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Staff:	T. Gedik-A
Staff Report:	5/24/13
Hearing Date:	6/12/13

STAFF REPORT: REGULAR CALENDAR

Application No.:	**1-12-017**
Applicant:	**California Department of Transportation (Caltrans) District 1**
Location:	Highway 1 from PM (post marker) 40.1 through PM 40.9 and Highway 128 PM 0.0 through PM 0.1 above the Navarro River in Mendocino County
Project Description:	Installation of new metal beam guard rail (MBGR) adjacent to the southbound lane on Highway 1 from the Navarro River Bridge (PM 40.27) to the existing guard rail at post mile (PM) 40.89; upgrade to current standards the existing guard rail connected to the Navarro River Bridge; asymmetric widening of portions of Route 1 to provide two 12-foot lanes and a 4-foot southbound shoulder; and installation of bicycle warning signs at PM 0.1.
Staff Recommendation:	Approval with conditions.

SUMMARY OF STAFF RECOMMENDATION

California Department of Transportation (Caltrans) proposes to construct traffic safety improvements along portions of Highway 1 just upslope of its intersection with Highway 128 at the Navarro River Bridge. In an effort to reduce the severity of collisions and provide a safer

travelling experience, Caltrans proposes to increase existing average lane widths from 11.5 feet to 12.0 feet and increase the existing average paved shoulder widths from 1.0-foot to 4-foot widths throughout the project limits. The proposed improvements include the following components: 1) installation of a metal beam guardrail; 2) lane widening to 12 feet with 4-foot-wide shoulders where resource and space constraints allow; 3) repaving; 4) installation of a centerline ground-in rumble strip; and 5) installation of new bicycle safety signs. Caltrans anticipates completion of construction work within one construction season.

The Navarro River estuary extends from the mouth of the Navarro River upgradient to the Navarro River Bridge. The Navarro River watershed is 303(d) listed as impaired by sedimentation/siltation and temperature. The California Department of Fish and Wildlife (CDFW) recognizes the waters of the Navarro River Estuary below the mean high tide line, which is downslope of the project area, as part of the State Marine Conservation Area (a designated Marine Protected Area).

The major issue raised by this application is the project's consistency with the Commission's water quality policies. Caltrans proposes to construct road improvements upslope of the adjacent Navarro River. No wetland fill is proposed, and the proposed project activities will not result in direct, permanent impacts to any wetland features. However proposed paving activities will occur within 15 feet of the Navarro River and within one foot of wetland features located adjacent to and upslope of the existing northbound lane of Highway One.

Staff believes that there is no feasible less environmentally damaging alternative, and as conditioned, feasible mitigation measures will be provided to minimize adverse environmental effects. Caltrans proposes best management practices (BMPs) and protection of wetlands and other environmentally sensitive areas through use of fencing, erosion control measures, and five years of invasive species removal from the project site and surrounding right-of-way area. Staff recommends special conditions to require appropriate waste management and disposal, timing of construction activities, adherence to various water quality protection measures and best management practices (BMPs), implementation of proposed erosion control measures and long-term invasive species removal following completion of construction activities, and to ensure that a qualified Caltrans environmental liaison or project biologist monitors the site at minimum during the work activities associated with sensitive areas.

Commission staff recommends **approval** of CDP application 1-12-017, as conditioned.

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I. MOTION AND RESOLUTION

The staff recommends that the Commission adopt the following resolution:

Motion:

I move that the Commission approve coastal development permit 1-12-017 pursuant to the staff recommendation.

Staff recommends a **YES** vote on the foregoing motion. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution:

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS

This permit is granted subject to the following standard conditions:

1. **Notice of Receipt and Acknowledgment**: The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Expiration**: If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable amount of time. Application for extension of the permit must be made prior to the expiration date.

3. **Interpretation**: Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **Assignment**: The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. **Terms and Conditions Run with the Land**: These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

1. **Development in Conformance with Application Plans.** The Permittee shall undertake development consistent with the project plans submitted as part of the permit application including: a) plans titled, "Project Plans for Construction on State Highway in Mendocino County From 0.1 Mile South of Navarro River Bridge to 0.6 Mile North of Navarro River Bridge and on Route 128 at Navarro River Bridge" with a date plotted of May 8, 2013; and b) plans titled "Navarro River Bridge Barrier Transition" with a date plotted of April 29, 2013, as modified to incorporate changes required by the special conditions of CDP 1-12-017. Any proposed changes to the plans shall be reported to the Executive Director. No changes to the plans shall occur without a Coastal Commission - approved amendment to the coastal development permit, unless the Executive Director determines that no amendment is legally required.
2. **Construction Responsibilities.** Caltrans, in accepting the benefits of CDP 1-12-017, agrees and accepts the following:
    A. Caltrans shall ensure that the relevant bidding documents and eventual contract include: a) sufficient and accurate provisions for Caltrans to ensure the obligation of the winning bidder to comply with all of the conditions of CDP 1-12-017 and to construct the project in accordance with the proposed and approved project description; and b) the specific requirement that the contractor and any employees, subcontractors, agents, or other representatives of the contractor or contractors who are responsible for constructing any portion of the project, shall undertake all related activities in full compliance with the project approved pursuant to CDP 1-12-017, including all terms and conditions imposed by the Commission in approving the permit. It shall be Caltrans' responsibility to ensure that the bidding documents contain general and special provisions necessary to fully and accurately incorporate all requirements imposed by the Commission or other state or federal agencies with regulatory authority over the project, including timelines for review of documents and other potentially limiting measures that may affect construction scheduling and the timing of construction or other parameters of material interest to the participating parties. It shall also be Caltrans' responsibility to ensure that the winning bid for the construction of the proposed project is adequate to ensure that the selected contractor has taken into consideration and provided for the full cost of compliance with all requirements imposed by the Commission pursuant to the Commission's approval of CDP 1-12-017. A copy of CDP No. 1-12-017, and a copy of all final approved plans or other measures required to be completed prior to issuance of CDP No. 1-12-017, shall be attached to the bidding documents for reference by potential bidders.

B. After the contract is awarded, Caltrans shall provide a copy of CDP No. 1-12-017, including the conditions of approval, and a copy of the final approved plans, to each contractor undertaking any portion of the development authorized pursuant to CDP No. 1-12-017. Caltrans shall ensure that the contractor(s), subcontractor(s), or other parties selected by Caltrans or otherwise designated to implement any portion of the project approved pursuant to CDP No. 1-12-017 are fully informed of, and continuously comply with, the obligations established through the provisions of the approved permit, including all standard and special conditions and the requirements of all final plans approved in accordance with the pertinent special conditions. Nothing in these provisions shall prevent the Commission from taking enforcement action against the contractor or subcontractor(s) for non-compliance with the terms and conditions of CDP 1-12-017, either individually or in addition to enforcement action against Caltrans for such non-compliance; and

C. All activities associated with performing the development authorized pursuant to CDP 1-12-017 shall at all times be undertaken in full accordance with the terms and conditions imposed by the Commission in conditionally approving CDP 1-12-017. It shall be Caltrans' responsibility to ensure such compliance by any party to whom Caltrans assigns the right to construct or undertake any part of the activities authorized herein; this requirement does not relieve other parties of responsibility for compliance with the permit or immunize such parties from enforcement action by the Coastal Commission's enforcement program.

3. **Timing of Construction.** In accordance with the applicant's proposal, project-related activities, including staging and storage of materials and equipment at the project site, shall only be undertaken and completed during a single construction season between May 15 and October 15 of 2014. Any proposed extension of the construction period shall require a permit amendment.

4. **Debris Disposal Plan.**

A. Not less than ten (10) working days PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, the permittee shall submit, for the review and approval of the Executive Director, a plan for the disposal of construction related debris, including, but not limited to, excess materials such as metal beam guard rail elements, treated wood, excess concrete and "unclean" soil that cannot be disposed of at the Beacon Disposal site. The plan shall describe the manner by which the material will be removed from the construction site and identify a disposal site that is in an upland area where materials may be lawfully disposed.

B. The permittee shall undertake development in accordance with the approved final plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development.

5. **Water Quality Protection Measures and Best Management Practices.** Best Management Practices designed to protect the water quality of wetlands, the Navarro River, and other water courses shall be implemented during construction. The permittee

shall adhere to the following water quality protection measures and best management practices (BMPs), including, but not limited to, the following:

A. No demolition or construction equipment, materials, debris, fuels, lubricants, solvents, or waste shall be placed or stored where they may enter sensitive habitat, receiving waters or a storm drain, or be subject to wave, wind, rain, or tidal erosion and dispersion. Physical barriers shall be placed and continuously maintained until the completion of all project activities at the downslope project limit, to protect against accidental release of graded spoils or other materials into sensitive habitat, receiving waters or a storm drain;

B. To prevent the deposition of sidecast ground asphalt materials or sediment into or adjacent to the Navarro River, the following BMPs shall be adhered to:

   i. Prior to road-widening construction activity, fiber coir rolls shall be staked in place along the entire construction area length of the southbound "edge-of-construction" line. All fiber coir rolls (aka fiber wattles) used on site shall be constructed of materials consistent with **Special Condition No. 5L** below;

   ii. Prior to asphalt grinding or paving activities, the following shall occur in consecutive order: a) previously-staked fiber coir rolls shall be removed, b) 3-to-6-foot-wide landscape fabric shall be placed between the top-of-bank of the Navarro River and the edge of pavement; c) fiber coir rolls shall be staked atop the landscape fabric and along the fabric edge closest to the Navarro River; and d) the landward edge of the fabric shall be secured with anchor pins or similar securing device, along entire length;

   iii. Following all construction activities, a) fiber coir rolls and anchor pins shall be removed; b) landscape fabric shall be carefully rolled up to capture all sidecast asphalt materials; and c) all materials shall be appropriately disposed of; and

   iv. Street-sweeping operations shall occur along Highway One to remove any residual asphalt debris from the roadway surface.

C. All stockpiles of construction debris, waste materials, excavated soils, and other materials and debris associated with or generated by the authorized work shall be contained with berms or other sediment and runoff control devices;

D. All stock piles and construction materials shall be covered with a sheeting material that will prevent dispersal of the stock pile and construction materials, enclosed on all sides, and shall be located as far away as possible from drain inlets and any waterway, and shall not be stored in contact with the soil;

E. During construction, all trash shall be properly contained. Demolition or construction debris and sediment shall be removed from work areas each day that demolition or construction occurs to prevent the accumulation of sediment and other debris that may be discharged into coastal waters;

F. Any and all construction and demolition debris and excavated spoils resulting from demolition or construction activities shall be removed from the project site within 24 hours of completion of the project and disposed of at appropriate licensed facilities consistent with **Special Condition No. 4** above;

G. All staging activities and all fueling and vehicle maintenance activities shall occur within the staging area along SR 128 designated on the plan entitled "Resource Map 2: Caltrans MEN 1/128 Navarro MBGR Safety Project Mendocino County Post Mile 40.11/40.90, EA: 01-48470K," prepared by Alfred Kannely, Caltrans Biologist and dated May 2012.The staging area shall include a designated fueling and vehicle maintenance area with appropriate berms and protection to prevent any spillage of gasoline or related petroleum products or contact with runoff;

H. The discharge of any hazardous materials into any receiving waters shall be prohibited;

I. Best Management Practices (BMPs) and Good Housekeeping Practices (GHPs) designed to prevent spillage and/or runoff of demolition or construction-related materials, and to contain sediment or contaminants associated with demolition or construction activity, shall be implemented prior to the on-set of such activity;

J. All construction activities shall be limited to the drier season period of May 15 through October 15 and consistent with **Special Condition No. 3** above;

K. If rainfall is forecast during the time construction activities are being performed, any exposed soil areas shall be promptly mulched or covered with plastic sheeting and secured with sand bagging or other appropriate materials before the onset of precipitation;

L. If a temporary erosion control product (such as mulch control netting, erosion control blanket, or mat) is used to stabilize soils until vegetation is established, only products manufactured from 100% biodegradable (not photodegradable) materials shall be used. If temporary erosion control products that have a netting component are used, the netting shall be loose-weave natural-fiber netting. Products with plastic netting, including but not limited to polypropylene, nylon, polyethylene, and polyester shall not be used. If fiber rolls (wattles) are used for wetland protection and/or temporary sediment control, the netting component of these products shall be made of loose-weave natural-fiber (not plastic) netting;

M. Upon completion of construction activities and prior to the onset of the rainy season, all bare soil areas shall be seeded with fast-growing vegetation and adequately mulched with weed-free rice straw. Revegetation shall be performed only with sterile non-native grasses and/or native vegetation obtained from local genetic stocks within Sonoma, Mendocino, or Humboldt Counties within 30 miles of the coast. Sterile non-native annual grasses shall comprise no more than 50% of the erosion control seed mixture to be planted (by weight of seed), with the remaining seed composed of native species. If documentation is provided to the Executive Director that demonstrates that native vegetation from local genetic stock is not available, native vegetation obtained from genetic stock outside the

local area, but from within the adjacent region of the floristic province, may be used. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or by the State of California shall be planted or allowed to naturalize or persist on the parcel. No plant species listed as a 'noxious weed' by the State of California or the U.S. Federal Government shall be utilized within the property;

N. All equipment used during construction shall be free of leaks of fuels and lubricants at all times;

O. Hazardous materials management equipment shall be available immediately on-hand at the project site during construction, and a registered first-response, professional hazardous materials clean-up/remediation service shall be locally available on call;

P. An on-site spill prevention and control response program, consisting of BMPs for the storage of clean-up materials, training, designation of responsible individuals, and reporting protocols to the appropriate public and emergency services agencies in the event of a spill, shall be implemented at the project site to capture and clean-up any accidental releases of oil, grease, fuels, lubricants, or other hazardous materials;

Q. In the event that an accidental release of graded spoils or other materials or wastes should reach the Navarro River, all work shall stop immediately, and retrieval and cleanup shall be undertaken immediately with the minimum intrusion of equipment into the riparian area necessary, and the incident, as well as remedial measures taken, reported to the Executive Director within 24 hours; and

R. All BMPs shall be maintained in a functional condition throughout the duration of construction activity.

6. **Monitoring, Briefing & Reporting Requirements.** In accordance with the applicant's proposal, a qualified Caltrans biologist or Caltrans Environmental Construction Liaison (ECL) with significant pertinent field experience and familiar with the identification of wetlands and other sensitive habitats or species that may occur within or adjacent to the project area (hereinafter "monitor") shall be present to monitor at minimum the following most sensitive work activities: (1) pre-construction surveys; (2) riparian vegetation pruning; (3) environmentally sensitive area (ESA) fencing; (4) k-rail installation and removal; (5) protective straw wattle installation and removal; and (6) other sensitive activities identified by the Resident Engineer.

   A. The monitor shall ensure that all habitat exclosures and fencing, erosion and water quality control measures are undertaken or placed properly and that all personnel comply with all requirements of Coastal Development Permit No. 1-12-017.

   B. The monitor shall notify the Executive Director of the date of commencement of construction not less than ten (10) working days prior to commencement.

   C. Education of on-site personnel: Prior to commencement of construction, the monitor shall provide copies of, and brief all on-site personnel on, all the

requirements of CDP 1-12-017, including requirements related to the protection of sensitive habitat and species, and of water quality, and shall provide additional copies and conduct additional briefings as new field personnel join the project, and as the monitor may otherwise determine to be additionally necessary, to ensure that all personnel understand and fully implement the applicable requirements of CDP 1-12-017; and

D. The monitor shall maintain a log of all on-site briefings of personnel regarding the requirements of CDP No. 1-12-017 and shall additionally log any incidents of non-compliance with CDP No. 1-12-017 and immediately notify the Supervising or Resident Engineer and the Executive Director.

7. **Invasive Species Control.** The permittee shall do all of the following:

   A. Upon completion of construction activities and prior to the onset of the rainy season, areas of disturbed soil shall be replanted with a seed mix of vegetation consistent with **Special Condition No. 5M** above; and

   B. The project site and surrounding right-of-way area shall be monitored annually for five years following seeding for the presence of invasive and noxious species. At a minimum, once each year during the five-year monitoring period invasive and noxious species shall be removed from the project site and surrounding right-of-way area. Invasive and noxious species removal shall include, but not be limited to pampas grass (*Cortaderia sp.*) and Italian thistle (*Carduus pycnocephalus*). In addition, where safety concerns do not prohibit work and where removal work will not net more damage to native habitats, Cape Ivy (*Delairea odorata*) shall also be removed. Velvet grass (*Holcus lanatus*), which is an aggressive non-native plant occurring in the area but extremely difficult to remove effectively, is not required to be removed.

8. **Assumption of Risk, Waiver of Liability and Indemnity.** By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards from erosion, landslide, bluff retreat, earth movement, waves, storm waves and sea level rise; (ii) to assume the risks to employees and assigns of Caltrans, including contractors and subcontractors and their officers, agents, and employees, and to the public utilizing the proposed project during and after construction, and to the property that is the subject of this permit of injury and/or damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

9. **Future Improvements.** This permit is only for the development described in coastal development permit 1-12-017. Except as provided in Public Resources Code section 30610 and applicable regulations, any future development as defined in PRC section 30106, including, but not limited to, a change in the density or intensity of use of land, shall require an amendment to coastal development permit 1-12-017 from the California

Coastal Commission or shall require an additional coastal development permit from the California Coastal Commission or from the applicable certified local government.

10. Area of Archaeological Significance.

A. If an area of cultural deposits is discovered during the course of the project all construction shall cease and shall not recommence except as provided in subsection (B) hereof; and a qualified cultural resource specialist shall analyze the significance of the find.

B. A permittee seeking to recommence construction following discovery of the cultural deposits shall submit a supplementary archaeological plan for the review and approval of the Executive Director.

(i) If the Executive Director approves the Supplementary Archaeological Plan and determines that the Supplementary Archaeological Plan's recommended changes to the proposed development or mitigation measures are *de minimis* in nature and scope, construction may recommence after this determination is made by the Executive Director.

(ii) If the Executive Director approves the Supplementary Archaeological Plan but determines that the changes therein are not *de minimis*, construction may not recommence until after an amendment to this permit is approved by the Commission.

IV. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares as follows:

A. JURISDICTION AND STANDARD OF REVIEW

The project site is located in Mendocino County on State Route (SR) 1 (aka Highway One) between post mile (PM) 40.1 and PM 40.9, and includes a small portion along SR 128 between PM 0.0 and 0.1. Mendocino County has a certified LCP, but a portion of the site is within the retained jurisdiction of the Commission in an area containing tidelands, submerged lands and/or public trust lands over which the state retains a public trust interest. The proposed project also affects a portion of land within the permitting jurisdiction delegated to Mendocino County by the Commission through the County's certified Local Coastal Program.

Section 30601.3 of the Coastal Act authorizes the Commission to process a consolidated coastal development permit application when agreed to by the local government, the applicant, and the Executive Director, for projects that would otherwise require coastal development permits from both the Commission and from a local government with a certified LCP.

In this case, the Mendocino County Board of Supervisors passed a resolution (**Exhibit 3**) on May 15, 2012 authorizing County staff to request the consolidated processing of the application by the Coastal Commission staff. In a letter dated May 6, 2013, County staff formally requested the consolidated permit processing, and the applicant has also requested that Coastal Commission staff undertake the consolidated permit processing. The Executive Director has authorized the

consolidated processing on behalf of the Commission. The polices of Chapter 3 of the Coastal Act provide the legal standard of review for a consolidated coastal development permit application submitted pursuant to Section 30601.3. The local government's certified LCP may be used as guidance.

B. PROJECT DESCRIPTION

California Department of Transportation (Caltrans) proposes to construct traffic safety improvements along portions of Highway 1 (aka State Route 1) and Highway 128 in Mendocino County (APNs 123-400-19, 123-400-20, 123-380-07, 126-060-02, 126-060-16, 123-400-22, 126-060-14, 126-060-19, 126-050-06, 126-060-12, 123-400-18, 126-050-01, 123-400-21, 123-400-17, 126-170-RW and 126-060-18). Caltrans initiated the project to reduce the number and severity of collisions by precluding "run-off-road" (ROR) collisions. In an effort to reduce the severity of collisions and provide a safer travelling experience, Caltrans proposes to increase existing average lane widths from 11.5 feet to 12.0 feet and increase the existing average paved shoulder widths from 1.0-foot to 4-foot widths throughout the project limits. The proposed improvements include the following components: 1) installation of a metal beam guardrail; 2) lane widening to 12 feet with 4-foot-wide shoulders where resource and space constraints allow; 3) repaving; 4) installation of a centerline ground-in rumble strip; and 5) installation of new bicycle safety signs. Caltrans anticipates completion of construction work within one construction season.

Specifically, Caltrans proposes to install new metal beam guard rail (MBGR) adjacent to the southbound lane on Highway One from the Navarro River Bridge at post mile (PM) 40.27 (south side of the bridge) to the existing MBGR guard rail at PM 40.89 northwest of the bridge The existing guard rail connected to the northern and southern hinge points of the Navarro River Bridge will be upgraded to current standards and the existing concrete transition blocks adjacent to these railings will be modified. The 85.5-foot-long existing guardrail that connects to the west side of the Navarro River Bridge (on the south side of the bridge, adjacent to the southbound lane) will be replaced with 69 feet of "see-through" 2-bar steel barrier rail (referred to as "ST-10"), with approximately 10 feet of concrete barrier transition connecting the ST-10 to the Navarro River Bridge (pages 2 and 3 of **Exhibit 5**). On the north side of the bridge, existing MBGR and concrete transition adjacent to the west side of the Navarro River Bridge will be replaced with approximately 6 feet of concrete transition and approximately 23 feet of ST-10 (page 1 of **Exhibit 5**). Approximately 18 feet of concrete transition will connect to the southern hinge point on the east side of the Navarro River Bridge, and a short concrete transition will connect to the northern hinge point on the east side of the bridge. Upgraded MBGR will extend from these concrete transitions. Existing railing along the Navarro River Bridge itself will not be modified. Visual simulations of the proposed railing designs are included in **Exhibit 5**.

Metal beam guard rail currently exists in several portions of the project area. Existing guardrails in the project area will be reconstructed and upgraded to current standards. Existing roadway signs and markers will be relocated behind the new guard rail. The project design includes the use of a "special" MBGR in narrower portions of the project area north of the Navarro River Bridge (between PM 40.27 and PM 40.89), especially near the northernmost portion of the project area (centerline stations 132+89.63 to 140+34.88, and 131+88.81 to 132+52.13; see **page 10 of Exhibit 6**), for a total distance of approximately 720 feet. The special MBGR uses cantilevered concrete post supports beneath the highway to secure the MBGR against the

hillslope along the southbound lane. The maximum cantilever is 9 inches from the hinge point of the existing slope. Refer to Finding G ("Geologic Hazards") below for more details.

In addition, Caltrans proposes to widen Highway One within the project area to provide two 12-foot-wide lanes and a 4-foot-wide southbound shoulder, where the existing roadway has sufficient width. Caltrans will conduct all widening off of the existing southbound lane and will shift the existing highway centerline between 0 and 3 feet to the west to provide a 12-foot-wide northbound lane. Northbound shoulders will vary from 0 to 4 feet wide. With the exception of ESA ("Environmentally Sensitive Area") fencing, no work will occur beyond the edge of pavement on the northbound side of the highway. Highway One will be repaved and a centerline ground-in rumble strip will be installed. On Highway 128, Caltrans will replace the asphalt from PM 0.0 to PM 0.03. Caltrans will then install a pavement overlay to the edge of the pavement limits. Caltrans will also install new bicycle warning signs ("Share the Road" and bicycle symbol) at approximately PM 0.10. Equipment staging will be limited to a pullout located just outside the project limits along Highway 128 between post miles 0.2 and 0.4.

Proposed paving activities will occur within 15 feet of the Navarro River and within 1 foot of wetland features located adjacent to and upslope of the existing northbound lane of Highway One. No wetland fill is proposed, and the proposed project activities will not result in direct, permanent impacts to any wetland features. Landscape cloth and fiber rolls will be placed over wetland vegetation to minimize the risk of aberrant material entering wetland areas during pavement grinding activities. The placement of these materials may result in temporary crushing of wetland vegetation. Measures to minimize impacts to wetlands and water quality are presented in Finding D below.

Unrelated Nearby Activities That Are Not Part of Project Scope

Apart from the subject project, Caltrans is separately coordinating with Mendocino County planning staff to obtain any needed coastal development permit authorization for modifications to an existing concrete retaining wall structure located on the north side of Highway 128 at approximate post mile 0.16, just outside the subject project limits in order to contain a tar-like, oily substance that appears to be slowly leaking from an opening in the retaining wall down the wall face and settling on the soil surface at a turnout from the road. The source of the leak is a perched repository of the substance contained between the concrete retaining wall and the hillslope that ranges between 1.0-foot- and 2.5-feet-deep. The material appears to become mobile when temperatures rise, then congeals and partially hardens as temperatures cool. Caltrans has researched their records to determine the history of the tar-like material and retaining wall and located a 1947 as-built plan depicting a retaining wall and oil tank. According to an inspection and analysis report prepared by Geocon Consultants, Inc. and dated December 21, 2012, an aboveground storage tank (AST) was located above/on top of the retaining wall for storing asphalt emulsion oil. The AST is no longer present and the date of its removal is unknown.

Caltrans has conducted initial soil sampling and analysis of the oil emulsion material. At the request of Commission staff, Caltrans is currently in the process of conducting additional tests to evaluate whether the material contains any PCB's (Polychlorinated Biphenyl) to understand what level of risk the material poses to the environment. The investigation and remediation of the tar site located outside the subject project limits is not functionally related to any of the activities proposed under the subject permit and is being pursued as a separate project under the County's

delegated jurisdictional permit authority. Caltrans is also coordinating the investigation and remediation of the tar site with the County Department of Environmental Health and the Regional Water Quality Control Board.

C. ENVIRONMENTAL SETTING

The project area consists of those portions of Highway One where it intersects with Highway 128 at the base of the Navarro Ridge, an east-west trending ridge that forms the north side of the deep valley carved by the Navarro River as it makes its way west to the Mendocino coast (See **Exhibits 1** and **2**). The project site and much of the river valley are part of a designated highly scenic area. Visitors traveling westbound along Highway 128 are afforded their first view of the Navarro River estuary as they approach the intersection with Highway One and the Navarro River Bridge. Highway One crosses the Navarro River valley on its route north along the coast by first traversing eastward down the flank of the bluff on the south side of the valley, crossing the river on a low bridge at a point approximately 1.25 miles inland from the coast, and finally traversing westward up the southern flank of Navarro Ridge to the coastal terrace north of the mouth of the river. Highway 128 intersects Highway One at the north end of the bridge that crosses Navarro River at Navarro River Redwoods State Park.

The steep banks above the north side of the Navarro River and downslope of Highway One are dominated by coastal scrub vegetation such as coyote brush (*Baccharis pilularis*), sword fern (*Polystichum munitum*), and pacific bramble (*Rubus ursinus*), and interspersed with occasional Douglas-fir trees (*Pseudotsuga menziesii*). Vegetation upslope of Highway One and Highway 128 similarly consists of coastal scrub vegetation and hillside rock outcrops, and additionally includes species such as bay laurel (*Umbellularia californica*), California-lilac (*Ceanothus sp.*), and orange-bush monkey flower (*Mimulus aurantiacus*). White alders (*Alnus rhombifolia*) and willows (*Salix sp.*) dominate some hillside seep wetland and intermittent drainage features upslope of Highway One as well as portions of the floodplain and lower banks of the Navarro River adjacent to and downslope of Highway One. The drainages upslope of Highway One deliver water seasonally via a drainage ditch alongside Highway One to several culverts underneath the Highway that discharge to the Navarro River. The drainage ditches consist of hydrophytic herbaceous vegetation such as slough sedge (*Carex obnupta*), nutsedge (*Cyperus eragrostis*), water parsley (*Oenanthe sarmentosa*), and water cress (*Nasturtium officinale*[1]), and often include disturbance-associated species such as velvet grass (*Holcus lanatus*).

Both Highway One and Highway 128 are scenic two-lane highways throughout the project area (**Exhibit 4)**. Most highway lanes within the project area range between 9.5-feet and 12-feet-wide. With exception to existing vehicle turnouts, most existing shoulders adjacent to highway lanes in the project area range between 0.0-feet- and 3-feet-wide. The project area roadway varies in elevation above the Ordinary High Water Mark (OHWM) of the Navarro River from about 15 feet to 80 feet. Shoreline access is available on the south side of the Navarro River Bridge from Highway One near PM 40.1.

[1] Formerly known as *Rorippa nasturtium-aquaticum* water cress is treated as *Nasturtium officinale* in the current taxonomic literature (e.g., http://ucjeps.berkeley.edu/about_ICPN.html).

D. WETLANDS AND WATER QUALITY

Section 30230 of the Coastal Act states that:

> *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Section 30231 of the Coastal Act states that:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges- and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

Section 30233(a) of the Coastal Act states, in part:

> *The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*
>
> *(1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.*
>
> *(2) Maintaining existing, or restoring previously dredged depths on existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*
>
> *(3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.*
>
> *(4) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.*
>
> *(5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.*
>
> *(6) Restoration purposes.*
>
> *(7) Nature study, aquaculture, or similar resource dependent activities.*

The narrative contained in Caltrans' categorical exemption/categorical exclusion states in part the following:

> *This project area is located within the Navarro River Hydrologic Area (HA 113.50), which is within the jurisdiction of the North Coast Regional Water Quality Control Board (NCRWQCB). This watershed is 303(d) listed as impaired by sedimentation/siltation and temperature. The Navarro River is included in NCRWQCB Resolution R1-2004-20087, the Total Maximum Daily Load Implementation Policy Statement for Sediment-Impaired Receiving Waters in the North Coast Region (Sediment Policy) The Sediment Policy directs the NCRWQCB to use all available authorities, permitting, and enforcement tools to pursue compliance with sediment-related standards…*

As described above, the Navarro River Estuary below the project area is also part of the State Marine Conservation Area, which is a designated Marine Protected Area (MPA) recognized by CDFW. Because the project site is located adjacent to the MPA, Commission staff contacted CDFW for comment and approval of proposed project activities. On May 20, 2013, CDFW provided comment requesting that BMPs are in place to prevent debris from falling into the estuary, and that no further authorization is needed from the Department for this project to proceed.

