Chapter 2
Project Description

Project Location

The proposed project is located on SR 32 between SR 99 to the west and Yosemite Drive to the east in the City of Chico, Butte County (Figures 2-1 and 2-2). SR 32 crosses SR 99 and is a two- to four-lane, east-west highway providing connections between Interstate 5 to the west and Chico and rural communities to the north and east of Chico.

Through the project area, SR 32 transitions from west to east as a one-way city couplet (East 8th Street and East 9th Street) to a four-lane state highway to a two-lane state highway west of Forest Avenue and extending past Yosemite Drive. Caltrans' Transportation Concept Report for SR 32 (March 1997) identifies the ultimate facility within the project limits as a four-lane controlled access expressway (Segments 10, 11, and 12 from Fir Street to Yosemite Drive).

Project Area Description

SR 32 in the project area serves primarily local traffic associated with development north and south along the project corridor. Caltrans maintains access control along SR 32, prohibits breaks in access, and requires all development to use existing intersections. There are five intersections along the project corridor: Fir Street, Forest Avenue, El Monte Avenue, Bruce Road, and Yosemite Drive. In addition, there are four signalized ramp intersections associated with the SR 99 interchange.

Land uses along the project corridor vary from offices and businesses near SR 99 to offices and residences farther east. Land between SR 99 and El Monte Avenue is generally developed, primarily with residential uses on the north and office, commercial, and residential uses on the south. Two park-and-ride lots are located between the eastbound and westbound lanes on both sides of Fir Street. Dead Horse Slough crosses under SR 32 just east of Forest Avenue. There are a few undeveloped parcels along this section; however, most of this area is developed. All of the development backs up to SR 32, with backyard fences and landscaping separating the development from the highway.

Land between El Monte Avenue and Yosemite Drive along the project corridor is generally undeveloped, with the exception of an office and residential development located on the north side of SR 32 between Bruce Road and Yosemite Drive and recent building activity on the south side of SR 32 east of El Monte Avenue. The undeveloped land is characterized by an almost flat topography with nonnative annual grassland, isolated wetlands, and vernal pools. The South Fork Dead Horse Slough crosses under SR 32 in a culvert just east of Bruce Road. Hank Marsh Junior High School is located just south of SR 32 at the intersection of Humboldt Road and El Monte Avenue. The Humboldt Road Burn Dump is located east of Bruce Road and south of SR 32.

The existing drainage along SR 32 consists of roadside ditches that generally parallel the road and convey flow to Dead Horse Slough and the South Fork Dead Horse Slough on the east end and drain to a formal storm drain system on the west end that ties to Little Chico Creek.

There are several utilities that cross SR 32 in the project area, including water and wastewater pipes, electrical lines, and a Western Area Power Administration 230-kilovolt (kV) transmission line just east of the Yosemite Drive intersection; however, there are no known utilities that parallel the facility.

There are no pedestrian or bicycle facilities existing or proposed along SR 32. Pedestrian and bicycle facilities exist on the parallel roads north and south of SR 32.

Project Purpose and Need

Project Purpose

The purpose of the proposed project is to provide additional capacity needed to accommodate approved and planned development on and near the SR 32 corridor between SR 99 and Yosemite Drive. The widening of SR 32 is consistent with the City's general plan and reflects the current Caltrans' transportation concept report.

Project Need

The project is needed because local growth in the area is anticipated to increase traffic beyond current capacity on SR 32, resulting in congestion. There are existing operational and safety concerns at the SR 99/SR 32 interchange that can be expected to worsen if the intersections of the two state highway facilities are not improved. The intersection improvements will also help maintain and improve connectivity between the neighborhoods north and south of SR 32.

Without the proposed project, the congestion and safety issues will increase and substantially degrade the operations of SR 32 and SR 99 in the project area.

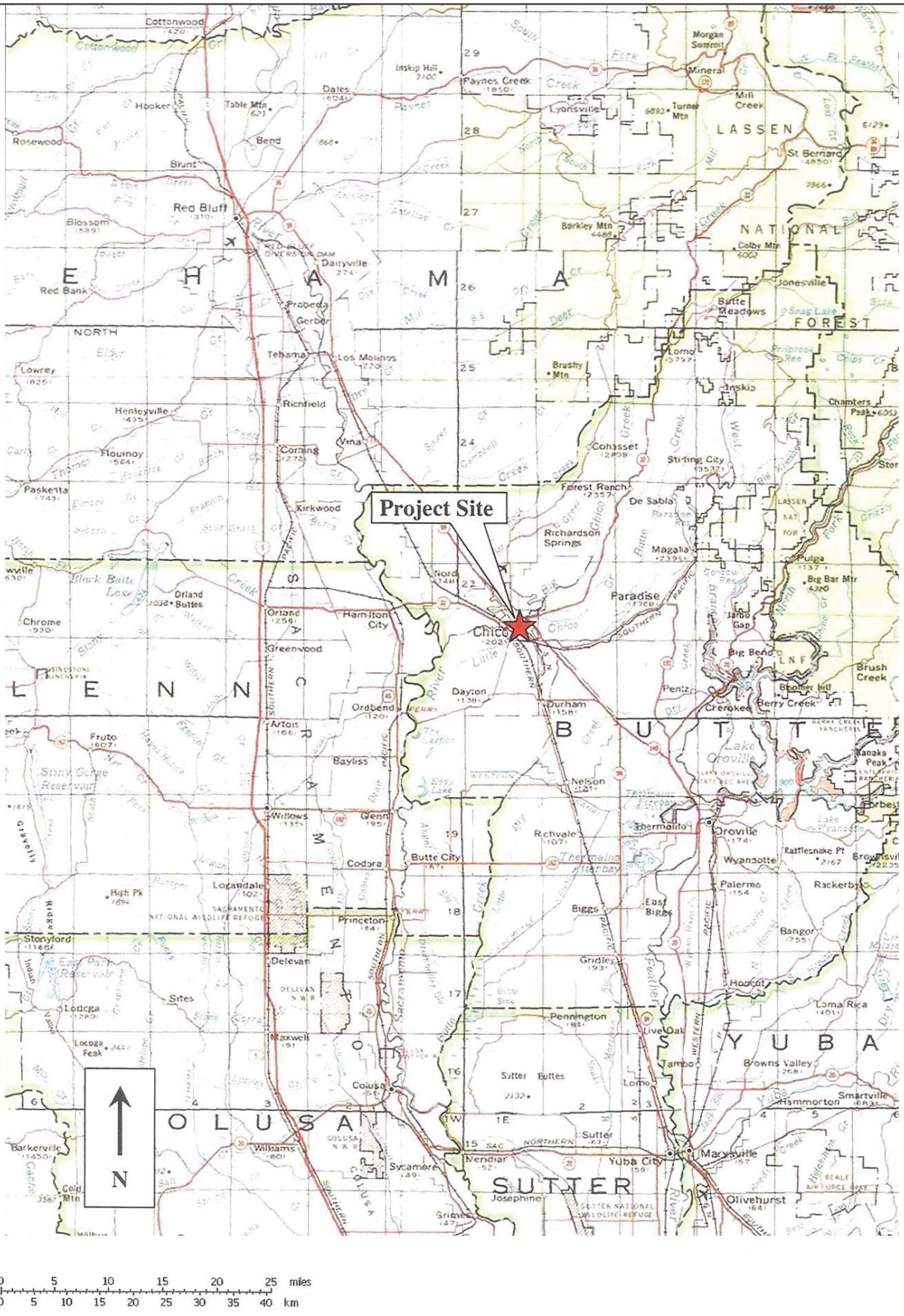

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Figure 2-1
Regional Location

