttermilk	Old Arcata/Indianola Cut
Inscribed Circle Diameter	107 ft.	140 ft.	140 ft.
Central Island Radius	33 ft.	50 ft.	50ft.
Paved Apron in Island Radius	12 ft.	15 ft.	20 ft.
Circulation Lane	20-21 ft.	20 ft.	22-25 ft.

³ *Roundabouts, An Informational Guide*, U.S. Department of Transportation, Federal Highway Administration, June 2000.

⁴ Dated July 1, 2020. See Topic 405.10 (3).

⁵ The WB-50's ability to successfully negotiate the proposed roundabout may be compromised by its slightly asymmetric shape.

Both the Buttermilk and Indianola Cut roundabouts would accommodate the WB-67 design vehicle. It is unusual and contrary to principles of alignment consistency for the middle roundabout in a series of 3 within a distance of about 3.5 miles on the same rural arterial to fail to accommodate the same design vehicle as those flanking it.

The environmental documents and the 30 Percent Design drawings give no indication what design vehicles can successfully negotiate the proposed roundabout or the speeds at which they can do so. The documents should present scale drawings of the swept path of design vehicles turning around the roundabout. Caltrans advises that to accurately simulate the design vehicle swept path traveling through a roundabout, the minimum speed of the design vehicle used in computer simulation software (e.g., Auto Turn) should be 10 miles per hour through the roundabout.⁶ Caltrans Highway Design Manual also advises that the design vehicle is to navigate the roundabout with the front tractor wheels off the truck apron [that is, remaining entirely within the circulatory roadway]. Caltrans also advises that transit vehicles, fire apparatus and single unit delivery vehicles must be able to navigate the roundabout without using the truck apron.⁷

Unless the public is provided with accurate illustrations of what vehicles can successfully negotiate the proposed roundabout, the environmental documentation is deficient.

Oversized Vehicles Are An Important Consideration

The Purpose and Need section of the RDEIR states at page 2-2:

"Old Arcata Road acts as an alternative route and oversized load route for Highway 101".

Caltrans Highway Design Manual and NCHRP 672 give somewhat conflicting guidance with regard to accommodating oversized vehicles. Caltrans HDM Topic 405.10(2) states "Roundabouts should not be oversized for the occasional permit vehicle" while NCHRP 672 at pages 6-13 and 6-14 states "In rural environments, farming or mining equipment may govern design vehicle needs" and "Oversized vehicles (sometimes referred to as "superloads") are another potential design vehicle that may require consideration in some locations, particularly in rural areas and at freeway interchanges". Given the implication of the purpose and need statement that Caltrans regularly directs oversize loads that it calls permit loads to Old Arcata Road rather than on Route 101, and the fact that locally there may be significant transport of oversized logging yarders, logging loaders, large bulldozers and backhoes, the NCHRP guidance should be followed. Also, the Arcata Fire District web site indicates that the District operates one vehicle of a type called a "quint", a type of apparatus that is a

⁶ Op. Cit., Topic 405.10 (2).

⁷ Op. Cit., Topic 405.10 (3).

combination of aerial ladder truck and 'pumper'. These vehicles have relatively short wheel bases compared to their overall length, but large overhangs at the front and rear and a wider overall width than typical over-the-road trucks (about 10.5 feet versus 8.5 feet for conventional WB-50 and WB-67 trucks). Consequently, they have a large 'swept area' on the exterior side of the curve. The EIR should obtain this vehicle's turning templates from the Fire District or the vehicle's manufacturer and assure that it can be satisfactorily accommodated at the proposed roundabout. Also, turning characteristics of vehicles that move large logging loaders and yarders as well as bulldozers and backhoes through the intersection should be considered. The EIR should not be certified until these considerations are addressed.

It Is Unlikely That the Roundabout Would Improve Conditions for Bicyclists

In the existing situation, clear bikeable shoulders extend up to the intersection in the northbound direction of Old Arcata with a clear path outside the Old Arcata northbound traffic lane across it ahead of the STOP line on westbound Jacoby Creek. In the southbound direction of Old Arcata, bicyclists have a bikeable shoulder clear through the intersection. On Jacoby Creek, which has defined bikeable shoulders farther east, on the last 200 feet to the intersection in both directions, the shoulder limit is undefined and there is poor pavement quality. This condition could be improved without building the roundabout.