Wetland and riparian features within the project area include hillside seep wetland and intermittent drainage features upslope of Highway One in addition to the Navarro River located downslope and downgradient of the project area. The intermittent and ephemeral drainages upslope of Highway One deliver water seasonally via a drainage ditch alongside Highway One to several culverts underneath the Highway that discharge to the Navarro River.

The riverbank below the highway is steep at this location. The Navarro River estuary extends from the mouth of the Navarro River upgradient to the Navarro River Bridge. The California Department of Fish and Wildlife (CDFW) recognize the waters of the Navarro River Estuary below the mean high tide line as part of the State Marine Conservation Area, which is a designated Marine Protected Area.

Caltrans proposes to construct road improvements upslope of the adjacent Navarro River that will occur as close as 15 feet to the river. The metal beam guardrail will be installed adjacent to the southbound lane between the roadway and the steep slope above the Navarro River. Caltrans indicates that minor trimming of riparian vegetation will be necessary along portions of the roadway adjacent to Highway One; however no tree removal or major limbing is proposed. In addition, proposed paving activities will occur within one foot of wetland features located adjacent to and upslope of the existing northbound lane of Highway One (**Exhibits 8** and **9**). No wetland fill is proposed, and the proposed project activities will not result in direct, permanent impacts to any wetland features.

Caltrans submitted an alternatives analysis to the Commission office on April 15, 2013. The analysis includes two alternatives, the “build alternative” and the “no build alternative.” Caltrans indicates in the alternatives analysis that additional project elements were considered and included in early stages of the project design, but were later eliminated from further study because it was determined that the removed project impacts would likely have resulted in direct impacts to wetlands and rare plant ESHA. For example, the original project scope proposed to upgrade ten culvert inlets and replace two culvert inlets. However, it was subsequently

determined during a more detailed review of the project that the culverts were in sufficiently good condition and not in need of repair or replacement. Thus, this project element was removed from the scope to avoid direct impacts to wetlands. Caltrans proposes the "build" alternative to reduce the number and severity of run-off-road collisions, and proposes minimization measures, best management practices (BMPs), and invasive species removal to mitigate for potential short-term impacts.

To ensure that the development will provide adequate protection of the area of special biological significance and to protect the biological productivity and quality of coastal waters, streams, wetlands, and estuaries consistent with Section 30230 and 30231 of the Coastal Act, the Commission has found it necessary to impose special conditions, which are described throughout this section of the staff report.

The total anticipated impervious surface is expected to increase by 26%. Project activities will result in approximately 723 cubic yards of cut and approximately 382 cubic yards of fill, with the remainder of the material (approximately 341 cubic yards) disposed of off-site. Caltrans proposes to dispose of clean soil at "The Beacon" disposal site located at 7351 South Highway One, in Elk. Mendocino County CDP No. 50-2007 previously authorized Caltrans to dispose up to approximately 100,000 cubic yards of soil and rock material from various highway construction and maintenance projects at the Beacon Disposal site (APNs 130-040-01, 130-040-03, 130-040-04, 130-03-01, and 127-290-01). Caltrans indicates that metal beam guard rail elements, such as treated wood, will be disposed of at "a proper disposal facility." To ensure that debris are properly disposed of at a licensed facility in upland habitat, **Special Condition 4** requires preparation of a final plan for debris disposal that identifies appropriate disposal sites for all materials including but not limited to "unclean" soil and treated wood, to ensure that the material is properly disposed without adverse effects that may result from improper dumping of such material.

Grading and other soil movement activities upslope of the Navarro River riparian corridor that are necessary to complete the proposed project could pose a risk of discharge of graded spoils or other materials into the waters of the Navarro River. Such discharge could cause sedimentation of the river waters, and resultant adverse impacts to fisheries and other biological resources. To address water quality during construction, the applicant proposes to implement Best Management Practices (BMPs) at targeted sensitive habitat areas. Proposed measures to ensure protection of water quality and marine resources include: temporary sediment control using fiber rolls at locations designated on Sheet Q-1 of the applicant's plan set; scheduling; placement of ESA fencing at designated areas; and other non-storm water BMPs. The applicant proposes to construct the project under a Water Pollution Control Plan prepared by the contractor and approved by the Resident Engineer (RE), and deploying BMPs under the Construction Site Management Plan. In a letter received from Caltrans on October 3, 2012, Caltrans additionally states that "The 'Notice to Bidder and Special Provisions,' Section 10-1.04 of the Water Pollution Control General Plan, will provides [sic] details on how impacts to water quality will be avoided." The proposed project does not include any drainage improvements or grading of slopes. Only a minimal amount of soil area (approximately 0.35 acre will be disturbed by the drilling of holes for the installation of the MBGR.

Disturbed areas of the site may also erode through the action of wind and rain, releasing sediments into the downgradient waters of the Navarro River. To further protect water quality,

Caltrans proposes to restrict construction to the relatively dry months between May 15 and October 15, thereby limiting site disturbance during the winter rainy season when there is a greater risk that storms could cause runoff from the disturbed areas of the site into the river below. Therefore, in accordance with the applicant's proposal, **Special Condition No. 3** sets forth construction timing restrictions protective of coastal waters. In addition to the project as proposed, **Special Condition No. 4** imposes waste management requirements, and **Special Condition No. 5** sets forth water quality management practices protective of coastal waters, such as storing and staging equipment and materials, materials handling, cleanup obligations, and wind erosion control. **Special Condition No. 5** also establishes requirements to implement water quality protection measures and BMPs designed to prevent spillage and/or runoff of demolition or construction-related materials, to contain sediment or contaminants associated with demolition or construction activity, and reporting requirements in the event of an accidental release to the river. In addition, to protect wildlife and minimize plastic in the environment, **Special Condition No. 5L** requires that only those temporary erosion control products manufactured from 100% biodegradable (not photodegradable) materials shall be used, and that if any products containing a netting component are used, the netting shall be loose-weave natural-fiber netting.

To protect the biological productivity and water quality of wetlands adjacent to the highway during construction activities, Caltrans proposes to place concrete K-rail alongside the northbound lane at the edge of pavement, and place fiber rolls along the inboard edge of the road during the grinding and repaving of the northbound lane. No construction work will occur beyond the northbound edge of pavement where environmentally sensitive area (ESA) fencing (K-rail) would be placed. In addition, while Caltrans will use pavement grinding machines that collect most of the ground pavement material, Caltrans proposes to place breathable landscape cloth on top of wetland vegetation to protect habitats from aberrant flyaway materials during pavement grinding activities. While these protective measures may result in temporary crushing of up to 0.61 acre (approximately 2,657 square feet) of wetland vegetation underneath the fiber rolls and landscape cloth, the temporary disturbance of vegetation will not result in a significant adverse impact and is necessary to avoid and minimize risks of permanent impact to surrounding wetland features. Because construction of the entire project is expected to be completed within approximately 90 days and pavement grinding occurs within a discrete portion of this time, it is anticipated that the temporarily crushed vegetation will recover soon after removal of the landscape cloth and filter rolls.

Caltrans proposes in a letter to Commission staff dated April 11, 2013 that either a Caltrans staff Environmental Construction liaison (ECL) or a staff project biologist will, at a minimum, monitor during the following project activities occurring near wetland and riparian habitats: (a) riparian vegetation pruning; (b) ESA fence installation; (c) K-rail installation and removal; (d) protective straw wattle and landscape fabric installation and removal; and (e) other sensitive activities identified by the Resident Engineer. In addition, Caltrans proposes to replant areas of disturbed soil throughout the project area with a seed mix of regionally appropriate native plant species that are ecologically suitable for the site. Caltrans also proposes to monitor for and remove invasive species from within the project right of way for a period of five years.

Therefore, **Special Condition Nos. 6** and **7** are imposed in accordance with the applicant's proposal. Special Condition No. 6 requires either a Caltrans staff Environmental Construction liaison (ECL) or a staff project biologist ("the monitor") be present to monitor at minimum those

activities described above. Additionally, **Special Condition No. 6** requires that the monitor shall do all of the following: a) ensure that all habitat exclosures and fencing, erosion and water quality control measures are undertaken or placed properly; b) notify the Executive Director at least 10 days prior to commencement of construction activities on the site; c) brief all on-site personnel on all the requirements of CDP 1-12-017, including requirements related to the protection of sensitive habitat and species, and of water quality; and d) maintain a log of all on-site briefings of personnel regarding the requirements of CDP No. 1-12-017 and shall additionally log any incidents of non-compliance with CDP No. 1-12-017 and immediately notify the Executive Director of any such incidents.

Special Condition No. 7A requires that, in accordance with Caltrans' proposal, areas of disturbed soil shall be replanted with a seed mix of regionally appropriate native plant species that are ecologically suitable for the site. **Special Condition No. 7B** requires disturbed and replanted areas to be monitored annually for five years following seeding. At minimum, once each year during the five-year monitoring period invasive noxious species shall be removed from the right-of-way area surrounding and including the entire project area that is subject to the development authorized by CDP 1-12-017. Invasive species removal shall include, but not be limited to pampas grass (*Cortaderia sp*.) and Italian thistle (*Carduus pycnocephalus*).

As conditioned by the requirements of **Special Condition Nos. 4-7,** the project would protect an area of special biological significance and protect the biological productivity and quality of coastal waters, streams, wetlands, and estuaries. Therefore, the Commission finds that the proposed project, as conditioned is consistent with Coastal Act Sections 30230 and 30231.

E. ENVIRONMENTALLY SENSITIVE HABITAT AREAS

Section 30240 of the Coastal Act states:

> *(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.*
>
> *(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

Caltrans staff biologists conducted preliminary natural resource surveys in 2008 and seasonally-appropriate surveys for special-status species and sensitive communities in March, April, and May 2011. According to the August 2011 "Botanical/ESHA Assessment and Reduced Buffer Analysis" prepared for the subject project, pacific gilia (*Gilia capitata* ssp. *pacifica*) occurs in two locations adjacent to the north and west bound lanes of Highway One and Highway 128, respectively (**Exhibit 9**).

Pacific gilia is an herbaceous annual in the family Polemoniaceae. Pacific gilia has no federal or state threatened or endangered status, but it has a California Rare Plant Rank (CRPR) of 1B.2 (plants considered rare, threatened, or endangered in California and elsewhere). ESHA, as defined in Section 30107.5 of the Coastal Act, is "…any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an

ecosystem and which could be easily disturbed or degraded by human activities." Thus, Coastal Act Section 30107.5 sets up a two part test for determining an ESHA. The first part is determining whether an area includes plants or animals or their habitats that are either: (a) rare; or (b) especially valuable because of their special nature or role in an ecosystem. If so, then the second part asks whether such plants, animals, or habitats could be easily disturbed or degraded by human activities. If so, then the area where such plants, animals, or habitats are located is deemed ESHA by Section 30107.5. The first test for determining ESHA under Section 30107.5 is whether an area including plants or animals or their habitats is either (a) rare, or (b) especially valuable because of its special nature or role in an ecosystem. Because of its relative rarity at the state level, pacific gilia meets the rarity test for designation as environmentally sensitive habitat area (ESHA) under Coastal Act Section 30107.5. The second test for determining ESHA under Coastal Act Section 30107.5 is whether the habitat could be easily disturbed or degraded by human activities and developments. According to the California Native Plant Society, pacific gilia is threatened by development, recreational activities, road construction, and logging[2]. Therefore, the pacific gilia plants occurring on the project site meet the second test for determining ESHA under Section 30107.5 of the Coastal Act.

The existing road surface occurs within one foot of pacific gilia ESHA, adjacent to the north- and west-bound lanes of Highway One and Highway 128, respectively. The project as proposed includes expansion of the road surface on the opposite side of Highway One. While no expansion will occur along the northbound extent of Highway One or the westbound extent of Highway 128, repaving of the road surface will occur within one foot of the pacific gilia ESHA. To avoid adverse impacts to adjacent biological resources during construction, the applicant proposed general avoidance and minimization BMP measures. As proposed, the applicant plans to erect temporary Environmentally Sensitive Area (ESA) fencing adjacent to the edge of pavement along outward limit of the pacific gilia habitat to prevent encroachment of equipment activity within the pacific gilia ESHA.

In addition, Caltrans proposed in a letter to Commission staff dated April 11, 2013 that either a Caltrans staff Environmental Construction liaison (ECL) or a staff project biologist will at minimum monitor during the following project activities to be conducted close to the pacific gilia ESHA: (a) pre-construction surveys; (b) ESA fence installation; and (c) other sensitive activities identified by the Resident Engineer. Caltrans has also identified that construction activities within the project area will result in approximately 0.35 acre of disturbed soil areas (DSA), and proposes to apply erosion control seed comprised of regionally appropriate, native plant species that are ecologically suitable to the site to DSAs following construction. Caltrans will also remove invasive species from the project area for five years following construction activities. Invasive species removal will focus on those occurrences that occur within the right of way and that may be safely accessed for treatment. Species targeted for removal include pampas grass (*Cortaderia sp.*), Italian thistle (*Carduus pycnocephalus*), and cape ivy (*Delairea odorata*) where feasible. To prevent impacts to the pacific gilia habitat from encroachment of construction activities, sedimentation from runoff, and displacement by invasive species, **Special Condition Nos. 6** and **7** are imposed to require Caltrans to implementation of the mitigation measures proposed by Caltrans and described above. In addition, the project has been conditioned to

[2]California Native Plant Society Online Inventory of Rare and Endangered Plants. Accessed May 12, 2013 at http://www.rareplants.cnps.org/detail/1918.html

employ additional runoff control and debris removal measures that ensure protection of the site and surrounding habitat areas. Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Section 30240 of the Coastal Act which requires that development adjacent to ESHA be sited and designed to prevent impacts that would significantly degrade the ESHA and to be compatible with the continuance of the ESHA.

F. VISUAL RESOURCES

Section 30251 of the Coastal Act states:

> *The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.*

Section 30254 of the Coastal Act states:

> *New or expanded public works facilities shall be designed and limited to accommodate needs generated by development or uses permitted consistent with the provisions of this division; provided, however, that it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road.* …[Emphasis added]

Mendocino County Land Use Plan **(LUP) Policy 3.5-1** states in applicable part the following:

> State Highway 1 in rural areas of the Mendocino County coastal zone shall remain a scenic two-lane road.

Mendocino County **LUP Policy 3.8-6** states the following:

> It shall be a goal of the Transportation Section to achieve, where possible and consistent with other objectives of The Coastal Act and plan policies for Highway 1, a road bed with a vehicle lane width of 16 feet including the shoulder to achieve a 32 foot paved roadway (12-foot vehicle lane and 4-foot paved shoulder). The minimum objective shall be a 14-foot vehicle lane width (10-foot vehicle lane and 4-foot paved shoulder). New widening projects shall be allocated, first to safety and improved capacity needs and secondly to paved shoulders.

While the polices of Chapter 3 of the Coastal Act provide the legal standard of review for a consolidated coastal development permit application submitted pursuant to Section 30601.3, the local government's certified LCP may be used as guidance. The expanse of the Navarro River that borders the subject site is designated Highly Scenic in the certified Mendocino County Local Coastal Program (LCP). The proposed metal beam guardrail project would be visible to visitors traveling to and along the coast, including from trails and river recreation areas along the river such as Navarro River Redwoods State Park. In addition, visitors traveling westbound along

Highway 128 are afforded their first view of the Navarro River estuary as they approach the intersection with Highway One and the Navarro River Bridge.

Caltrans proposes to widen Highway One within the project area to provide two 12-foot-wide lanes and a 4-foot-wide southbound shoulder, where the existing roadway has sufficient width. Caltrans will conduct all widening on the southbound lane and will shift the existing highway centerline between 0 and 3 feet to the west to provide a 12-foot-wide northbound lane. Northbound shoulders will vary from 0 to 4 feet wide. The widening activities are proposed to improve safety along this portion of the highway and reduce run-off-road traffic collisions, and do not exceed those lane widths required by the Mendocino County LCP to maintain the scenic two-lane rural character of the highway. Therefore, the Commission finds the proposed lane and shoulder widths are consistent with Section 30254 of the Coastal Act that require maintaining Highway One as a scenic two-lane road with minimum road and shoulder widths. In addition, the Commission finds that the proposed road improvements are consistent with the requirements of Section 30251 that development in highly scenic areas will be subordinate to the character of its setting.

The original project design included installation of 63 lineal feet of concrete transition barrier and 58 lineal feet of concrete barrier adjacent to the Navarro River Bridge railings where it transitioned to guard rails on either side. The resulting effect would have been partial obstruction of the view of the Navarro River estuary and distant coastal views. After meetings between Coastal Commission staff and Caltrans staff, Caltrans modified the proposed design to instead include the use of 92 lineal feet of "see-through" 2-bar galvanized gray steel barrier rail ("ST-10" design), with 16 lineal feet of concrete barrier transition connecting the ST-10 to the Navarro River Bridge (**Exhibit 5**). The light-gray railing design as revised and included on the "Navarro River Bridge Barrier Transition" plans submitted by Caltrans with a plot date of April 29, 2013, and as depicted in pages 18-19 of **Exhibit 6**, is a more see-through design than the originally-proposed concrete barrier. The ST-10 design has been approved by the Commission in other road and bridge projects in the North Coast to maximize the preservation of coastal views. **Special Condition No. 1** requires that Caltrans construct development in accordance with the plans submitted as part of the application. As conditioned, the Commission finds that the proposed project will be sited and designed to protect views to and along the ocean and scenic coastal areas and is consistent with Section 30251 of the Coastal Act.

G. HAZARDS

Section 30253 of the Coastal Act states, in pertinent part, that new development shall:

> (*1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
>
> *(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

The project design includes the use of a "special" MBGR in portions of the project area between PM 40.27 and PM 40.89 (centerline stations 132+89.63 to 140+34.88, and 131+88.81 to 132+52.13; see pages 13-14 of **Exhibit 6**), for a total distance of approximately 720 feet. The

special MBGR uses cantilevered concrete post supports beneath the highway to secure the MBGR against the hillslope along the southbound lane. The maximum cantilever is 9 inches from the hinge point of the existing slope. The installation of the concrete post supports will require excavating a 4- to 5-foot width of pavement.

Caltrans Division of Engineering Services Office of Geotechnical Design prepared a Geotechnical Analysis Memo for the project area dated March 1, 2013 (**Exhibit 7**). The memo documents surface and subsurface conditions and includes the results of a Limit Equilibrium stability analysis conducted on a roadway cross section (Station 135+90) that exhibited surface tension cracks. Using conservative values to determine the effect of the cantilevered MBGR, the memo documents that the slope stability analysis indicates there is no significant change in slope stability resulting from the installation of the cantilevered MBGR as proposed. Figure 2 of the memo documents the location of existing rock slope protection that was placed in 1990 to repair a slope failure. The project as proposed does not include the use of any retaining wall or other slope stabilization features. The Commission's staff geologist has reviewed the applicant's geotechnical memo and concurs with its conclusions.

Although adherence to the geotechnical design will minimize the risk of damage from erosion, the risk is not eliminated entirely. The site is located on the steep banks upslope of the Navarro River, which is inherently hazardous. Given that the applicant has chosen to implement the project despite potential risks from bank erosion and landslides, the applicant must assume the risks. Therefore, the Commission imposes **Special Condition No. 8** requiring the applicant to assume the risk of the development. In this way, the applicant is notified that the Commission is not liable for damage as a result of approving the permit for development. The condition also requires the applicant to indemnify the Commission in the event that third parties bring an action against the Commission as a result of the failure of the development to withstand the hazards. As conditioned, the Commission finds the proposed project is consistent with Section 30253 of the Coastal Act.

H. ARCHAEOLOGICAL RESOURCES

Section 30244 of the Coastal Act states:

> *Where development would adversely impact archeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.*

The Pomo people have a long history of occupying what is now described as Mendocino County prior to the arrival of Europeans in California. According to California State Parks[3], some indigenous Pomo people lived in a narrow strip along today's Navarro River, but most lived inland. In the 1860's, the shipping and lumber town of Navarro was established along the south bank of the mouth of the Navarro River. At that time Captain Fletcher, the first European to settle in the Navarro Estuary, built an inn to house sailors waiting to load their ships with lumber from the mill. The historic Captain Fletcher's Inn, and the Navarro Mill Company House remain today and are part of Navarro River Redwoods State Park that is located adjacent to and immediately south of the project area.

[3] http://www.parks.ca.gov/pages/435/files/NavarroRiverRedwoodsWeb2011.pdf

Caltrans conducted archaeological field investigations for the project area during June 2008 through September 2008. Field investigations did not result in any identification of archaeological resources within the project's Area of Potential Effect (APE), although Caltrans' Principle Architectural Historian has acknowledged that extensive evidence of historic use of the area surrounding the APE exists.

Caltrans addresses their policy regarding potential discovery of cultural resources in their March 10, 2009 Categorical Exemption as follows:

> *…if cultural materials (e.g., bones, stone implements, old bottles, etc.) are encountered during the project construction, Caltrans policy requires that all work in the area (within a 60 meter [200 feet] radius) must immediately halt until a qualified archaeologist can evaluate the nature and significance of the material and determine an appropriate course of action in consultation with the State Historic Preservation Office (Stipulation XV, Post Review Discoveries, Section B.1-3 in the Section 106 PA).*
>
> *If human remains are discovered or recognized during construction, there shall be no further excavation or disturbance of the location (within a 60 meter [200 feet] radius), or any nearby area reasonably suspected to overlie adjacent remains, until a qualified archaeologist has contacted the appropriate county coroner and they have determined that the remains are not subject to provisions of Section 27491 of the Government Code.*

To ensure protection of any cultural resources that may be discovered at the site during construction of the proposed project, and to implement the recommendation of the archaeologist, the Commission attaches **Special Condition No. 10**. This condition requires that if an area of cultural deposits is discovered during the course of the project, all construction must cease, and a qualified cultural resource specialist must analyze the significance of the find. To recommence construction following discovery of cultural deposits, the applicant is required to submit a supplementary archaeological plan for the review and approval of the Executive Director to determine whether the changes are de minimis in nature and scope, or whether an amendment to this permit is required.

Therefore, the Commission finds that the proposed project is consistent with Coastal Act Section 30244, as the proposed development includes reasonable mitigation measures to ensure that construction activities within the project area will not result in significant adverse impacts to archaeological resources.

I. PUBLIC ACCESS AND RECREATION

Section 30210 of the Coastal Act states:

> *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

Section 30211 of the Coastal Act states:

> *Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

Section 30212 of the Coastal Act states, in relevant part:

> *(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) It is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) Adequate access exists nearby*

In the project area, Highway One is the major public access route providing access to and along the ocean. Shoreline access is currently available via an access road located on Highway One on the south side of the Navarro River Bridge (near PM 40.1) that leads to Navarro Beach. The proposed project will allow continued use of the highway to serve as a major access transportation corridor for both vehicles and bicycles. With exception to existing vehicle turnouts, most existing shoulders adjacent to highway lanes in the project area range between 0.0-feet- and 3-feet-wide. The project as proposed will increase the existing paved shoulders from 1.0-foot to 4-foot average widths throughout the project limits. The shoulder widening activities will therefore improve safety for bicyclists and thus help facilitate the implementation of the Pacific Coast Bike Route (PCBR) through this area.

Potential impacts to public access during construction activities will be temporary and minimal. Caltrans has submitted a Transportation Management Plan dated August 5, 2011. Timing of construction as proposed would avoid peak use weekend periods, and Caltrans estimates a maximum of 10-minute traffic delays during construction activities. In addition, the duration of the project is not expected to exceed three months. Therefore, the Commission finds that the impact on public access use of the highway will not be significant.

Therefore, the Commission finds the proposed development does not have any significant adverse effect on public access, and that the project as proposed without new public access is consistent with the requirements of Coastal Act Sections 30210, 30211, and 30212.

J. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The California Department of Transportation is the lead agency for purposes of CEQA. On March 10, 2009, the Department found the project to be categorically exempt from environmental review pursuant to Section 15303 of the CEQA guidelines. Subsequently, a CEQA/NEPA re-validation form was completed on May 25, 2012 that outlined changes to the scope of work following the March 10, 2009 categorical exemption determination. The California Department of Transportation re-validated that the project as changed remained categorically exempt from environmental review.

Section 13906 of the Commission's administrative regulations requires Coastal Commission approval of coastal development permit applications to be supported by a finding showing the application, as modified by any conditions of approval, is consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of

CEQA prohibits approval of a proposed development if there are any feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect the proposed development may have on the environment.

The Commission incorporates its findings on Coastal Act consistency at this point as if set forth in full. As discussed above, the proposed project has been conditioned to be consistent with the policies of the Coastal Act. As specifically discussed in these above findings, which are hereby incorporated by reference, mitigation measures that will minimize or avoid all significant adverse environmental impacts have been required. As conditioned, there are no other feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impacts which the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, can be found consistent with the requirements of the Coastal Act and to conform to CEQA.

APPENDIX A: SUBSTANTIVE FILE DOCUMENTS

Application file for Coastal Development Permit (CDP) Application No. 1-12-017

James, June. March 1, 2013. Memorandum re: Geotechnical Analysis of the Albion Metal Beam Guardrail Safety Project. Prepared for Caltrans by Department of Transportation Division of Engineering Services, Office of Geotechnical Design. Received March 4, 2013.

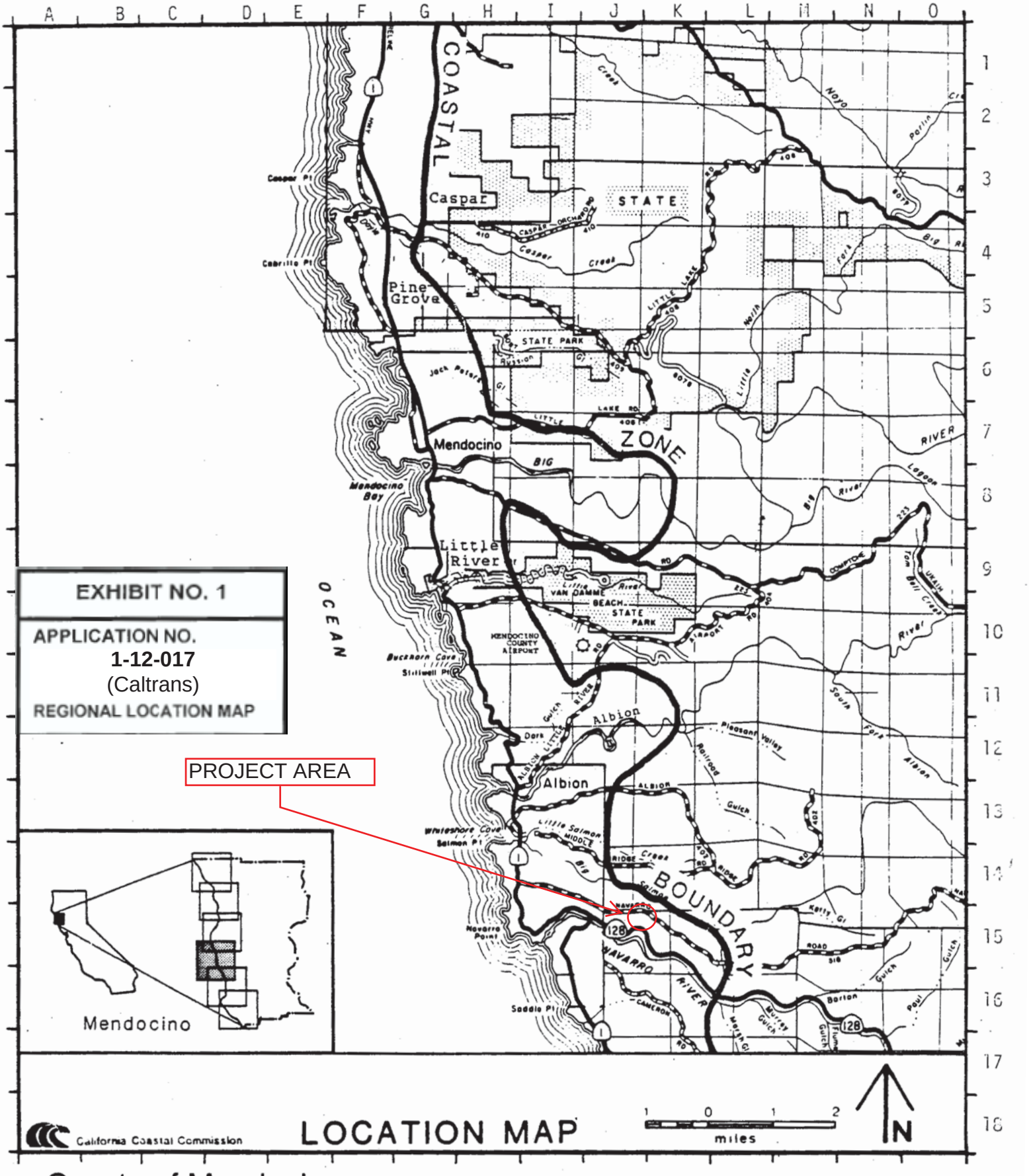
Juhrend, John and Robert Kimball. December 21, 2012. Summary Report: State Route 128 Retaining Wall, Mendocino County. Caltrans Contract No. 03A1368, Task Order No. 196. Project No. S9300-06-196. Report prepared for Caltrans by Geocon Consultants, Inc.

Kannely, Al. August 2011. Botanical/ESHA Assessment and Reduced Buffer Analysis for the Navarro Metal Beam Guardrail Project. Prepared for Caltrans by Department of Transportation Division of Environmental Services.