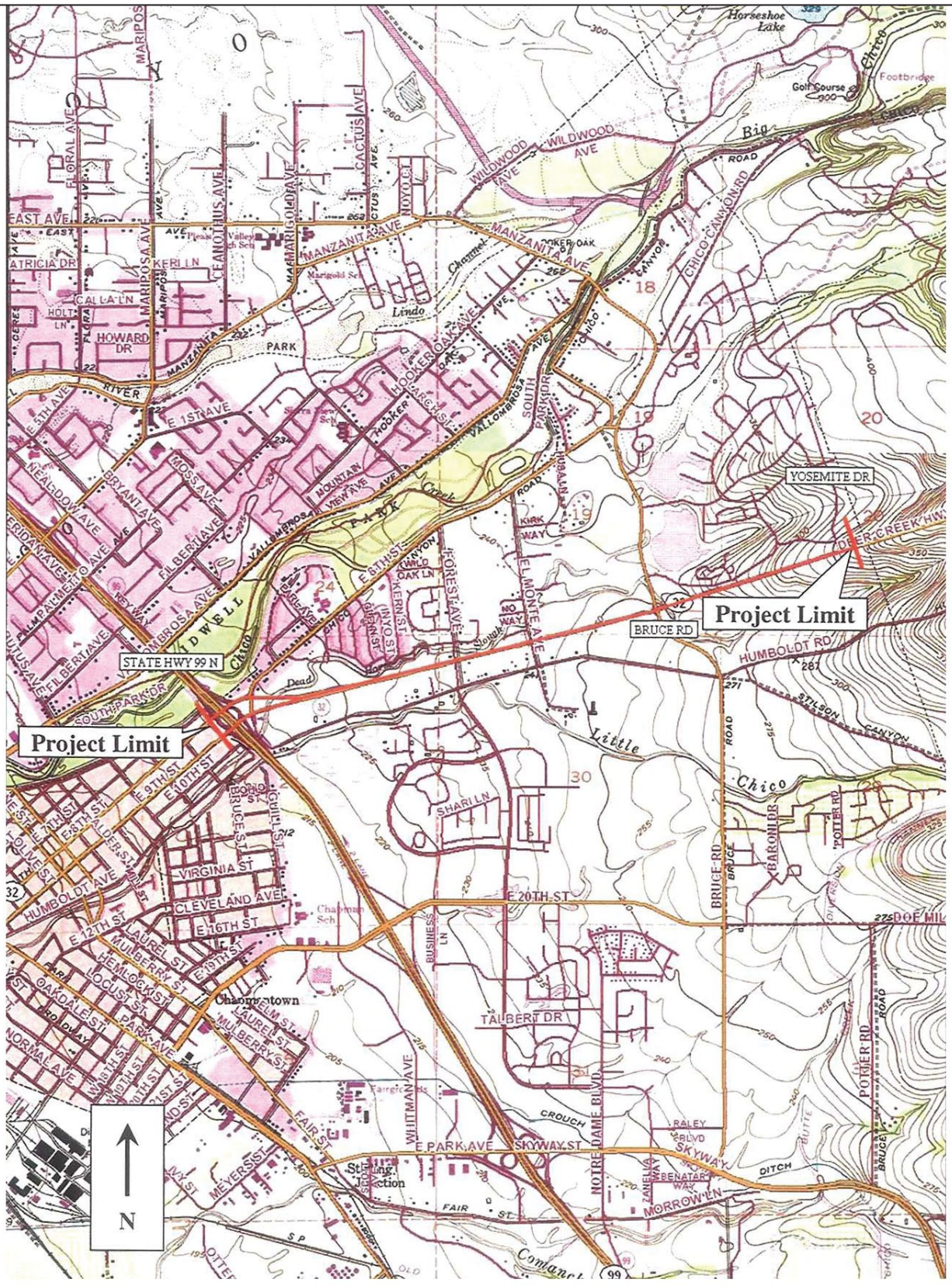

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Figure 2-2
Project Location

Project Background

The City has implemented an extensive public outreach effort for this project. The following public workshops and focused meetings were held:

- A public workshop was held on March 9, 2006.
- A focused meeting with the Sierra Sunrise Village residents was held on October 17, 2006.
- In February 2007, the City prepared an IS and determined that the project may result in a significant effect on the environment in the areas of aesthetics and noise. Therefore, the City decided to prepare an EIR for the project. A Notice of Preparation (NOP) to prepare an EIR was issued by the City on February 7, 2007. The NOP was circulated with a copy of the project's IS (see Appendix A for a copy of the IS).
- A second public workshop, attended by the Butte Environmental Council (BEC), New Urban Builders, and other interested members of the public, was held on February 27, 2007. The discussions at this meeting focused on these groups' desire to provide improvements, such as raised medians, curbs, sidewalks, bicycle paths, and landscaping, within the project corridor to slow overall traffic speeds. The location and the design of the proposed soundwall were also discussed at this meeting.
- A focused meeting was held on August 12, 2008 to obtain input from BEC and New Urban Builders to obtain input on the location, design, and height of the proposed sound barriers.
- A third public workshop was held on December 10, 2008 to obtain input on the location, design, and height of the proposed sound barriers from residents that live directly adjacent to SR 32.
- A fourth public workshop was held on February 24, 2009 for interested members of the public to discuss changes that had been made to the proposed project, including the proposed sound barrier options, to address public input received to date.

At each of these workshops and meetings, individuals were encouraged to submit verbal and written comments about the project and issues of concern. The written comments received at each of the workshops are contained in Appendix B. The NOP comments are also included in Appendix B. These comments were considered by the City in designing the project evaluated in this report. In general, the issues identified at these workshops included the following (in no particular order):

- Increased noise levels
- Tree and vegetation removal
- Specific traffic improvements
- Bicycle path
- Pedestrian traffic crossing the state highway

- Need for sound walls, including their location, height, and aesthetic treatment, to provide noise reduction and increased safety
- Increased water runoff and possible flooding
- Speed limits
- Importance of the project to Chico
- Aesthetics of the project as it relates to landscaping, a median, roadway designs, and right turns
- Coordinating the signals to encourage slower speeds
- Using sound-dampening asphalt
- Safety for pedestrians and bicyclists crossing SR 32
- Provide landscaped median and retain and/or plant native vegetation along the sides of the road
- Implement traffic-calming measures, such as raised curbs and landscaped medians, to slow traffic and improve safety on SR 32
- Increased speed associated with the project due to additional lanes will impact safety
- Cost per residence for the sound walls
- Leave as much vegetation as possible between the sound walls and the residences
- Air quality mitigation needed during construction and operation
- Need to reduce speed limits to allow the construction of curbs and landscaping
- Synchronize the lights
- Design the project to be similar to the "Avenues" section of Esplanade
- Construct sound-absorbing walls on raised berms to reduce tire noise
- Plant riparian trees where the road crosses riparian areas
- Design the roadside vegetation to integrate into the natural landscape
- Incorporate wildlife crossings, as needed, for frogs, turtles, snakes, etc.
- Design the South Fork Dead Horse Slough culvert to allow wildlife passage
- Treat and mitigate urban runoff by using best management practices
- Provide bike lanes or widen the SR 99 underpass; no safe way now to cross under SR 99

The City and the project team also met with Caltrans staff throughout the public outreach process to discuss options for addressing public concerns that also meet Caltrans requirements. Caltrans' design considerations and requirements are discussed in the "Alternatives to the Proposed Project" section below.