In the proposed roundabout design, northbound bicyclists have an undesirable choice. They must merge (perhaps abruptly if unfamiliar with the route) from the bikeable shoulder into the northbound traffic lane on Old Arcata, through the roundabout in mixed and crossing traffic before regaining the bikeable shoulder at the intersection with the branch of Old Arcata serving the Post Office and the pump station. Or, they can go up a ramp, making an abrupt reverse S turn to a path shared by pedestrians and bicyclists that leads circuitously around the east side of the roundabout. On the way around it, they cross Jacoby Creek Road on a crosswalk that is roughly halfway between the roundabout and the branch of Old Arcata serving the Post Office. For a bicyclist deciding whether to enter the crosswalk, there will be uncertainty whether a motorist approaching westbound on Jacoby Creek and signaling for a right turn is turning into the Post Office segment and hence not a threat or is turning into the roundabout and is one. This same dilemma faces pedestrians headed southbound into the crosswalk. Southbound cyclists who currently have a clear bikeable shoulder through the intersection will have to make a choice whether to ride through the roundabout in mixed traffic or ride around the west side of it on a shared path with pedestrians. Although the transition from the shoulder to the traffic lane is less abrupt than in the northbound direction, the narrowness of the lane as it continues southward means that the cyclist will have to fully occupy the traffic lane instead of traveling to the right of motor vehicle paths. If the cyclist chooses to use the shared path,

the transition is via abrupt reverse S curve at the last private driveway north of the roundabout or an even more abrupt reverse S curve at the ramp closer to the roundabout itself. On the whole, it seems more likely than not that the roundabout will be more detrimental to cyclists than the existing situation.

Intersections and Driveways Close to the Roundabout Compound the Difficulty of Driver Decisions In and Near the Roundabout and May Result In Decreased, not Increased Safety

Another part of the improved safety claim is that roundabouts decrease conflict points. But in this case, there are two private driveways on the west side of Old Arcata, one in the stripped portion of the north separator island, one that causes the raised portion of the south separator island to be split with a stripped section in between. There is the Post Office access portion of Old Arcata, one end of which intersects within the stripped opening of the north separator island; the other of which intersects Jacoby Creek just to the east of the raised portion. Two private driveways intersect Jacoby Creek near the roundabout within the stripped portion of the easterly separator, one of which is commercial, island and also a lengthy portion of the Bayside Community Hall parking area that has continuous mountable curb access along the stripped portion of the easterly separator island. If, as it appears, the intent is to continue to have full movements access/egress at all of these points, they constitute additional conflict points that would constitute additional conflict points that compound operational and safety issues associated with the roundabout. If the intent is to limit some or all of these points to right turn in/right turn out, this could trigger severance damage payments, which is akin to a taking of right of way.

The List of Projects Considered in Cumulative Analysis Is Incomplete

The list of projects on DEIR Table 3-1 totals only three, each of which would generate temporary construction traffic but no long term traffic growth. There are other development projects that would generate significant long term traffic growth through the entire Project area and particularly through the intersection of Old Arcata Road with Jacoby Creek Road. One such project is the Arcata Gateway Plan which involves major development in the center of Arcata. Although the draft of this plan was not released until December 1, 2021, that draft reveals at page 7 that the plan has been under community discussion since “late 2020”, well before the Notice of Preparation for the Old Arcata Road Project was issued on March 14, 2021. A second is the designation of California State University Humboldt as a Polytechnic University, with a prospective significant increase in enrollment. The North Coast Journal article of November 24, 2020 indicates this change was in the works for a few days prior to that date, again well prior to the Old Arcata Road Project’s NOP date of March 14, 2020. Furthermore, in 2019 the City filed an Amendment to its Timber Harvest Plan, indicating its intent to log a large acreage of parcels it owns that are accessed of

Mr. Chris Johnson Hamer
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February 3, 2022
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Jacoby Creek Road. Again, this is well prior to the Old Arcata Road Project's NOP date of March 14, 2020. The timber harvesting is significant in that it indicates continuing need for oversize vehicles carrying yarders, log loaders and large bulldozers and backhoes to pass through the intersection of Old Arcata Road with Jacoby Creek Road. Without identifying these cumulative projects and considering them in the EIR analysis, the EIR is fatally flawed.