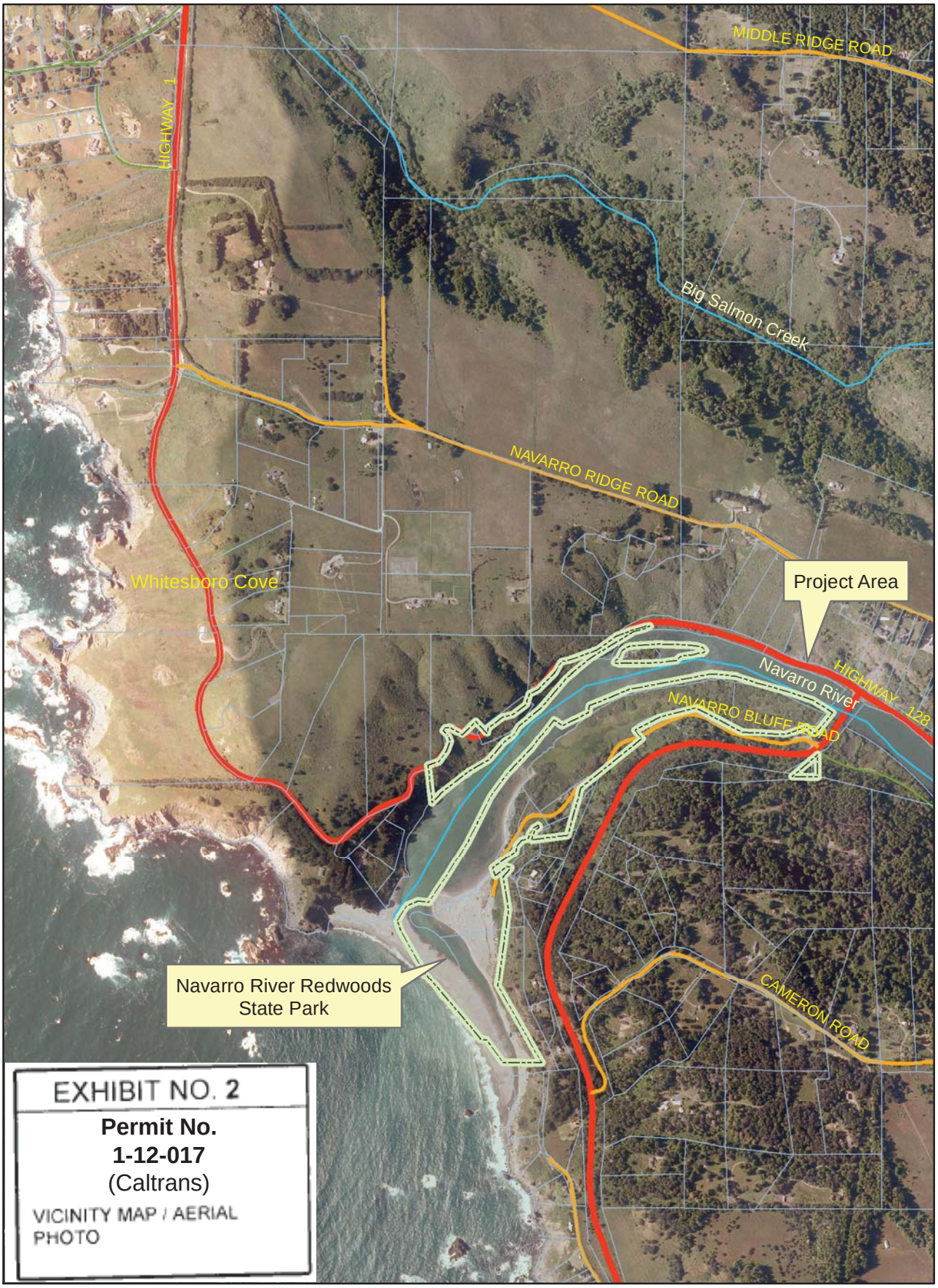
Marquis, Sean. April 2013. Navarro Metal Beam Guardrail Project: Delineation of Waters of the U.S. and Waters of the State. Prepared for Caltrans by Department of Transportation Division of Environmental Services.

Mendocino County Local Coastal Program

Van Coops, Jon. January 18, 2012. Memorandum re: Boundary Determination No. 20-2011, Caltrans Project 01-48470 Navarro MBGR, Mendocino County. Prepared for Caltrans by California Coastal Commission GIS/Mapping Program Manager.



County of Mendocino


MIDDLE RIDGE ROAD
HIGHWAY 1
Big Salmon Creek
NAVARRO RIDGE ROAD
Whitesboro Cove
Project Area
Navarro River
HIGHWAY 128
NAVARRO BLUFF ROAD
Navarro River Redwoods State Park
CAMERON ROAD
EXHIBIT NO. 2
Permit No. 1-12-017
(Caltrans)
VICINITY MAP / AERIAL PHOTO
N
1,500 750 0 1,500 Feet

DEPARTMENT OF TRANSPORTATION
DISTRICT 3
703 B STREET
MARYSVILLE, CA 95901
PHONE (530) 741-4565
FAX (530) 741-4490
TTY (530) 741-4509

Flex your power!
Be energy efficient!

Date: March 05, 2012

Abbey Stockwell, Planner
Mendocino County Planning and Building Services
120 West Fir Street
Fort Bragg, CA 95437
(707)964-5379
(707)961-2427 (Fax)

Subject: Coastal Development Permit Consolidation Request for the Caltrans' Navarro MBGR (#01-48470) Project

Caltrans is writing to request that this project be consolidated and processed by the State Coastal Commission since the project crosses both local and state jurisdictional boundary. According to state jurisdiction mapping, both sides of the Navarro River Bridge (10-130) and State Route (SR) 1 (from post mile (PM) 40.1 to 40.75) fall under the state coastal jurisdiction, and SR 1 between PM 40.75 to 40.9 falls within the local coastal jurisdiction. The project is located in Mendocino County on SR 1 near the Navarro River Bridge extending between PM 40.1 to 40.9. There is also another small portion located on SR 128 between post miles 0.0 and 0.1. This safety project proposes to install new metal beam guard rail (MBGR) adjacent the southbound lane on SR1 from the Navarro River Bridge (PM 40.27) to the existing guard rail at PM 40.89. The existing guard rail connected to the Navarro River Bridge will be upgraded to current standards and the existing concrete transition blocks will be modified. Nonstandard guard rail (Guard Rail Special Type I) will be installed where the new guard rail posts will be placed. A 150 ft section of guard rail will be reconstructed at the south end of the project on SR 1, from PM 40.12 to PM 40.15.

The project proposes to widen SR 1 to provide two 12 ft lanes and a 4 ft southbound shoulder, where the existing roadway has sufficient width. All widening will be on the south bound lane. The existing highway centerline will be shifted approximately 0-3 ft to the west to provide a 12' wide northbound lane. Northbound shoulders will vary from 0 to 4 ft wide. With the exception of ESA fencing, no work will occur on the northbound side of the highway. SR 1 will be paved and centerline a rumble strip will be installed. On SR 128, the road will be cold planed and asphalt replaced from PM 0.0 to 0.03 to connect to newly paved maintenance overlay. The road will then be overlaid to the edge of pavement limits. New bicycle warning signs will be installed at approximately PM 0.10.

EXHIBIT NO. 3
APPLICATION NO.
1-12-017 – CALTRANS
PERMIT CONSOLIDATION
REQUEST (1 OF 5)

Please respond that you agree to consolidate the permit.

If you have any questions, please contact Larry Chiea at (530) 741-4584

Sincerely,

Sandra Rosas
Chief, Environmental Management M2
Department of Transportation (Caltrans)

MENDOCINO COUNTY BOARD OF SUPERVISORS
ONLINE AGENDA SUMMARY

BOARD AGENDA # 4 0

-Arrangements for public hearings and timed presentations must be made with the Clerk of the Board in advance of public/media noticing
-Agenda Summaries must be submitted no later than *noon* Monday, 15 days prior to the meeting date (along with electronic submittals)
-Send 14 complete sets (original, single-sided+13 copies) – Items must be signed-off by appropriate departments and/or County Counsel
-Transmittal of electronic Agenda Summaries and associated records must be emailed to: bosagenda@co.mendocino.ca.us
-Electronic Agenda Transmission Checklist: ☐ Agenda Summary ☐ Records ☐ If applicable, list other online information below
-Executed records will be returned to the department within one week. Arrangements for expedited processing must be made in advance

TO: Board of Supervisors DATE: April 11, 2012

FROM: Planning & Building Services MEETING DATE: May 15, 2012

DEPARTMENT RESOURCE/CONTACT: Roger Mobley PHONE: 4281 Present ☒ On Call ☐
PHONE: 4281

Consent Agenda ☒ Regular Agenda ☐ Noticed Public Hearing ☐ Time Allocated for Item: ____

■ AGENDA TITLE: Resolution authorizing the processing of a consolidated coastal development permit for the Navarro Metal Beam Guard Rail Project by the California Coastal Commission for California Dept. of Transportation.

■ PREVIOUS BOARD/BOARD COMMITTEE ACTIONS: None

■ SUMMARY OF REQUEST: The proposed resolution would allow the California Coastal Commission to approve the Navarro Metal Beam Guard Rail project at the Navarro River Bridge (extending between Post Mile marker 40.1 to 40.9) without a separate coastal development permit from Mendocino County. The project lies within an area of shared permit jurisdiction between the State and County. Normally a permit would be processed by both the Coastal Commission and the County. However, at the request of Caltrans, a resolution is being sought which would consolidate the permit review under the Commission for this specific project only. The majority of the project area, approx. 70%, lies within Coastal Commission jurisdiction. **CalTrans proposes this safety project to install new metal beam guard rail adjacent to the southbound lane on Highway 1 from the Navarro River Bridge (Post Mile marker 40.27) to the existing guard rail at Post Mile marker 40.89. The existing guard rail would be upgraded to current standards and the concrete transition blocks would be modified. A portion of the southbound lane would be widened.**

■ SUPPLEMENTAL INFORMATION AVAILABLE ONLINE AT: Fort Bragg Planning and Building Services
■ ADDITIONAL INFORMATION ON FILE WITH THE CLERK OF THE BOARD (CHECKED BY COB IF APPLICABLE): ☐

FISCAL IMPACT

Source of Funding	Current F/Y Cost	Annual Recurring Cost	Budgeted in Current F/Y
N/A	N/A	N/A	Yes ☐ No ☒

■ SUPERVISORIAL DISTRICT: 1☐ 2☐ 3☐ 4☒ 5☐ All☐ VOTE REQUIREMENT: Majority☒ 4/5ths☐

■ RECOMMENDED ACTION/MOTION: Adopt the attached resolution to allow California Coastal Commission to process a dual jurisdiction coastal development permit.

■ ALTERNATIVES: Reject the resolution which would not allow for the consolidation of permit review.

■ CEO REVIEW (NAME): _____ PHONE: 463-4441

RECOMMENDATION: Agree ☐ Disagree ☐ No Opinion ☐ Alternate ☐ Staff Report Attached ☐

BOARD ACTION (DATE: 5/15/12): ☑ Approved ☐ Referred to _____ ☐ Other _____

RECORDS EXECUTED: ☐ Agreement: _____ ☑ Resolution: 12-071 ☐ Ordinance: _____ ☐ Other _____

certified copy

RESOLUTION NO. 12-071

RESOLUTION OF THE MENDOCINO COUNTY BOARD OF SUI THE PROCESSING OF A CONSOLIDATED COASTAL DEVI CALTRANS NAVARRO METAL BEAM GUARDRAIL PROJECT (#0

WHEREAS, the Coastal Act was amended by Senate Bill 1843 effective January 1, 2007, which allows for a consolidated permitting process for projects for which the Coastal Development Permit (CDP) authority is shared by a local government and the State Coastal Commission, and

WHEREAS, SB 1843 requires that the applicant, the local government and the Executive Director of the Coastal Commission agree to the consolidation; and

WHEREAS, consolidation may only proceed where public participation is not substantially impaired by that review consolidation, and

WHEREAS, Planning staff finds that consolidated coastal development permit applications would be beneficial to the public by reducing the total time and cost that it takes to go through the entire coastal permitting process, and

WHEREAS, Planning staff finds that consolidated coastal development permit applications would benefit the Planning Division of the Department of Planning and Building Services by reducing workload by avoiding unnecessary and duplicative processing.

NOW, THEREFORE, BE IT RESOLVED that the Mendocino County Board of Supervisors, pursuant to Public Resource Code 30610.3, authorizes the Department of Planning and Building Services Director to act on behalf of the Board of Supervisors to recommend and authorize the Coastal Commission, with the acknowledgement of California Department of Transportation, to process a consolidated Coastal Development Permit for the Navarro Metal Beam Guard Rail Project (#01-48470).

The foregoing Resolution introduced by Supervisor Pinches, seconded by Supervisor Brown, and carried this 15th day of May, 2012, by the following vote:

AYES:	Supervisors Brown, McCowen, Pinches, Smith, and Hamburg
NOES:	None
ABSENT:	None

WHEREUPON, the Chair declared said Resolution adopted and SO ORDERED.

John McCowen

JOHN MCCOWEN, Chair
Mendocino County Board of Supervisors

ATTEST: CARMEL J. ANGELO
Clerk of the Board

Kristine Hamlin
Deputy

I hereby certify that according to the provisions of Government Code Section 25103, delivery of this document has been made.

BY: CARMEL J. ANGELO
Clerk of the Board

APPROVED AS TO FORM:
JEANINE B. NADEL, County Counsel

Jeanine B. Nadel

Kristine Hamlin
Deputy

4 of 5

COUNTY OF MENDOCINO
DEPARTMENT OF PLANNING AND BUILDING SERVICES
860 NORTH BUSH STREET · UKIAH · CALIFORNIA · 95482
120 WEST FIR STREET · FT. BRAGG · CALIFORNIA · 95437

Steve Dunnicliff, Director
Telephone 707-463-4281
FAX 707-463-5709
Ft. Bragg Phone 707-964-5379
Ft. Bragg Fax 707-961-2427
pbs@co.mendocino.ca.us
www.co.mendocino.ca.us/planning

May 6, 2013

To: Tamara Gedik
California Coastal Commission
1385 8th Street
Arcata, CA 95521

Subject: California Dept. of Transportation Request for Consolidated Coastal Development Permit for Navarro Metal Beam Guard Rail Project

Dear Ms. Gedick:

At their meeting on May 15, 2012, the Mendocino County Board of Supervisors adopted Resolution # 12-071 which authorized the Planning and Building Services Director to recommend and authorize the Coastal Commission to process a consolidated CDP for the Navarro Metal Beam Guard Rail Project (#01-48470), a project that spans both the county's and the state's permit jurisdiction.

Consolidation of the CDP is consistent with provisions of the Resolution 12-071 and SB 1843 (2006). We therefore request the Executive Director of the Coastal Commission consider a consolidated permit process for the Navarro MBGR Project.

Sincerely,

Abbey Stockwell
Planner II

c/c: Larry Chiea Department of Transportation, District 3, 703 B Street, Marysville, CA 95901

*View looking southbound near Post Marker (PM) 40.84

*View looking southbound between PM 40.84 and 40.76

*View looking southbound near PM 40.76

*View looking southbound near PM 40.65

*View looking southbound south of PM 40.65

*View looking southbound near PM 40.53

* Images accessed from www.maps.google.com.

EXHIBIT NO. 4
No. 1-12-017
(Caltrans)
1 of 2
Site Photos

Red stakes (see also arrows) mark the outer edge of all construction activities

Looking southbound near PM 40.53

Looking northbound at riparian vegetation north of PM 40.53

Looking southbound near riparian vegetation north of PM 40.53. Minor branch trimming will occur; no tree removal.

Closeup of vegetation to be trimmed within construction area north of PM 40.53. No trees will be removed.

EXHIBIT NO. 5

Visual Simulations for ST-10 Barrier Transition Railing

Permit No. 1-12-017

(Caltrans)

1 of 3

NAVARRO RIVER BRIDGE BARRIER TRANSITION

Barrier Transition

LOOKING NORTH 1

Prepared by Structure Design Services - Bridge Architecture and Aesthetics

DESIGN BY: SD HEATH
DRAWN BY: SD HEATH
DATE: 4-5-2013

NAVARRO RIVER BRIDGE BARRIER TRANSITION

Barrier Transition

LOOKING NORTH 2

Prepared by Structure Design Services - Bridge Architecture and Aesthetics

DESIGN BY: SD HEATH
DRAWN BY: SD HEATH
DATE: 4-5-2013

INDEX OF PLANS

THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON

STATE HIGHWAY

IN MENDOCINO COUNTY
NEAR ALBION ON ROUTE 1
FROM 0.1 MILE SOUTH OF NAVARRO RIVER BRIDGE
TO 0.6 MILE NORTH OF NAVARRO RIVER BRIDGE
AND ON ROUTE 128 AT NAVARRO RIVER BRIDGE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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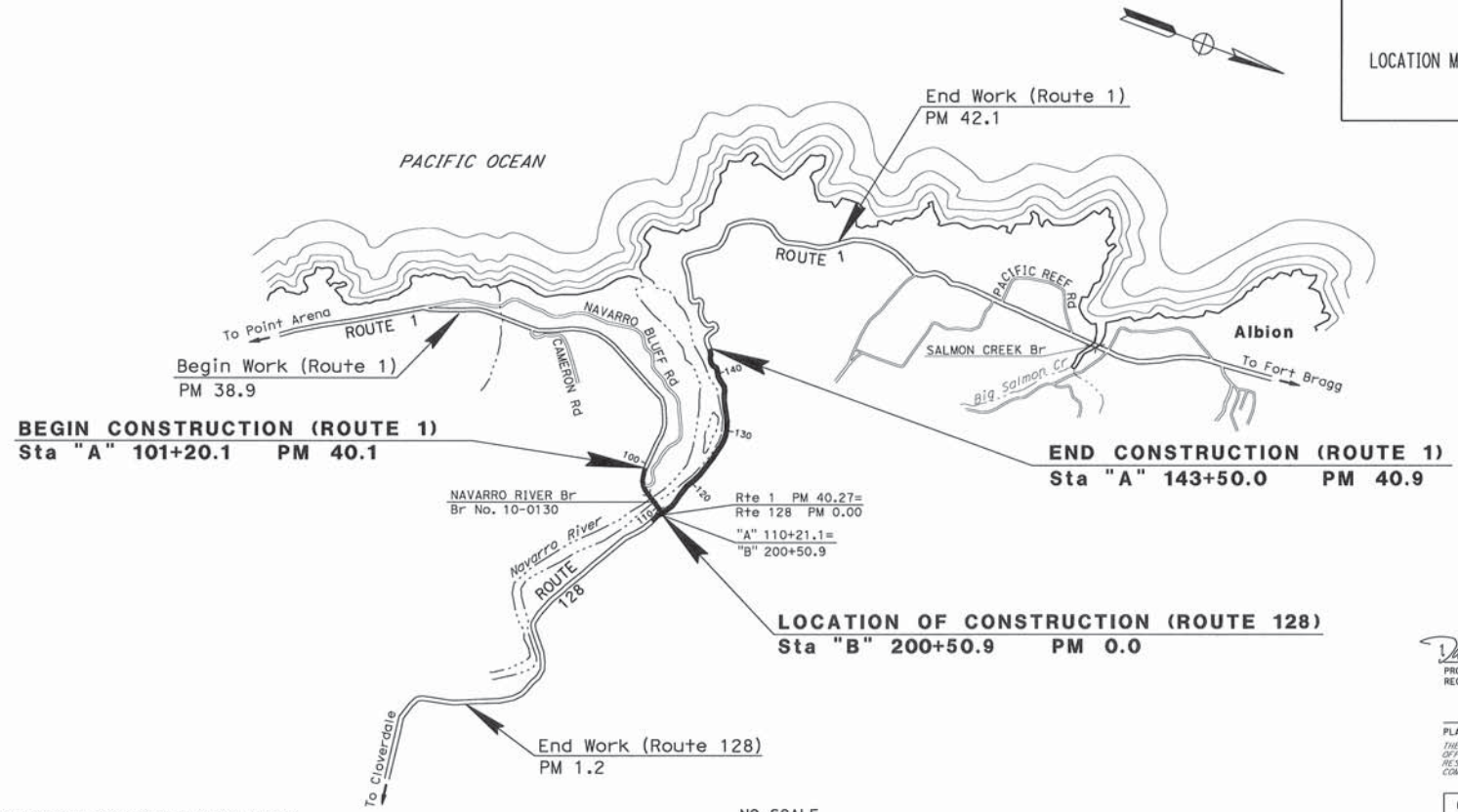

NO SCALE

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

EXHIBIT NO. 6
Permit No. 1-12-017
(Caltrans)
1 of 19
Project Plans

David A. Morgan 6/4/12
PROJECT ENGINEER REGISTERED CIVIL ENGINEER — DATE

REGISTERED PROFESSIONAL ENGINEER — DAVID A. MORGAN — No. 72321 — Exp. 6/30/14 — CIVIL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

CONTRACT No.	01-484704
PROJECT ID	0100020097

LAST REVISION 00-00-00 — DATE PLOTTED => 08-MAY-2013 — TIME PLOTTED => 14:54

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DESIGN ENGINEER: STEVEN R HUGHES
PROJECT MANAGER: FRANK DEMLING

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1, 128	40.1/40.9, 0.0		

REGISTERED CIVIL ENGINEER — David A. Morgan — DATE 6-4-12

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — DAVID A. MORGAN — No. 72321 — Exp. 6/30/14 — CIVIL — STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. SEE SHEET C-3 FOR BEGIN AND END STATIONS FOR CENTERLINE RUMBLE STRIP.
2. FOR AC DIKE TO BE REMOVED SEE SHEET Q-1.
3. SEE Q SHEETS AND LAYOUTS FOR BEGIN & END MBGR.
4. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
5. SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.

LEGEND

(hatched) LIMITS OF COLD PLANE

GPI = GEOSYNTHETIC PAVEMENT INTERLAYER

DESIGN DESIGNATION

Men-1-40.1/40.9	Men-128-0.0/0.19
2012 ADT = 3,100	2012 ADT = 1,700
2032 ADT = 4,880	2032 ADT = 2,290
DHV (2012) = 460	DHV (2012) = 230
D = 60%, T = 5%	D = 60%, T = 12%
V = 55 MPH	V = 55 MPH
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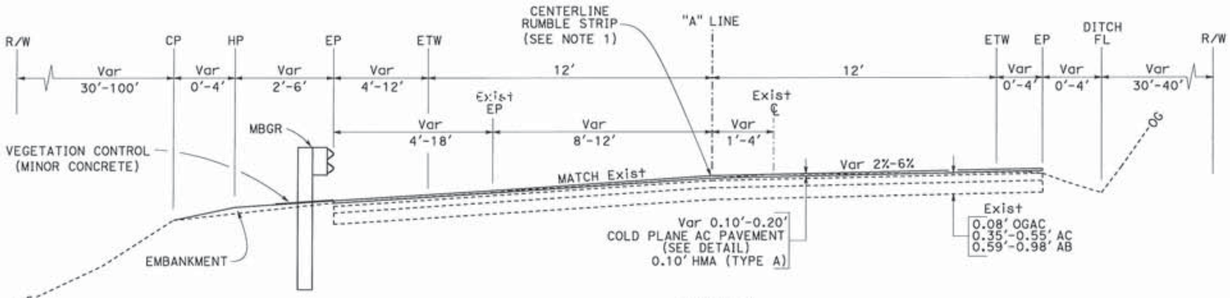

ROUTE 1

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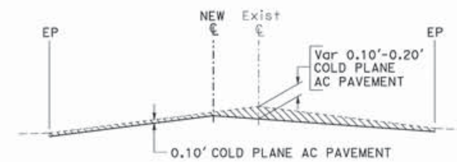
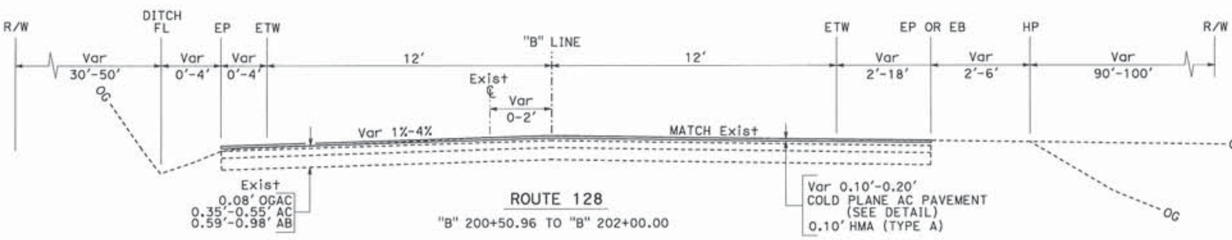


COLD PLANE AC PAVEMENT DETAIL

"A" 110+21.18 TO "A" 143+50.00
"B" 200+50.96 TO "B" 202+00.00 (MIRROR IMAGE)



ROUTE 128

"B" 200+50.96 TO "B" 202+00.00

(2 of 19)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans — DESIGN

FUNCTIONAL SUPERVISOR: STEVEN R. HUGHES

CALCULATED-DESIGNED BY: DAVID MORGAN

CHECKED BY: CAREN COONROD

REVISED BY | DATE REVISED

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TYPICAL CROSS SECTIONS

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X-1

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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David A. Morgan 6-4-12
REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — DAVID A. MORGAN No. 72321 Exp. 6/30/14 CIVIL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

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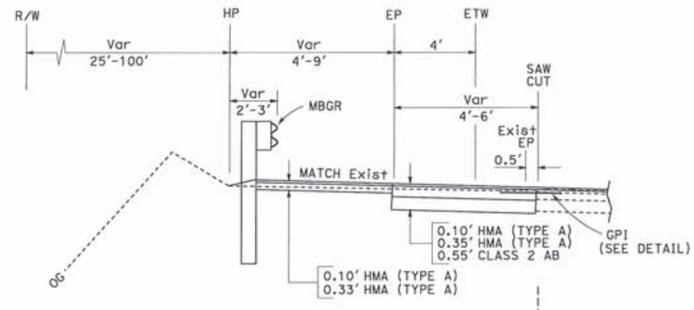
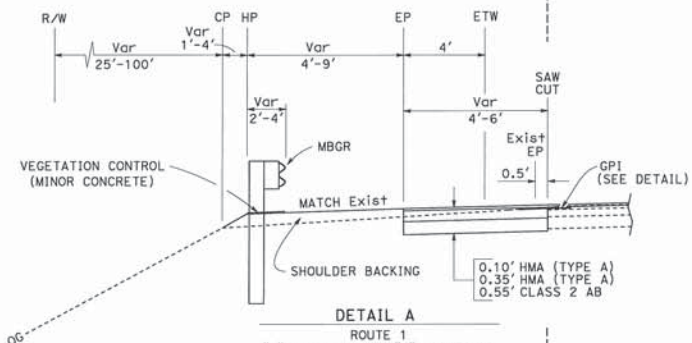


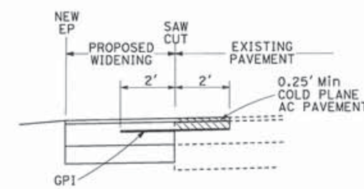
DETAIL B

ROUTE 1
"A" 140+34.88 TO "A" 142+00.00

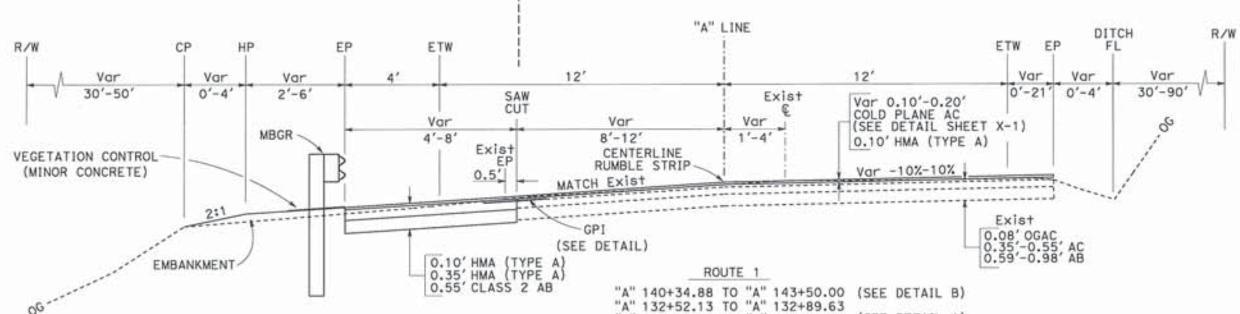


DETAIL A

ROUTE 1
"A" 126+90.00 TO "A" 129+50.00
"A" 115+54.00 TO "A" 120+00.00



GEOSYNTHETIC PAVEMENT INTERLAYER (GPI) DETAIL



ROUTE 1
"A" 140+34.88 TO "A" 143+50.00 (SEE DETAIL B)
"A" 132+52.13 TO "A" 132+89.63
"A" 111+94.00 TO "A" 131+88.81 (SEE DETAIL A)

(3 of 19)

TYPICAL CROSS SECTIONS X-2

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans®
DESIGN

FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISED BY
STEVEN R. HUGHES	DAVID MORGAN	
	CHECKED BY	DATE REVISED
	CAREN COONROD	

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UNIT 0311
PROJECT NUMBER & PHASE 01000200971
LAST REVISION 00-00-00
DATE PLOTTED => 08-MAY-2013
TIME PLOTTED => 15:04

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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David A. Morgan 6-4-12
REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER DAVID A. MORGAN No. 72321 Exp. 6/30/14 CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

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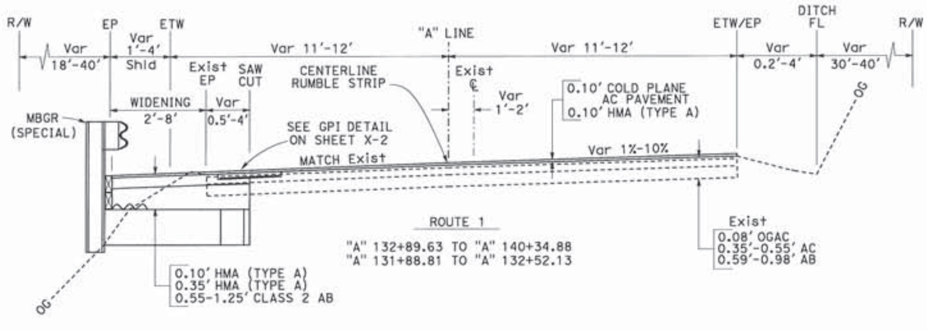