Proposed Project Description

SR 32 is owned and maintained by Caltrans, and improvements to the highway are required to comply with the Caltrans Highway Design Manual (HDM) unless a design exception is approved by Caltrans. The proposed project complies with all the Caltrans design requirements with the following design exception: Section 309.1 of the HDM requires a 30-foot minimum Clear Recovery Zone (CRZ)[1] along the freeways/expressways. The 30 feet is measured from the outside edge of the travelled way of the roadway, and therefore includes the roadway shoulder. The speed limit in this section is posted at 45 miles per hour (mph), but the 85th-percentile speed reaches 54 mph. Thus, Caltrans considers this section of road to be a high-speed facility, and it is classified as a controlled-access expressway. No "hit tree" accidents have been reported in the last 3 years.

The City submitted a request for a design exception to Caltrans to change the CRZ from Fir Street to El Monte Avenue from 30 feet to 17 feet (The 17 feet is measured from the outside edge of pavement of the outside travel lane, and therefore, includes the shoulder.). Caltrans has approved this design exception for existing trees (i.e., Existing trees within the 17-foot CRZ will be removed as part of the proposed project.). New tree plantings will be required to be outside the 30-foot CRZ. Small plantings less than four inches in diameter are allowed along the outside edge of the roadway within the 17-foot CRZ.

The proposed project would widen and improve approximately 2.6 miles of SR 32, beginning at SR 99 at the west end of the project corridor and extending east past Yosemite Drive. The project would widen the highway to include a median and four lanes, with most of the widening to the north within existing state right-of-way. As the project approaches Bruce Road, the widening would likely become more symmetrical around the centerline, with most of the widening to the north and some widening to the south. The project would extend four lanes past Yosemite Drive and would then taper back to two lanes east of Yosemite Drive.

The project would provide safety improvements by widening the existing roadway to provide standard (8-foot) shoulders and a grassy or paved center median. This median would be 14 feet wide (edge of traveled way [ETW] to ETW) from east of Fir Street to Bruce Road and 6 feet wide from Bruce Road to the easterly project limits.

Specific improvements from west to east include (Figures 2-3a through 2-3f located at the end of this chapter):

- SR 32 (eastbound) would be improved from the SR 99 northbound off-ramp to approximately 600 feet east of Fir Street by adding a third through lane. This third lane would extend through the Fir Street intersection and then taper back to two eastbound lanes.

[1] A *clear recovery zone* is an area clear of fixed objects adjacent to the roadway to provide a recovery zone for vehicles that have left the traveled way. The Caltrans clear recovery zone for a controlled access expressway is 30 feet.

- SR 32 (westbound) would be improved from approximately 600 feet east of Fir Street to the SR 99 northbound on-ramp. One lane would serve as a trap lane onto northbound SR 99, and the remaining two lanes would extend through the intersection. Three lanes would be provided underneath the existing SR 99 structure, with one lane for the left-turn movement onto the southbound couplet and two lanes continuing west toward downtown Chico.
- SR 99 (northbound and southbound) exit ramps would be improved by adding an additional lane at SR 32 (two through lanes and one right-turn lane).
- The SR 99/SR 32 couplets would be improved to add one lane both eastbound and westbound (to give a total of three lanes) and squaring up the intersections to remove the free right-turn lanes.
- Fir Street would be signalized at both intersections with SR 32 and converted to a one-way northbound movement, with two lanes turning west on SR 32 and a third lane going north to East 8th Street.
- El Monte Avenue would be widened to include a separated left-turn lane and a shared through/right-turn lane in the southbound direction. Northbound traffic will be accommodated with an exclusive left-turn lane, a shared through/left-turn lane, and a separated right-turn lane. Left turns to and from the existing driveway on the east side of the roadway will be eliminated with a raised center island. The southbound movement from El Monte Avenue onto Humboldt Road would include an exclusive left lane and a shared through/left-turn lane.
- Forest Avenue would be widened to include southbound through, left-, and right-turn lanes and northbound dual left, right, and through lanes. An additional southbound through lane is proposed south of SR 32, and a raised center island would be constructed to eliminate left turns to/from the existing driveways on the east and west sides of the road between SR 32 and Humboldt Road.
- A new signal would be installed at SR 32/Yosemite Avenue.

The project would result in minor changes to the park-and-ride lots and the removal of a minor amount of landscaping on the south side of SR 32. None of the work proposed would affect the number of spaces in the lots or the operation of the lots.

Work at the intersections would require reconstruction of curb returns, relocation of traffic signals and lighting facilities, relocation of utilities and drainage facilities, and conforming paving along the side streets as needed to match the existing configuration of the side streets. In addition, the project design includes the south leg of the Yosemite Drive intersection, which may be constructed at the same time as the project to provide access to the Oak Valley subdivision that was recently approved by the City. The existing crosswalks at Forest Avenue and El Monte Avenue would be maintained, and the project would replace the existing sidewalk on the northeast side of SR 32 and Bruce Road. The project would evaluate the need and possibly include construction of additional crosswalks at Bruce Road and Yosemite Drive.

Class II bicycle lanes will be included at the intersections to cross SR 32 at Forest Avenue, El Monte Avenue, and Bruce Road.

The widening would result in two 12-foot lanes and 8-foot shoulders in both directions, with no curbs or dikes at the edge of pavement. Street lighting is proposed at the intersections. Roadway drainage would sheet flow to the adjacent roadside ditches. Modifications to the existing drainage system would focus on developing bioswale-type roadside ditches, with gentle side slopes and hydroseeding to prevent erosion. Culverts would be constructed along some project segments and also across Forest Avenue and El Monte Avenue to connect the roadside drainage system to Dead Horse Slough and to the existing storm drain system on the west end of the project.

Construction of the project would require the removal of some existing vegetation and trees along the north and south sides of SR 32, primarily between Fir Street and El Monte Avenue. See Chapter 5, "Biological Resources", for a discussion of trees that would require removal or experience canopy or root zone impacts.

Bridge/Culvert Design

The project corridor includes a bridge crossing of Dead Horse Slough (Bridge Number 12-0135) just east of Forest Avenue and a culvert crossing of the South Fork Dead Horse Slough just east of Bruce Road. Bridge 12-0135 is a four-span flat-slab bridge that is approximately 124 feet long and 32.5 feet wide. The project would construct a new bridge 49 feet wide on the north side of the existing bridge, resulting in two 12-foot lanes in each direction, 8-foot shoulders and barrier on each side, and with a 14-foot median. Based on preliminary design information, it is anticipated that the new bridge would be a four-span reinforced-concrete flat-slab structure, similar to the existing bridge. The length of the new bridge would be approximately 125 feet. The preliminary bridge design is shown in Figure 2-4.

