

WSP 72361

**Authorization to Proceed Under
Agreement for Services #:05-796
As-needed Project Planning and Design Services**

306430
340001A
Mr. Jan's
Project

**TASK ORDER NO. 4
Project Study Report for Cameron Park Drive/us-50 Interchange –
DMJM Harris**

Date: October 13, 2005

This document authorizes DMJM-Harris to provide planning and design services relating to the Project Study Report for the Cameron Park Drive/US-50 Interchange in accordance with Agreement for Services #05-796 with El Dorado County

**Task Order #4
Project Study Report for the Cameron Park Drive US/50 Interchange**

Services provided under this Task Order and Authorization to Proceed shall be consistent with the scope of services set forth in the attached Scope of Services consisting of Subtasks 1 through 16, including, as described therein, supplemental surveys, mapping provided by Caltrans, field investigations, traffic analyses, utility coordination, public outreach efforts, preliminary environmental analysis, and preliminary engineering necessary to complete a PSR in accordance with Caltrans requirements and procedures. Minor changes to these subtasks may be authorized by the Project Manager. Major changes require an amendment to this task order, to be agreed upon by both the County and DMJM Harris.

Completion Schedule:

Deliverables and completion shall be subject to the attached project schedule. PSR Deliverable anticipated to be completed in January 2007.

Cost:

- a. The consultant will be reimbursed for hours worked in accordance with Exhibit B of the Agreement.
- b. In addition, the Consultant will be reimbursed for actual other direct costs, other than salary costs, that are identified in the Agreement.
- c. The total amount payable by the County under this Task Order shall not exceed \$431,790.60 without written notification by the County.

Invoice Procedure:

Invoices for tasks shall be completed in accordance with Agreement for Services #05-796 with El Dorado County. **Please itemize invoices according to Task Order and project Number 72361, unless otherwise directed,** for clear records and efficiency of payment.


V. Signatures

IN WITNESS WHEREOF, this Task Order No. 4, has been executed under the provisions of Agreement No. 05-796, between the County of El Dorado and DMJM Harris. By signature below, the parties hereto agree that all terms and conditions of this Task Order and Agreement No. 05-796 shall be in full force and effect.

**COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION**

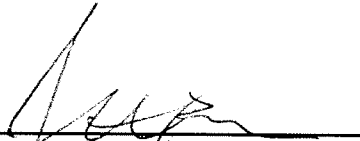
DMJM Harris

BY: 
JANET POSTLEWAIT
Senior Planner

BY: 
STEPHEN R. MORTON
Vice President

DATE: 10-18-05

DATE: _____

BY: 
Steve S. Borroum
Deputy Director

DATE: 10/18/05

EL DORADO COUNTY, DOT
CAMERON PARK DRIVE / US-50 PROJECT STUDY REPORT
(Robin Lane To Palmer Drive)

COST AND PRICE ANALYSIS

| NAME OF CONSULTANT | | Summary | | |
|--|--|--|-----------|---------------------|
| DMJM+HARRIS, INC. | | Estimated | (Average) | Total Estimated |
| Detail Description | | Hours | Rate/Hour | Cost (\$) |
| LABOR (Specify) SEE CONTINUATION SHEET | | | | |
| OFFICER-IN-CHARGE | | 16 | \$210.00 | 3,360.00 |
| PROJECT MANAGER | | 384 | \$192.00 | 73,728.00 |
| ENGINEERING MANAGER | | 270 | \$160.00 | 43,200.00 |
| SENIOR ENGINEER | | 388 | \$124.00 | 48,112.00 |
| ENGINEER | | 1,010 | \$96.00 | 96,960.00 |
| ASSOCIATE ENGINEER | | 134 | \$83.00 | 11,122.00 |
| ASSISTANT ENGINEER | | 164 | \$80.00 | 13,120.00 |
| SR. CADD TECHNICIAN | | 211 | \$77.00 | 16,247.00 |
| CADD TECHNICIAN | | 236 | \$60.00 | 14,160.00 |
| CLERICAL | | 154 | \$40.00 | 6,160.00 |
| TOTAL | | 2,967 | | \$326,169.00 |
| DIRECT COSTS | | | | |
| Reproduction/mileage, etc. | | | | \$2,700.00 |
| 5% Markup on Subconsultants and ODC's | | | | \$5,029.60 |
| TOTAL DMJM Harris | | | | \$333,898.60 |
| FEHR & PEERS | | | | \$66,792.00 |
| ANDREGG | | | | \$0.00 |
| HOYT | | | | \$0.00 |
| PMC | | | | \$20,230.00 |
| BLACKBURN | | | | \$10,870.00 |
| OVERLAND PACIFIC & CUTLER | | | | \$0.00 |
| TOTAL CONTRACT COST | | | | \$431,790.60 |
| DATE | | SIGNATURE & TITLE OF AUTHORIZED REPRESENTATIVE OF CONSULTANT | | |
| October 14, 2005 | | | | |