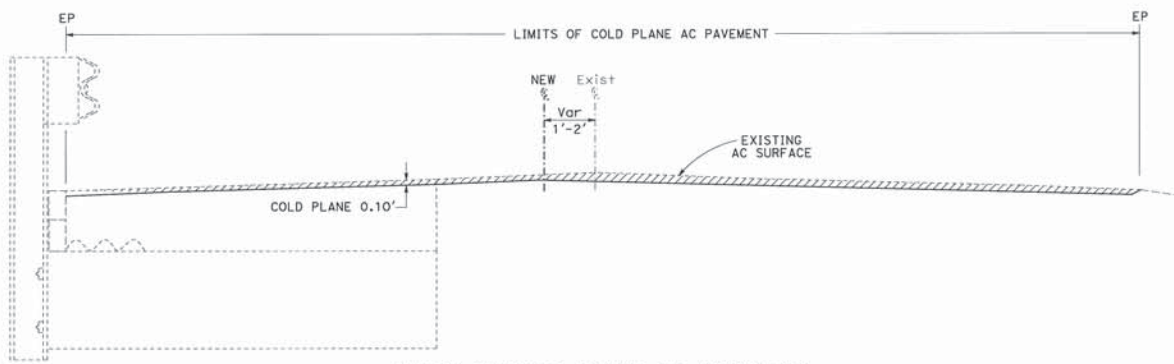

LIMITS OF COLD PLANE AC PAVEMENT AT LOCATIONS REQUIRING MBGR (SPECIAL)

"A" 132+89.63 TO 140+34.88
"A" 131+88.81 TO 132+52.13

(4 of 19)

TYPICAL CROSS SECTIONS
X-3

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: STEVEN R. HUGHES
CALCULATED-DESIGNED BY: DAVID MORGAN
CHECKED BY: CAREN COONROD
REVISED BY
DATE REVISED

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TIME PLOTTED => 14154

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0311
PROJECT NUMBER & PHASE 01000200971

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1, 128	40.1/40.9, 0.0		

REGISTERED CIVIL ENGINEER — David A. Morgan — DATE 6-4-12

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER — DAVID A. MORGAN — No. 72321 — Exp. 6/30/14 — CIVIL — STATE OF CALIFORNIA

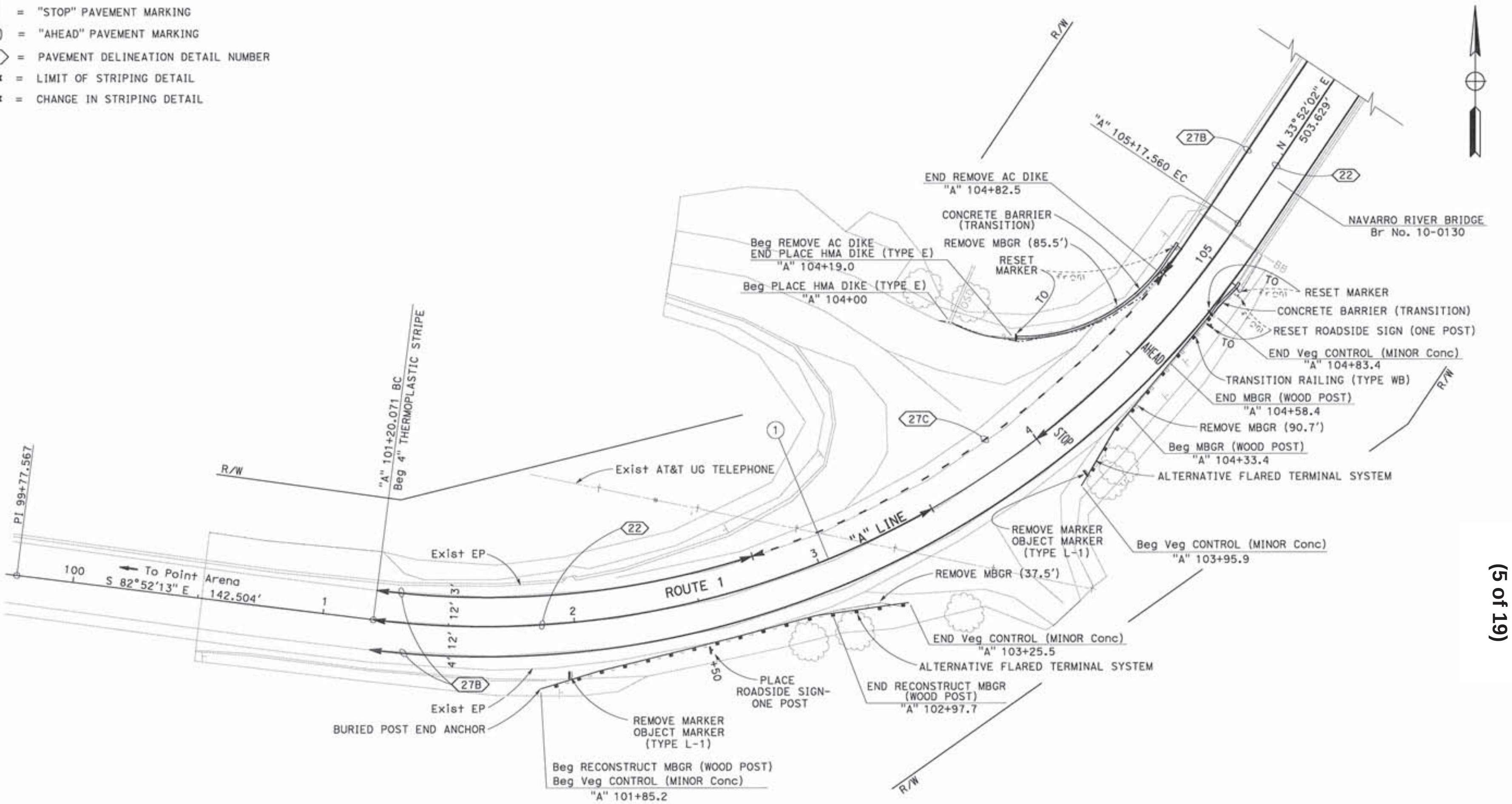
NOTES:

1. FOR PAVEMENT DELINEATION AND Temp FENCE (TYPE ESA) LIMITS, SEE QUANTITY SHEETS.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
3. COORDINATE VALUES SHOWN ARE CCS83(1991.35), ZONE 2.
4. ELEVATION IS BASED ON NAVD88 DATUM.

No.	LINE	STATION	CURVE OR TANGENT DATA	COORDINATES NORTH	COORDINATES EAST
	"A"	99+77.56 Beg		2202148.070	6065960.136
			S 82°52'13" E 142.504'		
①	"A"	101+20.07 BC	R=360, Δ=63°15'44", T=221.744, L=397.489	2202130.383	6066101.538
	"A"	105+17.56 EC		2202286.981	6066445.139
			N 33°52'02" E 503.629'		

LEGEND

Veg CONTROL (MINOR Conc) = VEGETATION CONTROL (MINOR CONCRETE)
HFST = THIN HIGH FRICTION SURFACE TREATMENT
STOP = "STOP" PAVEMENT MARKING
AHEAD = "AHEAD" PAVEMENT MARKING
(No.) = PAVEMENT DELINEATION DETAIL NUMBER
LIMIT OF STRIPING DETAIL
CHANGE IN STRIPING DETAIL



(5 of 19)

LAYOUT L-1

SCALE: 1" = 20'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans — DESIGN

FUNCTIONAL SUPERVISOR: STEVEN R. HUGHES — CALCULATED-DESIGNED BY: DAVID MORGAN — CHECKED BY: CAREN COONROD — REVISED BY — DATE REVISED

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LAST REVISION 00-00-00 — DATE PLOTTED => 08-MAY-2013 — TIME PLOTTED => 15:03

BORDER LAST REVISED 7/2/2010 — USERNAME => s120115 — DGN FILE => 0100020097ea001.dgn — RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 — UNIT 0311 — PROJECT NUMBER & PHASE 01000200971

NOTES:

1. FOR PAVEMENT DELINEATION AND ESA FENCE LIMITS SEE QUANTITY SHEETS.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND

------- SAWCUT

No.	LINE	STATION	CURVE OR TANGENT DATA	COORDINATES NORTH	COORDINATES EAST
	"B"	200+00.000 Beg		2202732.748	6066682.947
			S 57°00'47" E 50.960'		
	"B"	200+50.960 Int		2202705.160	6066725.797
			S 57°00'51" E 139.907'		
	"B"	201+90.867 PI		2202628.833	6066843.047
			S 57°30'50" E 200.693'		
	"A"	110+21.189 Int		2202705.160	6066725.797
			N 57°13'33" W 138.534'		
(2)	"A"	111+59.723 BC	R=950, Δ=-18°05'40", T=151.268, L=300.018	2202780.152	6066609.316

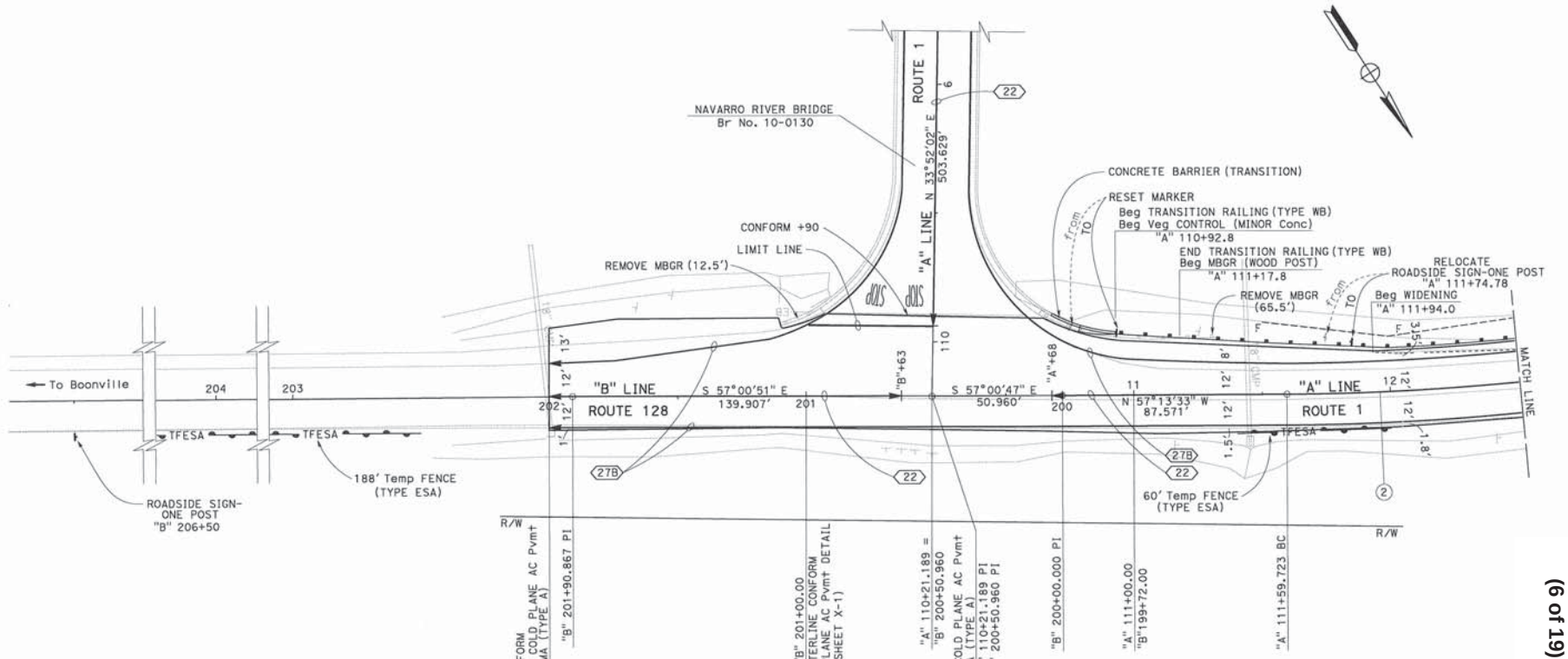
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1, 128	40.1/40.9, 0.0		

David A. Morgan 6-4-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER — DAVID A. MORGAN No. 72321 Exp. 6/30/14 CIVIL — STATE OF CALIFORNIA



LAYOUT L-2

SCALE: 1" = 20'

(6 of 19)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | DESIGN | FUNCTIONAL SUPERVISOR: STEVEN R. HUGHES | CALCULATED-DESIGNED BY: DAVID MORGAN | CHECKED BY: CAREN COONROD | REVISED BY | DATE REVISED

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BORDER LAST REVISED 7/2/2010 | USERNAME => s120115 | DGN FILE => 01000200971ea002.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0311 | PROJECT NUMBER & PHASE 01000200971

LAST REVISION 00-00-00 | DATE PLOTTED => 08-MAY-2013 | TIME PLOTTED => 14:54

NOTES:

1. FOR PAVEMENT DELINEATION AND ESA FENCE LIMITS SEE QUANTITY SHEETS.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

No.	LINE	STATION	CURVE OR TANGENT DATA	COORDINATES NORTH	COORDINATES EAST
	"A"	114+59.741 EC		2202900.371	6066335.797
			N 75°19'13" W, 94.915'		
③	"A"	115+54.656 BC	R=850, Δ=13°20'55", T=99.466, L=198.030	2202924.424	6066243.981
	"A"	117+52.686 EC		2202996.369	6066059.962
			N 61°58'19" N, 114.298'		

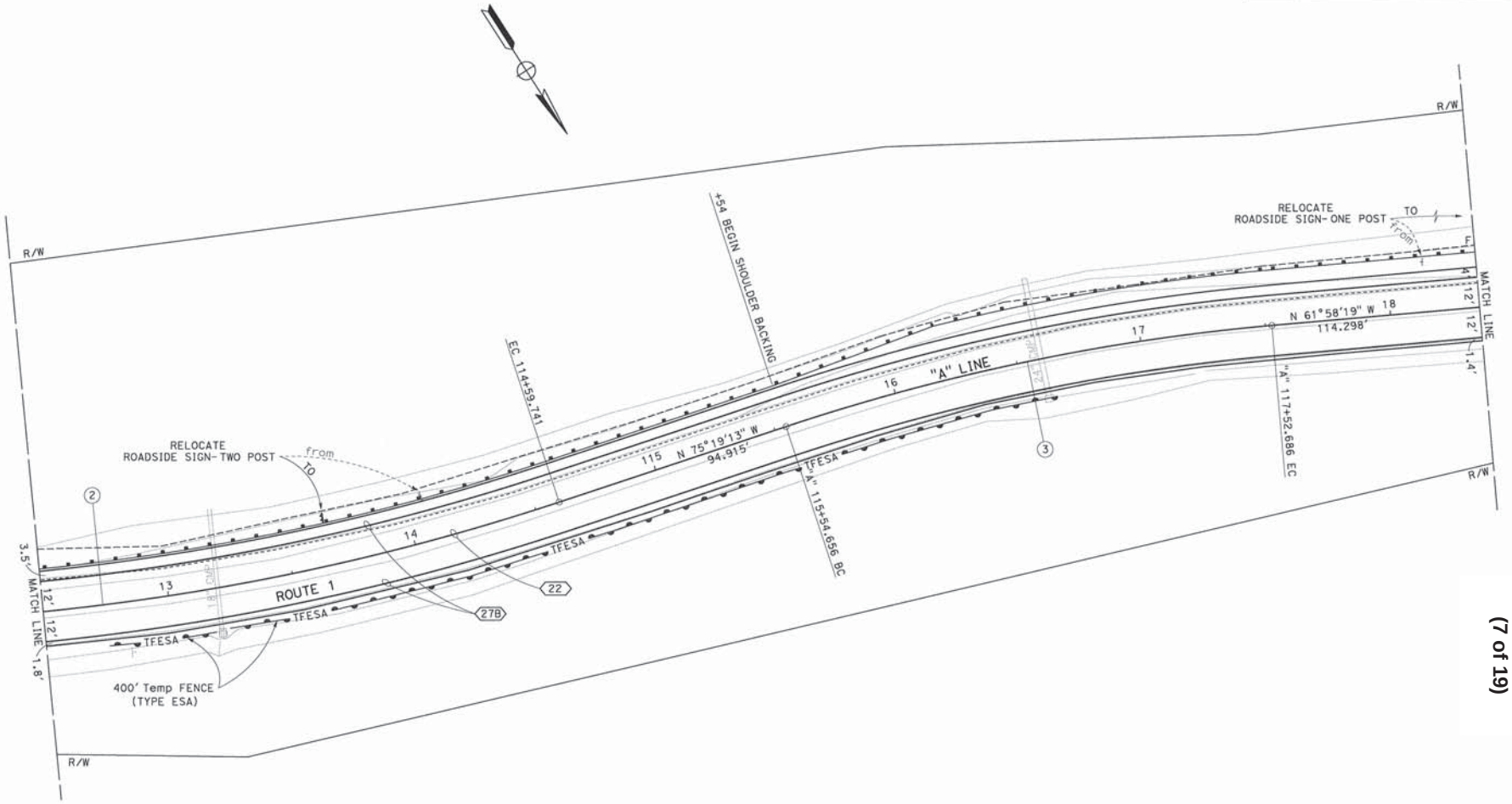
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1, 128	40.1/40.9, 0.0		

David A. Morgan 6-4-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER — DAVID A. MORGAN No. 72321 Exp. 6/30/14 CIVIL — STATE OF CALIFORNIA



LAYOUT L-3

SCALE: 1" = 20'

(7 of 19)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	DAVID MORGAN	REVISED BY	
DESIGN	STEVEN R. HUGHES	CHECKED BY	CAREN COONROD	DATE REVISED	

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BORDER LAST REVISED 7/2/2010

USERNAME => s120115
DGN FILE => 01000200097ea003.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0311

PROJECT NUMBER & PHASE 01000200971

LAST REVISION 00-00-00 DATE PLOTTED => 03-MAY-2013 TIME PLOTTED => 14:55

NOTES:

1. FOR PAVEMENT DELINEATION AND ESA FENCE LIMITS SEE QUANTITY SHEETS.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

No.	LINE	STATION	CURVE OR TANGENT DATA	COORDINATES NORTH	COORDINATES EAST
④	"A"	118+66.985 BC	R=1500, Δ=-10°08'14", T=133.042, L=265.389	2203050.079	6065959.069
	"A"	121+32.374 EC		2203153.468	6065715.023
			N 72°06'32" W, 374.341'		

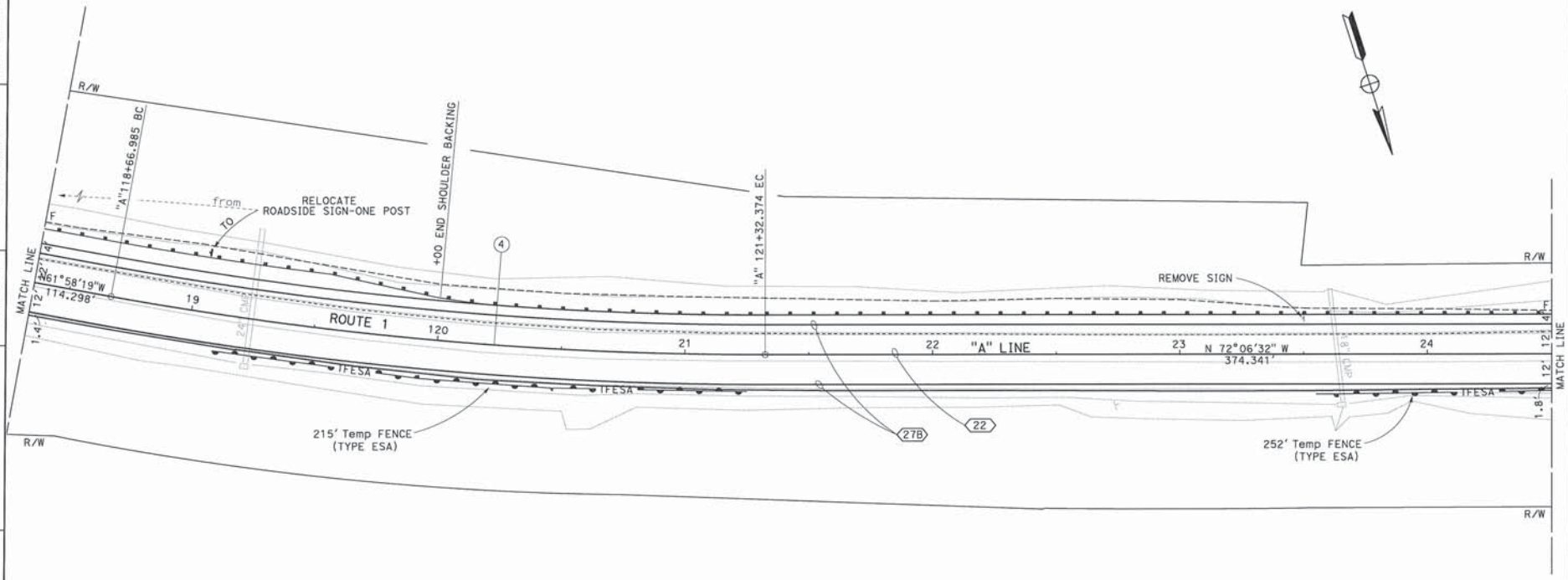
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1, 128	40.1/40.9, 0.0		

David A. Morgan 6-4-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER — DAVID A. MORGAN No. 72321 Exp. 6/30/14 CIVIL — STATE OF CALIFORNIA



LAYOUT
SCALE: 1" = 20'
L-4

(8 of 19)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR: STEVEN R. HUGHES
CALCULATED-DESIGNED BY: DAVID MORGAN
CHECKED BY: CAREN COONROD
REVISED BY
DATE REVISED

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LAST REVISION 00-00-00 DATE PLOTTED => 08-MAY-2013 TIME PLOTTED => 14:55

BORDER LAST REVISED 7/2/2010 | USERNAME => s120115 DGN FILE => 01000200971ea004.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0311 | PROJECT NUMBER & PHASE 01000200971

NOTES:

1. FOR PAVEMENT DELINEATION AND ESA FENCE LIMITS SEE QUANTITY SHEETS.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

No.	LINE	STATION	CURVE OR TANGENT DATA	COORDINATES NORTH	COORDINATES EAST
(5)	"A"	125+06.715 BC	R=1500, Δ=-13°41'27", T=180.072, L=358.428	2203268.468	6065358.784
	"A"	128+65.143 EC		2203336.955	6065007.832
			N 85°47'60" W, 35.651		
(6)	"A"	129+00.794 BC	R=575, Δ=-31°20'02", T=161.267, L=314.456	2203339.588	6064972.276

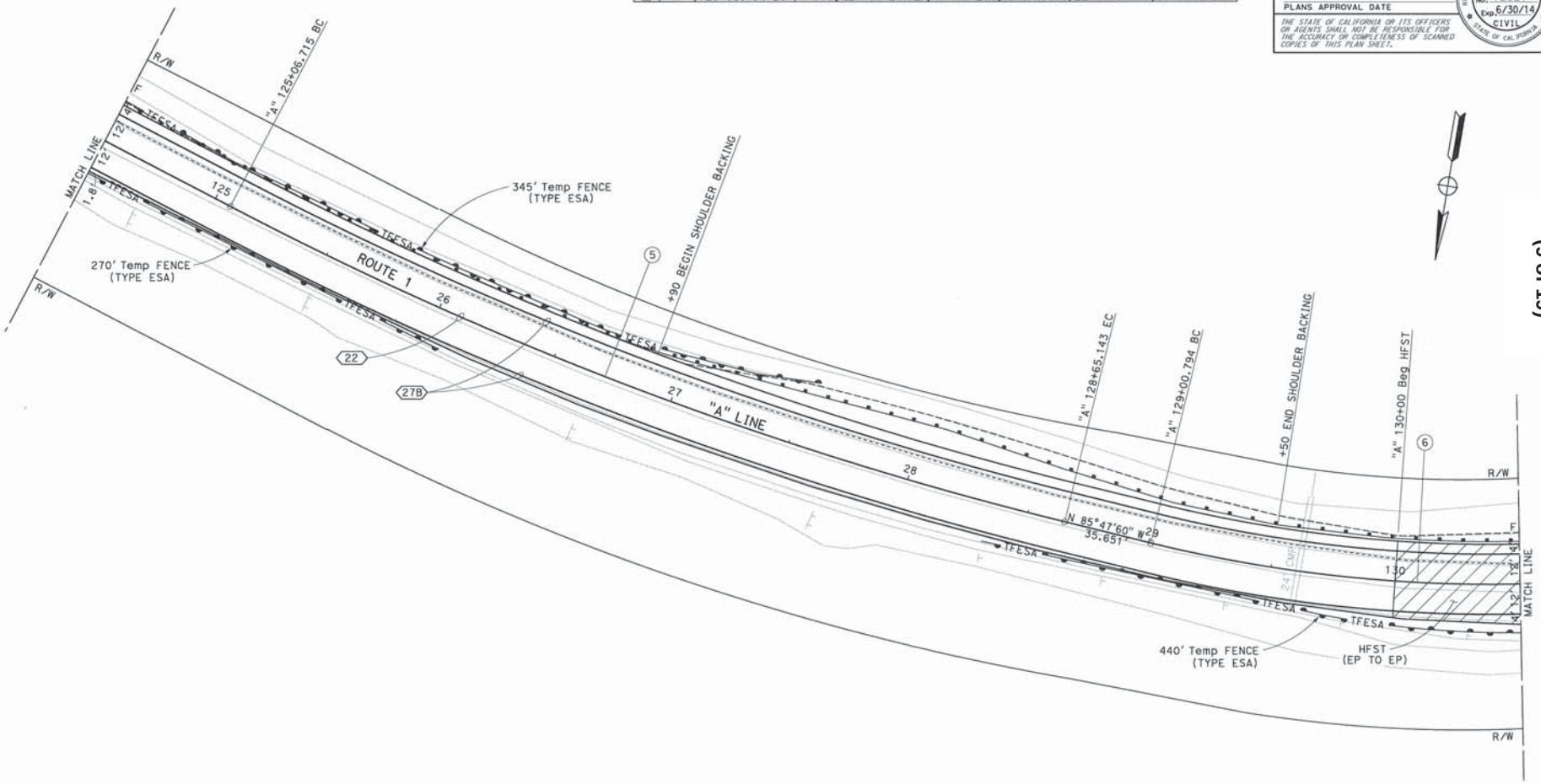
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1, 128	40.1/40.9, 0.0		

David A. Morgan 6-4-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER DAVID A. MORGAN No. 72321 Exp. 6/30/14 CIVIL STATE OF CALIFORNIA



(9 of 19)

LAYOUT
L-5

SCALE: 1" = 20'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | Caltrans | DESIGN | FUNCTIONAL SUPERVISOR: STEVEN R. HUGHES | CALCULATED-DESIGNED BY: DAVID MORGAN | CHECKED BY: CAREN COONROD | REVISED BY | DATE REVISED

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LAST REVISION 00-00-00 | DATE PLOTTED => 06-MAY-2013 | TIME PLOTTED => 14:55

BORDER LAST REVISED 7/2/2010 | USERNAME => s120115 | DGN FILE => 01000200971ea005.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0311 | PROJECT NUMBER & PHASE 01000200971

NOTES:

1. FOR PAVEMENT DELINEATION AND ESA FENCE LIMITS SEE QUANTITY SHEETS.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

No.	LINE	STATION	CURVE OR TANGENT DATA	COORDINATES NORTH	COORDINATES EAST
	"A"	132+15.251 EC		2203277.850	6064667.923
			S 62°51'58" W 137.964'		
(7)	"A"	133+53.214 BC	R=1000, Δ=-7°54'16", T=69.090, L=137.960	2203214.929	6064545.143
	"A"	134+91.175 EC		2203143.753	6064427.088
			S 54°57'42" W 86.864'		
(8)	"A"	135+78.038 BC	R=320, Δ=24°58'32", T=70.870, L=139.489	2203093.882	6064355.962

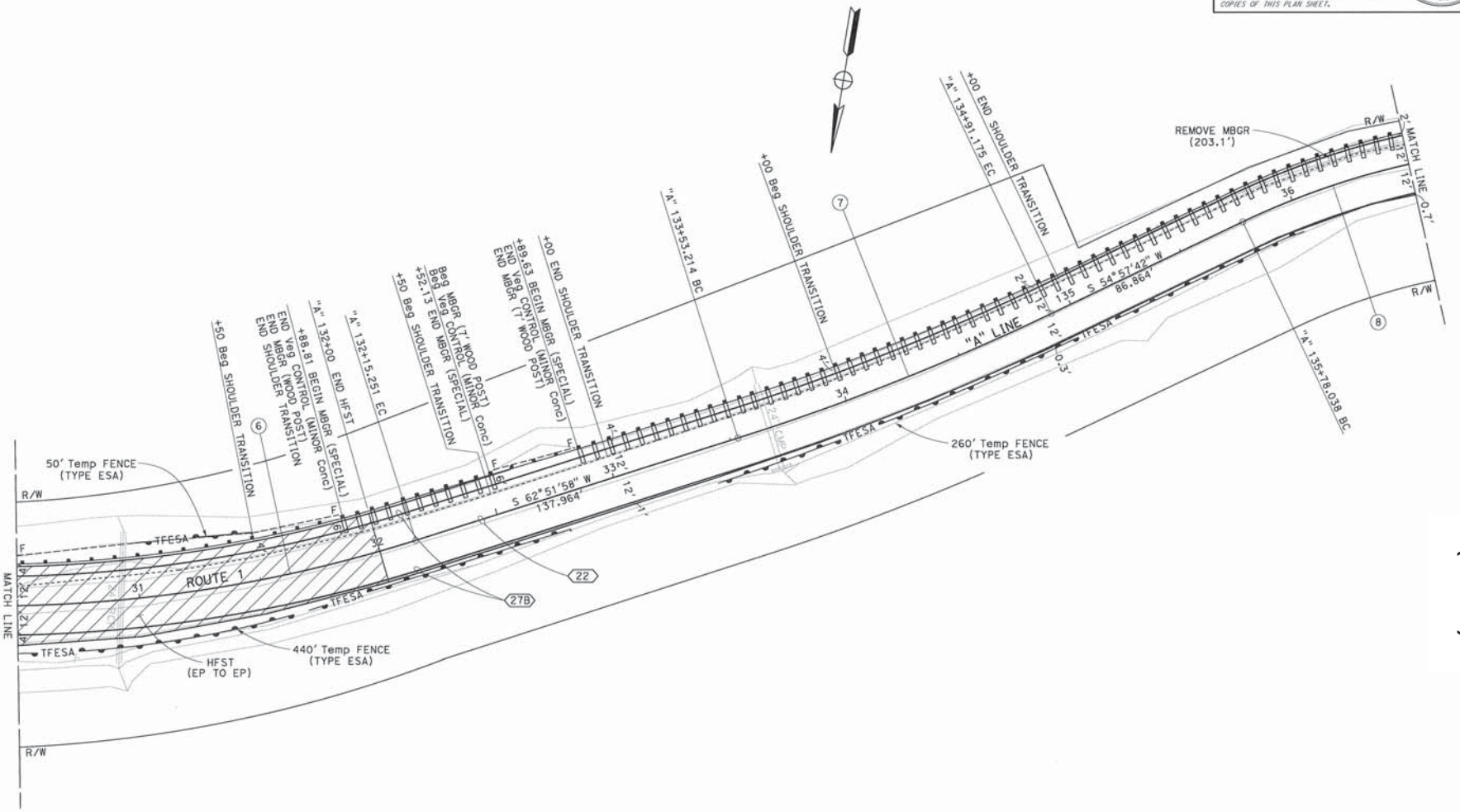
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1, 128	40.1/40.9, 0.0		