The culvert crossing of the South Fork Dead Horse Slough located just east of the Bruce Road intersection would either be lengthened or replaced with either a new, longer culvert or a parallel culvert.

Utility Information

Preliminary design indicates the possible need for future crossings of SR 32 in the project area to accommodate various utilities such as water, wastewater, drainage, electrical, communications, telephone, and gas. Therefore, the project includes the construction of utility crossings at the intersections along SR 32 on an "as-needed" basis as determined in coordination with the various service providers. In addition, a second sewer crossing will be constructed adjacent to the existing sewer line east of El Monte Avenue. These utility crossings would "stub out" within the project limits on the north and south sides of SR 32 to allow

future connection, if deemed necessary by the City or Butte County (County), to various services. The project does not include the installation of any utilities outside the SR 32 right-of-way project limits; future projects, if proposed, would require separate environmental review.

A pump house and a well with a 6-inch steel casing are located adjacent to the existing right-of-way fence line on the north side of the road just east of El Monte Avenue. The pump house is outside Caltrans right-of-way, and the 6-inch steel casing is on the Caltrans side of the fence. The proposed grading limits end on the inside of the existing fence, and the proposed edge of the traveled way is about 25 feet south of the existing well. The well casing is proposed to remain.

Other minor utility relocation may be required for the project; however, any utility relocation would be within the same area of impact as identified for the proposed project.

Proposed Sound Barrier

The proposed project would increase the number of through travel lanes from four to six from SR 99 to Fir Street and from two to four east of Fir Street, and would shift the traveled way closer to existing residential uses on the north side of the corridor. Increased traffic volumes and realignment of the roadway are predicted to result in increased traffic noise levels. As noted in Chapter 1, the 2007 IS recommended the use of OGAC and construction of a sound barrier as mitigation for traffic noise impacts. However, based on public input and the noise impact assessment contained in Appendix E, the project has been modified to *include* OGAC and a six-foot-tall sound barrier, measured from the ground elevation at the residential property lines. The proposed sound barrier locations are shown in Figures 2-3a through 2-3f and are based on the noise analysis contained in Appendix E of this EIR (see also Chapter 3, "Noise" of the noise impact analysis). The proposed locations for the sound barrier include:

- on the north side of SR 32 from approximately 1,100 feet east of Fir Street to Forest Avenue;
- on the north side of SR 32 from approximately 700 feet east of Bruce Road to Yosemite Drive; and
- on the south side of SR 32 from approximately 2,200 feet west of Forest Avenue to Forest Avenue;

The sound barrier is needed at these locations to meet City noise standards for project-related impacts and to generate less-than-significant cumulative noise impacts.

Three design options that involve different sound barrier materials and one design option that involves a higher sound barrier are evaluated in this report. In addition, optional sound barrier locations are also evaluated. Each of these options is described below and evaluated in Chapters 3 (Noise), 5 (Biological Resources) and 6 (Visual Resources), respectively, of this report.

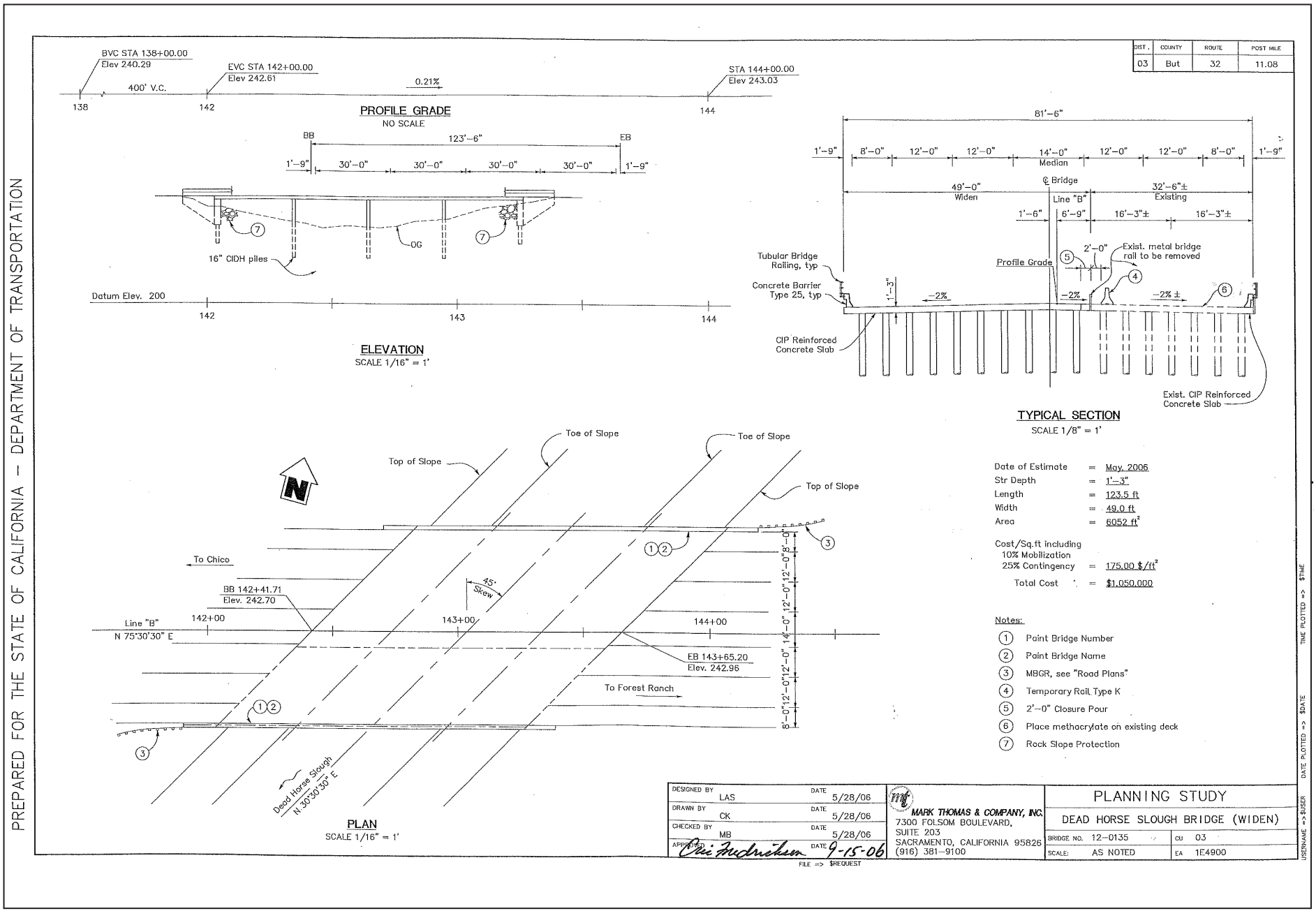

Figure 2-4
Preliminary Design for Proposed Dead Horse Slough Bridge

The Chico City Council will select the material type, height, and locations of the proposed sound barrier in acting upon the proposed project.

