

# RECLAMATION

*Managing Water in the West*

## MP CONSTRUCTION OFFICE

Willows, California  
Construction Progress Report – L29



Coleman National Fish Hatchery Barrier Weir Site Modifications  
Painter touching up the coating at the hoist system for the overshot gate

**October 2012**

**“Doing It Right from the Start”**



U.S. Department of the Interior  
Bureau of Reclamation  
Mid-Pacific Region

CONSTRUCTION PROGRESS REPORT (L-29)  
 MP CONSTRUCTION OFFICE  
 MID-PACIFIC REGION  
 October 2012

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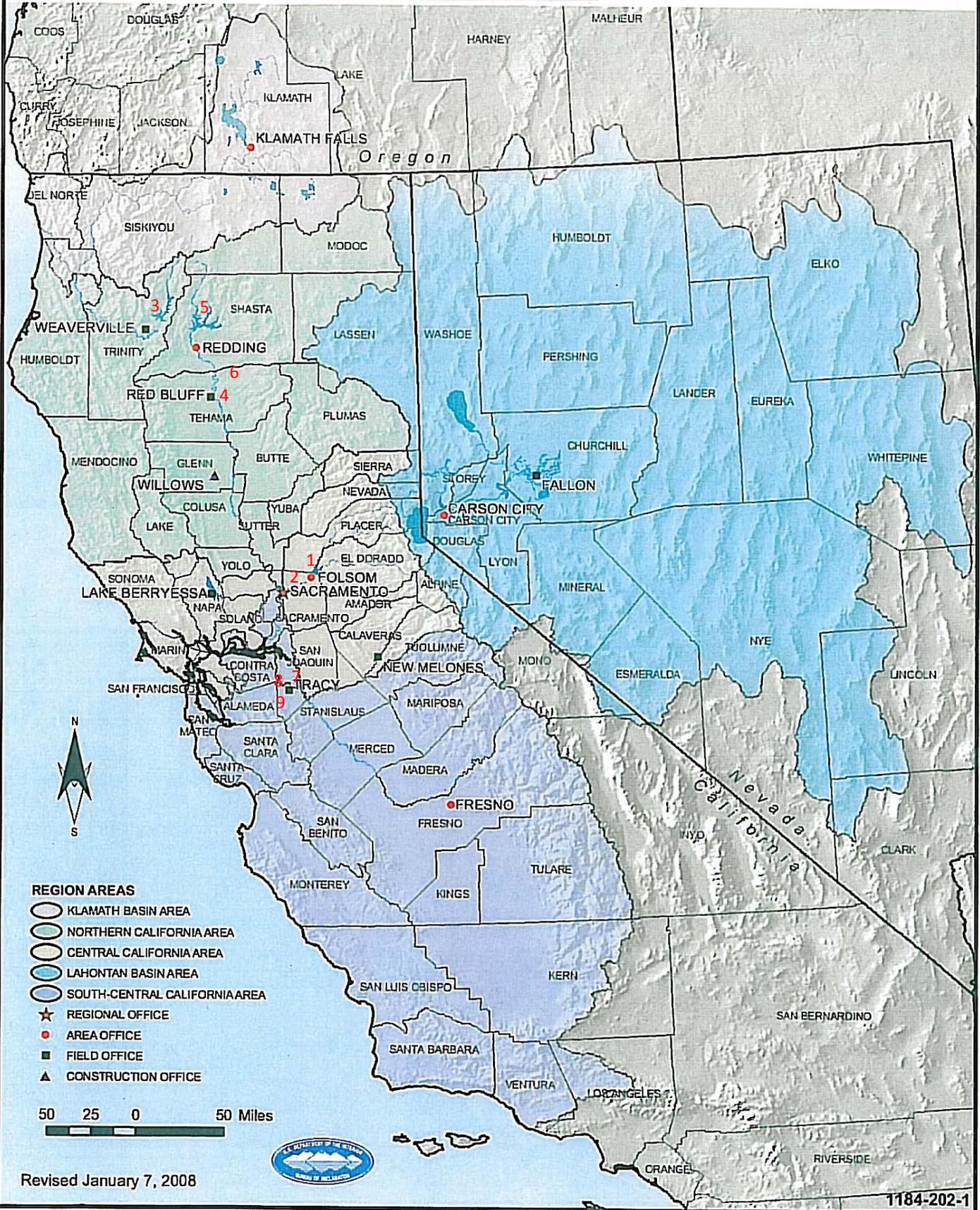
Battle Creek Lab Reports

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# Mid-Pacific Region

**RECLAMATION**  
Managing Water in the West



## **STAFFING – MID PACIFIC CONSTRUCTION OFFICE**

The Mid Pacific Construction Office had 77 construction and administrative employees at the close of this month as follows:

Construction Engineer's Office	2
Preaward & Project Management Group	3
Administrative Management	12
Division of Field Engineering	29
Division of Office Engineering	13
Materials Lab Branch	10
Detail/Contract Employees	8

## **GLOSSARY OF ACRONYMS AND ABBREVIATIONS**

### **MEANING**

ARRA	American Recovery and Reinvestment Act
CCAO	Central California Area Office
CVP	Central Valley Project
LBAO	Lahontan Basin Area Office
MP	Mid Pacific Regional Office
MPCO	Mid-Pacific Construction Office
NCAO	Northern California Area Office
SCCAO	South Central California Area Office
TO	Tracy Office

**CCAO**



Contract No. R10PC20R15  
Specification No. 20-C0649A  
Fixed Wheel Gate Rehabilitation – American River Division – Folsom Unit - Central Valley  
Project, California  
Abide International, Inc., Sonoma, CA

Work Performed:	October	0%
	Time Elapsed	79.2%
	Work Completed	30.9%
Contractor Earnings:	October	\$0
	Previous	\$2,529,703.18
	Total to Date	\$2,529,703.18

Area Office Project Management  
Project Manager: Jesse Castro, CC-607

Office Engineering  
Contract Administrator: Larry Bowman, MPCO-240

No invoices were received this period.

Field Engineering  
Construction Manager: Henry Garcia, MPCO-310  
Construction Representative: Gustavo Aguilera, MPCO-337

Number of Contract Employees: 39

Work performed:  
At the beginning of October the contractor submitted a working plan to seal the stop log leaks and the dewatering of the area between the stop logs and the fixed wheel gate. The pumps were installed and the leakage contained. The contractor and Aguilera continued monitoring the pumps to make sure they performed properly. With the leak controlled, CCAO released the clearance on Fixed Wheel Gate 1, allowing the contractor to pull the fixed wheel gate out to start the rehabilitation part of their contract.