David A. Morgan 6-4-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER — DAVID A. MORGAN No. 72321 Exp. 6/30/14 CIVIL — STATE OF CALIFORNIA



LAYOUT
L-6

SCALE: 1" = 20'

(10 of 19)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
DESIGN	STEVEN R. HUGHES	DAVID MORGAN	CAREN COONROD		

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BORDER LAST REVISED 7/2/2010	USERNAME => s120115 DGN FILE => 010002009?ea006.dgn	RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3	UNIT 0311	PROJECT NUMBER & PHASE 01000200971

LAST REVISION 00-00-00 | DATE PLOTTED => 09-MAY-2013 | TIME PLOTTED => 14:55

NOTES:

1. FOR PAVEMENT DELINEATION AND ESA FENCE LIMITS SEE QUANTITY SHEETS.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

No.	LINE	STATION	CURVE OR TANGENT DATA	COORDINATES NORTH	COORDINATES EAST
	"A"	137+17.527 EC		2203040.811	6064228.161
			S 79°56'14" W 64.114'		
(9)	"A"	137+81.642 BC	R=330, Δ=-46°37'10", T=142.187, L=268.509	2203029.608	6064165.033
	"A"	140+50.151 EC		2202885.947	6063946.933
			S 33°19'03" W 17.676'		
(10)	"A"	140+67.827 BC	R=300, Δ=21°36'54", T=57.269, L=113.176	2202871.176	6063937.224

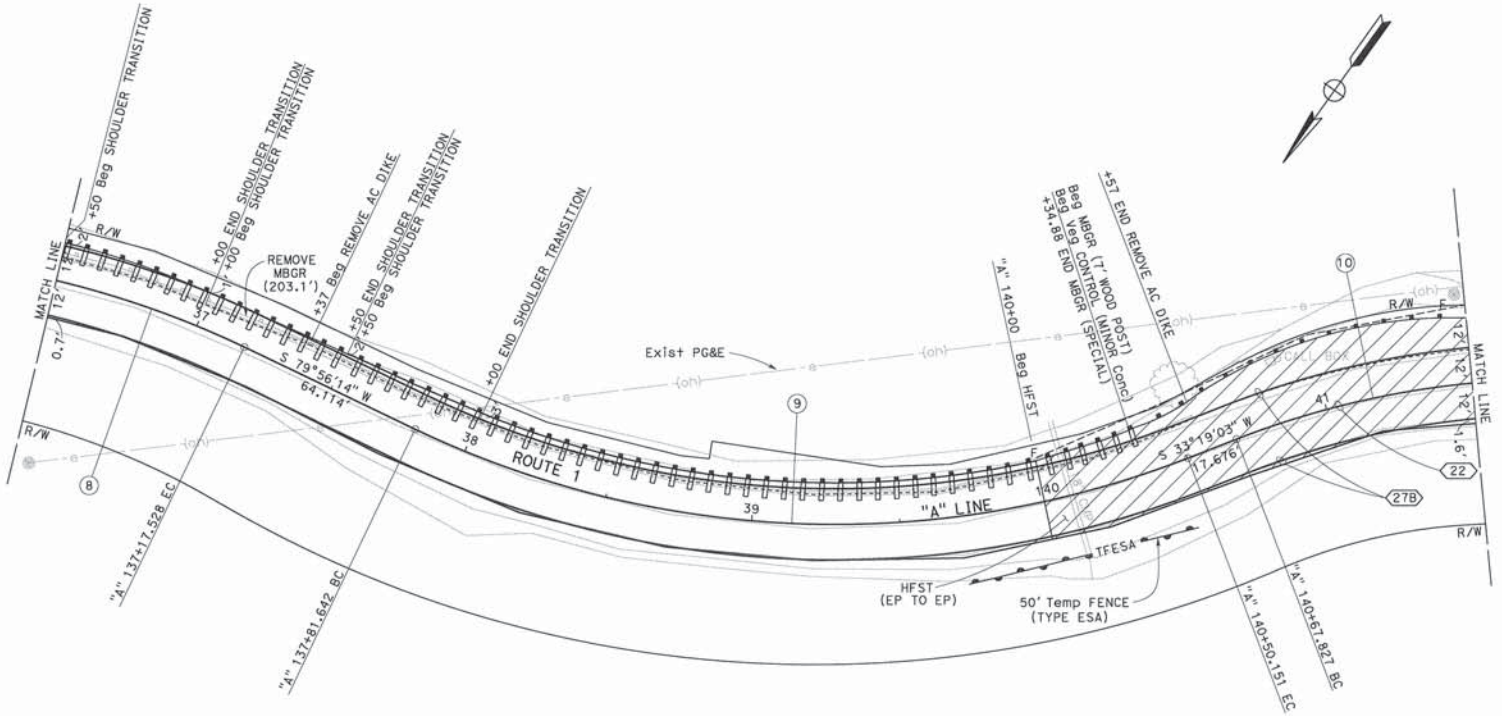
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1, 128	40.1/40.9, 0.0		

David A. Morgan 6-4-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER — DAVID A. MORGAN No. 72321 Exp. 6/30/14 CIVIL — STATE OF CALIFORNIA



LAYOUT
L-7

SCALE: 1" = 20'

(11 of 19)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	DAVID MORGAN	REVISED BY	
DESIGN	STEVEN R. HUGHES	CHECKED BY	CAREN COONROD	DATE REVISED	

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LAST REVISION 00-00-00 DATE PLOTTED => 08-MAY-2013 TIME PLOTTED => 14:55

BORDER LAST REVISED 7/2/2010 | USERNAME => s120115 DGN FILE => 01000200971ea007.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0311 | PROJECT NUMBER & PHASE 01000200971

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1, 128	40.1/40.9, 0.0		

David A. Morgan 6-4-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

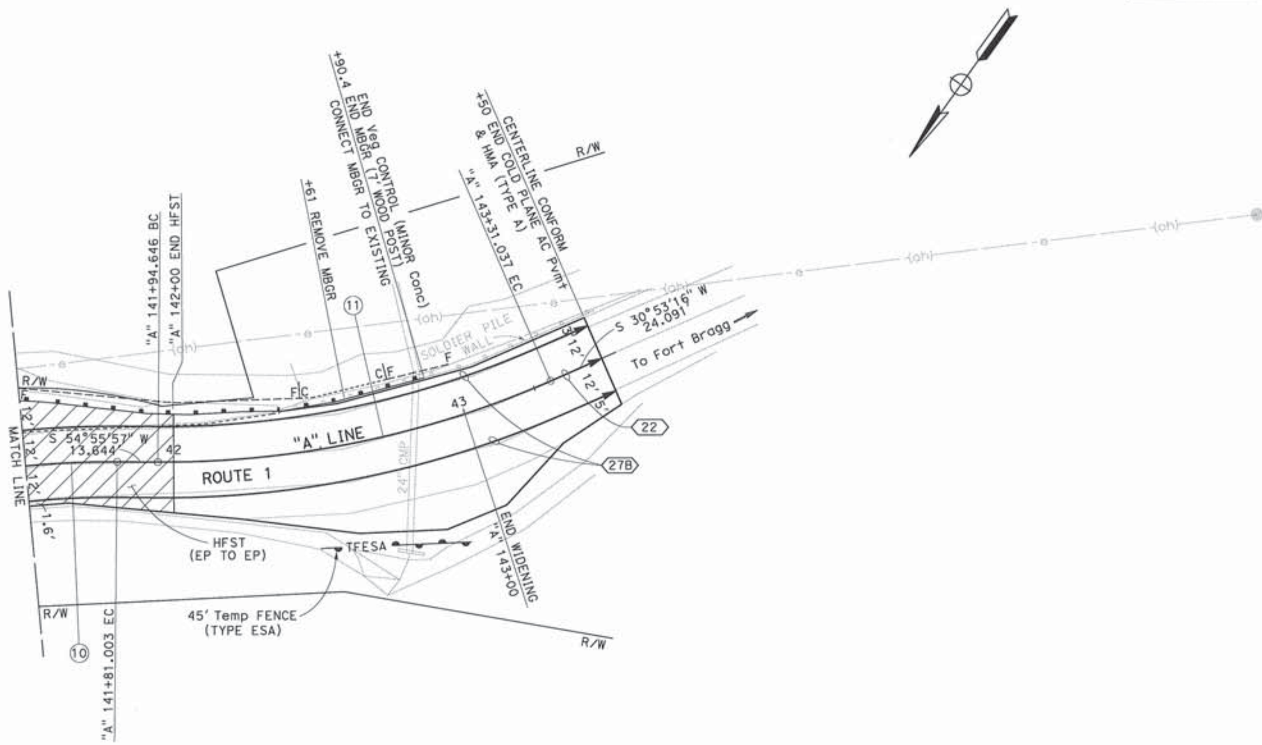
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
DAVID A. MORGAN
No. 72321
Exp. 6/30/14
CIVIL
STATE OF CALIFORNIA

NOTES:

1. FOR PAVEMENT DELINEATION LIMITS SEE QUANTITY SHEETS.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

No.	LINE	STATION	CURVE OR TANGENT DATA	COORDINATES NORTH	COORDINATES EAST
	"A"	141+81.003 EC		2202790.417	6063858.894
			S 54°55'57" W 13.644'		
11	"A"	141+94.646 BC	R=325, Δ=-24°02'41", T=69.214, L=136.390	2202782.578	6063847.727
	"A"	143+31.036 EC		2202683.415	6063755.546
			S 30°53'16" W 24.091'	2202662.740	6063743.178



(12 of 19)

LAYOUT
L-8

SCALE: 1" = 20'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: STEVEN R. HUGHES
CALCULATED-DESIGNED BY: DAVID MORGAN
CHECKED BY: CAREN COONROD
REVISED BY
DATE REVISED

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BORDER LAST REVISED 7/2/2010
USERNAME => s120115
DGN FILE => 0100020097ed008.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0311
PROJECT NUMBER & PHASE 01000200971

LAST REVISION 00-00-00
DATE PLOTTED => 08-MAY-2013
TIME PLOTTED => 14:55

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1, 128	40.1/40.9, 0.0		

REGISTERED CIVIL ENGINEER David A. Morgan DATE 6-4-12

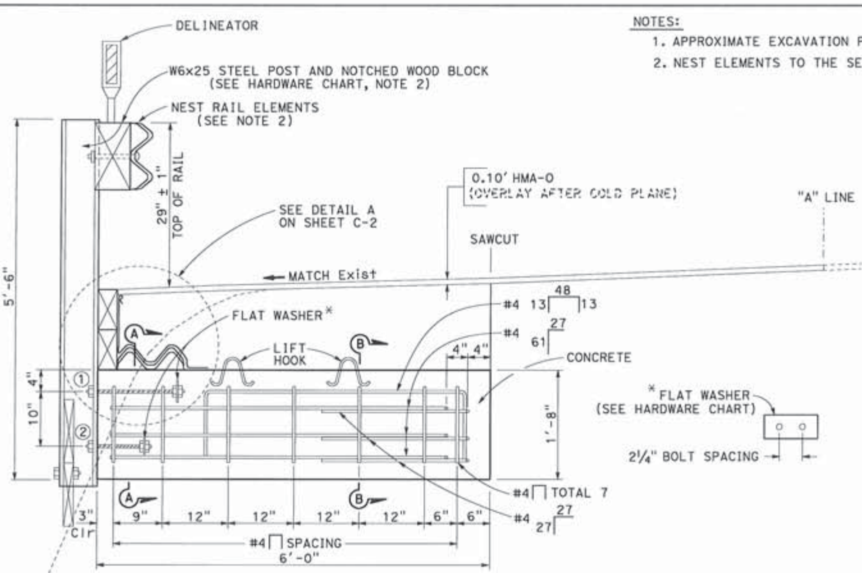
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER DAVID A. MORGAN No. 72321 Exp. 6/30/14 CIVIL STATE OF CALIFORNIA

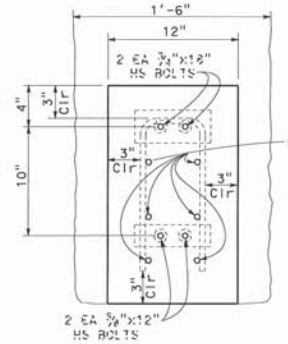
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. APPROXIMATE EXCAVATION PER PRECAST CONCRETE BEAM IS 1 CY.
2. NEST ELEMENTS TO THE SECOND CONVENTIONAL POST.

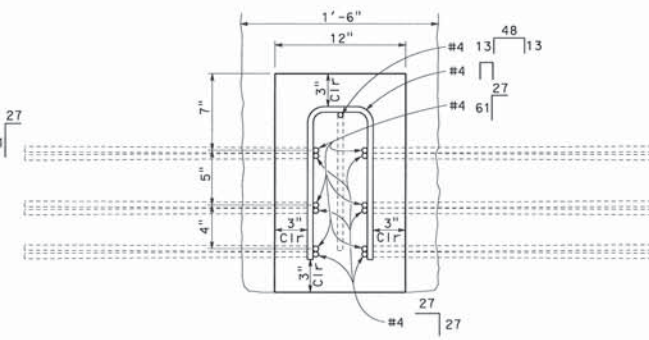


ELEVATION



SECTION A-A

(PRECAST)

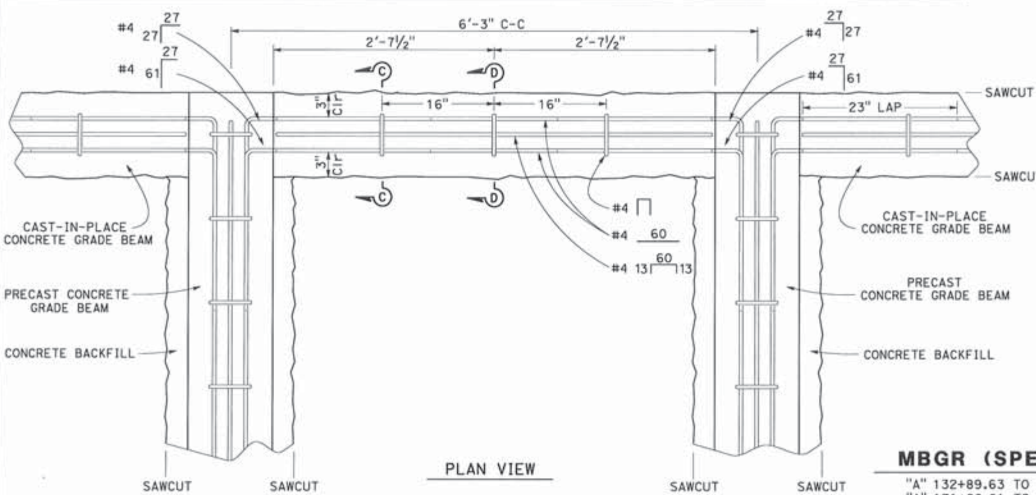


SECTION B-B

(PRECAST)

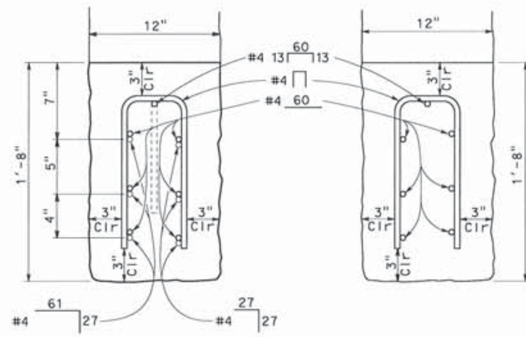
BEAM HARDWARE CHART

CASE	STEEL POST	WOOD BLOCK	①	②	BOLT SPACING
PRECAST BEAM	W6 x 25	8"x8"x1'-2"	2 - ¾" Dia x 1'-6" HS BOLTS (THREADED BOTH ENDS) w/ 3 - HEX NUTS AND 3"x7"x¼" FLAT WASHER	2 - ⅝" Dia x 1'-0" HS BOLTS (THREADED BOTH ENDS) w/3 - HEX NUTS AND 2"x7" X ¼" FLAT WASHER	2¼"



PLAN VIEW

CONCRETE BEAM DETAIL



SECTION C-C

(CAST-IN-PLACE)

SECTION D-D

(CAST-IN-PLACE)

MBGR (SPECIAL)

"A" 132+89.63 TO 140+34.88
"A" 131+88.81 TO 132+52.13

CONSTRUCTION DETAILS

NO SCALE

C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans DESIGN

FUNCTIONAL SUPERVISOR STEVEN R. HUGHES

CALCULATED-DESIGNED BY DAVID MORGAN

CHECKED BY CAREN COONROD

REVISED BY / DATE REVISED

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DATE PLOTTED => 08-MAY-2013 TIME PLOTTED => 15:05

LAST REVISION 00-00-00

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1, 128	40.1/40.9, 0.0		

REGISTERED CIVIL ENGINEER — David A. Morgan — DATE 6-4-12

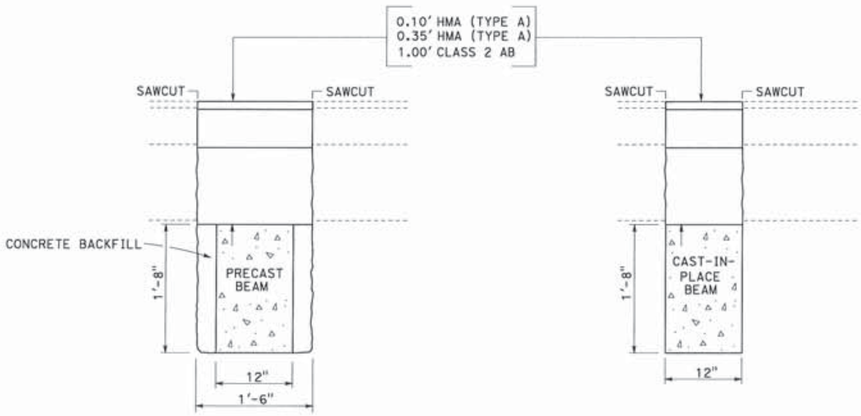
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — DAVID A. MORGAN — No. 72321 — Exp. 6/30/14 — CIVIL — STATE OF CALIFORNIA

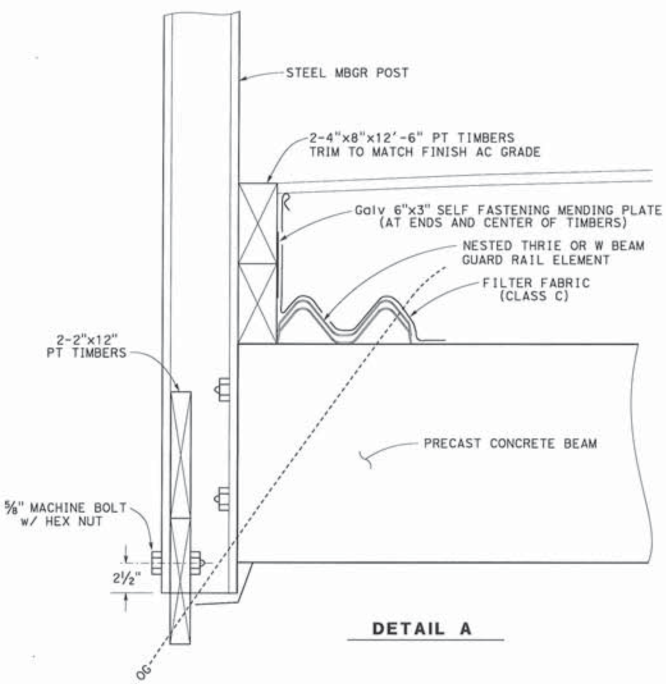
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

ABBREVIATIONS

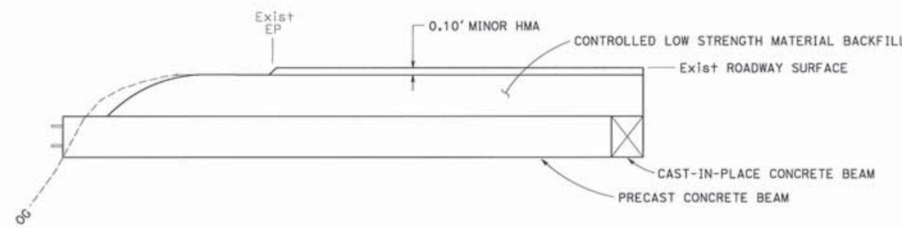
PT = PRESSURE TREATED



PERMANENT PAVING DETAIL IN EXISTING PAVEMENT

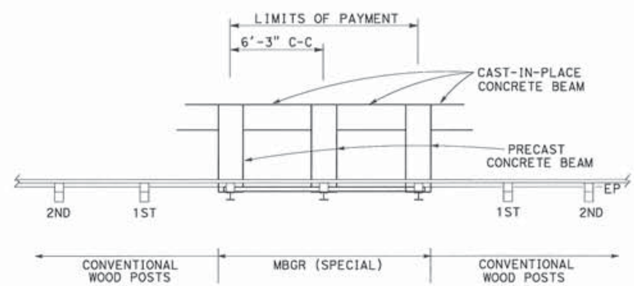


DETAIL A



TEMPORARY BACKFILL AND PAVING DETAIL

"A" 132+90 TO "A" 140+35
"A" 131+85 TO "A" 132+54



MBGR SPECIAL

PLAN VIEW

(14 of 19)

CONSTRUCTION DETAILS

NO SCALE

C-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans®

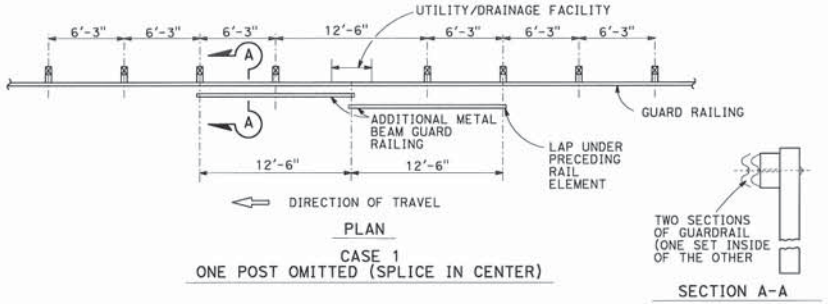
DESIGN

FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISED BY
STEVEN R. HUGHES	DAVID MORGAN	
	CHECKED BY	DATE REVISED
	CAREN COONROD	

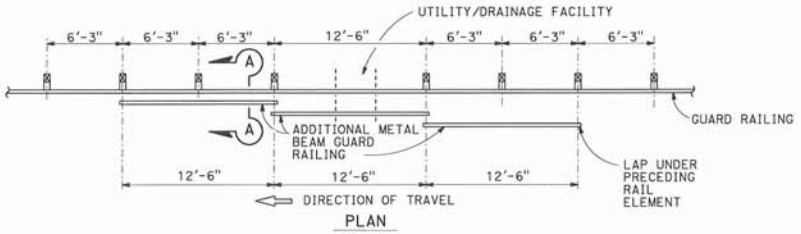
P:\PROJ\01\48470\drafting\sheets\01000200097ga002.dgn

LAST REVISION 00-00-00 | DATE PLOTTED => 08-MAY-2013 | TIME PLOTTED => 15:05

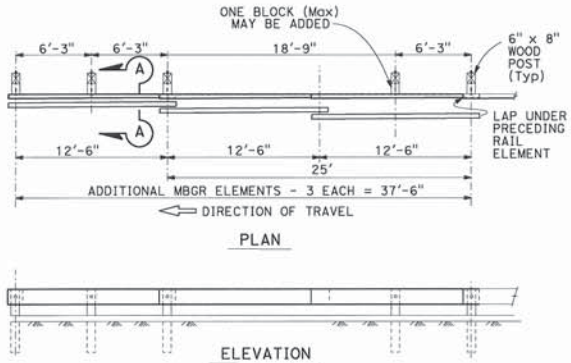
BORDER LAST REVISED 7/2/2010 | USERNAME => s120115 | DGN FILE => 0100020097ga002.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0311 | PROJECT NUMBER & PHASE 01000200971



CASE 1
ONE POST OMITTED (SPLICE IN CENTER)



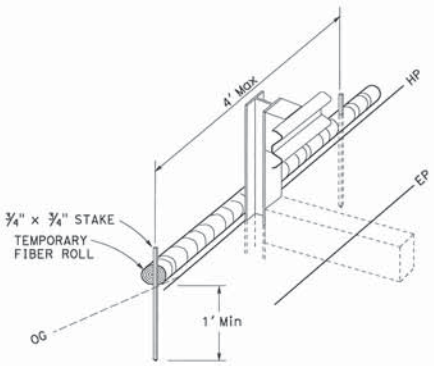
CASE 2
ONE POST OMITTED (SPLICE AT POSTS)



CASE 3
TWO POSTS OMITTED

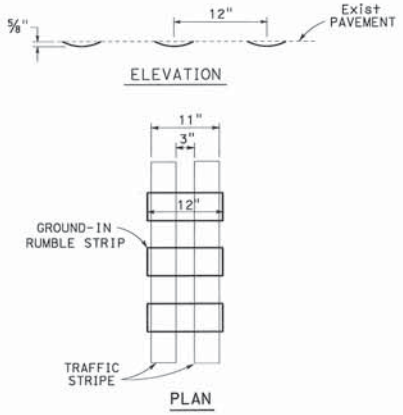
NESTED RAIL ELEMENTS

1. FOR DETAILS NOT SHOWN SEE STANDARD PLAN A77A1.
2. ENGINEER TO DETERMINE CASE IN THE FIELD.



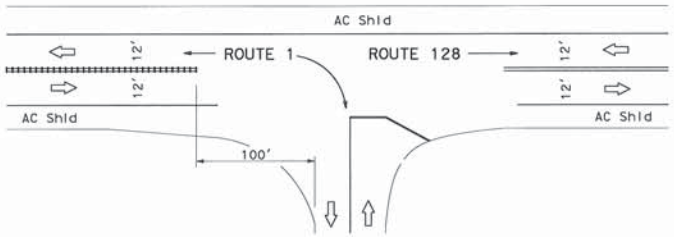
TEMPORARY FIBER ROLL PLACEMENT

PLACE TEMPORARY FIBER ROLL AS DIRECTED BY THE ENGINEER



CENTERLINE RUMBLE STRIP

"A" 111+35 TO "A" 143+50



CENTERLINE RUMBLE STRIP LIMITS

NAVARRO BRIDGE #10-0130

CONSTRUCTION DETAILS

NO SCALE

C-3

(15 of 19)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1, 128	40.1/40.9, 0.0		

David A. Morgan — 6-4-12
REGISTERED CIVIL ENGINEER — DATE

DAVID A. MORGAN No. 72321 Exp. 6/30/14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

PLANS APPROVAL DATE

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REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY	CHECKED BY
DAVID MORGAN	CAREN COONROD

FUNCTIONAL SUPERVISOR: STEVEN R. HUGHES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

P:\PROJ\01\48470\Drafting\sheets\0100020097ga003.dgn

LAST REVISION 00-00-00 | DATE PLOTTED => 09-MAY-2013 | TIME PLOTTED => 15:06

BORDER LAST REVISED 7/2/2010 | USERNAME => s120115 | DGN FILE => 0100020097ga003.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0311 | PROJECT NUMBER & PHASE 01000200971