Design Options A1-A3 involve the use of different materials for the sound barrier. Design Option A-4 involves construction of a higher barrier. Location Options B1 and B2 entail extension of the sound barrier. The higher barrier and the extensions of the barrier are not needed to meet City noise criteria and the cumulative impact threshold. Rather, these additional options are evaluated in response to public input.

Sound Barrier Design Option A1: 6-Foot High Pre-Cast Concrete Wall

Under Option A1, a 6-foot high pre-cast concrete wall (measured from the existing grade at the Caltrans right-of-way/private property line) would be constructed at the proposed sound barrier locations shown in Figures 2-3a through 2-3f. The wall would be placed within Caltrans right-of-way, adjacent to the private property line. Each modular panel of pre-cast concrete is approximately 5–8 feet long by approximately 2 feet wide. Each panel is held by posts similar to those that support a typical wooden fence, and therefore, installation of the panels requires a construction area similar in size to what is needed for installation of a wooden fence. The City or Caltrans would maintain the wall.

Many of the existing trees located between the 17-foot CRZ and the private property line could be avoided during installation of the pre-cast concrete wall. (See Chapter 5, “Biological Resources” and Appendix F for further details regarding construction impacts on trees.) This option includes replanting trees within the area that is disturbed during installation of the pre-cast wall.

Sound Barrier Design Option A2: 6-Foot High Concrete Block Wall

Under Option A2, 6-foot-high concrete sound walls would be constructed within the Caltrans right-of-way, adjacent to the private property lines, at all proposed locations shown in Figures 2-3a through 2-3f. Since the footings needed for a concrete block wall are large, all trees located between SR 32 and the private property line would likely need to be removed under this option. An area approximately 3 to 6 feet wide would be replanted on the SR 32 side of the wall after construction of the wall is completed. Caltrans would maintain the concrete wall.

Sound Barrier Design Option A3: 6-Foot High Wooden Fence

Under Option A2, 6-foot-high concrete sound walls would be constructed within the Caltrans right-of-way, adjacent to the private property lines, at all proposed locations shown in Figures 2-3a through 2-3f. Since the footings needed for a concrete block wall are large, all trees located between SR 32 and the private property line would likely need to be removed under this option. Homeowners would be expected to maintain the fences. Tree removal under this option would be similar to Option A1.

Sound Barrier Design Option A4: 8-Foot High Barrier

Under Option A4, an 8-foot-high barrier, measured from the existing ground elevation at the residential property lines would be constructed using one of the materials described above. Although a 6-foot-high wall would be sufficient to meet City noise standards and to generate less-than-significant cumulative noise impacts, an 8-foot-high wall is evaluated in response to residents' concerns that a higher barrier is needed for aesthetic and safety (related to traffic along SR 32) reasons. Since the grade of SR 32 is higher than the grade at the residential property lines, the residents that are adjacent to SR 32 are concerned that a 6-foot fence would not provide adequate shielding from traffic noise impacts. An 8-foot barrier would reduce 2030 with project noise levels further by as much as 4 dB, as compared to a 6-foot sound barrier (See Chapter 3, "Noise", for further details.)

Sound Barrier Location Option B1: Extend Barrier East of Forest Avenue to El Monte Avenue on North Side of SR 32

The residents who live on Stansbury Court have expressed their desire that the proposed sound barrier be extended east of Forest Avenue to El Monte Avenue on the north side of SR 32 to shield their homes from the traffic on SR 32 and to provide a continuous barrier for residents along SR 32. Therefore, Option B1 is evaluated in this report (see Figures 2-3a through 2-3f). Option B1 also includes flanking the sound barrier for 225 feet along Dead Horse Slough and El Monte Avenue. Even without the sound barrier at this location, the City noise standards would be met at this location and cumulative impacts would be less-than-significant since the traffic volumes east of Forest Avenue are lower than those west of Forest Avenue.

Constructing a 6-foot sound barrier on the north side of SR 32 between El Monte and Forest Avenues would reduce 2030 project-related noise levels by 1 to 2 db as compared with having no sound barrier at this location. Constructing an 8-foot wall between El Monte and Forest Avenues would reduce noise levels by 1 to 5 dB as compared with having no sound barrier at this location.

Sound Barrier Location Option B2: Extend Barrier East of Fir Street on North Side of SR 32

Option B2 entails extending the proposed sound barrier from Fir Street to the east for approximately 1,100 feet, on the north side of SR 32. Like Option B1, Option B2 is not needed to meet noise standards, but is evaluated based on public input.

Constructing a 6-foot sound barrier on the north side of SR 32 east of Fir Street would reduce 2030 project-related noise levels by 4 to 7dB as compared to having no sound barrier at this location. Constructing an 8-foot wall east of Fir Street would reduce noise levels by 6 to 9 dB as compared to having no sound barrier at this location.

Hazardous Materials

The Humboldt Road Burn Dump is located east of Bruce Road and south of SR 32. The dump is a former solid waste disposal facility from which there is known migration. The City has been working with various federal and state regulatory agencies to remediate the site. Although the site has been undergoing remedial action over the past 3 years, residual waste may still be present in locations that could affect the proposed widening of SR 32. Construction activities, including possible replacement of the box culvert east of Bruce Road, will occur in the area where impacted sediments are present within the South Fork Dead Horse Slough. Therefore, specific measures will need to be taken to comply with federal and state requirements prior to road widening construction. Detailed discussion of this issue is provided in Section F, "Hazards and Hazardous Materials," of the project IS.

Right-of-Way

The existing state right-of-way along the project corridor is generally 142 feet wide. The width adjacent to the park-and-ride lots and interchange extends to more than 300 feet. Based on preliminary design, the proposed project can be accommodated within the existing right-of-way, and no permanent right-of-way acquisition is required along SR 32 with the exception of the segment near Bruce Road. The improvements associated with the signalization of Bruce Road would require the acquisition of a minor amount of right-of-way in the northeast quadrant (varying in width from 28 to 45 feet for approximately 800 feet from Bruce Road east to widen the road on the north side). In addition, small temporary construction easements may be required to construct the Dead Horse Slough bridge and to extend or replace the South Fork Dead Horse Slough culvert east of Bruce Road. A minor amount of right-of-way may be acquired or may be dedicated to construct the proposed improvements along El Monte Avenue and Forest Avenue between Humboldt Road and SR 32.

If the wooden fence design option is adopted as part of the proposed project, temporary easements would be needed since this fence would be installed on private properties.

Construction Information

Extent of Ground-Disturbing Construction Activity

The maximum depth of construction activity varies from approximately 3 to 4 feet or less for the road construction activity to approximately 8 to 10 feet for any utility relocation and traffic signal and lighting work. The ground disturbance associated with the proposed new bridge at Dead Horse Slough would require the construction of footings and possibly pile foundations; the depth of construction activity for this work is estimated to be 40 to 50 feet.

Equipment Storage/Vehicle Storage/Staging Areas

Two potential construction staging areas have been identified along the project corridor at the existing park-and-ride lots at the west end of the project corridor at Fir Street. All equipment and material staging for the project would occur within these areas, within existing public right-of-way, or on private property subject to landowner approval.

Due to the environmental sensitivities of the project corridor (i.e., wetlands and special-status species), any additional staging areas proposed by the contractor on land that is currently undeveloped may require separate environmental review.