Scope of Services

County of El Dorado, DOT / Project Study Report for Cameron Park Drive/US-50 Interchange

TASK 1: PROJECT INITIATION

Upon receipt of a notice-to-proceed for the project, the first tasks will be to initiate the internal project controls and administration tools necessary to manage the project. These tasks include:

- Finalize the work breakdown structure and project schedule
- Assemble the project work plan for the project team
- Set up the project filing system
- Develop the project QA Plan
- Develop subconsultant agreements

DMJM Harris will prepare a project work plan (PWP) which will define the responsibilities, communications protocol and limits of authority for the individual members of the design team, and summarize key design criteria documents.

DMJM Harris will establish a basic Project Development Team (PDT) comprised of County Project manager, Caltrans Project Manager and Caltrans representatives from Project Development, Environmental, Right of Way, Maintenance and Traffic Operations and other functional units as appropriate

The specific quality assurance and control requirements for this project will be summarized in a project-specific Quality Assurance Plan prepared by DMJM Harris. This plan will be an appendix to the PWP; as such, it will then be distributed to the entire project team. The plan will outline checking requirements and documentation and provide the required checklists to all DMJM Harris and subconsultant staff.

TASK 2: PROJECT MANAGEMENT

DMJM Harris will provide project management for each task detailed in this scope of services for the design contract duration. The Project Manager will take a proactive approach in managing the project development process, assuring that key submittal schedules are met, and that County staff are kept current on project issues. Subconsultants performance will be monitored to assure contract compliance and quality standards. Management activities will consist of meeting attendance, scheduling, coordination, quality control and project administration.

2.1 Meetings

Pre-PSR meeting will be held according to Caltrans requirements to:

- Review the PSR development process
- Agree on the intended scope of the project
- Agree on the basic design standards to be met

Project Development Team (PDT) meetings will be held to track the overall project and facilitate the flow of information between the County, Caltrans, and the DMJM Harris Team. Agendas, minutes showing action items, submittal logs, and data request logs will be prepared by DMJM Harris within five working days of the meeting. The kickoff meeting will be considered the first PDT meeting, and will be used to transfer relevant existing information to the appropriate design team members. Fifteen (15) PDT meetings are included in our Scope of Work.

Additional as-needed meetings with other agencies will be held to resolve issues. Included in this item are utility coordination meetings with affected utility companies, geometric design review meetings, stage construction meetings, and other meetings as required. Up to ten (10) additional as-needed meetings are included in our Scope of Work.

2.2 Master CPM Schedule

A master CPM schedule will be prepared within the first two weeks following issuance of the Notice-to-Proceed. The schedule will include major project milestone dates and agency review periods for project submittals. Prior to each PDT meeting, the CPM schedule will be reviewed against project progress, and an action plan will be developed if necessary to ensure the project stays on schedule. The schedule will be updated monthly or as required throughout the duration of the project development process.

2.3 Coordination

DMJM Harris will coordinate with the County and other stakeholder agencies as necessary to facilitate the successful delivery of the project. Subsequent to project initiation, we will develop a list of agencies that have a stake in the project.

The project will be designed in accordance with County and Caltrans standards. DMJM Harris will coordinate with El Dorado County and Caltrans to provide project designs that meet these requirements. Project specific memos will be created to document major design decisions that occur throughout the project.

DMJM Harris will assist in the preparation of permit applications by providing information necessary to obtain the requisite permits to allow the project to proceed to construction. Permit fees will be paid by the County.

DMJM Harris will coordinate with affected utilities to verify existing utility locations, determine conflicts, and develop relocation cost estimates.

