



# Sutter Butte Flood Control Agency

Board of Directors Agenda – Special Meeting, October 25, 2017, 1 p.m.  
City of Yuba City Council Chambers - 1201 Civic Center Blvd., Yuba City, CA

The agenda is posted in the building of the Sutter Butte Flood Control Agency at 1441 Garden Highway, Yuba City, and at the Sutter County Library, 750 Forbes Avenue, Yuba City. The agenda summary, backup materials, and approved minutes are also posted on the Sutter Butte Flood Control Agency website at [sutterbutteflood.org](http://sutterbutteflood.org). Materials related to an item on this agenda and submitted to the Board of Directors after distribution of the agenda packet are available for public inspection in the office of the Board Clerk at 1441 Garden Highway, Yuba City, during normal business hours. In compliance with the American with Disabilities Act, the meeting room is wheelchair accessible and disabled parking is available. If you have a disability and need, disability related modifications or accommodations to participate in this meeting, please contact the SBFCA office at 530-755-9859 or [admin@sutterbutteflood.org](mailto:admin@sutterbutteflood.org). Requests must be made one full business day before the start of the meeting.

#### County of Sutter

Dan Flores  
Larry Munger  
Alt. Mat Conant  
Alt. Jim Whiteaker

#### County of Butte

Bill Connelly  
Steve Lambert

#### City of Yuba City

John Buckland  
Stan Cleveland  
Alt. Manny Cardoza  
Alt. Shon Harris

#### City of Live Oak

Jason Banks  
Alt. Lakhvir Ghag

#### City of Gridley

Frank Hall  
Alt. Gary Davidson

#### City of Biggs

Bo Sheppard  
Alt. Roger Firth

#### Levee District 1

Francis Silva  
Charlie Hoppin  
Alt. Sally Serger  
Alt. Drew Stresser

#### Levee District 9

Mike Morris  
Chris Schmidl  
Alt. David Schmidl

Director Steve Lambert will participate in the meeting by teleconference from 3159 Nelson Ave, Oroville, CA 95965 in accordance with Government Code section 54953(b)(3). This location is accessible to the public, and persons attending at this location will be afforded an opportunity to address the Board members from that location.

Persons wishing to address the Board during consideration of matter listed on the agenda will be allowed to do so. Testimony should always begin with the speaker giving his or her name and place of residence.

## AGENDA SUMMARY

### **SPECIAL MEETING/CALL TO ORDER**

- Roll Call
- Pledge of Allegiance

### **PRESENTATION, DISCUSSION & ACTION ITEMS**

1. Authorize the Executive Director to execute contracts for a Value Engineering Analysis, Section 106 Cultural Resources Compliance Documentation, and a Safety Assurance Review Panel for the Federal Sutter Basin Flood Risk Management Project (Cypress to Star Bend)

**PUBLIC COMMENT**

Members of the public will be allowed to address the Sutter Butte Flood Control Agency's Board of Directors on items of interest to the public that are within the subject matter jurisdiction of the Board. Any member of the audience who may wish to bring a matter before the Board that has not been placed on the agenda may do so at this time; however, State law provides that no action may be taken on any item not appearing on the posted Agenda.

**ADJOURNMENT**

The next regularly scheduled Board of Directors meeting will be held on Wednesday, November 8, 2017 at 1 p.m., Yuba City Council Chambers – 1201 Civic Center Blvd., Yuba City, CA 95993



# Sutter Butte Flood Control Agency

*A Partnership for Flood Safety*

October 25, 2017

**TO:** Board of Directors

**FROM:** Mike Inamine, Executive Director  
Michael Bessette, Director of Engineering

**SUBJECT:** Authorize the Executive Director to execute contracts for a Value Engineering Analysis, Section 106 Cultural Resources Compliance Documentation, and a Safety Assurance Review Panel for the Federal Sutter Basin Flood Risk Management Project (Cypress to Star Bend)

---

## Recommendation

Approve and authorize the Executive Director to execute: (i) Contract with SVS Consultants to perform a Value Engineering Analysis not to exceed \$75,000; and (ii) Task Order 3 under the Master Services Agreement with ECORP Consulting, Inc. for Section 106 Cultural Resources Compliance Documentation services not to exceed \$161,135; and (iii) Contract with a Safety Assurance Review Panel selected by the United States Army Corps of Engineers (USACE) not to exceed \$75,000, for the Federal Sutter Basin Flood Risk Management Project (Cypress to Star Bend) subject to Counsel's review and approval of the final contracting documentation.

## Background

The federal Sutter Basin Feasibility Study was completed in 2013. It assessed the risk of flooding in the Sutter Basin, formulated and evaluated a range of potential alternatives to reduce the risk, identified a recommended plan for implementation, and included a joint Environmental Impact Report and Supplemental Environmental Impact Statement to comply with the National Environmental Policy Act and California Environmental Quality Act. The Sutter Basin Feasibility Study was authorized by the 2014 Water Resources Reform and Development Act (WRRDA). WRRDA is strictly an authorizing legislation and does not include funding; funding was secured for the initiation of design—not construction—under the USACE Civil Works Fiscal Year 2015 Work Plan.

SBFCA is coordinating with the USACE and State of California Department of Water Resources on advancing the 65% designs for the Cypress Avenue to Star Bend project through final design and into construction. As the local sponsor, SBFCA is required to provide all lands, easements rights of way & relocation (LERRDs) needed to construct, operate and maintain the improved levee system. To be ready for a construction contract award in 2018, SBFCA has begun the right-of-way acquisition process. In addition to right of way and engineering design, SBFCA has been requested by the USACE to contract and manage the required Value Engineering analysis, Section 106 Cultural Resources Compliance documentation, and a Safety Assurance Review. All these critical and near term elements of the project must be completed prior to the project going out to bid in the spring of 2018. In order for these tasks to be completed in a timely manner the USACE has requested that SBFCA execute and manage contracts for these services under the authority of the USACE.

## Value Engineering Analysis

Office of Management and Budget (OMB) Circular A-131, titled Value Engineering, was originally issued in 1988 and requires all federal agencies to apply Value Engineering (VE) procedures to projects and programs with a project cost estimate greater than \$5 million. These requirements include both federal projects and non-federal agencies that utilize federal funding. The USACE has adopted the industry standard practice for VE (ASTM E

1699) with program objectives to (1) reduce program and acquisition costs, (2) improve project performance, (3) enhance project quality, and, (4) foster the use of innovation.

The USACE approach to VE utilizes a multidisciplinary workshop format performed by agency or contract personnel qualified to assess the project in a specific technical discipline. Current policy requires that the VE process for a project, including facilitation of the workshop, is led by a Certified Value Specialist (CVS). A CVS is certified by SAVE International based on extensive experience applying continuous function analysis and utilization of the Standard Value Methodology. The workshop format is intended to result in the following:

- Validating key project decisions
- Keeping the project within budget
- Reducing operation and maintenance activities and their costs
- Improving project performance, function, and quality
- Reducing design and construction problems
- Insuring that client needs are given top priority throughout the project

The Sutter Basin Flood Risk Management Project (SBFRMP) is required to complete a VE Study prior to advertising a contract for construction. Based on resource limitations at USACE related to multiple disaster response missions, the VE Study for the SBFRMP needs to be executed by a qualified consultant. The USACE requested that SBFCA execute a contract with Strategic Value Solutions (SVS) from Independence, Missouri to conduct the VE Study. Execution of this contract by SBFCA results in an estimated 45-day reduction in the project schedule. SVS regularly conducts VE Studies under contract to the USACE.