Construction Information and Traffic Handling

The project can be constructed without significant closures or delays to traffic. The majority of the widening will be outside of the existing traveled way, which will allow for traffic to remain in its existing location, and the existing traffic signals will be able to remain in operation for the first stage of roadway construction. The general sequence of the first stage of construction would occur as follows:

- Rough grading and culvert construction
- Roadway and bridge widening construction
- New signal construction

The second stage of roadway construction would consist of switching to the new traffic signals, constructing the overlay of the existing roadway, and final roadway striping.

The Dead Horse Slough bridge widening would be constructed to the north, with traffic remaining in its existing location. After construction of the new structure, the new structure would be connected to the existing structure with a closure pour to join the existing and new bridge.

The contractor would be required to prepare a traffic management plan and submit it to Caltrans and the City for review and approval prior to commencement of construction. No road closures or nighttime work are anticipated; however, Caltrans may require that improvements to the SR 99 ramps be conducted at night to minimize conflicts with the heavier traffic volumes associated with daytime traffic.

Road construction activities would include standard widening and road rehabilitation practices. Temporary access controls during road construction may require the use of a one-way reversible lane controlled by flaggers. Only temporary minor delays are anticipated. Construction contractors would schedule construction operations so that conflicts with traffic on SR 32 are minimized.

Bridge construction and culvert activities in Dead Horse Slough would occur during the summer dry months.

Project Schedule

Depending on funding, development in the project area, and project needs, construction activities could begin in late 2010 and be completed by the Spring of 2012. The City intends to construct the entire project under one construction contract. However, if phasing is required (due to funding constraints, regulatory requirements, or other reasons), the City will work with Caltrans to determine which project components would be constructed first. Caltrans has requested that the contaminated materials found in the South Fork Dead Horse Slough be remediated before the remaining work at the Bruce Road intersection is completed; this work is planned to take place via a separate construction contract and is anticipated to take place in the late summer of 2010. The analyses contained in this EIR evaluate construction of the entire project.

Project Funding

The total estimated cost of the project is $14.5 million, including construction items, stormwater costs, and right-of-way and utility costs. This cost assumes that masonry block soundwalls would be constructed; the options to include pre-cast concrete and wood fence soundwalls would reduce the overall construction costs. At this point, it is anticipated that the project would be constructed entirely using local funds. The City will continue to pursue additional construction funding should it become available.

Alternatives to the Proposed Project

Alternatives and Design Options Considered but Withdrawn

During the public outreach process described above, a number of design alternatives were suggested by various members of the public. The purpose of these alternatives was to provide more "friction" through the corridor, with the use of curbs and gutters, sidewalks, medians, and/or landscaping/planting, to reduce vehicle speeds. These design alternatives were reviewed by the project team and forwarded to Caltrans for review.

Out of a total of seven alternatives reviewed by Caltrans, six were rejected because the designs did not meet current Caltrans standards, and therefore, were determined to be infeasible. These rejected alternatives are summarized below. Following this discussion, the alternative that Caltrans approved for consideration in this EIR is described.

Alternative 1

- Construct outside curb, gutter, and sidewalk and raised medians. Curbs would be Type B-6 per the conventional highway standards listed in HDM Table 303.1.
- Include new plantings in median less than 4 inches in diameter and shrub-type plantings on outside of roadway.
- Clear all obstructions within a 17-foot CRZ (per previously approved design exception), as would be required under all of the alternatives described below.

Alternative 2

- Construct outside curb, gutter, and sidewalk and raised medians. Curbs would be Type B-6 per the conventional highway standards listed in HDM Table 303.1.
- Include new plantings in median less than 4 inches in diameter and shrub-type plantings on outside of roadway.
- Reduce lane widths to 11 feet.

Alternative 3

- Construct 20-inch-tall concrete barrier on outside and inside of roadway.
- Reduce outside shoulder width to 5 feet.
- Include new plantings within median greater than 4 inches in diameter.

Alternative 4

- Construct metal beam guardrailing (MBGR) outside and inside of roadway. Placement would be 2 feet off of the edge of the traveled way (ETW) on inside and just beyond back of curb on outside.
- Reduce outside shoulder width to 5 feet.
- Include new plantings within median and along outside edge greater than 4 inches in diameter.

Alternative 5

- Construct MBGR outside and inside of roadway. Placement would be 2 feet off of ETW on inside and approximately 3 feet beyond back of curb on outside; the MBGR on outside edge would be shielded by new shrubbery.
- Reduce outside shoulder width to 5 feet.
- Include new plantings within median and along outside edge greater than 4 inches in diameter.

Alternative 6

- Construct outside curb, gutter, and sidewalk and raised medians. Curbs would be Type B-6 per the conventional highway standards listed in HDM Table 303.1.
- Include new plantings in median less than 4 inches in diameter and shrub-type planting on outside of roadway.
- Reduce shoulder width to 5 feet.

Caltrans rejected Alternatives 1, 2, 3, and 6 because they involve the installation of curbs and/or raised medians. SR 32 is designated as a controlled access expressway, and Caltrans' design requirements restrict the use of curbs or raised medians on facilities of this classification that have speeds greater than 40 mph. A recent speed study confirmed that speeds on the project corridor are greater than 40 mph; therefore, it was determined that no raised curbs or medians would be considered by Caltrans at this time. In the event that future speed surveys indicate speeds have lowered below 40 mph, Caltrans would consider construction of raised curbs or median. The project has been designed to allow future construction of a raised median.

Alternatives 4 and 5 were also dismissed as they were proposed, but Caltrans indicated that they could support a modified design, which is referred to as the Timber Barrier Alternative, as described below. If a raised median is constructed in the project area in the future, the barriers proposed under this alternative would have to be removed once the raised medians are constructed.

Roundabouts

Due to community sensitivity concerning increased traffic and traffic speeds along SR 32, the City and Caltrans also studied the feasibility of constructing roundabouts at several of the intersections along the project corridor. Based on preliminary design, the project development team (with representatives from the City, Caltrans, and Butte County Association of Governments [BCAG]) determined that roundabouts are not feasible along the project corridor due to the following:

- concerns about impacts to existing development;
- ease of use by pedestrians, school-age children, and bicyclists;
- engineering design considerations (steep grade);
- operational concerns (substantially higher volumes on some movements than other movements result in inefficient operation); and
- failure to achieve a minimum 10-year traffic capacity design life.

The results of the various analyses that were conducted for possible roundabouts are summarized in Appendix C of this report.

New Signalized Intersections

Finally, due to specific public comments, the project team studied the possibility of providing new signalized intersections along SR 32. These new connections would have allowed the traffic signals along the corridor to be coordinated and set at a maximum speed of 35 mph. Two connections on the south side of SR 32 were studied between Fir Street and Forest Avenue, and a third location was studied on the north side of SR 32 between El Monte Avenue and Bruce Road. Fehr & Peers, the project traffic consultant, completed a preliminary review of the traffic impacts of the signals, and the new locations were discussed with the Chico Police Department and the California Highway Patrol (CHP), which both have facilities in the project area, and the City of Chico General Services Department, which operates its corporation yard on the south side of SR 32 just north of Fir Street. The following feedback was received:

- In order for the traffic to function adequately, Fir Street would need to become a right-in/right-out access only.