The fixed wheel gate was removed on October 25 and transported on a platform to the laydown yard behind the new CCAO Maintenance Building. There the contractor performed rehabilitation activities. Near the end of the month Monterey Mechanical Co. worked on stripping the fixed wheel gate of the steel lids, covers, steel wheel, split rings and springs, in preparation for cleaning by the environmental subcontractor.

Contract No. R10PC20019

Specification No. 20-C0689

Folsom Power Plant Generators U1, U2, and U3 Rewind and Excitation System Replacement–

American River Division – Folsom Unit – Central Valley Project, California

Andritz Hydro Corp, Charlotte, NC

Work Performed:	October	0%
	Time Elapsed	58.3%
	Work Completed	53.9%

Contractor Earnings:	October	\$0
	Previous	\$10,637,860.64
	Total to Date	\$10,637,860.64

Area Office Project Management

Project Manager: Jesse Castro, CC-607

Office Engineering

Contract Administrator: Madelyn Giles, MPCO-210

No invoices were received this period.

Modification 14 was executed this period. It directed the contractor to take the precision measurements verifying centerline and setting markers on Generator Unit 1. Modifications are being prepared for asbestos abatement for Units 1 and 3, air conditioning bus design/routing, and modifying the test switch/relay.

Field Engineering

Construction Manager: Henry Garcia, MPCO-310

Construction Representative: Sergio Vivar, MPCO-311, Sean Frische, MPCO-317

Number of Contract Employees: 7

Work performed:

The contractor used a faro laser to perform rotor roundness measurements for Unit 1 and to determine the centerline of the unit. The contractor used a depth micrometer to measure rotor pole heights.

IRS Environmental performed asbestos sampling at the stator area of Unit 1.



Folsom Power Plant Generators U1, U2, and U3 Rewind and Excitation System Replacement  
All thread rod welded to the bottom side of the stationary pole wedge to  
facilitate wedge removal

Contract No. R10PC20767

Specification No. 20-C0703

Folsom Power Plant U1, U2, and U3 Replacement Runners – American River Division – Folsom Unit – Central Valley Project, California

Voith Siemens Hydro Power Generation, Inc., York, PA

Work Performed:	October	0%
	Time Elapsed	76.7%
	Work Completed	72.1%
Contractor Earnings:	October	\$0
	Previous	\$5,283,450.21
	Total to Date	\$5,283,450.21

Area Office Project Management

Project Manager: Jesse Castro, CC-607

Office Engineering

Contract Administrator: Madelyn Giles, MPCO-210

No invoices were received this period.

Modification 5 was executed this period. Its purpose was to furnish and install baffle plates in the aeration path of Unit 1.

Field Engineering

Construction Manager: N/A supply contract

Construction Representative: N/A supply contract

Number of Contract Employees: N/A supply contract

Work performed: N/A supply contract

Contract No. R09PC20171  
Specification No. 20-C0720  
Nimbus Powerplant HVAC System Modification – American River Division – Folsom Unit,  
Central Valley Project, California  
Perryman Mechanical, Inc., West Sacramento, CA

Work Performed:	October	0%
	Time Elapsed	100%
	Work Completed	79.9%
Contractor Earnings:	October	\$0
	Previous	\$428,963.09
	Total to Date	\$428,963.09

Area Office Project Management  
Brian Zewe, CC-607A

Office Engineering  
Contract Administrator: Ryan Hennigan, MPCO-211

No invoices were received this period.

Field Engineering  
Construction Manager: Henry Garcia, MPCO-310  
Construction Representative: Todd Dooley, MPCO-314

Number of Contract Employees: 2

Work performed:  
The contractor had been nonresponsive in completing punch list items for over a year, but this period began resolving punch list items by labeling wires.

Contract No. R10PC20114  
Specification No. 20-C0754  
Folsom Dam – Safety of Dams Modification – MIAD Key-Block – American River Division,  
Folsom Unit, Central Valley Project, California.  
Shimmick Construction Co., Inc., Sacramento, CA

Work Performed:	October	0%
	Time Elapsed	94.0%
	Work Completed	86.4%
Contractor Earnings:	October	\$0
	Previous	\$39,080,806.32
	Total to Date	\$39,080,806.32

Area Office Project Management  
Project Manager: Larry Hobbs, CC-106

Office Engineering  
Contract Administrator: Larry Bowman, MPCO-240

No invoices were received this period.

Field Engineering  
Construction Manager: Henry Garcia, MPCO-310  
Construction Representative: Howard Diedrich, MPCO-316, Sean Frische, MPCO-317

Number of Contract Employees: 36

Work Performed:

**CELL F:**

Shimmick Construction Co., Inc. finished excavation from Level 5 (elevation 321') to final foundation depth averaging 306.56'. Bracing installation was completed on Level 5. Bureau of Reclamation owned Level 6 bracing was used at Level 5 location. Sixth level of bracing was not necessary due to higher bedrock elevation and better rock quality than expected. Final foundation cleanup and final geologic mapping was completed this month. A total of 3,550 cubic yards of lean concrete was placed to elevation 319' and the fifth level bracing was removed this month. Minor seepage was observed on the secant wall on the northeast, southeast, and east walls of this cell. Previously seepage areas have decreased to minimal amount.

**CELL C:**

Shimmick Construction Co., Inc. finished excavation from Level 4 (elevation 330') to final foundation depth averaging elevation 310'. Bracings installation was completed on Level 4 and 5. Final foundation cleanup was also completed this month. Very minor seepage was observed on lower depths on the north and south wall.

**SWPPP:**

MIAD drilled and excavated spoils and settling pond site were hydroseeded. Approximately, 7,600 lf of straw wattles were installed and 6.5 acres were hydroseeded.

**MODIFICATION 005:**

Shimmick Construction Co., Inc. finished final slope stabilization at pond site. An acre was hydroseeded at the settling pond site by Shelby's Soils Erosion Control Inc. Shimmick Construction Co., Inc. cut unused second set of Level 6 bracing into transportable size.

**MODIFICATION 007:**

SMUD power is being utilized for powering the dewatering system, a 800kw generator is a backup.

Cartridge filters for the arsenic treatment are being back-flushed twice a week to prevent cartridge loading.

Shimmick Construction Co., Inc. consultant HSI continued monitoring and recording data from the supplemental dewatering system for the two cells. Daily average was 382 gallon per minute dewatered out of both cells.

**Misc:**

Shimmick Construction Co., Inc. mobilized a Powerscreen 1300 Maxtrak cone crusher this week to conduct additional crushing for the backfill and lean concrete aggregate.