The DEIR's Asserting of Environmentally Preferred Equivalency of the Roundabout Element to the Alternative of Making Improvements on the Existing Alignment of the Old Arcata Road/Jacoby Creek Road Is Biased

For all the above stated reasons, the claimed performance benefits of the Improvement Project with the roundabout are in doubt. In addition, the possible improvement with the existing alignment is understated. Reasonable enhancements not made to the alternative on the existing alignment include:

- Using raised crosswalks on all crosswalks. This would reduce vehicle speeds in the intersection area.
- Providing a split raised island with mountable curbs protecting the crosswalk across Jacoby Creek Road. Jacoby Creek Road at this location is just as wide as the crosswalk across Old Arcata Road just north of the Post Office access where a similar island is provided.
- Note that this alternative can be readily converted to All Way Stop or Signal Control once warranted.
- Recognize that this alternative enables continued parking in the public right of way but outside the traveled way and sidewalk at the southeast corner of Old Arcata and Jacoby Creek Roads.

Conclusion

This concludes my current comments on the Old Arcata Road Project and EIR. Given all of the foregoing, the document cannot be certified and the Project approved without significant revision.

Sincerely,

Smith Engineering & Management
A California Corporation

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Daniel T. Smith Jr., P.E.
President



SMITH ENGINEERING & MANAGEMENT

DANIEL T. SMITH, Jr.
President

EDUCATION

Bachelor of Science, Engineering and Applied Science, Yale University, 1967
Master of Science, Transportation Planning, University of California, Berkeley, 1968

PROFESSIONAL REGISTRATION

California No. 21913 (Civil) Nevada No. 7969 (Civil) Washington No. 29337 (Civil)
California No. 938 (Traffic) Arizona No. 22131 (Civil)

PROFESSIONAL EXPERIENCE

Smith Engineering & Management, 1993 to present. President.
DKS Associates, 1979 to 1993. Founder, Vice President, Principal Transportation Engineer.
De Leuw, Cather & Company, 1968 to 1979. Senior Transportation Planner.
Personal specialties and project experience include:

Litigation Consulting. Provides consultation, investigations and expert witness testimony in highway design, transit design and traffic engineering matters including condemnations involving transportation access issues; traffic accidents involving highway design or traffic engineering factors; land use and development matters involving access and transportation impacts; parking and other traffic and transportation matters.

Urban Corridor Studies/Alternatives Analysis. Principal-in-charge for State Route (SR) 102 Feasibility Study, a 35-mile freeway alignment study north of Sacramento. Consultant on I-280 Interstate Transfer Concept Program, San Francisco, an AA/EIS for completion of I-280, demolition of Embarcadero freeway, substitute light rail and commuter rail projects. Principal-in-charge, SR 238 corridor freeway/expressway design/environmental study, Hayward (Calif.) Project manager, Sacramento Northeast Area multi-modal transportation corridor study. Transportation planner for I-80N West Terminal Study, and Harbor Drive Traffic Study, Portland, Oregon. Project manager for design of surface segment of Woodward Corridor LRT, Detroit, Michigan. Directed staff on I-80 National Strategic Corridor Study (Sacramento-San Francisco), US 101-Sonoma freeway operations study, SR 92 freeway operations study, I-880 freeway operations study, SR 152 alignment studies, Sacramento RTD light rail systems study, Tasman Corridor LRT AA/EIS, Fremont-Warm Springs BART extension plan/EIR, SRs 70/99 freeway alternatives study, and Richmond Parkway (SR 93) design study.