- Without a significant change in traffic patterns along SR 32/Forest Avenue/Humboldt Road, the proposed traffic signals between Fir Street and Forest Avenue may not meet signal warrants.
- CHP and the Chico Police Department had concerns regarding response time from their existing facilities.
- A significant change to the site plan of the existing corporation yard would be required, which the General Services Department opposed.

Based upon this feedback, this design alternative was rejected and will not be carried forward into project design.

Timber Barrier Alternative

Caltrans approved consideration of an alternative for the construction of a timber barrier that would allow for large tree plantings within the median of SR 32. This alternative is evaluated in this report. The median width would typically be 14 feet, widening to 20 feet at the proposed intersections to accommodate the timber barrier end treatments. Design details for the Timber Barrier Alternative are as follows (see Figures 2-5a through 2-5f located at the end of this chapter):

- Construct timber barrier within proposed median from the park-and-ride lot to Bruce Road. The barrier will terminate at the intersections of Forest Avenue, El Monte Avenue, and Bruce Road. The barrier will not be placed on the Dead Horse Slough bridge.
- Widen median to 20 feet at the Forest Avenue and El Monte Avenue intersections.
- Include new tree plantings in irrigated median with no size restrictions.
- Clear all obstructions within 17-foot CRZ (per previously approved design exception; trees outside of these limits can remain).
- Process a design exception for 2-foot inside shoulders (adjacent to the timber railing).

Construction of this alternative would move the north and south edges of pavement approximately 3 feet farther to the north and south than the proposed project at the intersections of Forest Avenue and El Monte Avenue. Other aspects of the proposed improvements, such as the traffic signal locations, bridge widening, improvements east of Bruce Road, use of OGAC, construction of a sound barrier , and the sound barrier design and location options, would be identical to the proposed project.

No-Project Alternative

Under the No-Project Alternative, SR 32 would not be widened to meet the increased traffic needs associated with growth in the project area. SR 32 between SR 99 and Yosemite Avenue would remain unchanged.

Anticipated Permits and Consultations

The permits and consultations identified in Table 2-1 are anticipated to be required to construct the project.

The City contacted the State Lands Commission regarding the possible need for a land use lease if the project uses sovereign lands of the State of California. A land use lease is not required per the State Lands Commission (File SD 2066-04-27.3).

Related Projects

There are several projects in the project area as described below.

SR 99 Auxiliary Lane Project

The SR 99 Auxiliary Lane project is a project proposed by BCAG and the City, in conjunction with Caltrans and the Federal Highway Administration, to improve operations and safety on SR 99 from SR 32 to East 1st Avenue in Chico. Proposed operational and safety improvements would primarily consist of adding northbound and southbound auxiliary lanes on SR 99 between SR 32 and East 1st Avenue interchanges, and the widening of SR 32 on- and off-ramps and East 1st Avenue on- and off-ramps. Included in the widening for the East 1st Avenue northbound off-ramp would be the provision for dual left-turn lanes to facilitate the turning movements of existing northbound traffic to westbound traffic on East 1st Avenue and the widening of East 1st Avenue.

BCAG certified an EIR in January 2004 and selected the inside widening alternative together with signalized ramp intersections at East 1st Avenue. Caltrans approved the project in March 2005. Phase 1 of the project, with a total estimated cost of $7.4 million, is under construction. Phase 1 includes improvements to the lower half of the northbound SR 99 off-ramp to East 1st Avenue and to East 1st Avenue, including reconstruction of the existing signals. The remainder of the project has been defined as Phase 2 and Phase 3 projects, each of which would construct an auxiliary lane in the northbound and southbound directions, including on- and off-ramp improvements at SR 32 and the southbound on-ramp at East 1st Avenue. Phases 2 and 3 are expected to be constructed together at a total estimated cost of $40 million for construction in

Table 2-1. Anticipated Permits and Consultations

Agency	Approval or Permit	Approval or Permit Status
U.S. Army Corps of Engineers (Corps)	CWA Section 404 nationwide permit. Cleanup activities in the South Fork Dead Horse Slough will require approval by the Corps.	Wetland delineation has been verified (Corps regulatory number 200501152). The City has received a nationwide Section 404 permit from the Corps for impacts on wetlands and other waters of the United States.
U.S. Fish and Wildlife Service (USFWS)	Section 7 consultation with the Corps for threatened and endangered species (listed vernal pool invertebrates, Butte County meadowfoam, and giant garter snake). Cleanup activities in the South Fork Dead Horse Sough will require approval by the USFWS.	The USFWS transmitted a biological opinion for the project on February 4, 2009 (contained in Appendix J of this EIR).
State Office of Historic Preservation (OHP)	Section 106 consultation with the Corps.	Cultural resources documentation has been prepared and submitted to the Corps with the Section 404 application. Consultation with the OHP has been completed.
Central Valley Regional Water Quality Control Board (RWQCB)	All Section 404 permits require a CWA Section 401 water quality certification from the Regional Board. In addition, CWA Section 402 National Pollutant Discharge Elimination System (NPDES) requires enrollment into the Statewide Construction General Permit.	City will apply for permits after completion of environmental documentation.
Regional Board or Department of Toxic Substances Control	A report of waste discharge, remedial action plan, and/or remedial design and implementation plan will need to be submitted to the Regional Board to obtain a waste discharge requirement order or permit to remove hazardous materials within the South Fork Dead Horse Slough.	City will obtain a waste discharge requirement order or permit after completion of environmental documentation.
California Department of Fish and Game (DFG)	A Section 1602 streambed alteration agreement is required because the project requires construction in creeks and streams subject to DFG jurisdiction (Dead Horse Slough and South Fork Dead Horse Slough). Cleanup activities in the South Fork Dead Horse Slough will require DFG approval (Section 1602). A DFG incidental take permit or consistency determination under Section 2080.1 of the California Endangered Species Act is required to allow the take of Butte County meadowfoam and giant garter snake.	City will apply for agreement after completion of environmental documentation. The City will apply for the Section 2080.1 determination after certification of the EIR.
State Reclamation Board (Reclamation Board)	A Reclamation Board permit is required before the start of any work in Dead Horse Slough, including excavation and construction activities, where the Reclamation Board exercises their authority.	The City will apply for the Reclamation Board permit after completion of the environmental documentation.
Butte County Air Quality Management District (BCAQMD)	An authority to construct permit will be required from the BCAQMD before any work in the South Fork Dead Horse Slough near the Humboldt Road Burn Dump.	The City will apply for any necessary permits after completion of the environmental documentation.

2010 and 2012, respectively. Copies of the environmental document (State Clearinghouse Number 2002112002) can be reviewed at BCAG's offices during normal business hours.

Oak Valley Conceptual Master Plan and Subdivision Project

The Oak Valley Conceptual Master Plan and Subdivision project encompasses approximately 340 acres and is generally bounded by SR 32 on the north, Bruce Road on the west, a Pacific Gas & Electric Company 500-kV transmission line on the east, and Humboldt Road on the south. The conceptual master plan would include 230 acres of single- and multi-family residential units and approximately 109,000 square feet of community commercial uses on 10 acres. The plan includes a total of approximately 864 single-family units and 260 multi-family units. In addition, 200 very low–density residential units would be developed using a clustered housing concept. The applicant proposes to develop a first-phase subdivision including 159 single-family homes on 14.6 acres, multi-family residential on 8.2 acres, and approximately 20 acres of open space and setback from SR 32.