Folsom Dam – Safety of Dams Modification – MIAD Key-Block Foundation  
Workers using high-pressure water to clean walls in Cell F before  
cleaning the surface of the bedrock.

Contract No. R10PC20R57

Specification No. 20-C0760

Folsom Dam Civil Maintenance Building – American River Division – Folsom Unit - Central Valley Project, California

Building Solutions Inc., Reno, NV

Work Performed:	October	0%
	Time Elapsed	100%
	Work Completed	95.8%
Contractor Earnings:	October	\$0
	Previous	\$6,484,513.45
	Total to Date	\$6,484,513.45

Area Office Project Management

Project Manager: Ed Roza, CC-608

Office Engineering

Contract Administrator: Laurie Larson, MPCO-222

Invoice 22 was received and forwarded to the Denver finance office for processing. It was not for work done this period but for work done through August 31, 2012.

Field Engineering

Construction Manager: Henry Garcia, MPCO-310

Construction Representative: Michael E. Manlick, MPCO-313

Number of contract employees: 2

Work Performed:

Rex Moore Electrical Contractors and Engineers, Inc. replaced two fire alarm system smoke detectors in the paint storage area with Thermotech 302-EPM-135 automatic heat detectors.

Industrial Door Company serviced two roll-up doors that ceased operating.

The contractor repaired two roof leaks in Quad A that were discovered after a rain storm.

Contract No. R10PC20197  
Specification No. 20-C0768  
Control Upgrade and Modernization of the Gantry and Bridge Cranes at the Folsom Dam and  
Powerplant – American River Division - Folsom Unit - Central Valley Project, California  
Crane America Services, Inc., Livermore, CA

Work Performed:	October	0%
	Time Elapsed	100%
	Work Completed	90.0%
Contractor Earnings:	October	\$0
	Previous	\$1,708,179.58
	Total to Date	\$1,708,179.58

Area Office Project Management  
Project Manager: Brian Zewe, CC-607A

Office Engineering  
Contract Administrator: Madelyn Giles, MPCO-210

No invoices were received this period.

Substantially complete date was June 27, 2012.

The contractor has to complete punch list items.

Field Engineering  
Construction Manager: Henry Garcia, MPCO-310  
Construction Representative: Todd Dooley, MPCO-314

Number of Contract Employees: 2

Work performed:  
Subcontractor, Magnatek, used a spectrum analyzer to troubleshoot and analyze the low radio controller signal strength for the 50 ton gantry crane at Nimbus Power Plant.

Subcontractor, Crane America, installed a 3/8” bolt to guide the weighted limit for the 140 ton hoist away from a low spot on the 140 ton hoist block.

Subcontractor, Water Weights, used a signal generator to simulate a load for each of the main hoists for the 275 ton bridge crane. Water Weights and Crane America confirmed that the simulated loads produced outputs at both screens.

Contract No. R10PC20859

Specification No. None

Folsom Dam and Powerplant Site Security System – American River Division – Folsom Unit -  
Central Valley Project, California

Trofholtz Technologies, Inc., Rocklin, CA

Work Performed:	October	0%
	Time Elapsed	100%
	Work Completed	97.3%
Contractor Earnings:	October	\$0
	Previous	\$6,197,358.93
	Total to Date	\$6,197,358.93

Area Office Project Management

Project Manager: Bill Vanderwaal, MPCO-122

Office Engineering

Contract Administrator: Kevin Jacobs, MPCO-214

Invoice 31 was received and forwarded to the Denver finance office for processing. It was not for work done this period but for work done through September 24, 2012.

Field Engineering

Construction Manager: Henry Garcia, MPCO-310

Construction Representative: Phil Moseby, MPCO-327

Number of Contract Employees: 7

Work Performed:

The contractor performed performance verification tests successfully at the following locations: security control center building, generator building, pump plant building, Adit 4, cable tunnel, powerhouse, the entry control point at West Pipeline, and gates at Dikes 4, 5, and 6 and Mormon Island.



**KBAO**



There were no active construction projects underway for the Klamath Basin Area Office in October 2012.



**LBAO**



There were no active construction projects underway for the Lahontan Basin Area Office in October 2012.



**NCAO**



Contract No. R10PC20744

Specification No. 20-C0712

J.F. Carr Power Plant, Generator G1 and G2 Rewinds – Trinity River Division – Central Valley  
Project California

National Electric Coil, Inc., Columbus, OH

Work Performed	October	0%
	Time Elapsed	100%
	Work Completed	98.0%
Contractor Earnings	October	\$0
	Previous	\$14,918,516.31
	Total to Date	\$14,918,516.31

Area Office Project Management

Program Manager: John Dotter, NC-261

Office Engineering

Contract Administrator: Kevin Jacobs, MPCO-214

No invoices were received this period.

Field Engineering

Construction Manager: Steve Holmes, MPCO-320

Construction Representative: Frank Medberry, MPCO-341

Number of Contract Employees: 0

Worked Performed:

The contactor did not perform any work this period. The contractor completed all base contract site work in September, and has scheduled site work under Modification 7 for November and December 2012. That will complete all contract site work.

Contract No. R10PC20R33  
Specification No. 20-C0752  
Red Bluff Pumping Plant and Fish Screen – Sacramento River Division – Sacramento Canals  
Unit – Central Valley Project, California  
Balfour Beatty Infrastructure, Inc., Red Bluff, CA

Work Performed:	October	0%
	Time Elapsed	100%
	Work Completed	97.8%
Contractor Earnings:	October	\$0
	Previous	\$77,446,057.26
	Total to Date	\$77,446,057.26

Area Office Project Management  
Project Manager: Bill Vanderwaal

Office Engineering  
Contract Administrator: Kevin Jacobs, MPCO-214

Invoice 28 was received this period and forwarded to the Denver finance office for processing. It was not for work done this period, but for work done through September 29, 2012.

Field Engineering  
Construction Manager: Randy Wyatt, MPCO-305  
Construction Representative: Dave Derk, MPCO-334

Number of Contract Employees: 14

Work Performed:  
Balfour Beatty Infrastructure Inc.  
Site Work: Workers performed site clean-up, demobilized from the site, and worked on punch list items. Several punch list items remain.

Central Sierra Electric, Inc.  
Pumping Plant: The electricians worked on the punch list items.

FD Thomas, Inc.  
Fish Screen: Painters completed coating touch up on the fish screen.

Pumping Plant: Painters completed touch up paint on the building and equipment.

Meyers Earthwork, Inc. and Darren Tayler Construction, Inc.  
Site work: Workers completed asphalt paving repairs on Diamond Avenue, inside the Pactiv fenced area and the asphalt staging area on Gen III property.