2.4 QA/QC Review

A project specific quality assurance/quality control (QA/QC) plan will be prepared based on DMJM Harris' standard QA/QC Guide for Transportation projects. The plan will outline QA/QC procedures for project deliverables, budgets, and schedules. Design calculations and drawings will be independently checked, corrected when necessary and rechecked to assure that all revisions have been made prior to submittals. Plans will be checked for conflicts and misalignments. An independent check will be performed on the structural design by engineers that have remained independent of the original design, who will then resolve any discrepancies between the design engineers and the review engineers.

Designs will be reviewed for conformity to design standards and constructability. The review will be documented as required in the QA/QC plan.

2.5 Project Administration

Project files will be maintained for the duration of this project.

Progress reports and billing statements will be prepared following the end of each calendar month. Project expenditures will be tracked and reported for each major task element.

This task includes preparation and distribution of meeting minutes, project correspondence, billings and submittals.

TASK 3: SURVEYS & MAPPING

The following scope is included as an explanation of the work performed for this project. The fee proposal is included with the scope of work for the CPD Widening Study from Palmer Dr. to Green Valley Road.

Mapping:

DMJM Harris will request Topographic Mapping from Caltrans for the section of US 50 between the interchanges at Cambridge Road to the west and Ponderosa Road to the east of the Cameron Park Drive interchange. Additional aerial photographs are to be obtained from the County for this section of US 50.

Design Surveys:

Field survey will be performed to obtain the following information:

- Locate key bridge elements, and abutments, survey obscured area under bridge.
- Locate features for inclusion in mapping including surface utility features, signs, fences, trees larger than 8-inch diameter, storm drainage structures and culverts, surface drainage features including swales and ditches, sanitary sewer structures.

TASK 4: FIELD INVESTIGATIONS

4.1 Data Collection

DMJM Harris will assemble existing and readily available data from the County, existing and planned land developments, utilities, drainage reports, traffic data, geotechnical data, right-of-way information, etc. This information will be logged as "Available Information". Information not available at the beginning of the project will be requested and logged in a "Data Request Log." This log will be kept up-to-date throughout the project.

4.2 Field Review

A site review to record existing conditions will be performed. Existing electrical services, signal equipment, utilities, drainage facilities, etc. will be noted. The project site will be photographed. Once plans are developed, "plans in hand" field reviews will be conducted.

4.3 Bridge Assessment

A thorough investigation will take place to determine the condition of the existing bridge. Although Caltrans July 2003 Maintenance Report concludes that the bridge is in acceptable condition, it is important to further evaluate the structure to ascertain whether the structure should remain or be replaced.

TASK 5: TRAFFIC ANALYSES / STUDIES

Data Collection

DMJM Harris will collect available data for use in the existing, and build-out conditions analysis. Data requirements include the following:

- Previous traffic studies conducted for local-area development projects
- Existing roadway geometrics
- Existing AM and PM peak hour traffic counts
- Existing vehicle classification counts (up to 2 locations)
- Existing accident data (past three years – to be provided by Caltrans)
- Location of existing and planned bicycle and pedestrian facilities

The team will collect AM and PM peak hour turning movement counts at all road intersections within project limits.

Task 5.1 - Existing Conditions Analysis

The existing conditions analysis will be based on empirical data collection that will include traffic counts, roadway and intersection geometrics, and traffic control features. Potential study locations are listed below.

Intersections

1. Cameron Park Drive/U.S. 50 westbound off-ramp/Country Club Drive
2. Cameron Park Drive/U.S. 50 eastbound ramps
3. Cameron Park Drive/Coach Lane
4. Cameron Park Drive/Palmer Drive
5. Cameron Park Drive/Robin Lane

Freeway Facilities

1. U.S. 50 eastbound mainline (east and west of Cameron Park Drive)
2. U.S. 50 westbound mainline (east and west of Cameron Park Drive)
3. U.S. 50 ramp junction for eastbound off-ramp to Cameron Park Drive
4. U.S. 50 ramp junction for eastbound on-ramp from Cameron Park Drive
5. U.S. 50 ramp junction for westbound off-ramp to Cameron Park Drive
6. U.S. 50 ramp junction for westbound loop on-ramp from Cameron Park Drive
7. U.S. 50 ramp junction for westbound diagonal on-ramp from Cameron Park Drive

Existing intersection traffic counts shall be provided by El Dorado County. We will collect a.m. and p.m. peak hour traffic counts at one mainline U.S. 50 location.