#### **Section 106 Cultural Resources Compliance Documentation**

A required task in a federal civil works project is to conduct Section 106 Cultural Resources Compliance documentation. The project requires authorization from the USACE under Section 14 of the Rivers and Harbors Act (33 US Code Section 408) to alter the levees subject to repair. In addition, because the project will result in temporary and permanent impacts on waters of the United States, a permit under Section 404 of the Clean Water Act (1344) is required. Because the project has the potential to affect historic properties (resources on or eligible for listing on the National Register of Historic Places and because federal authorizations qualify as undertakings, compliance with Section 106 of the National Historic Preservation Act is required for the Project. ECORP is currently performing this work for SBFCA on the Laurel Avenue Project and the Reaches 14-16 Emergency Project in Yuba City and is prepared and capable of completing this work on the federal project.

#### **Safety Assurance Review Panel**

The Water Resources Development Act (WRDA) of 2007 establishes requirements for the review of USACE Projects by external experts. Specifically, Section 2035 requires a Safety Assurance Review (SAR) of “the design and construction activities for hurricane and storm damage reduction and flood damage reduction projects.” The procedures for conducting a SAR, or Type II Independent External Peer Review, are outlined in Engineering Circular (EC) 1165-2-214. The EC states that external panels will conduct reviews of the design prior to the initiation of physical construction as well as periodically during construction until field work is complete. Panel members must be selected based on the National Academies of Science (NAS) policy for selecting reviewers.

SARs consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health, safety, and welfare. SAR panels should be able to evaluate whether the interpretations of analysis and conclusions based on analysis are reasonable. In terms of both usefulness of results and credibility, review panels should be given the flexibility to bring important issues to the attention of decision makers including whether there are sufficient analyses upon which to base a recommendation. For the design phase, the SAR should focus on unique features and changes from the assumptions made and conditions that formed the basis for the design during the decision document phase. The SAR shall address the following questions:

- Do the assumptions made during the planning phase for hazards remain valid through the completion of design as additional knowledge is gained and the state-of-the-art evolves?
- Do the project features adequately address redundancy, resiliency, or robustness with an emphasis on interfaces between structures, materials, members, and project phases?
- Do the project features and/or components effectively work as a system?

The SBFRMP is required to undergo a design phase SAR prior to advertising a contract for construction. To ensure complete independence, the USACE has requested the selection of different external reviewers than those used by SBFCA for the Feather River West Levee Project (FRWLP). Based on resource limitations at USACE and the advanced status of the project design, the USACE requested if SBFCA can execute a new contract to conduct the SAR. Execution of this contract by SBFCA results in an estimated 45-day reduction in the project schedule. To maintain independence, the USACE will establish the scope of work for the contract and select the desired consultant.

**Fiscal Impact**

These actions will obligate SBFCA to pay for the associated services delivered on a time and materials basis up to the respective Task Order or contract amount not to exceed budget of \$75,000 for Value Engineering Analysis, \$161,135 for Section 106 Cultural Resources Documentation, and \$75,000 for Safety Assurance Review. These costs are included in the Final Amended 3-Year Budget approved by the Board at the May 2017 meeting. The budget includes, within the USACE SBFRM Project program (731-94-1064), two accounts where funds have been budgeted for the implementation of the SBFRM by the USACE. These accounts include 731-94-1064-65635 and 731-94-1064-65634 where funds have been included for the following:

<b>Account</b>	<b>Purpose</b>	<b>Amount</b>
731-1064-65635	SBFCA Cash to USACE for PED / NED / LERDDs	\$2,354,261
731-1064-65634	Federal Project Consultant Costs	\$1,300,000
<b>Total Federal Project Appropriations</b>		<b>\$3,654,261</b>

The SBFCA Board approved a Design Task Order (No. 22) with HDR committing \$1,022,592 of this combined budget toward design and BRI Task Order 6 committing an additional \$345,215 toward right of way acquisition. The remainder (\$2,286,454) would be available to advance the Federal Project scope of work. The available remaining budget is intended to be matched with future State funding. Typically the State would cost share on a 70/30 basis on the non-federal share (35 percent of total project cost) of authorized federal projects.

The scope of work included within the services described above falls within the budget appropriations within the Final Amended 3-Year Budget. It should be noted that the Final Amended 3-Year Budget includes funds for these activities within Fiscal Year’s 2017-18 and 2018 - 19. Because of the opportunities to accelerate this work, SBFCA’s appropriations would need to be accelerated to meet the timing requirements of the USACE appropriations. The Board’s approval of the recommended action would accelerate these expenditures but in total, would have no net budgetary impact to the Final Amended 3-Year Budget.

# **ECORP Consulting, Inc.**

## **Task Order 3**

### **SCOPE OF WORK**

#### **Sutter Basin Levee Repair Project – Star Bend to Cypress Environmental Compliance and Permitting Support for Right-of-Way and Property Acquisition**

This task order is associated with the Master Agreement between the Sutter-Butte Flood Control Agency (SBFCA) and ECORP Consulting, Inc. (Consultant). SBFCA may exercise its right to approve only certain portions of this task order and defer approval of the balance to a later point, if doing so will be compatible with SBFCA's funding cycle without jeopardizing the ability to proceed with the project work. The previously-approved rate schedule is provided in Exhibit A.

#### **1.0 INTRODUCTION**

SBFCA is acquiring rights-of-way and property to support the federal project referred to as the Sutter Basin Levee Repair Project – Star Bend to Cypress. This Task Order will allow the Consultant to carry out pre-construction and planning cultural resources compliance to support the Section 106 consultation being carried out by the US Army Corps of Engineers (USACE). Amendments may be required to address unforeseen needs or added tasks requested by SBFCA.

#### **2.0 ASSUMPTIONS AND UNCERTAINTIES**

The Consultant has made the following assumptions in developing the scope of work.

- The scope of work was developed after one preliminary meeting with the USACE and prior to its approval of interim documentation.
- The scope of work is under the control of the USACE and therefore, is subject to change.
- Implementing the mitigation program (if not done so by the USACE) will require a contract amendment, after the Historic Property Treatment Plan is developed through negotiation between SBFCA, the USACE, SHPO, and tribes.
- No paid tribal monitoring will occur during the implementation of this scope of work, as indicated by the USACE.
- This scope does not include construction support, monitoring, implementing mitigation, compliance closeout, or other tasks not specified herein.

### 3.0 TASKS AND DELIVERABLES

#### TASK 1 – Cultural Support

##### Objective

This task will fund the preparation of the preparation of pre-construction Section 106 documentation as known at the time of the drafting of this contract amendment.