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	01	40.1/40.9		

REGISTERED CIVIL ENGINEER X-X-X DATE

PLANS APPROVAL DATE

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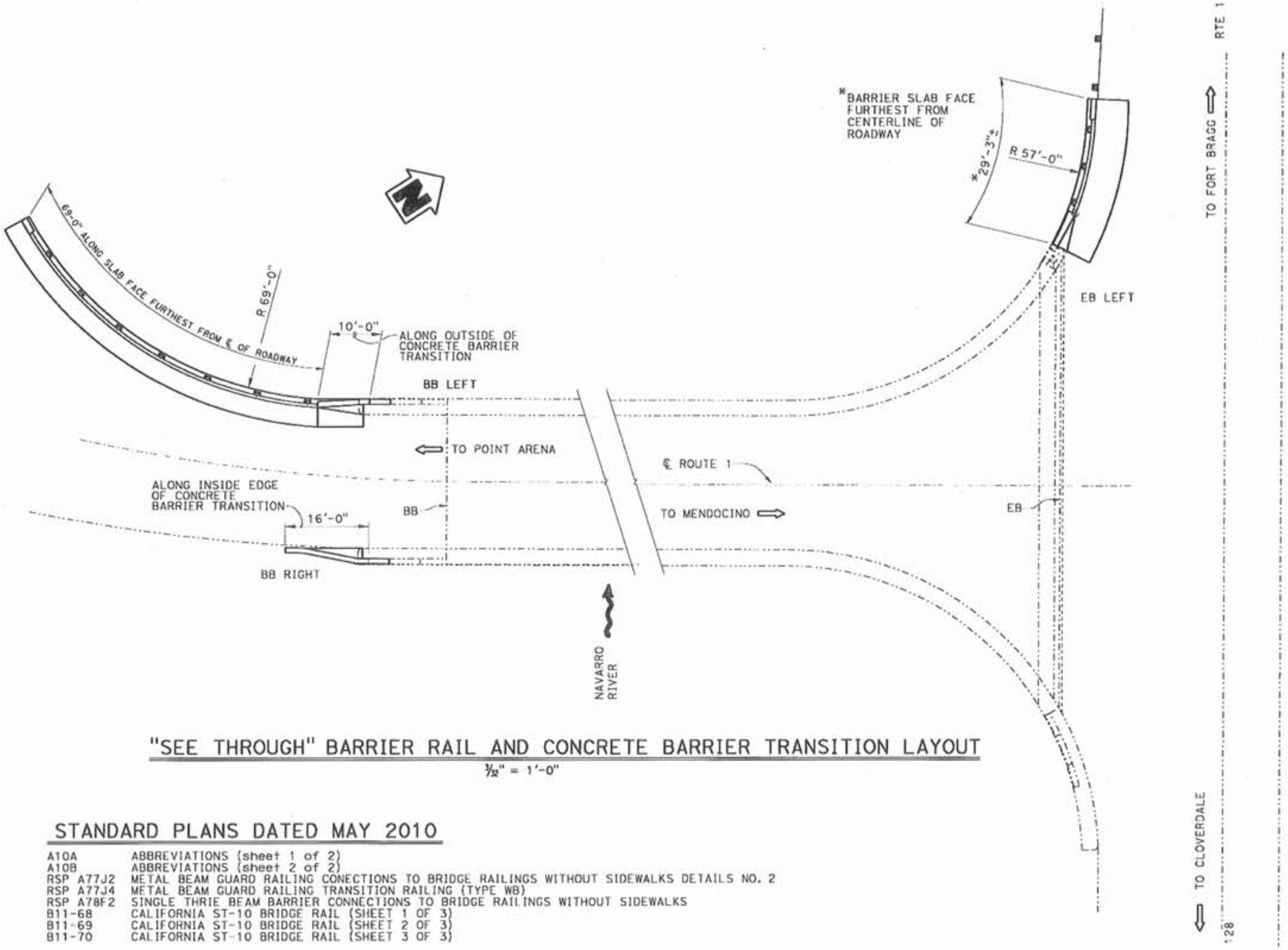
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA



"SEE THROUGH" BARRIER RAIL AND CONCRETE BARRIER TRANSITION LAYOUT

3/32" = 1'-0"

STANDARD PLANS DATED MAY 2010

A10A	ABBREVIATIONS (sheet 1 of 2)
A10B	ABBREVIATIONS (sheet 2 of 2)
RSP A77J2	METAL BEAM GUARD RAILING CONECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS NO. 2
RSP A77J4	METAL BEAM GUARD RAILING TRANSITION RAILING (TYPE WB)
RSP A78F2	SINGLE THRIE BEAM BARRIER CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS
B11-68	CALIFORNIA ST-10 BRIDGE RAIL (SHEET 1 OF 3)
B11-69	CALIFORNIA ST-10 BRIDGE RAIL (SHEET 2 OF 3)
B11-70	CALIFORNIA ST-10 BRIDGE RAIL (SHEET 3 OF 3)

INDEX TO PLANS

DESIGN DATA

DESIGN

AASHTO LFRD Bridge Design Specifications, 4th Edition with California Amendments.
F'_t = 54 kips on barrier

REINFORCED CONCRETE

f'c = 3,600 psi
fy = 60,000 psi

QUANTITIES

CONCRETE BARRIER (TRANSITION)	16 LF
CALIFORNIA ST-10 BRIDGE RAIL (MOD)	92 LF

DAVID NEUMANN DESIGN ENGINEER	DESIGN: BY J MAGANA	CHECKED V LOPEZ	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY" PERMIT DESIGN VEHICLE
	DETAILS: BY P C WELLS	CHECKED J MAGANA	LAYOUT: BY P WELLS	CHECKED J MAGANA
	QUANTITIES: BY J MAGANA	CHECKED N KANEPATHEPILLAI	SPECIFICATIONS: BY M KOPSA	PLANS AND SPECS COMPARED M KOPSA

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
SPECIAL DESIGN BRANCH B

BRIDGE NO. 10-0130
POST MILE 40.1

NAVARRO RIVER BRIDGE BARRIER TRANSITION
GENERAL PLAN & LAYOUT

UNIT: 3625
PROJECT NUMBER & PHASE: 0100020097
CONTRACT NO.: 01-484701

DISREGARD PRINTS BEARING EARLIER REVISION DATES 4-29-13

SHEET 1 OF 6

FILE => 01484701-o-gp01.dgn

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.09-01-10)

USERNAME => s124393 DATE PLOTTED => 29-APR-2013 TIME PLOTTED => 14:58

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	01	40.1/40.9	X	X

REGISTERED CIVIL ENGINEER X DATE

PLANS APPROVAL DATE

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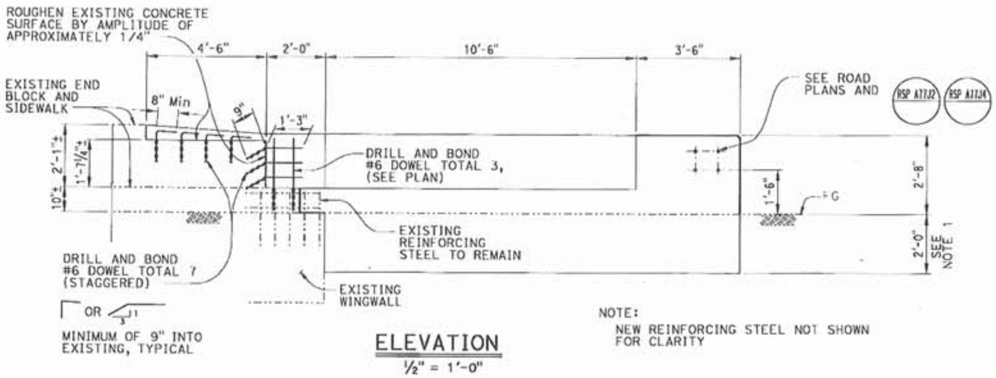
REGISTERED PROFESSIONAL ENGINEER No. X Exp. X CIVIL STATE OF CALIFORNIA

LEGEND

- - - - - Indicates existing structure

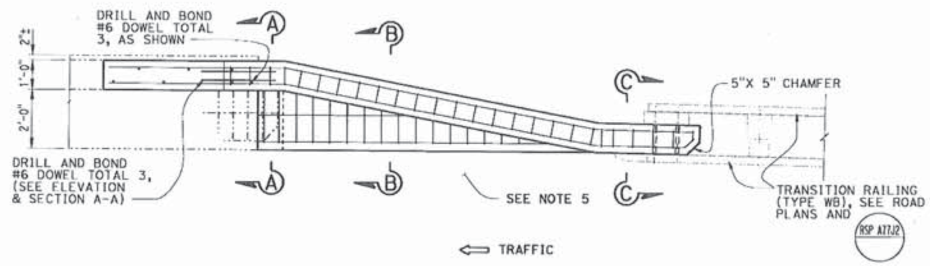
——— Indicates new construction



ELEVATION

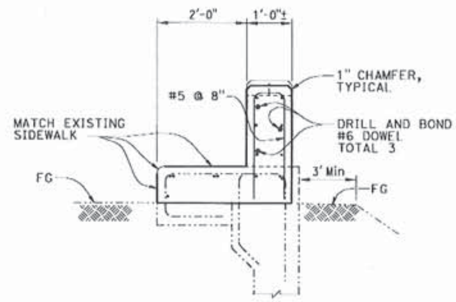
½" = 1'-0"

NOTE:
NEW REINFORCING STEEL NOT SHOWN FOR CLARITY



PLAN

½" = 1'-0"

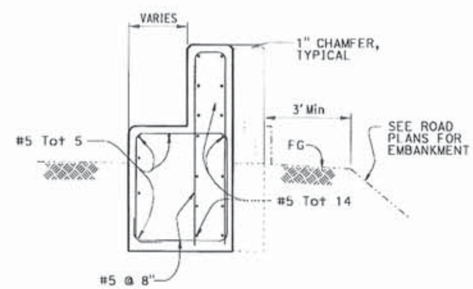


SECTION A-A

¾" = 1'-0"

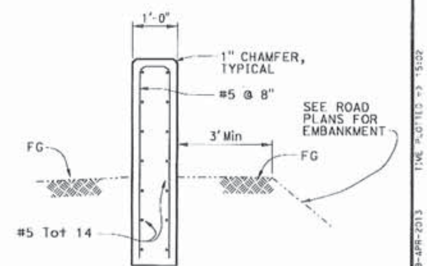
NOTES:

1. Abrasive blast clean existing exposed reinforcing steel.
2. See "Road Plans" limits of removal of existing MBGR.
3. All plates and bolts are galvanized.
4. See "Road Plans" for AC structural section.
5. Prepare and paint all exposed sidewalk and barrier surfaces and new concrete surfaces 3" below FG to match existing.
6. All reinforcing steel to be epoxy coated.



SECTION B-B

¾" = 1'-0"



SECTION C-C

¾" = 1'-0"

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY J MAGANA	CHECKED V LOPEZ	
DETAILS	BY P C WELLS	CHECKED J MAGANA	
QUANTITIES	BY J MAGANA	CHECKED N KANEPATHIPILLAI	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. 10-0130
POST MILE 40.1

NAVARRO RIVER BRIDGE BARRIER TRANSITION

BB RIGHT

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0100020097

CONTRACT NO.: 01-484701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES 4-25-13

SHEET 4 OF 6

USERNAME => s124393 DATE PLOTTED => 29-APR-2013 TIME PLOTTED => 15:02

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Men	01	40.1/40.9	X	X

REGISTERED CIVIL ENGINEER — X — DATE

PLANS APPROVAL DATE

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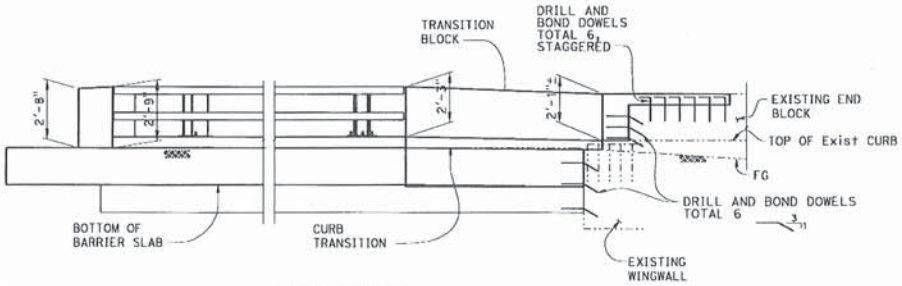
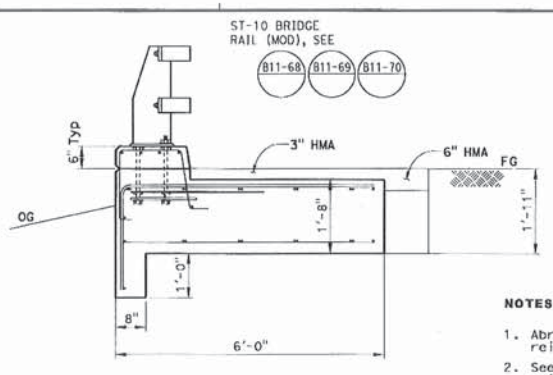
REGISTERED PROFESSIONAL ENGINEER — No. X — Exp. X — CIVIL — STATE OF CALIFORNIA



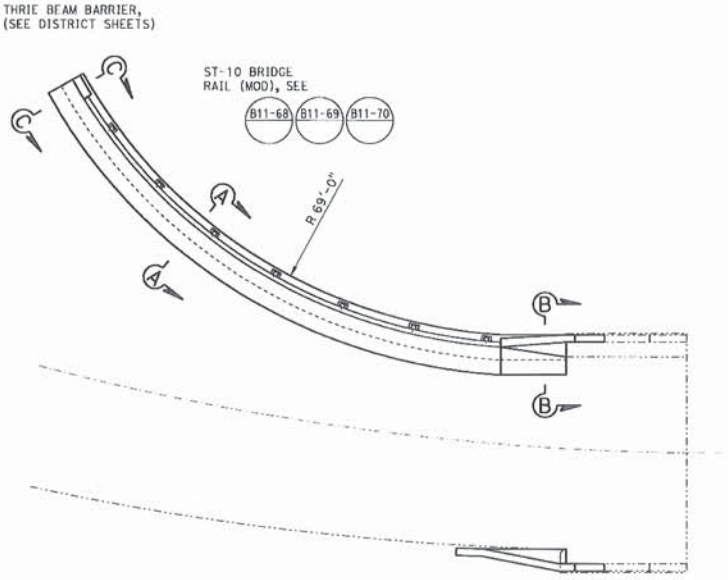
ELEVATION
1/4" = 1'-0"



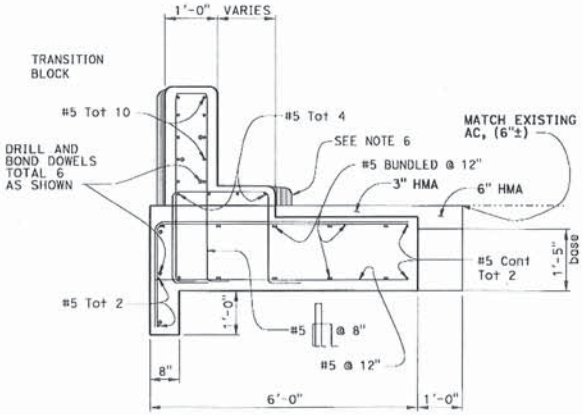
SECTION A-A
3/8" = 1'-0"

NOTES:

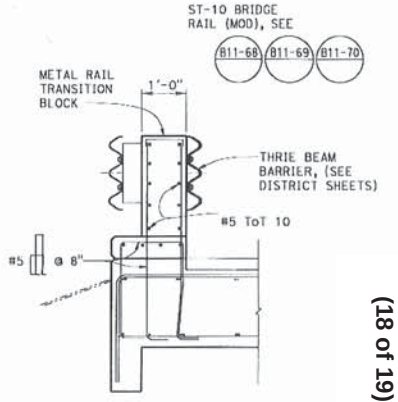
1. Abrasive blast clean existing exposed reinforcing steel.
2. See "Road Plans" limits of removal of existing MBGR.
3. All plates and bolts are galvanized.
4. See "Road Plans" for AC structural section.
5. All barrier reinforcing steel to be epoxy coated.
6. Existing 5"± curb shall transition to a standard ST-10 bridge rail curb height of 6".



PLAN
1/8" = 1'-0"



SECTION B-B
3/8" = 1'-0"



SECTION C-C
NO SCALE

LEGEND

Indicates existing structure

Indicates new construction

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

	BY	CHECKED
DESIGN	J MAGANA	V LOPEZ
DETAILS	P C WELLS	J MAGANA
QUANTITIES	J MAGANA	N KANEPATHIPILLAI

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. 10-0130
POST MILE 40.1

NAVARRO RIVER BRIDGE BARRIER TRANSITION
BB LEFT

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0100020097
CONTRACT NO.: 01-484701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
4-25-13				5	6

FILE -> 01484701-a-qa01.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	01	40.1/10.9	X	X

REGISTERED CIVIL ENGINEER X DATE

PLANS APPROVAL DATE

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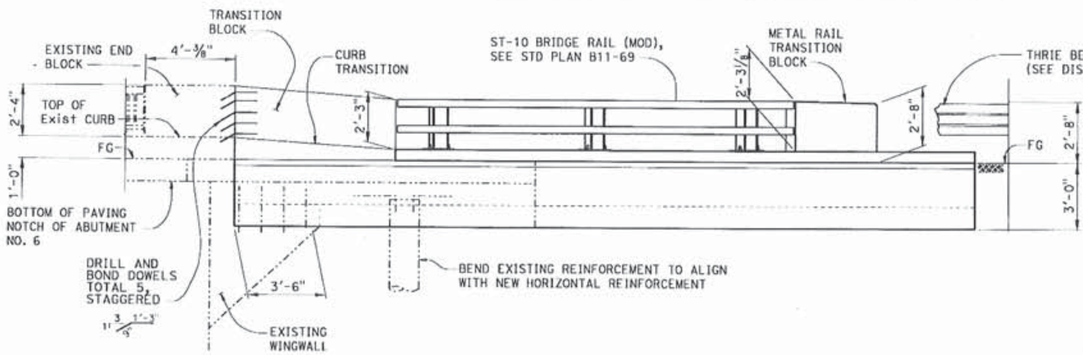
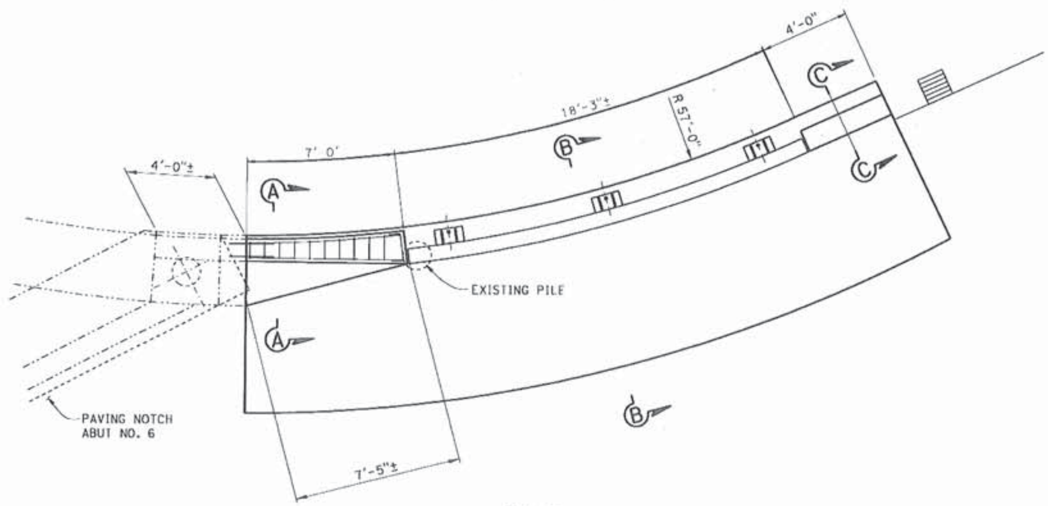
REGISTERED PROFESSIONAL ENGINEER No. X Exp. X CIVIL STATE OF CALIFORNIA



ELEVATION
NO SCALE

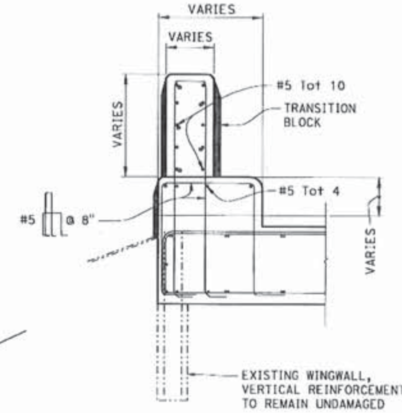
NOTES:

1. Transition existing 4"curb radius to new 1" curb radius.

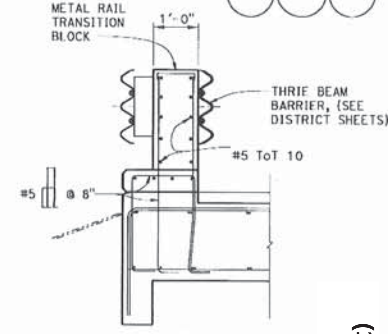


PLAN
NO SCALE

FOR OTHER REINFORCEMENT AND DIMENSIONS SEE B11-68 B11-69 B11-70

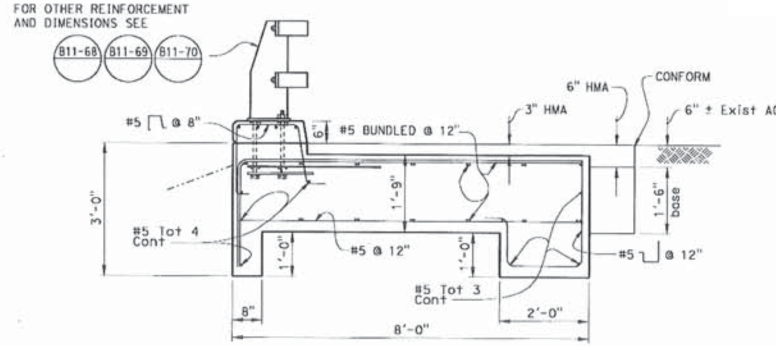


SECTION A-A
NO SCALE



SECTION C-C
NO SCALE

FOR OTHER REINFORCEMENT AND DIMENSIONS SEE B11-68 B11-69 B11-70



SECTION B-B
NO SCALE

DESIGN	BY J MAGANA	CHECKED V LOPEZ
DETAILS	BY P C WELLS	CHECKED J MAGANA
QUANTITIES	BY J MAGANA	CHECKED N KANEPATHIPILLAI

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN

SPECIAL DESIGN BRANCH

BRIDGE NO. 10-0130

POST MILE 40.1

NAVARO RIVER BRIDGE BARRIER TRANSITION

EB LEFT

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619

PROJECT NUMBER & PHASE: 0100020097

CONTRACT NO.: 01-484701

DISREGARD PRINTS BEARING EARLIER REVISION DATES 4-24-13

SHEET 6 OF 6

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

USERNAME => s124393 DATE PLOTTED => 29-APR-2013 TIME PLOTTED => 14:58

State of California
Department of Transportation

Business, Transportation and Housing Agency

M e m o r a n d u m

Flex your power!
Be energy efficient!

To: STEVEN HUGHES
Branch Chief
North Region Design Branch E-1

Attn: DAVID MORGAN

Date: March 1, 2013
File: 01-MEN-001-PM 40.1/40.9
EA: 01-484701
EFIS ID: 0100020097

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
OFFICE OF GEOTECHNICAL DESIGN NORTH
BRANCH B - EUREKA

Subject: Geotechnical Analysis of the Albion Metal Beam Guardrail Safety Project

1. Project Description

The Albion Metal Beam Guardrail (MBGR) Safety Project begins at post mile (PM) 40.1 and ends at PM 40.9 on Route 1 in Mendocino County. The project was initiated by the District 1 Office of Traffic Safety to reduce the number and severity of collisions by precluding 'run-off-road' collisions.

The Office of Geotechnical Design North was tasked with reviewing the feasibility of the proposed 'special' MBGR. This design uses cantilevered concrete post supports beneath the highway to secure the MBGR. This MBGR is proposed between centerline stations 132+89.63 to 140+34.88 and 131+88.81 to 132+52.13.

The information contained in this report is based on field observations, two vertical borings and slope stability analyses. The field and subsurface investigation was restricted to the locations where the cantilevered MBGR is proposed.

2. Existing Facilities

Route 1, through the project limits is a 2-lane conventional highway. Total existing paved width varies from 21 to 26 feet, most typically 23 to 24 feet. The slopes below the highway vary between 33 to 45 degrees. Within the project limits the roadway varies in elevation above the Navarro River from about 15- to 80-feet.

Longitudinal cracks and sags were observed in the existing pavement, mainly in the southbound lane, between the following approximate centerline stations along the "A" alignment. (Figures 1 and 2):

132+00 through 132+60

133+00 through 133+57

134+00 through 136+24

137+73 through 139+12

EXHIBIT NO. 7
Geotechnical Memo
Permit No. 1-12-017
(Caltrans)
1 of 5

Longitudinal cracks were observed on the unpaved shoulder of the southbound lane between stations 139+24 through 140+00.

Aaron Christianson from Caltrans Maintenance (personal communication on January 15, 2013) said that the highway within the project limits has not required maintenance due to slope instability below the roadway for the past 10 years. Several patches were observed within the limits of the proposed MBGR. According to Maintenance the larger patches on the highway are due to damage caused by winching errant run-off vehicles.

The cut slopes along the northbound lane are steep averaging 60 degrees and appeared stable with minor raveling. Hydrophilic plants were observed in the ditch and in the drainages upslope.

3. Subsurface conditions

Two mud rotary boreholes were drilled between December 5 and 6, 2012. The boring locations are shown on Figures 1 and 2. The boreholes were advanced using a truck mounted Acker MPCA and a CME 750 drill rig using a 94-mm HXB casing equipped with a diamond impregnated core bit.

Borehole RC-12-001 encountered approximately 4.5 feet of asphalt and asphalt mixed with road base. This was underlain by 5.5 feet of very loose to medium dense clayey sand with gravel fill and silty gravel Intensely weathered to decomposed sandstone was encountered at 10 feet to the end of the boring at 50 feet.

Borehole RC-12-002 encountered approximately asphalt to 5 feet. Loose to medium dense clayey sand with gravel fill from 5 feet to 20 feet with the gravel content increasing at 20 feet. Intensely weathered to decomposed sandstone was encountered at 40 feet to the end of the borehole at a depth of 59.3 feet.

4. Geotechnical analysis

The proposed MBGR is cantilevered between Stations 132+89.63 to 140+34.88 and Stations131+88.81 to 132+52.13 via a 6-foot long, 1.6-foot wide and 1.7-foot thick reinforced concrete beam. The beams are spaced 6.25-feet apart. Each beam is connected with a 1.7 foot thick, 1-foot wide beam. The maximum cantilever is 9-inches from the hinge point of the existing slope.

A Limit Equilibrium stability analysis was run on a roadway cross section at Station 135+90. This location was determined to be critical because of the extent of the tension cracks and the geometry of the fill side slope. At this location tension cracks extend to the middle of the south-bound lane. Observed tension cracks, borehole data and ground surface features, were used to fix the entry point, depth and exit point of the inferred failure surface respectively. A high groundwater surface was assumed.

The Morgenstern-Price method of Limit Equilibrium that satisfies both force and moment equilibrium was used for this analysis. Given the existence of cracks in the roadway a conservative factor of safety of 1.0 was assumed for the existing conditions and used to back calculate the soil parameters.

A stability analysis was performed using the same cross-section with the concrete MBGR in-place to determine the effect of the MBGR on the slope stability. The factor of safety for the slope with the MBGR in-place is 1.02. The results of the slope stability analysis indicate that there is no significant change in the equilibrium of the existing slope with the addition of the proposed MBGR.

If you have any questions or require further assistance, please call June James at (707) 441-4692.