Sabah International, Inc.

Pumping Plant: A technician successfully performed the enclosure integrity test in the switchgear room with the rollup door sealed with plastic. The technician unsuccessfully ran the test without the rollup door sealed. Technical Service Center engineers are determining how this issue will be resolved.

Tesco Controls, Inc.

Technicians continued working on punch list items for the supervisory control and data acquisition system and computer components. Several punch list items remain.

Contract No. R10PC20102  
Specification No. 20-C0755  
Spring Creek Powerplant Generators G1 and G2 Rewinds – Trinity River Division – Central Valley Project, California  
Andritz Hydro Corp., Charlotte, NC

Work Performed:	October	0%
	Time Elapsed	80.4%
	Work Completed	66.0%
Contractor Earnings:	October	\$0
	Previous	\$7,502,740.65
	Total to Date	\$7,502,740.65

Area Office Project Management  
Project Manager: Joe Ascoli, NC-650

Office Engineering  
Contract Administrator: Kevin Jacobs, MPCO-214

No invoices were received this period.

Field Engineering  
Construction Manager: Steve Holmes, MPCO-320  
Construction Representative: Frank Medberry, MPCO-341

Number of Contract Employees: 0

Work performed:  
No site work was performed this period.

Contract No. R12PC20044  
Specification No. 20-C0774a  
Station Service Switchgear Replacement – Trinity River Division – Central Valley Project,  
California  
Eaton Corporation, Raleigh, NC

Work Performed:	October	0%
	Time Elapsed	56.4%
	Work Completed	0.4%
Contractor Earnings:	October	\$0
	Previous	\$9,600.59
	Total to Date	\$9,600.59

Area Office Project Management  
Project Manager: Jeff Gifford, NC-221

Office Engineering  
Contract Administrator: Ryan Hennigan, MPCO-211

Notice to Proceed date: April 2, 2012

No invoices were received this period.

Field Engineering  
Construction Manager: Steve Holmes, MPCO-320  
Construction Representative: Frank Medberry, MPCO-341

Number of Contract Employees: 6

Work performed:  
The contractor began working at Spring Creek Power Plant on October 31, 2012.

The contractor mobilized. Two Eaton employees took receipt of the new switchgear shipment, set up an office trailer, and picked up the temporary transformer switchgear trailer from Shasta Dam.

Three A and M Electric electricians mobilized. They set up the temporary transformer at Spring Creek Power Plant and started transporting the delivered spools of conductors from the Shasta Dam storage yard to Spring Creek.

Contract No. R11PC20124  
Specification No. 20-C0780  
Coleman National Fish Hatchery Barrier Weir Site Modifications – Shasta Division – Central Valley Project, California  
Contractor Services Group, Inc., West Sacramento, CA

Work Performed:	October	29.3%
	Time Elapsed	100%
	Work Completed	94.0%
Contractor Earnings:	October	\$262,940.79
	Previous	\$581,655.80
	Total to Date	\$844,596.59

Area Office Project Manager  
Jim Goodwin, MP-200

Office Engineering  
Contract Administrator: Ryan Hennigan, MPCO-211

Invoice 8 was received this period and forwarded to the Denver finance office for processing.

Notice to proceed was issued October 13, 2011.

Field Engineering  
Construction Manager: Randy Wyatt, MPCO-305  
Construction Representative: Fernando Pavone, MPCO-333

Number of Contract Employees: 4

Work performed:  
The contractor assisted subcontractor, Builtware Fabrication, in installing the overshot gate hoist, which completed all site work. Then the contractor demobilized from the site.



Coleman National Fish Hatchery Barrier Weir Site Modifications  
Subcontractor, Builtware Fabrication, installing the hoist system for the overshoot gate

Contract No. R12PC20053  
Specification No. 20-C0789  
Shasta Powerplant Control and Computer Room HVAC Replacement – Shasta Division –  
Central Valley Project, California  
Ray-Mac Mechanical, Inc., Mt. Shasta, CA.

Work Performed:	October	0%
	Time Elapsed	100.0%
	Work Completed	30.3%
Contractor Earnings:	October	\$0
	Previous	\$93,848.15
	Total to Date	\$93,848.15

Area Office Project Management  
Project Manager: Bob Gee, NC-230

Office Engineering  
Contract Administrator: Ryan Hennigan, MPCO-211

Notice to Proceed date: April 26, 2012

Substantial completion date: October 5, 2012.

No invoices were received this period.

Field Engineering  
Construction Manager: Steve Holmes, MPCO-320  
Construction Representative: Frank Medberry, MPCO-341

Number of Contract Employees: 2

Work performed:  
The contractor completed all site work by completing installation of the HVAC system and training maintenance personnel. Then the contractor demobilized from the site.

Contract No. R12PC20193

Specification No. 20-C0791

Shasta Dam Traffic Circle Pavement Rehabilitation – Shasta Division – Central Valley Project, California

Site Work Solutions, Inc., Redding, CA.

Work Performed:	October	2.1%
	Time Elapsed	71.7%
	Work Completed	100.0%
Contractor Earnings:	October	\$7,288.29
	Previous	\$339,285.25
	Total to Date	\$346,573.54

Area Office Project Management

Project Manager: Bob Gee, NC-230

Office Engineering

Contract Administrator: Casandra Arthur, MPCO-245

Notice to Proceed date: August 6, 2012

Substantially complete date: October 4, 2012.

Invoices 5 and 6 were received this period and forwarded to the Denver finance office for processing. Invoice 5 was not for work done this period but was for work through September 28, 2012. Invoice 6 was for work done this period.

Field Engineering

Construction Manager: Steve Holmes, MPCO-320

Construction Representative: Frank Medberry, MPCO-341

Number of Contract Employees: 4

Work performed:

The contractor performed road striping, which completes all site work

Contract No. R10PC20025

Specification No. None

Coleman Fish Hatchery Water Intakes Vegetation Replacement and Monitoring – Shasta

Division – Central Valley Project, California

Tehama Environmental Solutions, Inc., Red Bluff, CA

Work Performed:	October	0%
	Time Elapsed	39.5%
	Work Completed	88.4%
Contractor Earnings:	October	\$0
	Previous	\$626,095.31
	Total to Date	\$626,095.31

Area Office Project Management

Project Manager: Hank Harrington, NC-210

Office Engineering

Contract Administrator: Jacquelyn Olds, MPCO-202

No invoices were received this period.