##### Methods and Deliverables

- **Inventory/Geoarchaeological Work Plan.** The Consultant will prepare a brief work plan that will describe the methods and standards of performance for carrying out a cultural resources survey, geoarchaeological assessment, and evaluation of eligibility (collectively, an inventory). The work plan will include a scope of work from Far Western Anthropological Research Group (FWARG) for the geoarchaeological portion. The work plan will be submitted electronically to SBFCA for review prior to submittal to the USACE. The Consultant will respond to comments from the USACE prior to implementation. Should those comments warrant additional effort not accounted for in the following tasks (such as an increase to the APE or added analysis), a contract amendment may be required in order to implement the plan as requested by the USACE.
- **Geoarchaeological Assessment.** Upon approval from the USACE of the work plan, and assuming that there are no changes to the scope requested by the USACE as described above, FWARG, under a subcontract to the Consultant, will implement the geoarchaeological scope of work described in Exhibit B.
- **Inventory Fieldwork.** Upon approval from the USACE of the work plan, and assuming there are no changes to the scope requested by the USACE as described above, the Consultant will prepare an APE map, perform a records search and literature review at the Northeast Information Center, request a search of the sacred lands file from the NAHC, and carry out an intensive pedestrian survey of the APE. All known sites and any newly identified resources will be recorded (or updated) on DPR series site forms, as appropriate.
- **Technical Reporting Part 1.** The Consultant will prepare a comprehensive report that combines the methods and results of the field inventory, records search, and geoarchaeological assessment, DPR site records, and will include an evaluation plan and evaluation of resources based on survey-level data (or presumption of eligibility). The Consultant will respond to comments from SBFCA and the USACE and revise the report. Substantive revisions required to address comments may require a contract amendment.
- **Technical Reporting Part 2.** The Consultant will prepare a comprehensive report that combines the Finding of Effect, Discovery Evaluation Plan, Construction Monitoring Plan, Standard Protection Plan for categories of encountered sites, and HPTP. The Consultant will respond to comments from SBFCA and the USACE and revise the report. Substantive revisions required to address comments, and implementing the mitigation plans, may require a contract amendment.

## **TASK 2 – Project Management/Client Requests/Meetings**

### **Objective**

This task will allow the Consultant to participate in project meetings, conference calls, and field visits with SBFCA and its Construction Management team, to coordinate with subconsultants and tribal representatives, and generally manage the project. This is a time and materials, best efforts task, that will be used as needed throughout the remainder of this task order. Amendments may be necessary if additional effort is required (particularly with respect to tribal liaison), or if the duration of the project planning exceeds current expectations (through April 2018) and additional weekly meetings are necessary.

### **Methods and Deliverables**

- **Weekly Construction Coordination Meetings.** The Consultant's Program Manager will continue to participate in up to three weekly tribal coordination conference calls with SBFCA and/or the Construction Management Team. This includes documentation of meeting notes and maintaining an organized set of documentation for all meetings held.
- **Tribal Liaison.** The Consultant's Program Manager will continue to serve as tribal liaison and provide support to SBFCA and its executive director in tribal consultation through participation in tribal leadership meetings and internal meetings with SBFCA and its legal counsel.
- **USACE Liaison.** The Consultant will provide technical assistance to the USACE and SBFCA during the Section 106 consultation process, as requested and needed. This may relate directly to cultural resources documentation, or may include support effort such as GIS/CAD mapping and compliance strategy development.
- **Project Management.** The Consultant will maintain organized project files, schedules, and documentation for the project, will review and ensure that all invoices and expenses are consistent with contractual requirements, and oversee all activities under this task order.
- **Compliance Tracking.** The Consultant will develop and maintain a compliance tracking system.

## **4.0 BUDGET**

The budget for this Task Order [Amendment](#) is not-to-exceed \$161,135 based on the provisions of the Master Agreement. A breakdown of costs is as follows:

Task 1: Cultural Support - \$121,935 (including FWARG costs)

Task 2: Project Management/Client Requests/Meetings – \$39,200

## **5.0 SCHEDULE**

The draft schedule for performance is included in Exhibit C.

**6.0 CONTACTS**

All deliverables discussed in this SOW shall be provided to SBFCA.

**SBFCA**

Michael Bessette, Director of Engineering

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed as of the day and year first written above.

SUTTER BUTTE FLOOD CONTROL AGENCY

CONSULTANT

By: \_\_\_\_\_

By: \_\_\_\_\_

MIKE INAMINE

BJORN GREGERSEN

Executive Director, SBFCA

ECORP Consulting, Inc.



**EXHIBIT A**  
**Schedule of Hourly Fees**

<b>Position</b>	<b>Hourly Rate</b>
Program Manager	\$195.00
Deputy Program Manager	\$160.00
QA/QC Manager	\$180.00
Principal Environmental Analyst (CEQA/NEPA)	\$180.00
Senior Environmental Analyst (CEQA/NEPA)	\$165.00
Staff Environmental Analyst (CEQA/NEPA)	\$145.00
Associate Environmental Analyst (CEQA/NEPA)	\$100.00
Assistant Environmental Analyst (CEQA/NEPA)	\$85.00
Air/Noise Lead Scientist	\$145.00
Air/Noise Analyst	\$115.00
Principal Biologist	\$180.00
Senior Biologist*	\$160.00
Staff Biologist	\$135.00
Associate Biologist	\$110.00
Assistant Biologist	\$95.00
Biological Technician	\$75.00
Certified Arborist	\$130.00
Compliance Task Manager	\$180.00
Lead Construction Monitor	\$140.00
Permit Holding Construction Monitor	\$120.00
Construction Monitor	\$95.00
Regulatory Principal	\$250.00
Senior Regulatory Project Manager	\$180.00
Regulatory Project Manager	\$130.00
Regulatory Project Specialist	\$115.00
Lead Archaeological Monitor	\$110.00
Staff Archaeological Monitor	\$85.00
Lead Tribal Monitor	**\$67.50
Tribal Monitor	**\$60.00
Cultural Resources Principal Investigator	\$225.00
Senior Archaeologist	\$140.00
Staff Archaeologist	\$100.00
Associate Archaeologist	\$85.00
Assistant Archaeologist	\$80.00
Senior Architectural Historian	\$150.00
Staff Architectural Historian	\$110.00
Tribal Liaison	\$260.00
Principal GIS / CADD / Graphics Specialist	\$150.00

Position	Hourly Rate
Senior GIS / CADD Specialist	\$120.00
GIS / CADD Technician	\$90.00
Information Systems Manager	\$150.00
Database Developer	\$130.00
Technical Editor	\$150.00
Production Coordinator / Proof Reader	\$90.00
Clerical	\$85.00
Senior Project Accountant / Contracts	\$170.00
Associate Project Accountant / Contracts	\$120.00

\* Includes: Wildlife Biologist, Avian Ecologist, Botanist, Wetland Specialist, and Restoration Ecologist.

\*\* Employment of tribal monitors will be handled through a temporary employment agency

#### **Expense Reimbursement/Other:**

1. Reproduction, equipment and other direct expenses are reimbursed at cost plus a 10-percent administrative handling charge (excluding mileage and per diem).
2. Subcontractor expenses are reimbursed at cost plus a 2.5-percent administrative handling charge.
3. Mileage is reimbursed at the current IRS rate.
4. Rental vehicles will be charged at the current standard daily rate, typically \$100 per day.
5. Per Diem will be charged for construction monitoring that exceeds 8 hours per day.
6. Expert Witness Testimony, including Depositions, is billed at time and a half.
7. ECORP has a wide network of teaming partners in various specialty disciplines that can be retained as subcontractors on an as-needed basis, in consultation with SBFCA.
8. This rate schedule may adjust no more than once per year, unless specified otherwise in the contract.