Using the data collected, we will document the current traffic operations for the study intersections using SimTraffic, a microsimulation software. Microsimulation is recommended due to the closely-spaced intersections at the interchange. We are proposing to use the SimTraffic network that was developed for the *U.S. 50 Interchange Planning Evaluation*. The Highway Capacity Software (HCS) will be used to analyze existing freeway operations at the ramp junctions listed above. The existing conditions analysis will also include an evaluation of traffic safety based on a review of TASAS accident data (to be provided by Caltrans) for the past three years.

Task 5.2 – Travel Demand Forecasts

To allow the project team to get started quickly with the development of potential alternatives, DMJM Harris Team will update the 2025 traffic volume forecasts developed for the *U.S. 50 Interchange Planning Evaluation* based on the latest land use forecasts from El Dorado County. These forecasts will be considered preliminary and subject to change through the forecasting process described below.

DMJM Harris Team will develop final traffic forecasts using the El Dorado County General Plan travel demand model (TDM) or the modified SACMET TDM created for the US 50/Silva Valley Parkway interchange traffic study. Due to ongoing uncertainty regarding the El Dorado County General Plan, selection of the appropriate TDM and its land use forecasts will need to be

approved by El Dorado County and Caltrans.

After selection of a model, refinements will be made to the model to reflect the proposed project alternatives. The model will then be run to generate a.m. and p.m. peak hour traffic volume forecasts for the study locations listed in Task 5.1 under construction year and design year conditions. An interim year may also be required, but is not included in this scope of work. This scope of work anticipates that forecasts will be needed for a no project alternative and up to three build alternatives for each analysis year. These forecasts will be adjusted to account for model error. We will submit a technical memorandum to document the assumptions and results of the forecasting process for the Project Development Team (PDT) review and approval prior to completion of the operations analysis.

Task 5.3 - Operational Analysis

We will analyze the study locations in Tasks 5.1 for the following scenarios.

- Existing (2005) conditions
- Construction year (2015) no project alternative conditions
- Construction year (2015) plus project alternative 1 conditions
- Construction year (2015) plus project alternative 2 conditions
- Construction year (2015) plus project alternative 3 conditions
- Design year (2035) no project alternative conditions
- Design year (2035) plus project alternative 1 conditions
- Design year (2035) plus project alternative 2 conditions
- Design year (2035) plus project alternative 3 conditions

DMJM Harris Team will use the SimTraffic software package to analyze traffic operations at the study intersections and the HCS software to analyze the traffic operations of the freeway facilities. This scope of work assumes a maximum of two iterations for this analysis. The first iteration will test the preliminary geometrics and identify potential refinements. Once the refinements and alternative designs are finalized, the second iteration of the analysis will be performed to develop results for use in the traffic operations report. Morning and evening peak hour operations will be analyzed for each scenario for the study locations listed in Task 5.1. The results will contain peak hour LOS and associated performance measures including projections of queuing for critical movements.

Task 5.4 – Report Documentation

The results of the traffic operations analysis will be documented in a draft report. The draft report will be submitted to the County and Caltrans for review and comment. DMJM Harris Team will respond to one set of written comments. Up to 24 hours of staff time has been budgeted to respond to the comments and prepare the final report.

TASK 6: UTILITY COORDINATION

The initial effort associated with utility coordination includes:

- *Coordination and Meetings* – Initial requests for utility information will be sent to each utility company. Meetings will be conducted with the impacted utility companies, both individually and as a group.
- *Existing Utility Mapping* – Based upon the utility company information received in the above subtask, a master base map of utilities will be developed.

Coordination with County Divisions: Coordination with the County divisions responsible for water and sewer systems is also essential. The County Utility Department will be included in all Utility Coordination Meetings as well as all correspondence with utility stakeholders.

Preparation and execution of Utility Agreements is not included in this scope of work.

TASK 7: DRAINAGE STUDIES & COORDINATION

DMJM Harris shall investigate the drainage requirements for the different interchange alternatives. DMJM Harris will obtain existing FEMA hydrology used in preparation of the Flood Insurance Rate Maps for any waterway which crosses the project corridor. DMJM Harris will meet with Caltrans and County staff to discuss and get confirmation on all planned watershed land use conversions.