Field Engineering

Construction Manager: Randy Wyatt, MPCO-305

Construction Representative: Daniel Pavone, MPCO-333

Number of Contract Employees: 0

Work performed:

The contractor's current activity consists of maintaining vegetation it planted in 2010.

Contract No. R11PC20235

Specification No. None

Red Bluff Diversion Dam, Fish Passage Improvement Project, Terrestrial Mitigation –  
Sacramento Canal Units – Sacramento River Division – Central Valley Project, California  
Tehama Environmental Solutions, Inc., Red Bluff, CA

Work Performed:	October	0%
	Time Elapsed	9.4%
	Work Completed	62.3%

Contractor Earnings:	October	\$0
	Previous	\$2,924,666.72
	Total to Date	\$2,924,666.72

Area Office Project Management

Project Manager: Bill Vanderwaal, MPCO-122

Office Engineering

Contract Administrator: Jacquelyn Olds, MPCO-202

Invoice 5 was received this period and forwarded to the Denver finance office for processing. It was not for work done this period but for work done through September 24, 2012.

Field Engineering

Construction Manager: Randy Wyatt, MPCO-305

Construction Representative: Daniel Pavone, MPCO-333

Number of Contract Employees: 14

Work performed:

The contractor planted willow cuttings for the vegetated rock toe protection and installed the irrigation system at approximate stations 7+50 through 9+50, 14+50 through 16+50, at the lower and upper inlets, and at two willows riparian scrub areas.

Subcontractor, Dominic Surveyors, surveyed the final grade of the fish passage channel and floodplain areas.

Subcontractor, Meyers, worked on building the lower and upper weir inlet structures, and finished excavating the fish channel. Meyers removed vegetation at the southern island.



Red Bluff Diversion Dam, Fish Passage Improvement Project, Terrestrial Mitigation Subcontractor, Meyers Earthwork, removing vegetation at the southern island

**SCCAO**



Contract No. R10PC20R32

Specification No. 20-C0749

Fish Screen Structure Phase 3, Contra Costa Canal – Central Valley Project, California

Flatiron West, Inc., Oakley, CA

Work Performed:	October	0%
	Time Elapsed	100%
	Work Completed	99.4%

Contractor Earnings:	October	\$0
	Previous	\$13,935,225.66
	Total to Date	\$13,935,225.66

Area Office Project Management

Project Manager: John Dealy, TO-406

Office Engineering

Contract Administrator: Larry Bowman, MPCO-240

No invoices were received this period.

Field Engineering

Construction Manager: Henry Garcia, MPCO-310

Construction Representative: Henry Garcia, MPCO-310

Number of Contract Employees: 2

Work performed:

Subcontractor Transco continued to monitor performance of trash rakes. The trash rakes ran for most of the month without issues or concerns. Field personnel reset two alarms on Rake 4.

Contract No. R10PC80R23

Specification No. 20-C0761

Delta-Mendota Canal–California Aqueduct Intertie – Central Valley Project – California  
Shimmick Construction Company, Inc., Tracy, CA

Work Performed:	October	0%
	Time Elapsed	100%
	Work Completed	99.2%
Contractor Earnings:	October	\$0
	Previous	\$15,194,493.71
	Total to Date	\$15,194,493.71

Area Office Project Management

Project Manager: Erika Kegel, MP-730

Office Engineering

Contract Administrator: Ryan Hennigan, MPCO-211

No invoices were received this period.

Field Engineering

Construction Manager: Steve Holmes, MPCO-320

Construction Representative: Chris Van Deusen, MPCO-345

Number of Contract Employees: 3

Work performed:

All site work except for punch list items was completed in May 2012. The contractor and subcontractors worked on punch list items this period.

Contract No. R11PC20185

Specification No. 20-C0778

Tracy 13.8kV Switchgear/Breaker Replacement – Tracy Pumping Plant and Substation – Central Valley Project, California

Contra Costa Electric Corp., Martinez, CA

Work Performed:	October	0%
	Time Elapsed	29.3%
	Work Completed	8.0%

Contractor Earnings:	October	\$0
	Previous	\$925,459.88
	Total to Date	\$925,459.88

Area Office Project Management

Project Manager: Warren Feng, TO-438

Office Engineering

Contract Administrator: Amber Pierce, MPCO-205

This is a design build contract.

No invoices were received this period.

Field Engineering

Construction Manager: Steve Holmes, MPCO-320

Construction Representative: David Derk, MPCO-334

Number of Contract Employees: 0

Work performed:

The contractor and Reclamation staff visited the site. No other site work was performed because the contractor has not yet mobilized to the site. The contractor is scheduled to begin site work in February 2013.



### Tracy 13.8kV Switchgear/Breaker Replacement

The contractor and Bureau of Reclamation Staff in the basement of the control room viewing where the cables enter into the control room floor from the cable trays

# Regional



Contract No. R10PC20005  
Specification No. 20-C0717  
North Fork Screens and Ladders – Battle Creek Salmon and Steelhead Restoration Project,  
California  
Syblon Reid Contractors, Folsom, CA

Work Performed:	October	3.3%
	Time Elapsed	100%
	Work Completed	97.4%
Contractor Earnings:	October	\$421,101.54
	Previous	\$11,912,247.39
	Total to Date	\$12,333,348.93

Area Office Project Management  
Project Manager: Mary Marshall, MP-203

Office Engineering  
Contract Administrator: Kent Perkes, MPCO-225

Invoice 16 was received this period and forwarded to the Denver finance office for processing.

The remaining work for the contractor to perform is to gain approval of a few final submittals including as-built drawings.

Field Engineering  
Construction Manager: Randy Wyatt, MPCO-305  
Construction Representative: John Pospishil, MPCO-321

Number of Contract Employees: 0

Work performed:  
The contractor completed all contract site work in December 2011, and demobilized its field office. However substantial completion will not be issued until as-built drawings are approved.

Contract No. R10PC20R42  
Specification No. 20-C0746  
Hydropower Facility Modifications - Stage 1 – Battle Creek Salmon and Steelhead Restoration  
Project, California  
RTA Construction/Ray Toney JV, Redding, CA

Work Performed:	October	0%
	Time Elapsed	100%
	Work Completed	75.6%
Contractor Earnings:	October	\$0
	Previous	\$6,334,375.82
	Total to Date	\$6,334,375.82

Area Office Project Management  
Project Manager: Mary Marshall, MP-203

Office Engineering  
Contract Administrator: Kent Perkes, MPCO-225

No invoices were received this period.

Field Engineering  
Construction Manager: Randy Wyatt, MPCO-305  
Construction Representative: John Pospishil, MPCO-321

Number of Contract Employees: 26

Work performed:

Fencing: Central Fencing Company installed fence on the South side of the upper jump basin.