17 October, 2017

**Proposed Scope of Work for a Geoarchaeological Study of the Critical Levee Repairs Project Area from Star Bend to Cypress (STA 224+00 to 479+00)**

The proposed geoarchaeological study will be divided into three parts: (1) prefield literature search, assessment of buried site potential, and logistics; (2) field explorations; and (3) preparation of a report of findings.

**Task 1: Prefield Literature Search, Assessment of Buried Site Potential, and Logistics**

The prefield literature search will focus on existing geological information for the project area, focusing specifically on historical topographic and quaternary geology maps that may provide information on the location of natural levees, crevasse splays, and other elevated landforms along the river known to have been preferred locations for Native American settlement. To determine the potential for naturally buried archaeological sites, we will map the age of surface floodplains in the project area using existing radiocarbon information combined with the Natural Resources Conservation Service, Soils Survey Geographic Database [SSURGO]. A preliminary assessment indicates that the entire Project Area is associated with a late Holocene-age floodplain and has a high potential for buried Native American sites that may have no recognizable surface evidence. As part of this task, we will also make an initial visit to the project area to assess conditions on the ground and mark for underground service alert, prepare field maps, and other management tasks, as necessary.

**Task 2: Field explorations**

Since our initial assessment suggests that the entire Project Area has a high potential for buried archaeological sites, we will employ a stratified sampling approach that focuses on those areas where historical topographic information suggests that elevated landforms are/were present, or where archaeological deposits are suspected based on pedestrian survey. In these areas, subsurface sampling distances will be relatively close – e.g., between 20 and 50 meter intervals. Other portions of the Project Area will be sampled at higher interval spacing (e.g., 100 meters or greater) to achieve complete coverage. We expect that the entire project area can be sampled over a period of seven days, using a standard backhoe. If Holocene-age, deposits are found to be too deep to fully investigate with the backhoe (>15 feet), we have budgeted two contingency days for coring, in order to fully document subsurface deposits in the vertical APE for the project. The coring work will only be implemented if necessary, based on results of the backhoe work. In

addition, soil samples and or charcoal samples may be collected for radiocarbon dating to support our initial landform age-assessments and stratigraphic interpretations.

### **Task 3: Report Preparation**

Given the abbreviated time line for this project, a brief report will be prepared including an assessment of buried site potential in the project area and results of the field investigation.

Descriptive stratigraphic profiles of each trench will be appended to the report, along with maps showing each trench location, selected photographs, and any radiometric information obtained during the project.

**FAR WESTERN ANTHROPOLOGICAL RESEARCH GROUP, INC. ESTIMATED BUDGET**

PROJECT TITLE: ECORP Star Bend to Cypress

CONTRACTOR: ECORP/SBFCA

PERSON TO CONTACT:

TASK: Geoarch Evaluation

DATE:

**2017-2018**

10/17/2017

A Cost of Living adjustment of up to five percent will be applied annually on October 1.

**MANAGEMENT**

TITLE	NAME	RATE	HOURS	AMOUNT
Principal Investigator 200	McGuire, Kelly	\$157.30	10	\$1,573.00
Principal Investigator 300	Rosenthal, Jeff	\$145.20	20	\$2,904.00
Admin Assistant 100	Reed, Cynthia	\$45.98	8	\$367.84
Asst Financial Analyst	Wlasiuk, Maria	\$54.45	8	\$435.60
Contract Administrator	Collier, Jennifer	\$76.52	8	\$612.16
Finance Manager	Wang, Lin	\$94.38	4	\$377.52
TOTAL PREFIELD			58	\$6,270.12

**PRE-FIELD RESEARCH**

TITLE	NAME	RATE	HOURS	AMOUNT
Principal Investigator 300	Rosenthal, Jeff	\$145.20	24	\$3,484.80
Geoarchaeologist 100	Meyer, Jack	\$125.84	24	\$3,020.16
GIS Supervisor 100	Brandy, Paul	\$137.94	4	\$551.76
GIS Sr.Analyst	DeArmond, Shannon	\$89.54	12	\$1,074.48
GIS Assistant 300	Bradeen, Jill	\$56.87	20	\$1,137.40
Production Supervisor 100	St. John Birney, Nicole	\$104.06	4	\$416.24
Production Assistant 200	Montgomery, Kathleen	\$56.87	12	\$682.44
TOTAL FIELD			100	\$10,367.28

**FIELD**

TITLE	NAME	RATE	HOURS	AMOUNT
Principal Investigator 300	Rosenthal, Jeff	\$145.20	16	\$2,323.20
Geoarchaeologist 100	Meyer, Jack	\$125.84	70	\$8,808.80
Staff Archaeologist 800	Lindley, Stephen	\$58.08	70	\$4,065.60
Staff Archaeologist 1000	Longo, Nick	\$53.24	70	\$3,726.80
TOTAL LABORATORY			226	\$18,924.40

**REPORT WRITE UP**

TITLE	NAME	RATE	HOURS	AMOUNT
Principal Investigator 300	Rosenthal, Jeff	\$145.20	16	\$2,323.20
Geoarchaeologist 100	Meyer, Jack	\$125.84	40	\$5,033.60
GIS Sr.Analyst	DeArmond, Shannon	\$89.54	12	\$1,074.48
GIS Assistant 300	Bradeen, Jill	\$56.87	32	\$1,819.84
Production Supervisor 100	St. John Birney, Nicole	\$104.06	8	\$832.48
Production Assistant 200	Montgomery, Kathleen	\$56.87	24	\$1,364.88
TOTAL REPORT WRITE			132	\$12,448.48

**TOTAL WAGES****\$48,010.28**

<b>DIRECT COSTS</b>			
<b>ITEMS</b>	<b>RATE</b>	<b>NUMBER</b>	<b>AMOUNT</b>
Mileage	\$0.535	200	\$107.00
Vehicle Rental			\$1,000.00
Gasoline			\$250.00
Reproduction			\$200.00
Coring Rig (per Day)	\$2,800.00	2	\$5,600.00
AMS Radiocarbon	\$600.00	5	\$3,000.00
Backhoe	\$105.00	56	\$5,880.00
<b>SUB TOTAL DIRECT COSTS</b>			<b>\$16,037.00</b>
FEE ON DIRECT COST		10%	\$1,603.70
<b>TOTAL DIRECT COSTS</b>			<b>\$17,640.70</b>

<b>SUBCONSULTANTS</b>			
<b>ITEMS</b>	<b>RATE</b>	<b>NUMBER</b>	<b>AMOUNT</b>
<b>TOTAL SUBCONSULTANTS</b>			<b>\$0.00</b>
FEE ON SUBCONSULTANTS COST		0%	\$0.00
<b>TOTAL SUBCONSULTANTS COSTS</b>			<b>\$0.00</b>

<b>TOTAL BUDGET COSTS</b>			<b>\$65,650.98</b>
---------------------------	--	--	--------------------