Area Transportation Plans. Principal-in charge for transportation element of City of Los Angeles General Plan Framework, shaping nations largest city two decades into 21st century. Project manager for the transportation element of 300-acre Mission Bay development in downtown San Francisco. Mission Bay involves 7 million gsf office/commercial space, 8,500 dwelling units, and community facilities. Transportation features include relocation of commuter rail station; extension of MUNI-Metro LRT; a multi-modal terminal for LRT, commuter rail and local bus; removal of a quarter mile elevated freeway; replacement by new ramps and a boulevard; an internal roadway network overcoming constraints imposed by an internal tidal basin; freeway structures and rail facilities; and concept plans for 20,000 structured parking spaces. Principal-in-charge for circulation plan to accommodate 9 million gsf of office/commercial growth in downtown Bellevue (Wash.). Principal-in-charge for 64 acre, 2 million gsf multi-use complex for FMC adjacent to San Jose International Airport. Project manager for transportation element of Sacramento Capitol Area Plan for the state governmental complex, and for Downtown Sacramento Redevelopment Plan. Project manager for Napa (Calif.) General Plan Circulation Element and Downtown Riverfront Redevelopment Plan, on parking program for downtown Walnut Creek, on downtown transportation plan for San Mateo and redevelopment plan for downtown Mountain View (Calif.), for traffic circulation and safety plans for California cities of Davis, Pleasant Hill and Hayward, and for Salem, Oregon.

TRAFFIC • TRANSPORTATION • MANAGEMENT
5311 Lowry Road, Union City, CA 94587 tel: 510.489.9477 fax: 510.489.9478

Transportation Centers. Project manager for Daly City Intermodal Study which developed a \$7 million surface bus terminal, traffic access, parking and pedestrian circulation improvements at the Daly City BART station plus development of functional plans for a new BART station at Colma. Project manager for design of multi-modal terminal (commuter rail, light rail, bus) at Mission Bay, San Francisco. In Santa Clarita Long Range Transit Development Program, responsible for plan to relocate system's existing timed-transfer hub and development of three satellite transfer hubs. Performed airport ground transportation system evaluations for San Francisco International, Oakland International, Sea-Tac International, Oakland International, Los Angeles International, and San Diego Lindberg.

Campus Transportation. Campus transportation planning assignments for UC Davis, UC Berkeley, UC Santa Cruz and UC San Francisco Medical Center campuses; San Francisco State University; University of San Francisco; and the University of Alaska and others. Also developed master plans for institutional campuses including medical centers, headquarters complexes and research & development facilities.

Special Event Facilities. Evaluations and design studies for football/baseball stadiums, indoor sports arenas, horse and motor racing facilities, theme parks, fairgrounds and convention centers, ski complexes and destination resorts throughout western United States.

Parking. Parking programs and facilities for large area plans and individual sites including downtowns, special event facilities, university and institutional campuses and other large site developments; numerous parking feasibility and operations studies for parking structures and surface facilities; also, resident preferential parking .

Transportation System Management & Traffic Restraint. Project manager on FHWA program to develop techniques and guidelines for neighborhood street traffic limitation. Project manager for Berkeley, (Calif.), Neighborhood Traffic Study, pioneered application of traffic restraint techniques in the U.S. Developed residential traffic plans for Menlo Park, Santa Monica, Santa Cruz, Mill Valley, Oakland, Palo Alto, Piedmont, San Mateo County, Pasadena, Santa Ana and others. Participated in development of photo/radar speed enforcement device and experimented with speed humps. Co-author of Institute of Transportation Engineers reference publication on neighborhood traffic control.

Bicycle Facilities. Project manager to develop an FHWA manual for bicycle facility design and planning, on bikeway plans for Del Mar, (Calif.), the UC Davis and the City of Davis. Consultant to bikeway plans for Eugene, Oregon, Washington, D.C., Buffalo, New York, and Skokie, Illinois. Consultant to U.S. Bureau of Reclamation for development of hydraulically efficient, bicycle safe drainage inlets. Consultant on FHWA research on effective retrofits of undercrossing and overcrossing structures for bicyclists, pedestrians, and handicapped.

MEMBERSHIPS

Institute of Transportation Engineers Transportation Research Board

PUBLICATIONS AND AWARDS

Residential Street Design and Traffic Control, with W. Homburger *et al.* Prentice Hall, 1989.

Co-recipient, Progressive Architecture Citation, *Mission Bay Master Plan*, with I.M. Pei WRT Associated, 1984.

Residential Traffic Management, State of the Art Report, U.S. Department of Transportation, 1979.

Improving The Residential Street Environment, with Donald Appleyard *et al.*, U.S. Department of Transportation, 1979.