Seeding: McEntire Landscaping began and completed hydroseeding Use Areas 2, 3, 4, 5, 8, and 11.

Upper and Lower Jump Basin: The contractor completed gravel surfacing the fenced-in area of the upper and lower jump basins.

Bypass Chute Fence Grounding: M and J Electrical finished installing the grounding system for the chute fencing and the lower jump basin fencing.

Modification 15: The contractor began and finished installation of the V-ditch at 'A' Road. The contractor began excavating, fabric lining, and riprap lining the V-ditch on the north, east and south sides of Use Area 9.

Modification 11: The contractor excavated the trapezoidal drainage ditch in Use Area 11.

New Wasteway: M and J electrical tied in the 2½” diameter galvanized conduit to the distribution panel DP1.

A, B, C and D Roads: The contractor continued shaping and grading the roads. The contractor began delivery, placement and compaction of gravel surfacing on all roads.

Plateau Road Entrance: The contractor removed the temporary entrance and began placing and compacted subgrade material in 8” lifts to the level of the subgrade of the asphalt.

Use Area 8: The contractor removed erosion and sediment controls. Troy Lackey removed the temporary ramp used to transport the 1100 Komatsu excavator down the hill. Lackey also placed soil on the Animal Crossing No. 2 ramps.

Use Area 9: The contractor finished shaping the permanent stockpile.

84” Tailrace Reinforced Concrete Pipe: The contractor finished placing controlled low-strength material and installed the vent pipe for the pipe.

Tailrace Inlet: The contractor finished placing and compacting backfill on both sides of the structure and at the 84” reinforced concrete pipe. The contractor removed the sheet pile diversion adjacent to the South Fork of Battle Creek next to the tailrace inlet structure and finished placing riprap along the South Fork of Battle Creek adjacent to the structure. The contractor reestablished Pacific Gas and Electric’s powerhouse switchyard fencing and placed and compacted base rock on the access road and parking area.

The contractor and M and J Electrical began installing the electrical conduit from Inskip Powerhouse to the tailrace inlet structure’s gate actuators. M and J Electrical mounted Distribution Panel DP2 and a Control Board CBA to the guardrail of the tailrace inlet.

Tailrace Outlet: The contractor and M and J Electric finished installing the electrical conduit and pull boxes from the tailrace outlet to the Inskip Powerhouse.

Baffled Outlet and Tailrace Outlet: The contractor placed and compacted base rock on the access road and parking area for the tailrace outlet and placed large boulders along the access road.

New Wasteway: Muse Concrete Construction set forms and placed reinforced concrete for the 5’ square by 6” thick concrete service pad in front of the actuator.

M and J Electrical installed a grounding ring and plate prior to placing the concrete.

Inskip Wasteway: Muse Concrete ground the chamfer on the upstream and downstream edges of the slab and the contractor re-glued the rubber on a few of the stop logs.

Rock Screen: Schnetzer Engineering finished screening excavated spoils to produce backfill for Use Area 11.

Miscellaneous Work: The contractor epoxy coated the blind flanges of the manholes, performed miscellaneous guardrail work, placed the reinforced concrete vent pipe concrete collars, demobilized tools, materials, supplies, performed general housekeeping, and hauled off trash. The contractor reestablished the cattle fence including the gate on the downstream end of the penstock bypass chute.

Purchase Order No. R10PX20R54

Specification No. 20-C0750

Drought Relief, Well Enhancements – ARRA Project No. 28.000 – Central Valley Project Don  
Don Pedro Pump, LLC–Turlock, CA

Work Performed:	October	0%
	Time Elapsed	100%
	Work Completed	86.5%

Contractor Earnings:	October	\$0
	Previous	\$1,084,249.60
	Total to Date	\$1,084,249.60

Area Office Project Management

Project Manager: Kevin Clancy, MP-410

Office Engineering

Contract Administrator: Ryan Hennigan, MPCO-211

No invoices were received this period.

Field Engineering

Construction Manager: John Nelson, MPCO-328

Construction Representative: Mike McCarty, MPCO-308

Number of Contract Employees: 0

Work performed:

No work was performed as the contractor is waiting for Pacific Gas and Electric to provide electrical power.

Contract No. R10PC20R80

Specification No. 20-C0759

Drought Relief – Construction of New Wells – ARRA Project No. 28.002 – California  
Layne Christensen Company, Fontana, CA

Work Performed:	October	0%
	Time Elapsed	100%
	Work Completed	84.4%

Contractor Earnings:	October	\$0
	Previous	\$13,619,671.88
	Total to Date	\$13,619,671.88

Area Office Project Management

Project Manager: Kevin Clancy, MP-410

Office Engineering

Contract Administrator: Laurie Larson, MPCO-222

No invoices were received this period.

Field Engineering

Construction Manager: John E. Nelson, MPCO-328

Construction Representative: Quint I. McCabe, MPCO-304

Number of Contract Employees: 2

Work performed:

At West Stanislaus Irrigation District Well 122, the contractor completed the field pump test.

At Grassland Water District Wells 8.01 and 8.06, the contractor completed rotation checks on permanent Pacific Gas and Electric power. The wells are complete and ready for operation.

At Del Puerto Well District Well 54.1, the contractor completed the electrical top-out.

# Contracts in Warranty Status



R09PC20R03 20-C0677 Transformer K1A and K2A Replacements, Folsom Power

There was no Office Engineering Administrative activity this period.

5-year warranty for K1A extends to January 30, 2016, and that for K2A extends to January 4, 2017.

R10PC20128 No. 20-C0706 New Melones Power Plant Excitation System Replacement

MPCO sent the contractor the Release of Claims this period.

1-year warranty extends to May 24, 2013.

R10PC20R11 20-C0730 Red Bluff Pumping Plant and Fish Screen, Pumps and Motors

There was no Office Engineering Administrative activity this period.

3-year warranty extends to August 2015.

R10PC20R09 20-C0740 Red Bluff Pumping Plant and Fish Screen, Landfill Excavation and Canal, Siphon and Access Bridge

There was no Office Engineering Administrative activity this period.

1-year warranty extends to December 21, 2012.

R10PC20R39 20-C0744 Volta Wasteway Refuge Level 2 Diversification Phase I Project – ARRA Project No. 28.129

There was no Office Engineering Administrative activity this period.

1-year warranty extends to February 9, 2013.

R10PX20R45 No. 20-C0750 Drought Relief, Well Enhancements

There was no Office Engineering Administrative activity this period.