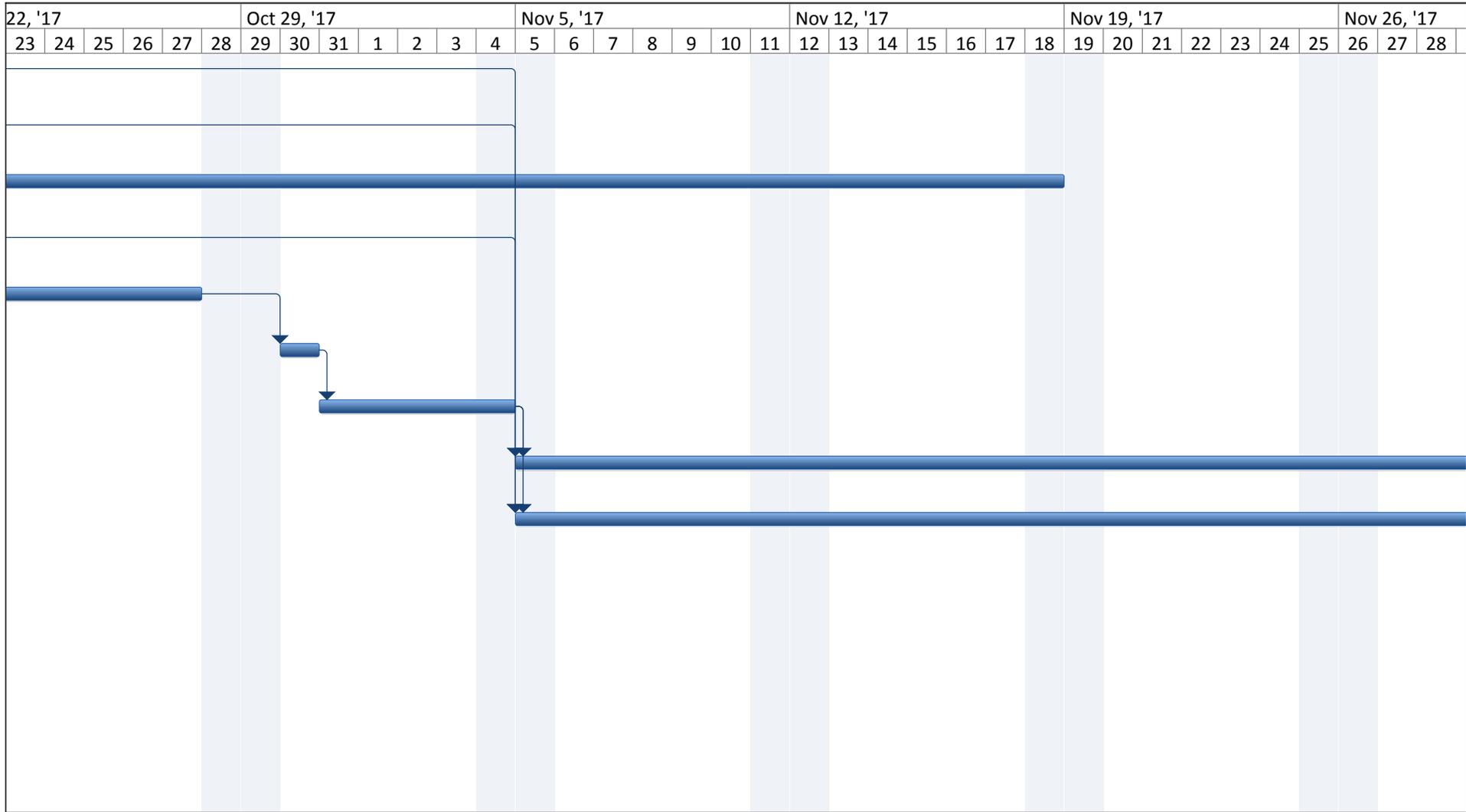
ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Oct 15, '17							Oct
							15	16	17	18	19	20	21	22
1		Submit APE Map to USACE	1 day	Tue 10/17/17	Tue 10/17/17									
2		USACE approves APE Map	2 days	Wed 10/18/17	Thu 10/19/17	1								
3		USACE consults with SHPO, tribes on APE Map	30 days	Fri 10/20/17	Sat 11/18/17	2								
4		ECORP carries out records search	1 day	Tue 10/17/17	Tue 10/17/17									
5		ECORP prepares the inventory/geoarch plan	10 days	Wed 10/18/17	Fri 10/27/17	4								
6		ECORP submits inventory/geoarch plan to USACE	1 day	Mon 10/30/17	Mon 10/30/17	5								
7		USACE reviews and approves inventory and geoarch plan	5 days	Tue 10/31/17	Sat 11/4/17	6								
8		Far Western implements geoarch portion of plan	30 days	Sun 11/5/17	Mon 12/4/17	1,7								
9		ECORP implements field survey/inventory portion of plan	30 days	Sun 11/5/17	Mon 12/4/17	4,7,2								
10		ECORP prepares report (in two parts, TBD)	30 days	Tue 12/5/17	Wed 1/3/18	9								
11		USACE reviews report (both parts simultaneously)	15 days	Thu 1/4/18	Thu 1/18/18	10								
12		USACE consults with SHPO, tribes, *and ACHP* on reports (both parts simultaneously)	30 days	Fri 1/19/18	Sat 2/17/18	11								
13		USACE submits comments to ECORP/Far Western on report	5 days	Sun 2/18/18	Thu 2/22/18	12								

Project: Star Bend to Cypress Sect Date: Tue 10/17/17	Task		External Milestone		Manual Summary Rollup	
	Split		Inactive Task		Manual Summary	
	Milestone		Inactive Milestone		Start-only	
	Summary		Inactive Summary		Finish-only	
	Project Summary		Manual Task		Deadline	
	External Tasks		Duration-only		Progress	

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Oct 15, '17							Oct
							15	16	17	18	19	20	21	22
14		ECORP/Far Western revise report	5 days	Fri 2/23/18	Tue 2/27/18	13								
15		ECORP submits revised report to USACE	1 day	Wed 2/28/18	Wed 2/28/18	14								
16		USACE consults with parties on revisions, as appropriate	15 days	Thu 3/1/18	Thu 3/15/18	15								
17		USACE carries out G2G tribal consultation	180 days	Fri 10/20/17	Tue 4/17/18	2								
18		USACE issues written approval of document	7 days	Wed 4/18/18	Tue 4/24/18	17,16								