Strategic Concepts in Residential Neighborhood Traffic Control, International Symposium on Traffic Control Systems, Berkeley, California, 1979.

Planning and Design of Bicycle Facilities: Pitfalls and New Directions, Transportation Research Board, Research Record 570, 1976.

Co-recipient, Progressive Architecture Award, *Livable Urban Streets, San Francisco Bay Area and London*, with Donald Appleyard, 1979.



SMITH ENGINEERING & MANAGEMENT

February 14, 2022

Ms. Chris Johnson Hamer
Stokes, Hamer, Kirk & Eads, LLP
381 Bayside Road
Arcata, CA 95521

Subject: Old Arcata Road Rehabilitation and Pedestrian/Bikeway Project
P22001

Dear Ms. Hamer:

This supplements my review of the roundabout component of the Project at the intersection of Old Arcata and Jacoby Creek Roads dated February 3, 2022.

Encouraging Bicyclists to Travel Around the Roundabout on a Narrow Sidewalk Path Shared With Pedestrians Is Not an Enhancement to Safety

My letter of February 3 notes the difficulty of maneuvers to the narrow shared paths with pedestrians around the east and west sides of the proposed roundabout. We also note that the literature cited in the Project documentation and repeated anecdotal reports of experienced bicyclists indicate the hazardous conflicts between bicyclists and pedestrians on narrow shared paths such as are proposed in the Project's roundabout design create an undesirable environment for bicyclists and pedestrians alike.

Recent Collision Experience Is Relevant

In the past several days, there have been three injury or fatality collisions at or in the close proximity of roundabouts in the Arcata vicinity involving motor vehicles with bicyclists or pedestrians, two along Old Arcata Road itself and another near the roundabout at the intersection of Spear Avenue, St Louis Road and West End Road. While the causation analysis of these accidents has not yet been completed, their occurrence makes obvious that the lack of analysis of the history, causation and severity at the intersection of Old Arcata Road and Jacoby

Creek Road is a major flaw in the justification of the roundabout feature of the Project. We also note that 2019 Google Earth Street View photos of the Spear/St. Louis/West End roundabout appear to show settlement and inconsistent maintenance of the truck apron on this roundabout.

Adequacy of Roundabout Dimensions For Transit by a Critical Fire Apparatus Undocumented

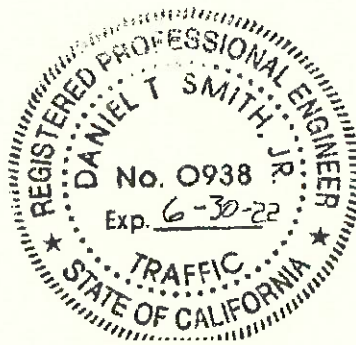
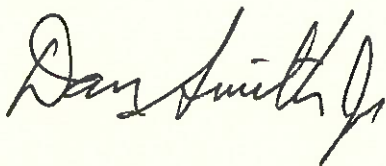
Based on the latest photo of the entire vehicle fleet operated by the Arcata Fire District posted on the District's web site, the District is believed to operate a unique type of fire vehicle known generically as a "quint". Quints combine the functions of an aerial ladder truck and an engine ('pumper') truck. The vehicle operated by the Arcata Fire District is a 2001 American LaFrance 3-axle quint with an overall width of 10.25 feet (instead of the 8.5 foot width of a normal design truck), a relatively short wheelbase of 21.5 feet but large overhangs front and rear. The front overhang is 8.5 feet to the front bumper and about 12.5 feet counting the overhang to the ladder platform. The rear overhang from the center of the rear axles is 16 feet. Its maximum steering angle is 39.3 degrees. These unique dimensions make this fire apparatus a design vehicle of particular concern at any roundabout. The record gives no indication that there has been any check that this critical emergency response vehicle can negotiate the proposed roundabout successfully and at satisfactory emergency response speed.

Conclusion

Thank you for the opportunity to submit these supplementary comments. We trust the City Council will consider these comments in its consideration of the objectionable roundabout feature of the Project.

Sincerely,

Smith Engineering & Management
A California Corporation



Daniel T. Smith Jr., P.E.



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FIRE-RESCUE

ARCATA FIRE
DISTRICT

8283