The City was lead agency for the EIR on the project and prepared a draft EIR, a recirculated draft EIR, and a final EIR. The EIR evaluates the impacts associated with buildout of the conceptual master plan at a programmatic level of detail and the impacts of the first-phase 43-acre portion of the subdivision map at a project-specific level. The project has been approved by the Chico City Council. Copies of the environmental documents (State Clearinghouse Number 1998032048) can be reviewed at the City of Chico Planning Services Department's office during normal business hours.

Humboldt Road Burn Dump

The Humboldt Road Burn Dump is located in Chico near the intersection of SR 32 and Bruce Road. The site consists of 157 acres, and it operated as a burn dump and disposal area for municipal solid waste until the 1960s. The City voluntarily assumed the role as lead responsible party for the investigation and cleanup of six parcels located within the burn dump. The Regional Board is the lead regulatory agency. The City completed a remedial investigation, baseline risk assessment, feasibility study, two health risk assessments, and a remedial action plan. The selected remedy for the site is consolidating the waste and capping it. The City intends to maintain the capped waste area as undeveloped open space, allowing for pedestrian access. Copies of the environmental documents (State Clearinghouse Number 2004042085) prepared for this project can be reviewed at the City offices during normal business hours.

Meriam Park

The City has prepared a Draft Program EIR for the Meriam Park project (State Clearinghouse Number 2005072045). The Meriam Park project is a mixed-use development of 272 acres located in the southeast quadrant of Chico. The project site is located south of SR 32 and west of Bruce Road. The Meriam Park Master Plan proposes four zoning districts for the project area

- Traditional Neighborhood Development (210.0 acres)
- Primary Open Space, Preserve (39.0 acres)
- Primary Open Space, Greenway (19.9 acres)
- Public/Quasi-Public Facilities (2.9 acres)

The project was approved in June 2007.

Environmental Review Process

As noted earlier, the NOP for this EIR was circulated for 30 days (February 7–March 14, 2007) to solicit public and agency comments. Comments received during the NOP public review period are contained in Appendix B.

This draft EIR has been released for review and comment by the public, as well as all responsible and other interested jurisdictions, agencies, organizations and individuals. Written comments received on the draft EIR during the public review period will be addressed in the final EIR. The final EIR will be reviewed by the Chico City Council for certification in accordance with CEQA and the City guidelines. After certification of the EIR, the Chico City Council and Caltrans will consider approval of the project.

Mitigation Monitoring Program

CEQA requires lead agencies to adopt a mitigation monitoring program for mitigation measures included in EIRs that would avoid or mitigate significant environmental effects. The City has included the proposed project's mitigation monitoring program in this report so that members of the public, responsible agencies, and others can review the program before it is adopted (Appendix D). The mitigation monitoring program is required to ensure compliance with the mitigation measures identified in this EIR and in the project's IS (Appendix A), pursuant to Section 21081.6 of the Public Resources Code.

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Figure 2-3a
Proposed Project, including Proposed Sound Barrier

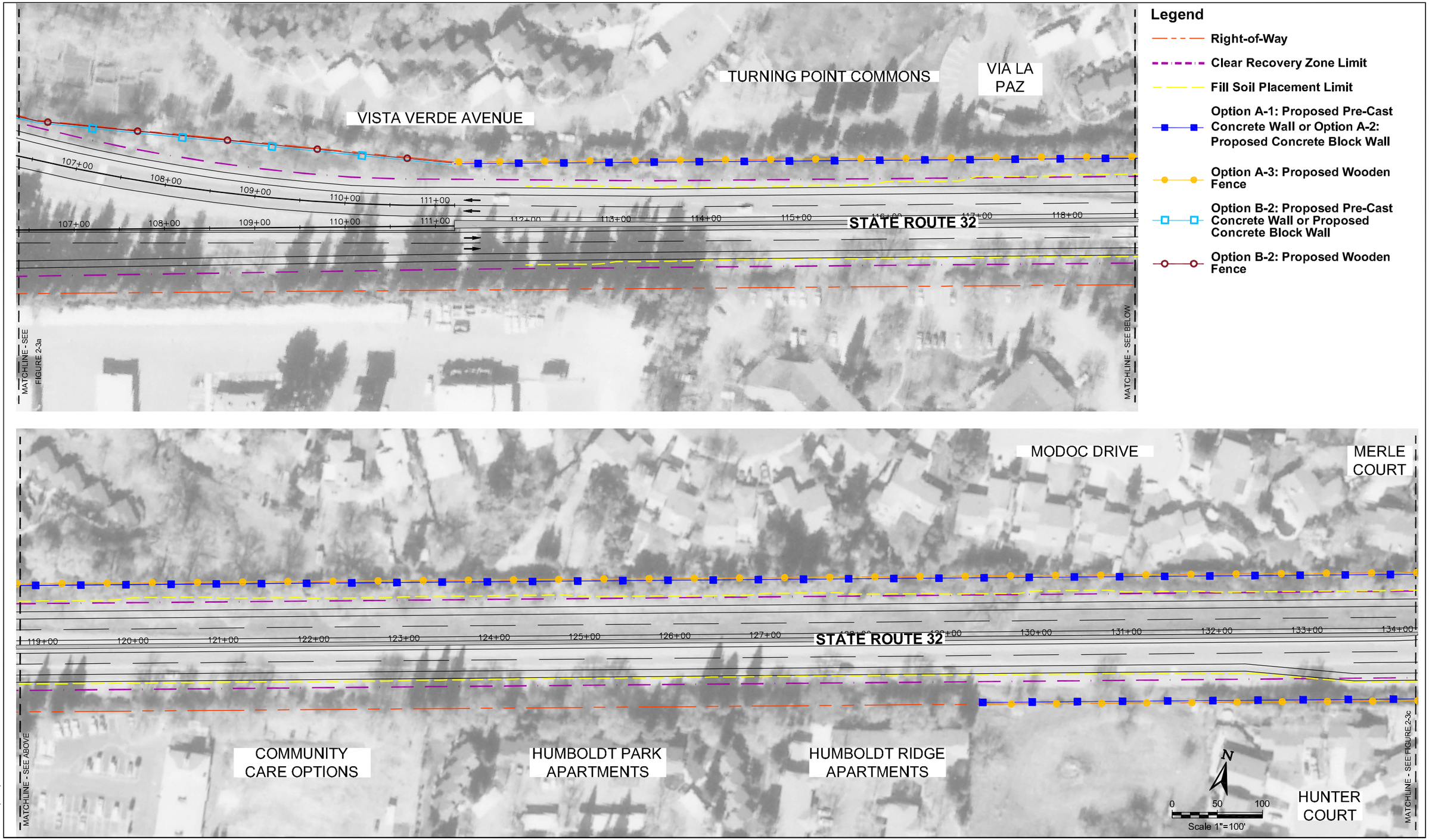

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Figure 2-3b
Proposed Project, including Proposed Sound Barrier