Report by:

REGISTERED PROFESSIONAL ENGINEER
MARIETTA J JAMES
No. 55009
CIVIL
STATE OF CALIFORNIA

M. JUNE JAMES
Transportation Engineer
Office of Geotechnical Design - North
Branch B

Reviewed by:

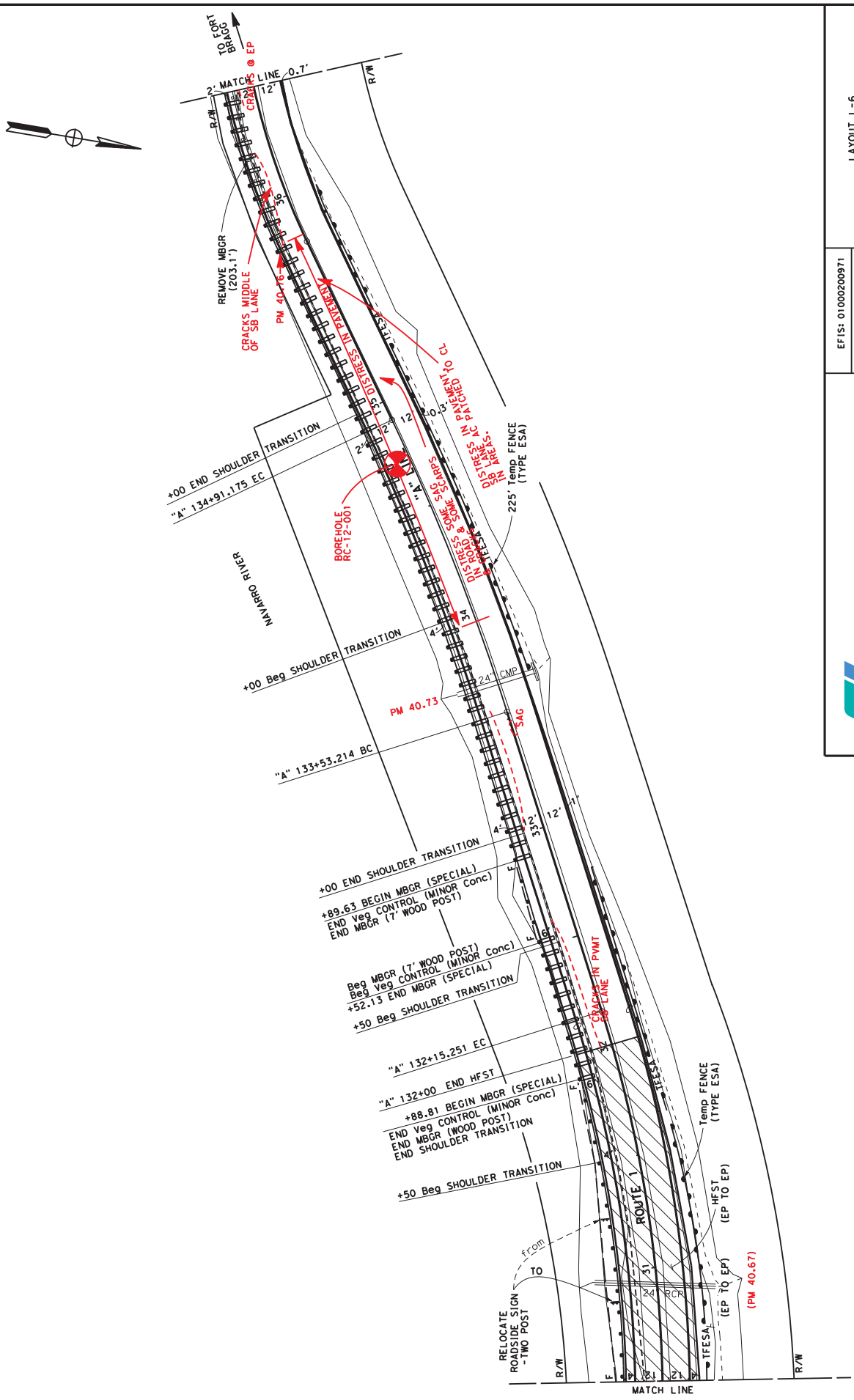
REGISTERED GEOLOGIST
CHARLES FREDERICK NARWOLD
No. 2335
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

CHARLIE NARWOLD
Senior Engineering Geologist
Office of Geotechnical Design - North
Branch B

Attachments:

Figure 1 – Layout L-6
Figure 2 – Layout L-7

c: OGDN Project Folder
GS File Room



EFIS: 01000200971

DATE: MARCH 1, 2013

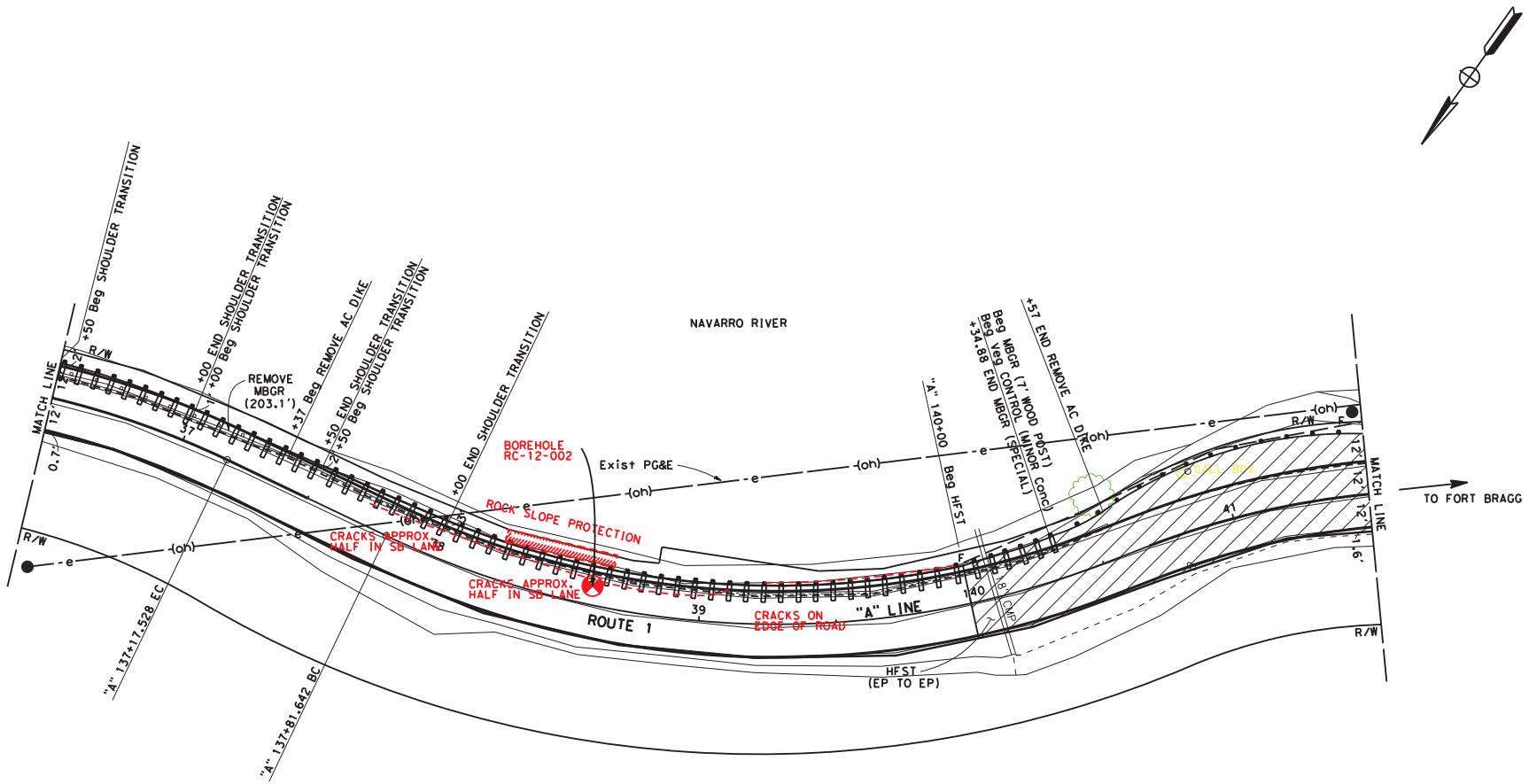
LAYOUT L-6

ALBION METAL BEAM GUARDRAIL SAFETY PROJECT
01-MEN-01-PM 40.1/40.9

FIGURE 1

Department of Transportation
Division of Engineering Services
Geotechnical Services
Office of Geotechnical Design North
Branch B

Caltrans



(5 of 5)

Caltrans

Department of Transportation
Division of Engineering Services
Geotechnical Services
Office of Geotechnical Design North
Branch B

EFIS: 01000200971

DATE: MARCH 1, 2013

LAYOUT L-7

ALBION METAL BEAM GUARDRAIL SAFETY PROJECT
01-MEN-01-PM 40.1/40.9

FIGURE 2

Navarro Metal Beam Guardrail Project

Delineation of Waters of the U. S. and Waters of the State

01-MEN-1, 128-PM 40.1/40.9, 0.0

EA 01-484700, EFIS Number 0100020097

April 2013

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

EXHIBIT NO. 8

Excerpts of 2013 Wetland Delineation
Permit No. 1-12-017
(Caltrans)
1 of 18

Delineation of Waters of the U. S. and Waters of the State

Navarro Metal Beam Guardrail Project

01-MEN-1, 128-PM 40.1/40.9, 0.0

EA 01-484700, EFIS Number 0100020097

April 2013

Prepared By: _____ Date: 4/4/2013

Sean Marquis, Associate Environmental Planner/NS (Biologist)
California Department of Transportation
Environmental Management, M2 Branch
District 3/North Region

Reviewed By: Jennifer Olah Date: 4/4/13

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Table of Contents

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List of Abbreviated Terms

ESL	Environmental Study Limits
Caltrans	California Department of Transportation
CCC	California Coastal Commission
MBGR	Metal Beam Guardrail
OHWM	ordinary high water mark
PM	post mile
SR	State Route
SWRCB	State Water Resources Control Board
USACE	United States Army Corps of Engineers
USGS	United States Geological Survey

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1. Introduction

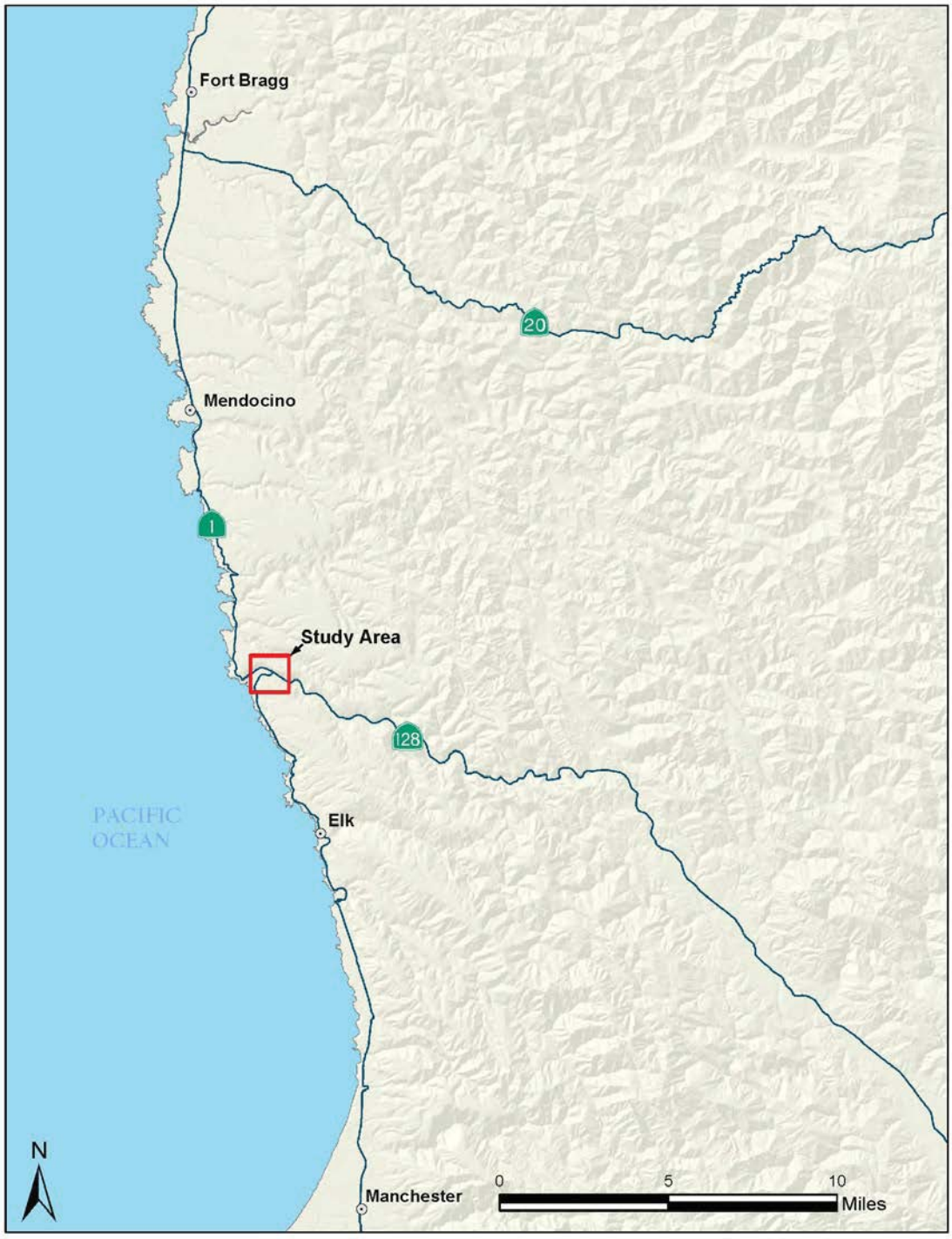
The California Department of Transportation (Caltrans) is proposing a safety project including installation of metal beam guardrail (MBGR); lane widening where resource and space constraints allow; repaving; and installation of a rumble strip. The work would be on a portion of State Routes (SR) 1 and 128 in Mendocino County.

A delineation was conducted to identify waters that may be under the jurisdiction of the U.S. Army Corps of Engineers (USACE), as well as the State of California (State Water Resources Control Board [SWRCB], California Coastal Commission [CCC], etc.). As the USACE and State of California apply different definitions of "wetland," the delineation identifies those areas that meet the definitions of each authority. This report has been prepared to document the results of the delineation conducted for this project.

The Environmental Study Limits (ESL) comprises a total of approximately 33.8 acres. The ESL encompasses all areas determined by Caltrans Engineering and Construction staff to be required for the placement and construction of project features: areas of cut, fill, or vegetation removal; utility relocations; areas needed for materials storage; and areas needed for the access, operation, storage, and staging of construction equipment and personnel.

The project can be found on the Elk and Albion 7.5-minute U. S. Geological Survey (USGS) quadrangles. Figure 1 contains a locality map of the project location. Appendix A contains a quadrangle maps of the project location.

Figure 1. Project Location Map



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2. Project Description

Caltrans is proposing a safety project on portions of SR 1 and SR 128. Work would include installation of new MBGR and update of existing MBGR; lane widening where resource and space constraints allow; repaving; and installation of a rumble strip. The work would be near the interchange of SR 1 and 128 in Mendocino County.

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3. Environmental Setting

3.1. Description of the Existing Biological and Physical Conditions in the Environmental Study Limits

The project site is located near the coast, mostly on a south-facing slope adjacent to the Navarro River.

3.1.1. Physical Conditions

3.1.1.1. Soils

The National Resources Conservation Service soil survey for *Mendocino County, Western Part, California* (CA 694) was reviewed to determine the soil type present at the project site. The soil types present within the ESL are listed in Table 1.

Table 1: Soils Present within the ESL

Soil Name	Soil Map Unit Number	On Hydric Soils List
Mendocino County, Western Part, California		
Drystopepts, 30 to 75 percent slopes	139	No
Tropaquepts, 0 to 15 percent slopes	214	Yes

3.1.1.2. Drainages/hydrology

The Navarro River flows through the site, with some adjacent floodplain wetlands. At higher elevations, most of the site's water comes from seeps or small drainages, ultimately flowing toward the Navarro River. On the north side of SR 1 and 128, seeps and small streams in some cases are intercepted by a roadside ditch, forming wetlands in the ditch. The water in these wetlands appears to percolate or pass to a culvert toward the Navarro River.

The average annual rainfall in the nearby City of Mendocino is approximately 44 inches (The Weather Channel 2013).

3.1.2. Biological Conditions

3.1.2.1. Plant Communities

Plant communities within the ESL were classified primarily based on plant community descriptions provided in *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995).

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4. Methodology

Field assessments of waters of the U.S. and waters of the State were conducted by Caltrans biologists Sean Marquis and Allison Kunz on March 19, 20, and 21, 2013. Fieldwork was conducted early in the blooming season, and most plants were identifiable. Precipitation during the wet season was below average, but was adequate to provide hydrology for the site's wetlands. Weather conditions during field assessments were variable, including intermittent light rain on March 19 and 20, and were mostly clear on March 21.

The field assessments followed the methodology set forth in the USACE 1987 Wetland Delineation Manual, incorporating procedures and wetland indicators provided in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Regional Supplement) (U.S. Army Corps of Engineers 2010). Data was recorded on data forms provided in the Regional Supplement. Plant indicator status followed the 2012 *The National Wetland Plant List* (Lichvar 2012).

Potential wetland areas were assessed for the presence of three parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. Areas that met all three parameters were labeled "3-Parameter Wetlands." Areas that did not meet all three parameters, but did meet at least one parameter, were labeled "1-Parameter Wetlands." Potential waters of the U.S. included 3-Parameter Wetlands. Potential waters of the State included 3-Parameter Wetlands and 1-Parameter Wetlands (Table 2).

Table 2: Jurisdictional Authority of Waters

Authority	Example Classes of Jurisdictional Waters
U.S. Army Corps of Engineers	Three-Parameter Wetland
	Perennial, Intermittent, or Ephemeral Drainage
State of California (California Coastal Commission and State Water Resources Control Board)	One-Parameter Wetland
	Three-Parameter Wetland
	Perennial, Intermittent, or Ephemeral Drainage

For drainages, the ordinary high water mark (OHWM) describes the limits of jurisdiction. The OHWM was identified based on a clear, natural line impressed on

the bank, shelving, changes in the character of the soil or vegetation, or the presence of deposited litter or debris.

Locations of wetlands and other features were recorded using GPS (Trimble GeoXt GeoExplorer 6000 series). Any features to which access was untenable (e.g., banks of Navarro River), locations were noted on field maps. All waterbodies were evaluated to determine whether they qualified as waters of the U. S. or waters of the State.

5. Results

Potentially jurisdictional wetlands and other waters of the U.S. were identified. Additional waters of the State were identified, all of which were one-parameter wetlands.

Boundaries of potential jurisdictional waters of the U. S. and waters of the State were mapped at a scale of 1:1200 (1 inch = 100 feet). This mapping can be found in Appendix B. Appendix C contains the wetland delineation data sheets completed for this project. Appendix D contains photographs of some of the wetlands and other waters within the ESL. Table 3 describes each of the waters of the U. S. and waters of the State found within the ESL. Table 4 lists the acreage of waters that are potentially jurisdictional waters of the State and waters of the U. S. A total of 11.21 acres of waters of the State are present within the ESL. A total of 6.95 acres of waters of the U. S. are present within the ESL.

Table 3: Waters Present within the ESL

Id No.	Area (Wetlands) (acres)	Area (Other Waters) (acres)	Length (feet)	Width (feet)
One-Parameter Wetlands				
1P-1	0.10	-	-	-
1P-2	0.10	-	-	-
1P-3	0.03	-	-	-
1P-4	0.01	-	-	-
1P-5	0.03	-	-	-
1P-6	0.02	-	-	-
1P-7	0.02	-	-	-
1P-8	0.19	-	-	-
1P-9	0.67	-	-	-
1P-10	0.63	-	-	-
1P-11	0.06	-	-	-
1P-12	1.89	-	-	-
1P-13	0.41	-	-	-
1P-14	0.10	-	-	-
Subtotal	**4.26**	**-**	**-**	**-**
Three-Parameter Wetlands				
3P-1	0.02	-	-	-
3P-2	0.02	-	-	-
3P-3	0.00*	-	-	-
3P-4	0.29	-	-	-

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Id No.	Area (Wetlands) (acres)	Area (Other Waters) (acres)	Length (feet)	Width (feet)
3P-5	0.02	-	-	-
3P-6	0.02	-	-	-
3P-7	0.00*	-	-	-
3P-8	0.00*	-	-	-
3P-9	0.17	-	-	-
3P-10	0.07	-	-	-
3P-11	0.13	-	-	-
Subtotal	**0.74**	-	-	-
Perennial Drainage (Navarro River)				
PD-1	-	6.20	3,818	**
Subtotal	-	**6.20**	**3,818**	-
Intermittent Drainages				
ID-1	-	0.00*	95	1
ID-2	-	0.00*	95	1
ID-3	-	0.00*	103	1
Subtotal	-	**0.01**	**293**	-
Ephemeral Drainage				
ED-1	-	0.00*	127	1
Subtotal	-	**0.00***	**127**	-
Total	**5.00**	**6.21**	**4,238**	

* Areas were rounded to the nearest hundredth of an acre. Areas that appear as 0.00 were less than 0.005 acre.

** Width of Navarro River stretches beyond ESL

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Table 4: Acreage of Waters by Authority within the ESL

WATERS OF THE U.S.	Area (acres)
Wetlands	
Three-Parameter Wetlands	0.74
WETLANDS TOTAL	**0.74**
Other Waters of the U. S.	
Perennial Drainage	6.20
Intermittent Drainage	0.01
Ephemeral Drainage	0.00
OTHER WATERS TOTAL	**6.21**
TOTAL	**6.95**
WATERS OF THE STATE	**Area (acres)**
Wetlands	
One-Parameter Wetlands	4.26
Three-Parameter Wetlands	0.74
WETLANDS TOTAL	**5.00**
Other Waters of the State	
Perennial Drainage	6.20
Intermittent Drainage	0.01
Ephemeral Drainage	0.00
OTHER WATERS TOTAL	**6.21**
TOTAL	**11.21**

5.1. Wetlands

Wetlands identified within the ESL included one-parameter wetlands and three-parameter wetlands.

5.1.1. One-Parameter Wetlands

There are 14 one-parameter wetlands within the ESL. Most of these wetlands contained hydrophytic vegetation, but lacked hydric soils and wetland hydrology. Most of these wetlands were located in riparian zones or floodplains, and most had a tree canopy dominated by white alder (*Alnus rhombifolia*).

One-parameter wetlands are potentially jurisdictional only under agencies of the State of California (e.g., CCC and SWRCB). That is, they are waters of the State only.

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5.1.2. Three-Parameter Wetlands

There are 11 three-parameter wetlands within the ESL. These wetlands occur in varied settings, including ditches, depressions, and hillside seeps. Most are in low-gradient settings, where they appear to receive water from hillside seeps or intermittent or ephemeral drainages.

Three-parameter wetlands are potentially jurisdictional under agencies of the State of California (e.g., CCC and SWRCB), *and* the USACE. That is, they are waters of the State *and* waters of the U.S.

5.2. Other Waters

Three types of other waters were identified in the ESL: perennial drainage, intermittent drainage, and ephemeral drainage.

All of these other waters are potentially jurisdictional under agencies of the State of California, *and* the USACE. That is, they are waters of the State *and* waters of the U.S.

5.2.1. Perennial Drainage

The only perennial drainage within the ESL is the Navarro River.

5.2.2. Intermittent Drainage

There are 3 features within the ESL that are considered to be an intermittent drainage. Intermittent drainages are streams that carry water well after rain events, being fed in part by groundwater. These features contained flowing water during the delineations conducted in March 2013.

5.2.3. Ephemeral Drainage

There is 1 feature within the ESL that is considered to be an ephemeral drainage. Ephemeral drainages are streams that carry water only during and for a short time after rain events in a typical year. This feature did not contain flowing water during the delineations conducted in March 2013.

6. References

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

Lichvar, R.W. 2012. The National Wetland Plant List. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory.

Sawyer, John O. and Todd Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society, Sacramento, CA.

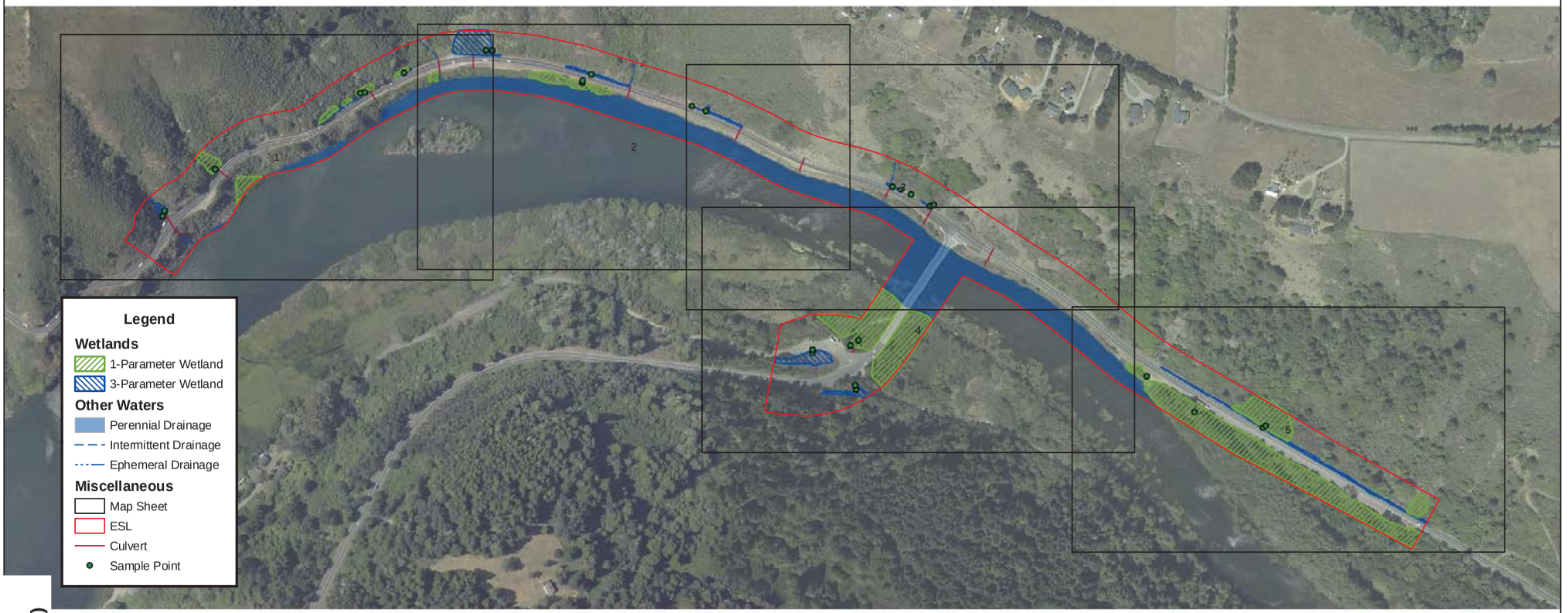
The Weather Channel. 2013. Monthly Averages for Mendocino, CA. Available online http://www.weather.com/weather/wxclimatology/monthly/graph/USCA0690 (accessed March 25, 2013)

U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

Project Location Map

Navarro MBGR Project
Men-1, 128-PM40.1/40.9, 0.0

Potential Waters of the U.S. and Waters of the State within the Environmental Study Limits



(17 of 18)

0 60 120 240 360
Feet

1 inch = 360 feet

N

Navarro MBGR Project

Men-1, 128-PM 40.1/40.9, 0.0
Map Created by Sean Marquis, Caltrans
on March 28, 2013

Caltrans

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Photo 1: Wetland 1P-8. This is a one-parameter wetland dominated by willow shrubs and trees. It is located between SR 1 and the Navarro River, in the riparian zone of the Navarro River.

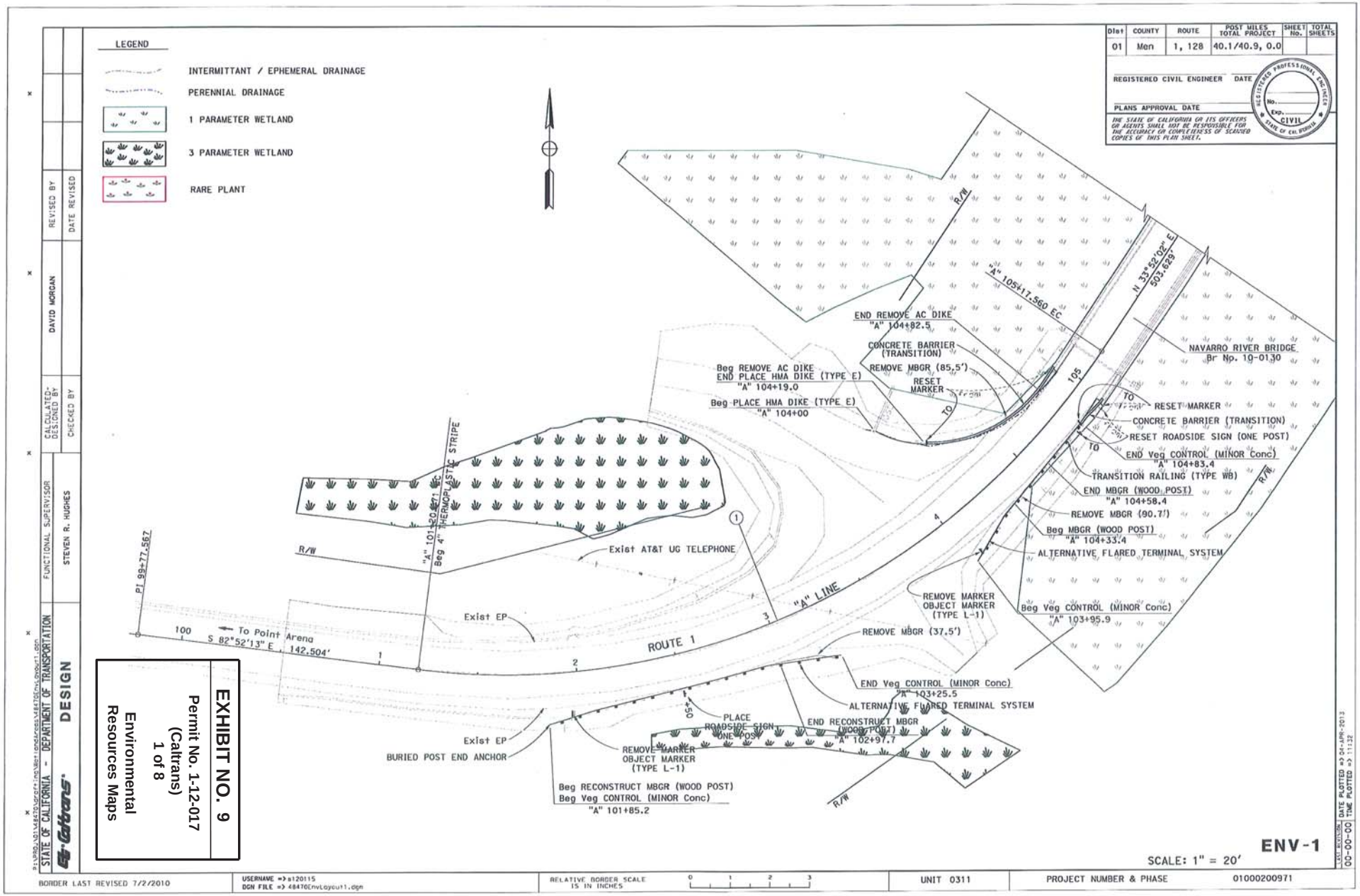
Photo 2: Wetland 1P-9. On the left of this photo is upland located on a fill slope. On the right is one-parameter wetland, located in what appears to be the floodplain of the Navarro River.

Photo 3: Wetland 3P-11. This is a 3-parameter wetland located in a roadside ditch on the northeast side of SR 1. Water appears to seep from the adjacent hillside and reach this lower-gradient ditch, where it is retained long enough to form a wetland.

Photo 4: Upland along the roadside.

Photo 5: Wetland 1:-12. This is a 1-parameter wetland that appears to be within the floodplain of the Navarro River. Its tree stratum is dominated largely by white alder (*Alnus rhombifolia*).