TASK 8: ALTERNATIVES ANALYSIS

DMJM Harris shall explore several alternatives initially. These alternatives will then be screened utilizing criteria such as operations, environmental, cost, right of way, and feasibility. Preliminary layout plans for up to three alternatives will be prepared and shall include proposed improvements, grading limits, right of way and basemapping. Conceptual traffic handling plans and preliminary cost estimates will be prepared for each alternative. Subsequently, these alternatives will be evaluated based upon impacts, cost, and performance.

TASK 9: PRELIMINARY TRAFFIC HANDLING REPORT

DMJM Harris will prepare Traffic Management Plans (TMPs) as construction delays are anticipated. TMPs develop construction traffic handling practices such as lane closures, detours, and work-hour restrictions to minimize delays.

A Traffic Handling Report summarizing the following tasks:

- Stage construction drawings
- Determination of queue lengths
- Identification of acceptable detour routes

TASK 10: GEOTECHNICAL INVESTIGATIONS

As part of the PSR's, BCI will prepare a preliminary geotechnical assessment and an Initial Site Assessment (ISA) report for each project. The preliminary geotechnical assessment will not include any subsurface exploration or testing. Detailed exploration and testing will be included in future (design) phases of the projects, including applicable Foundation and Materials Reports.

10.1 - Preliminary Geotechnical Assessment

Coordination, Document Review and Site Reconnaissance will consist of the following:

- Meet with DMJM-Harris to discuss the project, issues and schedule.

- Review available project documents, as provided by DMJM-Harris, including any Foundation Reports, Materials Reports and As-Built Log of Test Borings for the existing interchange.
- Conduct site geologic reconnaissance of the project and immediately surrounding area.

Prepare Geotechnical Memorandum

BCI will prepare and submit a Preliminary Geotechnical Memorandum for each project. These memoranda will include:

- Project Location
- Summary of Site Geology and Subsurface Conditions
- As-Built "Log of Test Borings" for the existing interchange (as available)
- Preliminary Seismic Data
- Discussion of potential geotechnical issues for design (e.g., rock excavation, foundation support, naturally occurring asbestos, liquefaction and corrosion)

10.2 - ISA Reports

Coordination, Site Review and Field Reconnaissance will consist of the following:

- Discuss project, coordinate work with DMJM-Harris and conduct a preliminary site review. Obtain title records from client.
- Review published literature regarding site geology and groundwater conditions.
- Conduct site reconnaissance to observe current land use and potential indications of contamination on or adjacent to project site. This will include documentation of areas showing evidence of surface staining; dumping; handling and mixing areas for hazardous materials such as pesticides, insecticides, and fuel products; apparent locations of fuel tanks and wells; and locations and conditions of transformers.

Historical Research will consist of the following:

- Review historical aerial photographic coverage and topographic map coverage of the site and surrounding properties for indications of potential sources for contamination.
- Review a commercial database including federal, state, and county records for indications of the use, misuse, or storage of hazardous and/or potentially hazardous materials on or near the site.
- Attempt to identify past and present operations conducted on the properties to assess the potential for hazardous materials impacts to the site.
- Conduct interviews with any readily available persons knowledgeable about the history of the site to determine potential environmental liabilities.

Report Preparation will consist of the following:

- Prepare a report summarizing the findings of our review, site reconnaissance, historical photograph evaluation, and regulatory records review. We will address identified potential hazardous materials impacts and recommend the need for further investigation and analysis, if necessary.
- Submit four draft and final copies of the ISA's.

The key geotechnical elements of the project consist of:

- Foundation recommendations for widening the existing bridge to accommodate intersection improvements.
- New pavement section recommendations for road widening.
- Evaluation of existing pavement sections and overlay requirements.
- Preparation of a geotechnical report to address the above geotechnical elements.

TASK 11: BRIDGE ADVANCED PLANNING STUDIES

As soon as concept geometrics have been developed, DMJM Harris will develop Advance Planning Studies (APS) and cost estimates for the various structure alternatives. The advance planning studies will show sufficient detail so that consideration for environmental, permit and traffic requirements can be cost estimated

Careful consideration will be given to span lengths, structure depths, column locations, seismic design framing requirements, approach slabs, falsework requirements, and other controls.