1-year warranty for Tulare Irrigation District Well 1.16 extends to May 13, 2013. The 1-year warranties for all other wells have expired.

R10PC20R24 20-C0751 Folsom Dam, Safety of Dams Modifications, Spillway Piers and Gates

There was no Office Engineering Administrative activity this period.

1-year warranty extends to December 12, 2012.

R09PC20147 20-C0758 New Melones Lake Restroom Building Reroofing

There was no Office Engineering Administrative activity this period.

The warranty for the roof extends through the life of the structure. The 20-year warranties for metal siding, gutters and downspouts extend to May 20, 2031.

R10PC20196 20-C0769 Control Upgrade and Modernization of the Gantry Crane at Nimbus Powerplant

There was no Office Engineering Administrative activity this period.

2-year warranty extends to June 13, 2013.

R11PC20155 No.20-C0776a Delta Cross Channel Gate Control and Lighting Improvements

Closeout submittals were dealt with this period.

1-year warranty extends to April 24, 2013.

R12PC20055 20-C0776b Delta Cross Channel Gate Hoist Wire Rope Replacement

There was no Office Engineering Administrative activity this period.

1-year warranty extends to May 11, 2013.

R11PC20158 20-C0777 Stampede Powerplant and Switchyard Recoatings

There was no Office Engineering Administrative activity this period.

1-year warranty extends to August 12, 2013.

Concrete Class: Structural Concrete  
Report of Mixes Used From 09/01/2012 to 10/31/2012

Mix Design Number: F670AFPX7  
Specification Number: 20-C0746  
Project: Battle Creek  
Feature: Hydropower Facility Modifications Stage 1

Date Time	y^3 of Conc	Percent Of Coarse Aggregate in each size				Yield Quantities per Cubic Yard										Fresh Concrete Tests					Compressive Strength Of Individual Specimens (psi)								
		Sand	CA1	CA2	CA3	CA4	Water	Cem	Poz	Sand	C.A.	AD#3	AEA	WRA	AD#4	AD#5	Cem Eff	M P	Slump (ins)	UW (pcf)	W/ C+P	Grav Meth	Press Meter	3 Day	7 Day	28 Day	90 Day	180 Day	1 Year
09/06/2012																													
09:37	32.00	52.1	100.0	0.0	0.0	0.0	236	550	97	1577	1417	0	7.1	25.7	19.5	0.0	9.5	82	4.25	143.6	0.36	3.6	4.5			4000	5180		
																										4010	5240		
Design		47.4	100.0	0.0	0.0	0.0	280	536	95	1357	1507	0	3.1	25.2	18.9	0.0			3.00	139.8	0.44	4.0	4.0			4000			
AVG.		52.1	100.0	0.0	0.0	0.0	236	550	97	1577	1417	0	7.1	25.7	19.5	0.0	9.5	82	4.25	143.6	0.36	3.6	4.5			4005	5210		

Bureau.....: Required average strength = \*\*\*\*\* psi at 28 days. Based on 90% exceeding the design strength of 4000 psi & C.O.V. (n=58) = \*\*.\*  
 ACI.....: Required average strength = 17135 psi at 28 days (n=58)  
 CURE METHOD...: Water Tank with an Average Cure Temperature of 60 - 80 (F)

Concrete Class: Structural Concrete  
Report of Mixes Used From 09/01/2012 to 10/31/2012

Mix Design Number: F670GFPW8  
Specification Number: 20-C0746  
Project: Battle Creek  
Feature: Hydropower Facility Modifications Stage 1

Date Time	y^3 of Conc	Percent Of Coarse Aggregate in each size					Yield Quantities per Cubic Yard										Fresh Concrete Tests					Compressive Strength Of Individual Specimens (psi)								
		Sand	CA1	CA2	CA3	CA4	Water	Cem	Poz	Sand	C.A.	AD#3	AEA	WRA	AD#4	AD#5	Cem Eff	M	P	Slump (ins)	UW (pcf)	W/ C+P	Grav Meth	Press Meter	3 Day	7 Day	28 Day	90 Day	180 Day	1 Year
09/04/2012 07:41	19.00	59.6	100.0	0.0	0.0	0.0	226	517	96	1762	1166	0	6.1	48.4	30.5	0.0	7.7	80	5.50	139.5	0.37	6.5	6.3	2970	3910	2900	4010			
09/28/2012 13:55	5.00	45.9	100.0	0.0	0.0	0.0	208	523	94	1383	1591	0	6.9	49.3	30.8	0.0	7.9	85	4.25	140.7	0.34	6.2	6.1	3020	4120	3200	4170			
Design		44.4	100.0	0.0	0.0	0.0	285	536	95	1267	1585	0	2.1	50.4	50.4	0.0			6.00	139.6	0.45	4.0	4.0			4000				
AVG.		52.8	100.0	0.0	0.0	0.0	217	520	95	1573	1379	0	6.5	48.9	30.7	0.0	7.8	82	4.88	140.1	0.35	6.3	6.2	3023	4053					
S.D.		9.7	0.0	0.0	0.0	0.0	13	4	1	268	301	0	0.6	0.6	0.2	0.0	0.2	3	0.88	0.8	0.02	0.2	0.1	128	116					
C.O.V		18.3	0.0	0.0	0.0	0.0	5.9	0.8	1.5	17.0	21.8	0.0	9.3	1.2	0.6	0.0	2.4	4.2	18.1	0.6	6.3	3.9	2.3	4.2	2.9					

Bureau.....: Required average strength = 4816 psi at 28 days. Based on 90% exceeding the design strength of 4000 psi & C.O.V. (n=55) = 13.2  
 ACI.....: Required average strength = 4823 psi at 28 days (n=55)  
 CURE METHOD..: Water Tank with an Average Cure Temperature of 70 - 76 (F)

Concrete Class:  
Report of Mixes Used From 09/01/2012 to 10/31/2012

Mix Design Number: F850BCPA6  
Specification Number: 20-C0746  
Project: Battle Creek  
Feature: Hydropower Facility Modifications Stage 1