Project: Star Bend to Cypress Sect  
Date: Tue 10/17/17

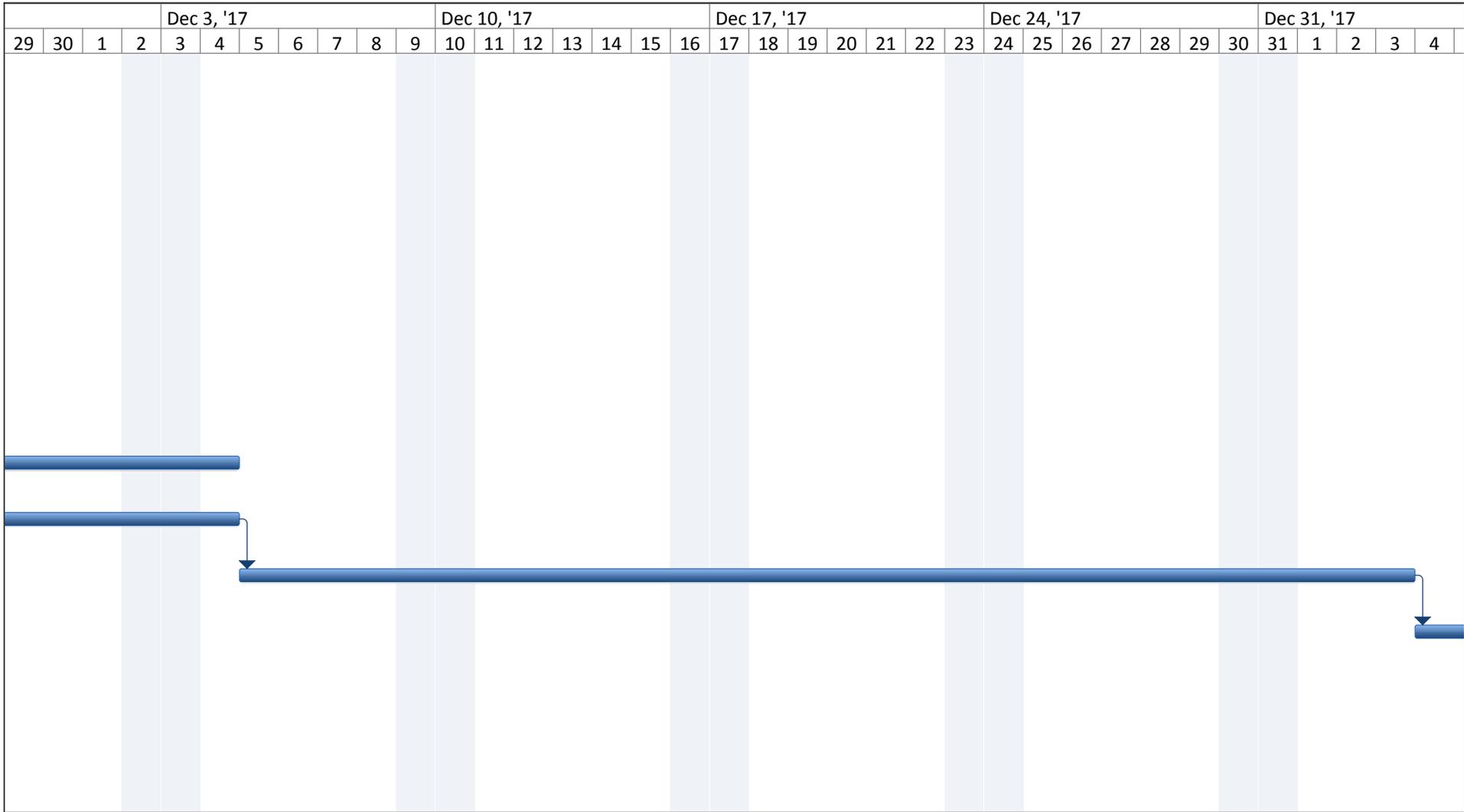
Task		External Milestone		Manual Summary Rollup	
Split		Inactive Task		Manual Summary	
Milestone		Inactive Milestone		Start-only	
Summary		Inactive Summary		Finish-only	
Project Summary		Manual Task		Deadline	
External Tasks		Duration-only		Progress	



Project: Star Bend to Cypress Sect Date: Tue 10/17/17	Task		External Milestone		Manual Summary Rollup	
	Split		Inactive Task		Manual Summary	
	Milestone		Inactive Milestone		Start-only	
	Summary		Inactive Summary		Finish-only	
	Project Summary		Manual Task		Deadline	
	External Tasks		Duration-only		Progress	

22, '17					Oct 29, '17					Nov 5, '17					Nov 12, '17					Nov 19, '17					Nov 26, '17											
23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
[Empty Gantt Chart Area]																																				

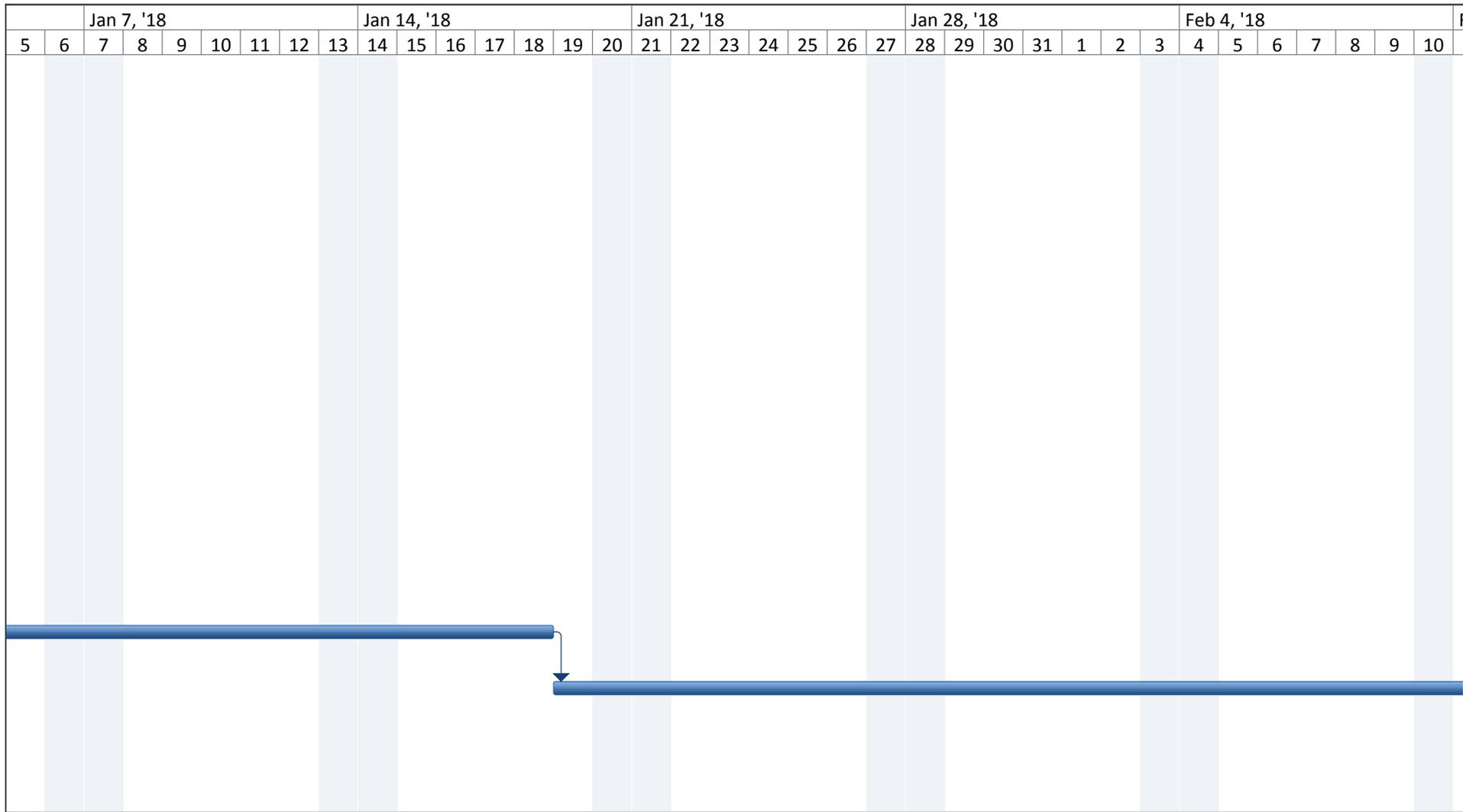
Project: Star Bend to Cypress Sect Date: Tue 10/17/17	Task		External Milestone		Manual Summary Rollup	
	Split		Inactive Task		Manual Summary	
	Milestone		Inactive Milestone		Start-only	
	Summary		Inactive Summary		Finish-only	
	Project Summary		Manual Task		Deadline	
	External Tasks		Duration-only		Progress	