Photo 6: Wetland 1P-1. This is a one-parameter wetland located on a hillslope. Its tree canopy is dominated by white alder (*Alnus rhombifolia*).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3 PARAMETER WETLAND
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Caltrans
DESIGN
EXHIBIT NO. 9
Permit No. 1-12-017
(Caltrans)
1 of 8
Environmental
Resources Maps
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"A" 104+82.5
CONCRETE BARRIER (TRANSITION)
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Beg REMOVE AC DIKE
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"A" 104+19.0
Beg PLACE HMA DIKE (TYPE E)
"A" 104+00
"A" 105+17.560 EC
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503.629'
NAVARRO RIVER BRIDGE
Br No. 10-0130
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"A" 104+83.4
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Beg MBGR (WOOD POST)
"A" 104+33.4
ALTERNATIVE FLARED TERMINAL SYSTEM
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"A" 103+95.9
REMOVE MARKER OBJECT MARKER (TYPE L-1)
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END Veg CONTROL (MINOR Conc)
"A" 103+25.5
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"A" 102+97.7
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BURIED POST END ANCHOR
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To Point Arena
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R/W
TO
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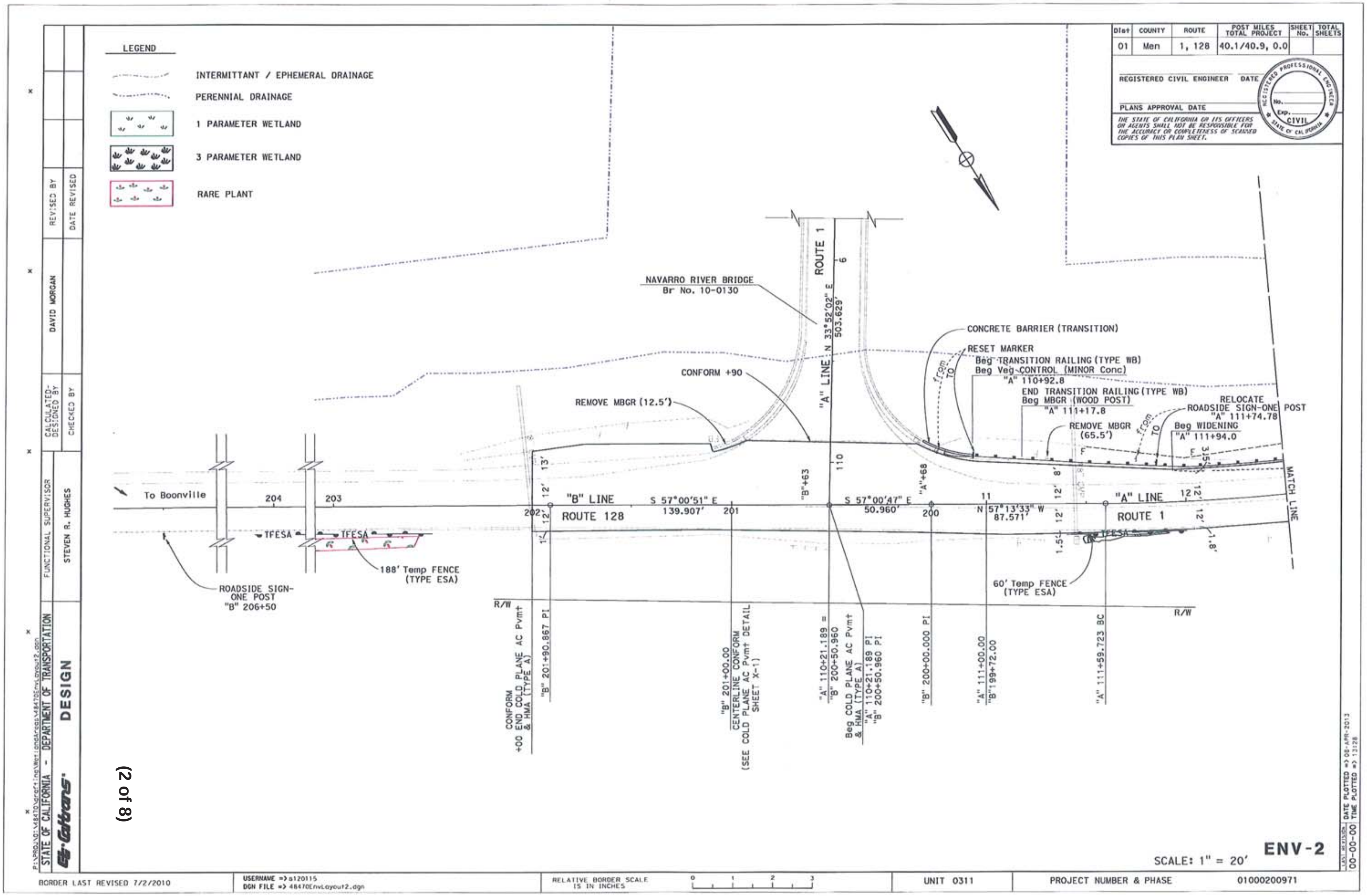

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INTERMITTANT / EPHEMERAL DRAINAGE
PERENNIAL DRAINAGE
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3 PARAMETER WETLAND
RARE PLANT
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STATE OF CALIFORNIA
NAVARRO RIVER BRIDGE
Br No. 10-0130
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Beg Veg CONTROL (MINOR Conc)
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"A" 111+94.0
CONFORM +90
REMOVE MBGR (12.5')
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204
203
"B" LINE
ROUTE 128
S 57°00'51" E
139.907'
201
S 57°00'47" E
50.960'
200
N 57°13'33" W
87.571'
"A" LINE
ROUTE 1
MATCH LINE
TFESA
188' Temp FENCE
(TYPE ESA)
ROADSIDE SIGN-
ONE POST
"B" 206+50
60' Temp FENCE
(TYPE ESA)
R/W
CONFORM
+00 END COLD PLANE AC Pvmt & HMA (TYPE A)
"B" 201+90.867 PI
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CENTERLINE CONFORM
(SEE COLD PLANE AC Pvmt DETAIL SHEET X-1)
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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FUNCTIONAL SUPERVISOR
STEVEN R. HUGHES
CALCULATED-DESIGNED BY
CHECKED BY
DAVID MORGAN
REVISED BY
DATE REVISED
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- PERENNIAL DRAINAGE
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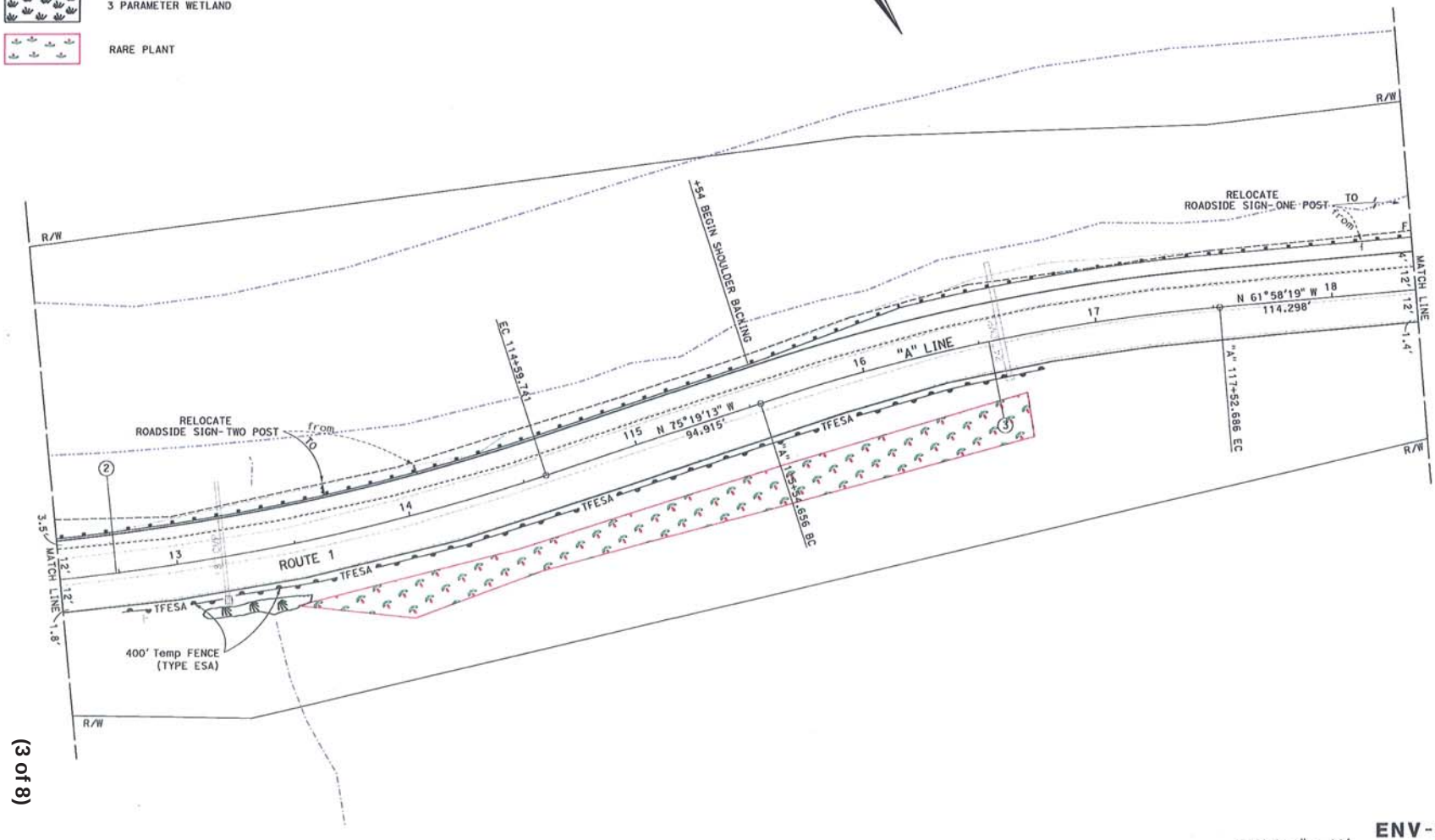
- 3 PARAMETER WETLAND
- RARE PLANT



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PERENNIAL DRAINAGE

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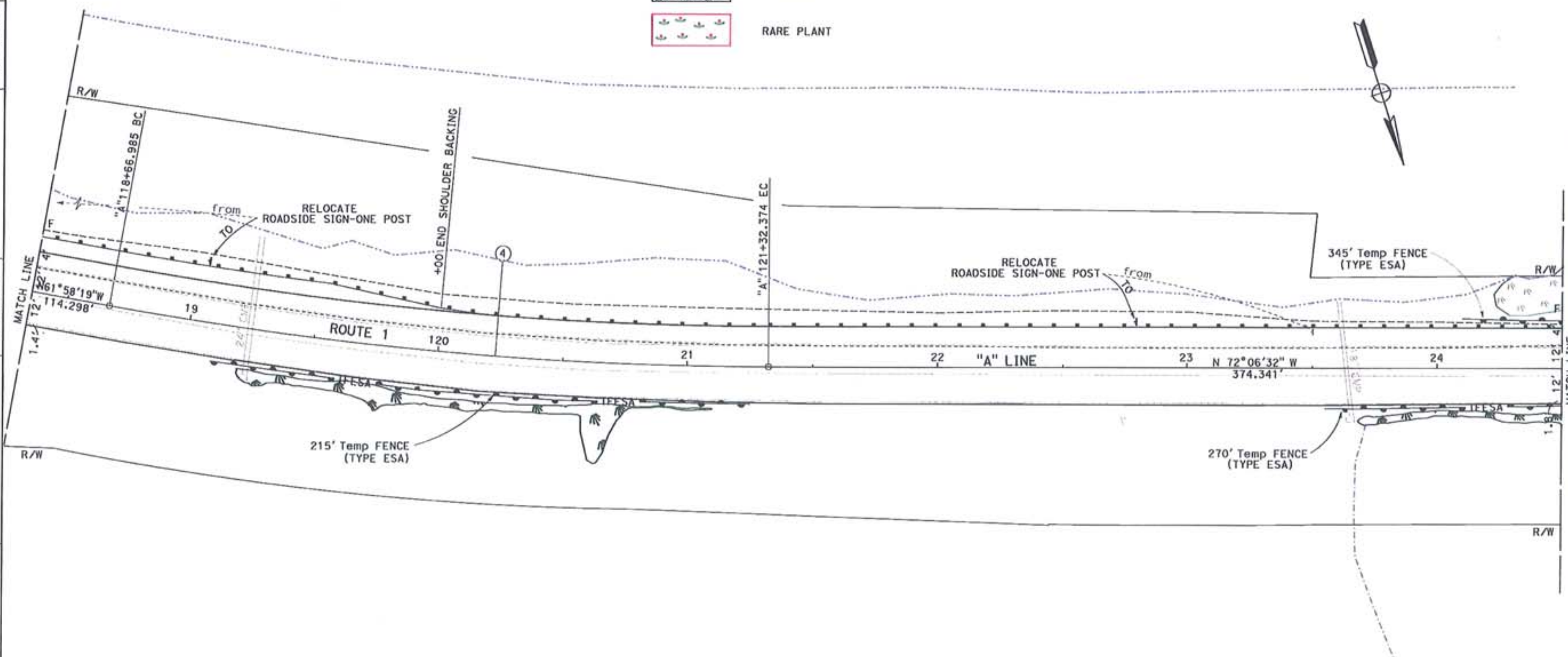
3 PARAMETER WETLAND

RARE PLANT



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Caltrans

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FUNCTIONAL SUPERVISOR STEVEN R. HUGHES

CALCULATED-DESIGNED BY CHECKED BY

DAVID MORGAN

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(4 of 8)

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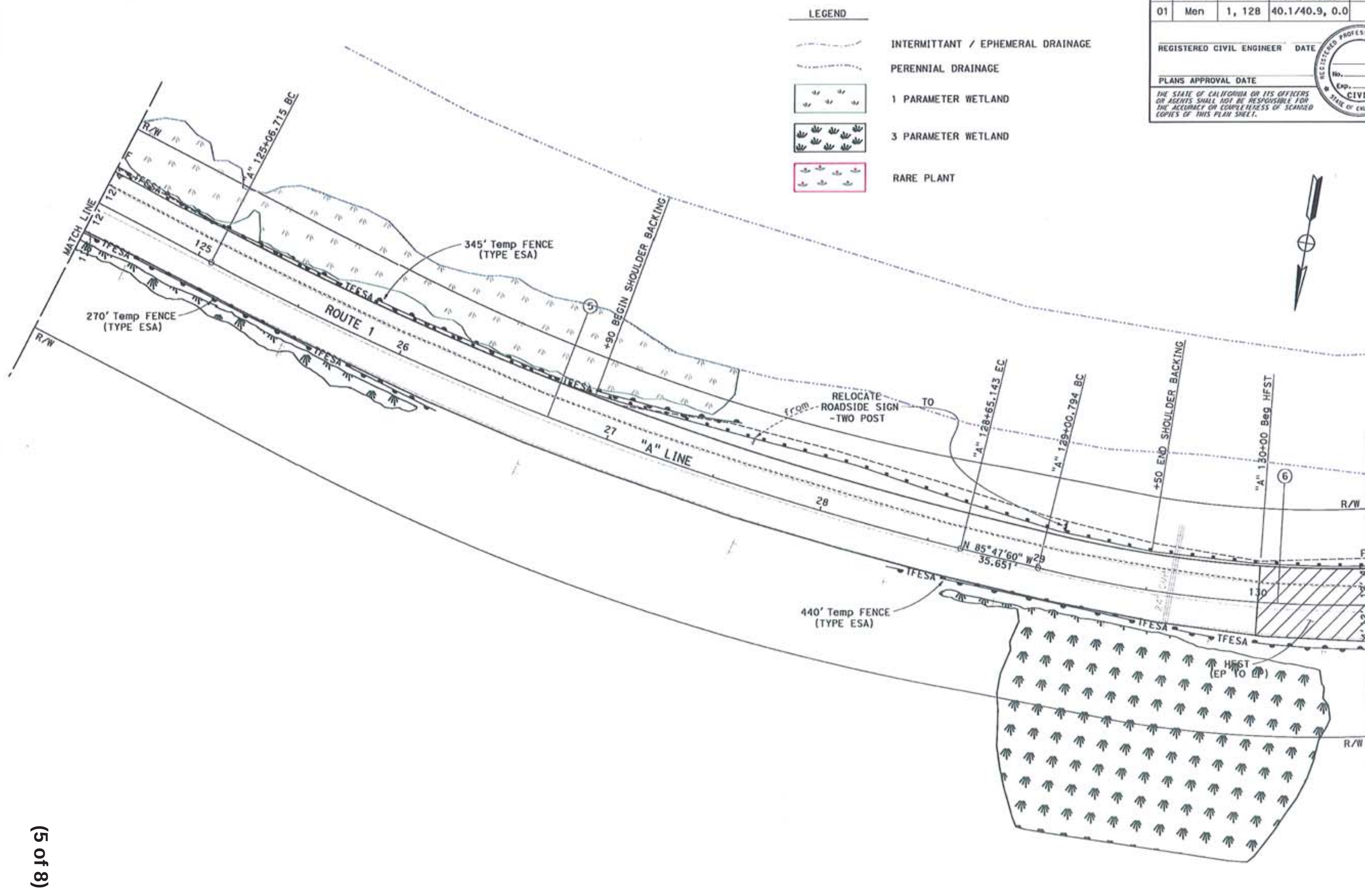
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA



ENV-5

SCALE: 1" = 20'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans DESIGN

FUNCTIONAL SUPERVISOR: STEVEN R. HUGHES

CALCULATED-DESIGNED BY: DAVID MORGAN | CHECKED BY

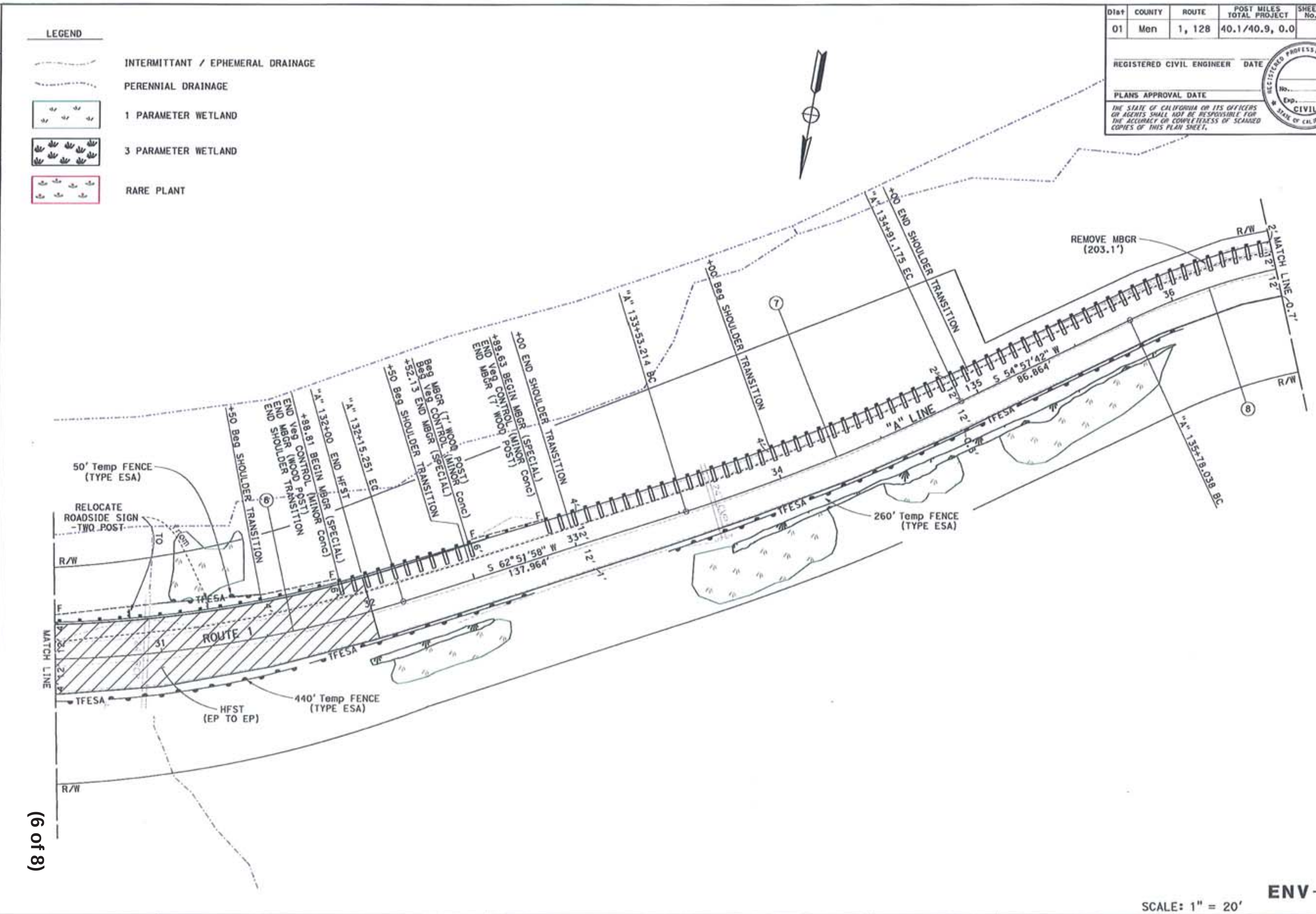
REVISED BY | DATE REVISED

(5 of 8)

DATE PLOTTED => 09-APR-2013
TIME PLOTTED => 10:58

LAST REVISION 00-00-00

BORDER LAST REVISED 7/2/2010 | USERNAME => s120115 | DGN FILE => 48470Envlayout5.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0311 | PROJECT NUMBER & PHASE 01000200971



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1, 128	40.1/40.9, 0.0		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans DESIGN

FUNCTIONAL SUPERVISOR: STEVEN R. HUGHES

CALCULATED-DESIGNED BY / CHECKED BY: DAVID MORGAN

REVISED BY / DATE REVISED

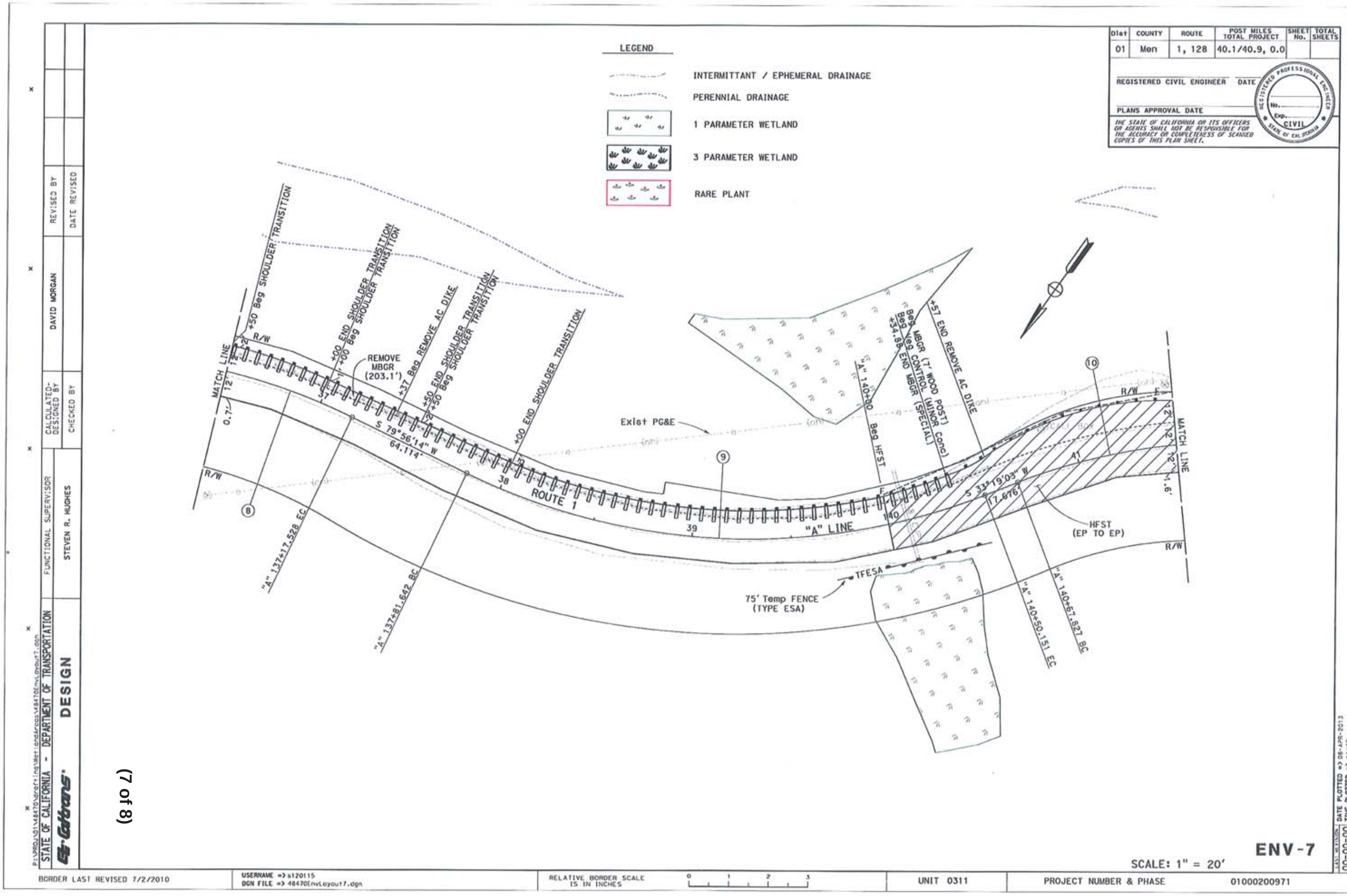
(6 of 8)

ENV-6

SCALE: 1" = 20'

DATE PLOTTED => 08-APR-2013
TIME PLOTTED => 12:33

BORDER LAST REVISED 7/2/2010 | USERNAME => s120115 | DGN FILE => 48470EnvLayout6.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0311 | PROJECT NUMBER & PHASE 01000200971



LEGEND
INTERMITTANT / EPHEMERAL DRAINAGE
PERENNIAL DRAINAGE
1 PARAMETER WETLAND
3 PARAMETER WETLAND
RARE PLANT
Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS
01 | Men | 1, 128 | 40.1/40.9, 0.0
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA
+50 Beg SHOULDER TRANSITION
+00 END SHOULDER TRANSITION
+00 Beg SHOULDER TRANSITION
+37 Beg REMOVE AC DIKE
+50 END SHOULDER TRANSITION
+50 Beg SHOULDER TRANSITION
+00 END SHOULDER TRANSITION
REMOVE MBGR (203.1')
MATCH LINE
R/W
S 79°56'14" W
64.114'
ROUTE 1
"A" LINE
38
39
140
41
Exist PG&E
Beg MBGR (7' WOOD POST)
Beg Veg CONTROL (MINOR Conc)
+34.98 END MBGR (SPECIAL)
+57 END REMOVE AC DIKE
"A" 140+00 Beg HFST
S 33°19'03" W
17.676'
HFST (EP TO EP)
TFESA
75' Temp FENCE (TYPE ESA)
"A" 137+17.528 EC
"A" 137+81.642 BC
"A" 140+50.151 EC
"A" 140+67.827 BC
8
9
10
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN
FUNCTIONAL SUPERVISOR
STEVEN R. HUGHES
CALCULATED-DESIGNED BY
CHECKED BY
DAVID MORGAN
REVISED BY
DATE REVISED
(7 of 8)
ENV-7
SCALE: 1" = 20'
DATE PLOTTED => 08-APR-2013
TIME PLOTTED => 11:37
00-00-00
BORDER LAST REVISED 7/2/2010
USERNAME => s120115
DGN FILE => 48470EnvLayout7.dgn
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 0311
PROJECT NUMBER & PHASE
01000200971

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1, 128	40.1/40.9, 0.0		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

LEGEND

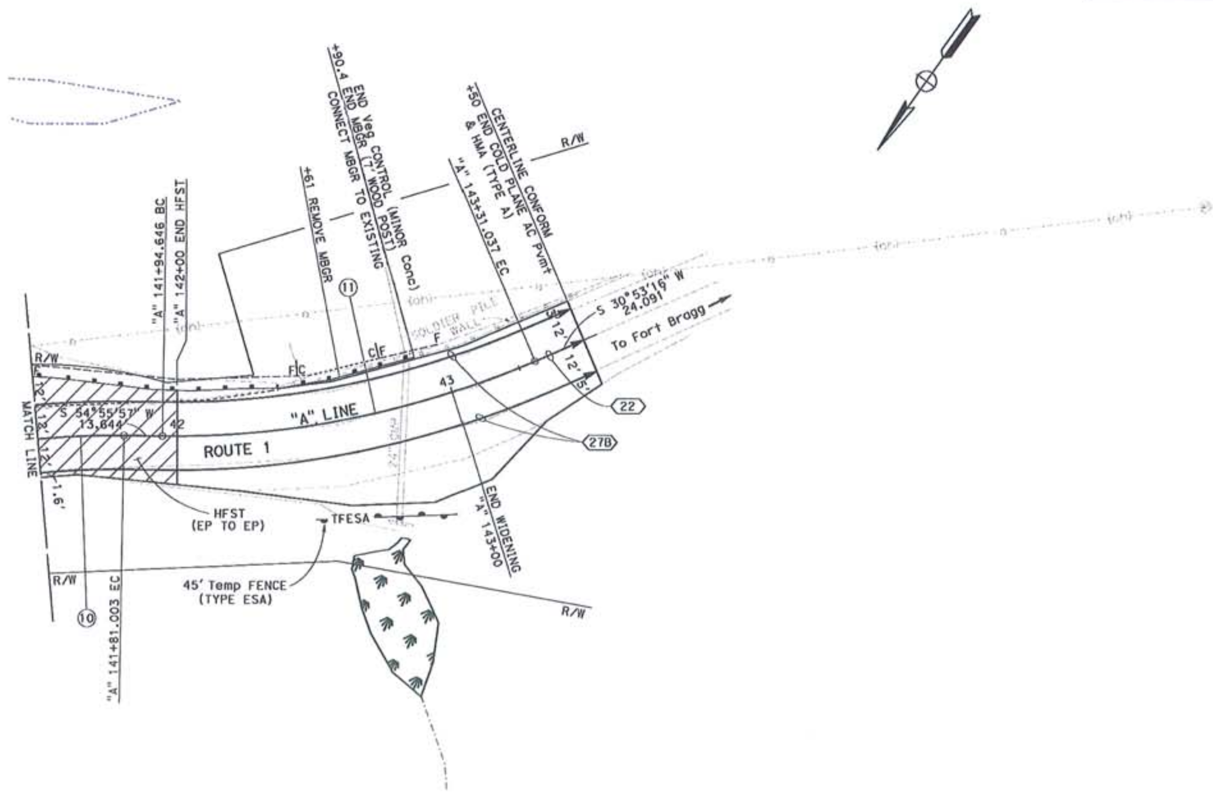
INTERMITTANT / EPHEMERAL DRAINAGE

PERENNIAL DRAINAGE

1 PARAMETER WETLAND

3 PARAMETER WETLAND

RARE PLANT



SCALE: 1" = 20'

ENV-8

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DESIGN

FUNCTIONAL SUPERVISOR: STEVEN R. HUGHES

CALCULATED-DESIGNED BY / CHECKED BY: DAVID MORGAN

REVISED BY / DATE REVISED

(8 of 8)

DATE PLOTTED => 08-APR-2013
TIME PLOTTED => 11:42

00-00-00

BORDER LAST REVISED 7/2/2010

USERNAME => s120115
DGN FILE => 48470EnvLayout8.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0311

PROJECT NUMBER & PHASE 01000200971