TASK 12: PUBLIC OUTREACH EFFORTS

DMJM Harris shall support the County in its Public Outreach services by performing the following tasks:

- Preparation of Map Display for Open House
- Attendance at Open House
- Preparation of site specific drawings for use by the right-of-way agent

TASK 13: PRELIMINARY ENVIRONMENTAL ANALYSIS REPORT

DMJM Harris will develop the Preliminary Environmental Analysis Report (PEAR) in accordance with Caltrans requirements. DMJM Harris Team will:

- Identify Environmental Constraints
- Perform Hazardous Waste investigation (Initial Site Assessment ISA)
- Perform initial Noise study
- Perform Landscape and aesthetics analysis
- Perform initial Biology study
- Perform initial Air Quality study
- Perform initial Water quality study
- Prepare Preliminary Environmental Analysis Report
- Make recommendations on the Environmental Clearance process.

TASK 14: PRELIMINARY ENGINEERING

DMJM Harris will:

- Prepare preliminary layout drawings, including roadway width, fill, cut etc.
- Identify utility impacts
- Identify right-of-way requirements
- Update PDP
- Prepare draft TMP
- Prepare Preliminary Cost Estimate

TASK 15: PROJECT STUDY REPORT

DMJM Harris will prepare a Project Study Report in accordance with Caltrans requirements and procedures outlined in the Project Development Procedure Manual. Included in this report will be the controlling design criteria, key design decisions, and the preparation of design alternatives, design exception fact sheets. The drawings will include horizontal, vertical alignment, superelevation diagrams, pavement width, and key typical cross-sections

15.1 Need and Purpose for the PSR:

DMJM Harris will provide a concise discussion of the need and purpose of the proposal supplemented as needed by attached maps, charts, tables, letters, etc. As applicable, we will discuss existing and forecasted traffic, level of service, capacity adequacy, and safety data. DMJM Harris will identify the physical, economic, social, and environmental constraints that would affect the proposed solution. DMJM Harris will discuss the need and purpose of the land-use development proposal(s) generating need for the State highway improvement and will identify any controversial aspects or issues of both the development and the proposed highway work.

15.2 Develop Alternatives:

DMJM Harris will develop alternatives that will satisfy project goals, be cost effective, and avoid or minimize environmental and right-of-way effects. Preliminary cost estimates and project development schedules will be developed.

DMJM Harris will prepare alternatives with sufficient detail for the PSR so that future revisions to basic design features and project scope are held to a minimum. DMJM Harris will identify any deviations from mandatory design standards will obtain approval from Caltrans for these design exceptions prior to PSR approval.

15.3 Right of Way:

DMJM will identify new right of way requirements for each alternative as appropriate. Schematic maps of the alternatives and typical cross-sections will be provided.

15.4 System Planning:

DMJM Harris will include in the PSR the requirement for coordination and consistency of the proposed project with statewide, regional and local planning efforts using the District System Management Plan (DSMP) and Transportation Concept Reports (formerly Route Concept Reports). The PSR will address the coordination and consistency of the proposed project with statewide, regional and local planning using local and regional planning documents such as local general, specific area, and subdivision plans, the Regional Transportation Plans (RTP), Congestion Management Program (CMP), State Implementation Plan (SIP), and information on expected timing of future local development.

15.5 Project Cost Estimates:

DMJM Harris will prepare the project cost estimates following Preliminary Project Cost Estimate Summary as required in Caltrans' Project Development Procedures Manual. This will identify items that need to be considered and included in the project. DMJM Harris will also periodically review and update cost estimates as the project proceeds through the process

DMJM Harris will include the following engineering analysis/report in the Project Study Report:

- Prepare and obtain approval for Access Modification Request
- Prepare Storm Water Data Report.

TASK 16: RIGHT OF WAY ENGINEERING

DMJM Harris will perform field surveys and prepare right-of-way documents in conformance with County and Caltrans standards.

Right of Way Tasks

- Research and define existing right of way and easements and include on base plan
- Include adjacent property information such as assessor's parcel number, owner name, and street address on base plan
- Prepare Right of Way Data Sheets in accordance with Caltrans requirements