Project: Star Bend to Cypress Sect Date: Tue 10/17/17	Task		External Milestone		Manual Summary Rollup	
	Split		Inactive Task		Manual Summary	
	Milestone		Inactive Milestone		Start-only	
	Summary		Inactive Summary		Finish-only	
	Project Summary		Manual Task		Deadline	
	External Tasks		Duration-only		Progress	

				Dec 3, '17					Dec 10, '17							Dec 17, '17						Dec 24, '17						Dec 31, '17									
29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	

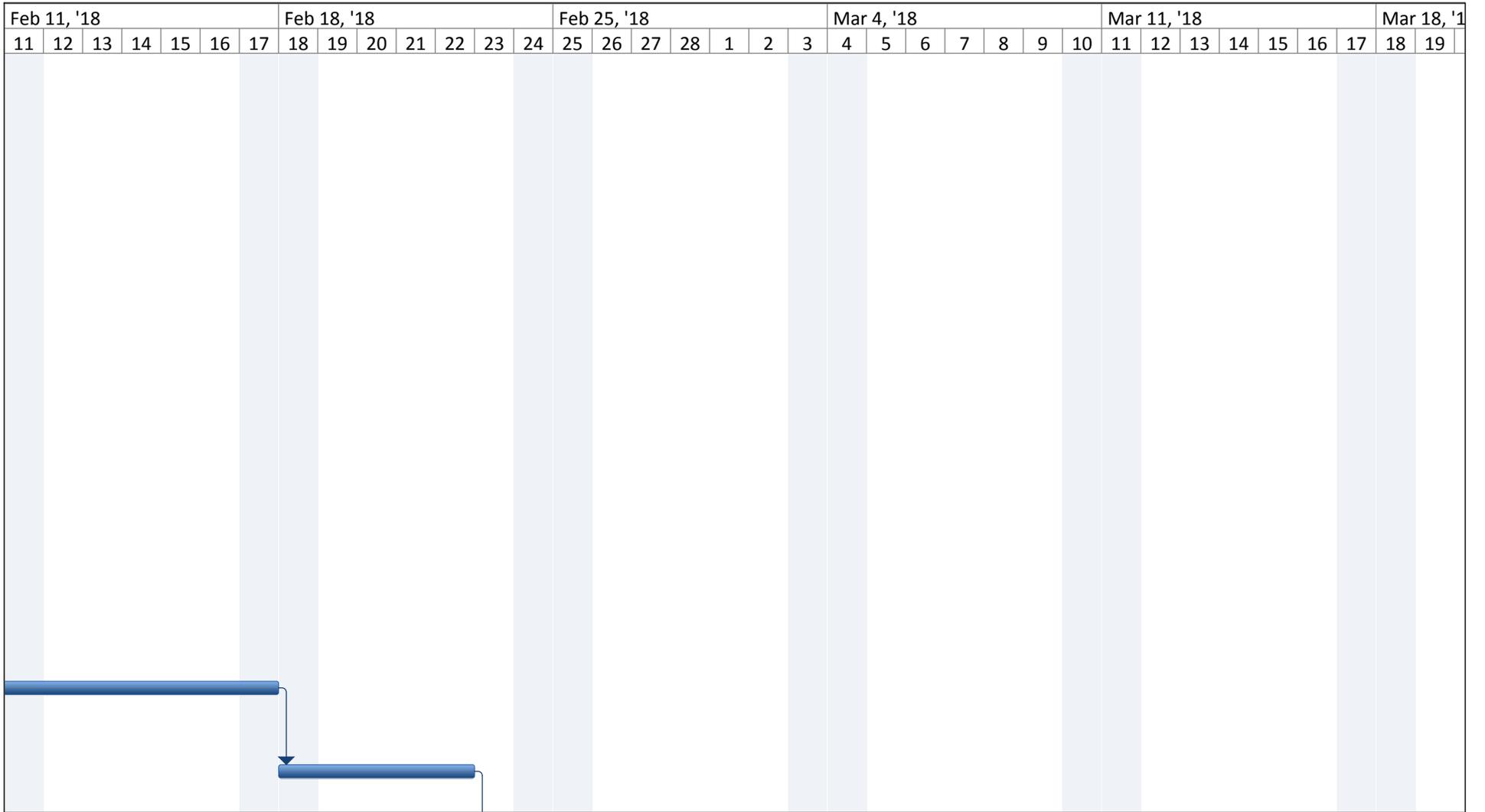
Project: Star Bend to Cypress Sect Date: Tue 10/17/17	Task		External Milestone		Manual Summary Rollup	
	Split		Inactive Task		Manual Summary	
	Milestone		Inactive Milestone		Start-only	
	Summary		Inactive Summary		Finish-only	
	Project Summary		Manual Task		Deadline	
	External Tasks		Duration-only		Progress	



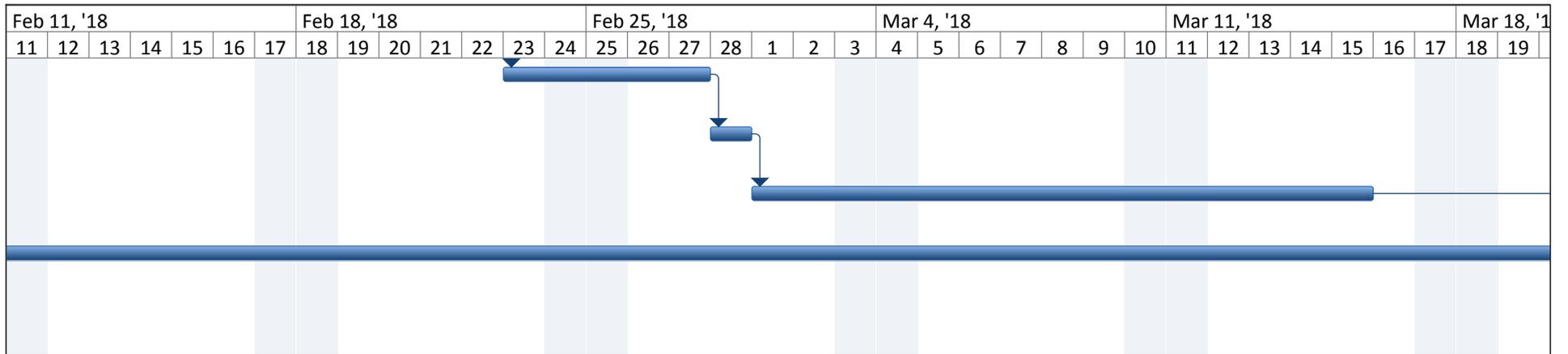
Project: Star Bend to Cypress Sect Date: Tue 10/17/17	Task		External Milestone		Manual Summary Rollup	
	Split		Inactive Task		Manual Summary	
	Milestone		Inactive Milestone		Start-only	
	Summary		Inactive Summary		Finish-only	
	Project Summary		Manual Task		Deadline	
	External Tasks		Duration-only		Progress	

			Jan 7, '18					Jan 14, '18					Jan 21, '18					Jan 28, '18					Feb 4, '18														
5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	

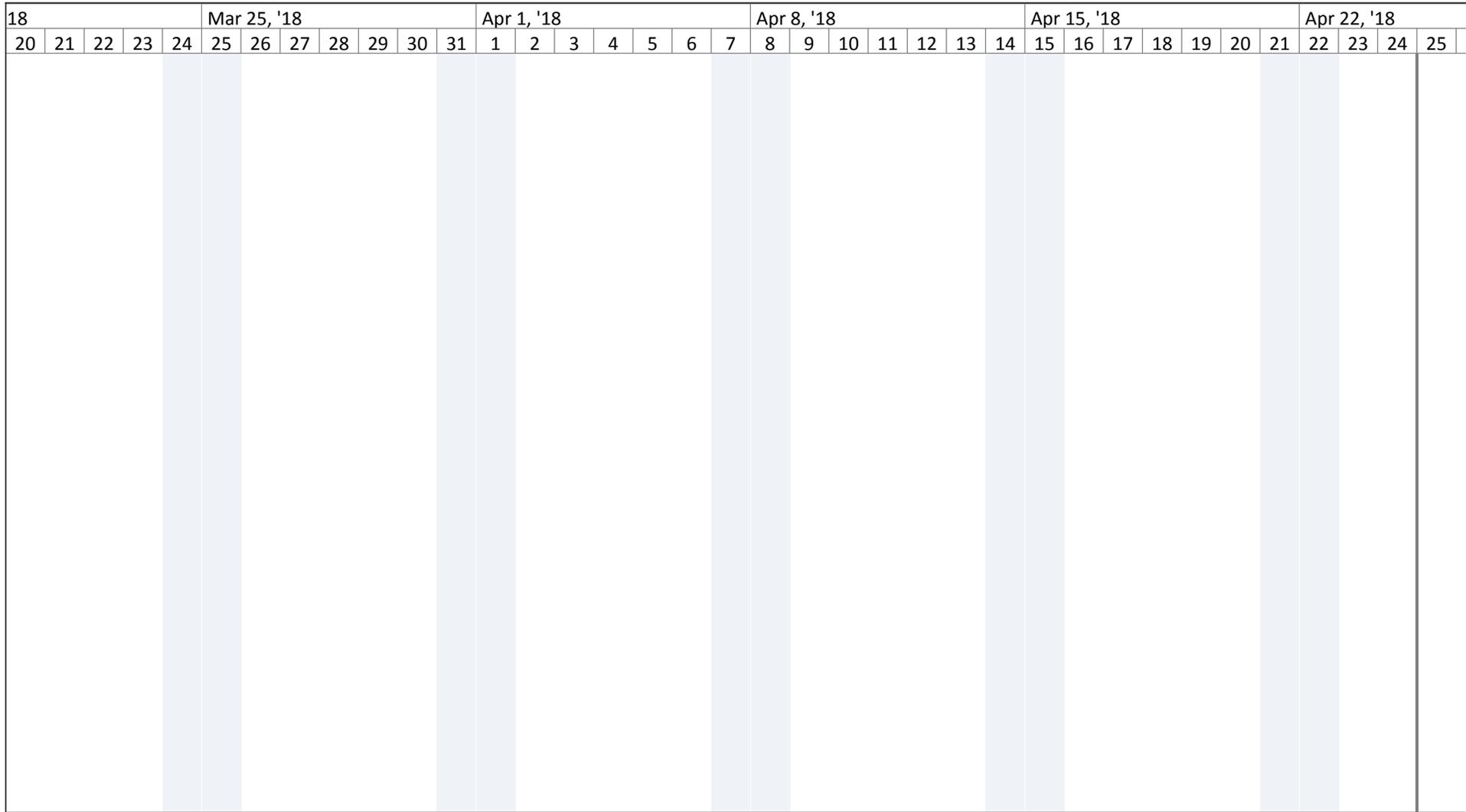
Project: Star Bend to Cypress Sect Date: Tue 10/17/17	Task		External Milestone		Manual Summary Rollup	
	Split		Inactive Task		Manual Summary	
	Milestone		Inactive Milestone		Start-only	
	Summary		Inactive Summary		Finish-only	
	Project Summary		Manual Task		Deadline	
	External Tasks		Duration-only		Progress	



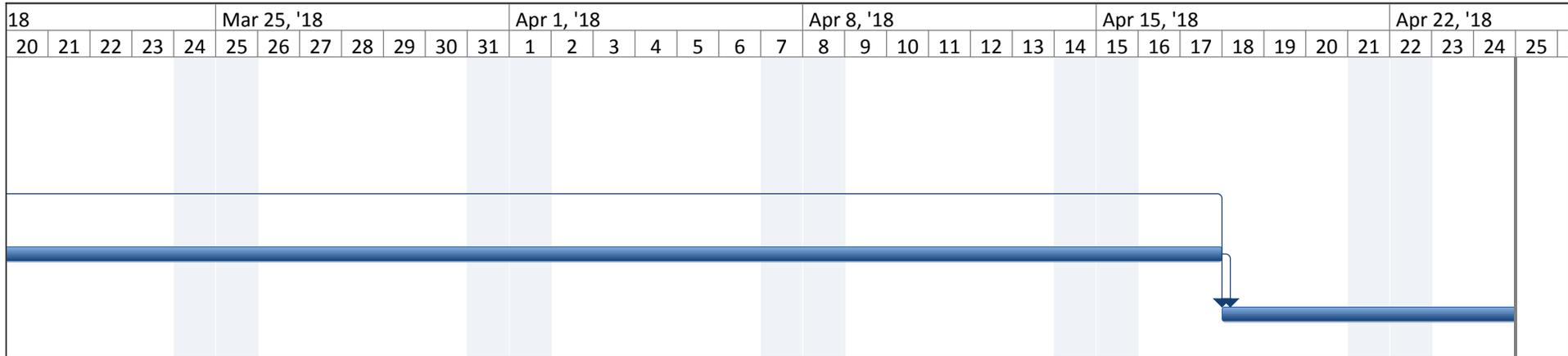
Project: Star Bend to Cypress Sect Date: Tue 10/17/17	Task		External Milestone		Manual Summary Rollup	
	Split		Inactive Task		Manual Summary	
	Milestone		Inactive Milestone		Start-only	
	Summary		Inactive Summary		Finish-only	
	Project Summary		Manual Task		Deadline	
	External Tasks		Duration-only		Progress	



Project: Star Bend to Cypress Sect Date: Tue 10/17/17	Task		External Milestone		Manual Summary Rollup	
	Split		Inactive Task		Manual Summary	
	Milestone		Inactive Milestone		Start-only	
	Summary		Inactive Summary		Finish-only	
	Project Summary		Manual Task		Deadline	
	External Tasks		Duration-only		Progress	



Project: Star Bend to Cypress Sect Date: Tue 10/17/17	Task		External Milestone		Manual Summary Rollup	
	Split		Inactive Task		Manual Summary	
	Milestone		Inactive Milestone		Start-only	
	Summary		Inactive Summary		Finish-only	
	Project Summary		Manual Task		Deadline	
	External Tasks		Duration-only		Progress	



Project: Star Bend to Cypress Sect Date: Tue 10/17/17	Task		External Milestone		Manual Summary Rollup	
	Split		Inactive Task		Manual Summary	
	Milestone		Inactive Milestone		Start-only	
	Summary		Inactive Summary		Finish-only	
	Project Summary		Manual Task		Deadline	
	External Tasks		Duration-only		Progress	