Date Time	y^3 of Conc	Percent Of				Yield Quantities per Cubic Yard										Fresh Concrete Tests					Compressive Strength Of Individual Specimens (psi)										
		Sand	CA1	CA2	CA3	CA4	Water	Cem	Poz	Sand	C.A.	AD#3	AEA	WRA	AD#4	AD#5	Cem Eff	M	P	Slump (ins)	UW (pcf)	W/ C+P	Grav Meth	Press Meter	3 Day	7 Day	28 Day	90 Day	180 Day	1 Year	
09/05/2012																															
08:00	73.00	69.5	100.0	0.0	0.0	0.0	311	661	117	1868	834	0	0.0	23.3	77.6	0.0	9.9	77	2.00	140.4	0.40	4.4	3.4			4000	6480				
																										4100	6600				
10:27	73.00	69.7	100.0	0.0	0.0	0.0	314	662	117	1874	829	0	0.0	23.3	77.8	0.0	9.6	83	2.50	140.6	0.40	4.1	3.0			4070	6520				
																										4260	6210				
Design		69.5	100.0	0.0	0.0	0.0	302	679	120	1961	860	0	0.0	24.0	0.0	0.0			3.00	145.3	0.38	1.5	1.5				4000				
AVG.		69.6	100.0	0.0	0.0	0.0	313	662	117	1871	832	0	0.0	23.3	77.7	0.0	9.8	80	2.25	140.5	0.40	4.2	3.2			4107	6452				
S.D.		0.1	0.0	0.0	0.0	0.0	2	1	0	4	4	0	0.0	0.0	0.1	0.0	0.2	4	0.35	0.1	0.00	0.2	0.3			110	169				
C.O.V		0.2	0.0	0.0	0.0	0.0	0.7	0.1	0.0	0.2	0.4	0.0	0.0	0.0	0.2	0.0	2.0	5.3	15.7	0.1	0.6	5.2	8.8			2.7	2.6				

Bureau.....: Required average strength = 4950 psi at 28 days. Based on 90% exceeding the design strength of 4000 psi & C.O.V. (Est.) = 15.0  
 ACI.....: Required average strength = 5200 psi at 28 days (n=8)  
 CURE METHOD...: Water Tank with an Average Cure Temperature of 70 - 76 (F)

Concrete Class: Structural  
Report of Mixes Used From 09/01/2012 to 10/31/2012

Mix Design Number: F850QPPA4  
Specification Number: 20-C0780  
Project: Central Valley  
Feature: Coleman Fish Hatchery Weir

Date Time	y^3 of Conc	Percent Of				Yield Quantities per Cubic Yard										Fresh Concrete Tests					Compressive Strength Of Individual Specimens (psi)									
		Sand	CA1	CA2	CA3	CA4	Water	Cem	Poz	Sand	C.A.	AD#3	AEA	WRA	AD#4	AD#5	Cem	M	Slump	UW	W/ C+P	Grav Meth	Press Meter	3 Day	7 Day	28 Day	90 Day	180 Day	1 Year	
09/18/2012																														
05:30	25.00	42.5	100.0	0.0	0.0	0.0	272	684	121	1164	1657	0	7.0	40.2	40.0	0.0	7.5	79	2.25	144.4	0.34	4.7	4.0	3290	3840	5020				
																							3380	3960	5270					
06:41	25.00	42.4	100.0	0.0	0.0	0.0	273	694	121	1170	1668	0	7.6	40.3	40.5	0.0	7.7	80	2.50	145.4	0.33	4.0	3.9	3150	4070	5700				
																							3480	4010	4990					
09/19/2012																														
07:41	12.25	42.5	100.0	0.0	0.0	0.0	250	679	118	1147	1632	0	7.9	39.4	39.4	0.0	6.6	66	3.25	141.7	0.31	7.2	4.0		3710	4740				
																								3860	4280					
Design																														
		41.3	100.0	0.0	0.0	0.0	282	679	120	1163	1656	0	7.0	5.0	40.0	0.0			3.00	144.4	0.35	4.0	4.0			4500				
AVG.																														
		42.4	100.0	0.0	0.0	0.0	265	686	120	1160	1652	0	7.5	40.0	40.0	0.0	7.3	75	2.67	143.8	0.33	5.3	4.0	3325	3908	5000				
S.D.																														
		0.0	0.0	0.0	0.0	0.0	13	8	2	12	18	0	0.4	0.5	0.5	0.0	0.6	8	0.52	1.9	0.01	1.7	0.1	140	131	479				
C.O.V																														
		0.1	0.0	0.0	0.0	0.0	4.9	1.1	1.4	1.0	1.1	0.0	5.7	1.2	1.3	0.0	7.8	10.4	19.5	1.3	4.0	32.1	1.5	4.2	3.3	9.6				

Bureau.....: Required average strength = 5569 psi at 28 days. Based on 90% exceeding the design strength of 4500 psi & C.O.V. (Est.) = 15.0  
 ACI.....: Required average strength = 5700 psi at 28 days (n=6)  
 CURE METHOD...: Water Tank with an Average Cure Temperature of 70 - 76 (F)

10/31/2012

U.S. Bureau of Reclamation  
 SUMMARY OF FIELD AND LABORATORY TESTS OF COMPACTED FILL  
 CONTROLLED BY THE LABORATORY COMPACTION METHOD

Page 1

PROJECT: Battle Creek  
 FEATURE: Hydropower Facility Mods Stage 1  
 SPECIFICATION NO: 20-CO746  
 FILL NAME: 1 - Access Road

SPECIFICATION REQUIREMENTS:  
 Min percent compaction (D-Value): 95.00 %  
 Min average D-Value for ALL tests: 95.00 %  
 Max DRY Wo-Wf: 2.00  
 Max WET Wo-Wf: -2.00

PERIOD OF REPORT: 10/01/2012 - 10/31/2012

TEST NUMBER	LOCATION			FIELD DENSITY TESTS								LABORATORY VALUES				COMPACTION CONTROL VALUES				VISUAL SOIL CLASS	OTHER TESTS	REMARKS			
				WET				MINUS #4				COMP TEST METH	MAX DRY CYL (PCF)	OPT DRY DEN (PCF)	DEG MOIS OF SAT (%)	Wo-Wf (%)	C (%)	D (%)	PENE NEED (PSI)						
M S U B O H M T A R N D I B Y T R T A F E P U O H Y T R E S W	STATION	OFF SET	ELEV	METH OF COMP	USBR TEST	DEN TOT	MOIS TOT	SPEC GRAV #3/4	GRAV +3/4	GRAV -3/4	DRY DEN (PCF)	MOIS CONT (%)	OF SAT (%)	COMP METH	MAX DRY CYL (PCF)	OPT DRY DEN (PCF)	DEG MOIS OF SAT (%)	Wo-Wf (%)	C (%)	D (%)	PENE NEED (PSI)	VISUAL SOIL CLASS	OTHER TESTS	REMARKS	
10-15-A-01-R-A	1 RE +MR 1SG		1100	VR	7205	138.6	7.1	0.0	AV	AV	129.4	7.1	65	R	134.7	129.2	9.1	83	2.0	102.9	100.2	NA	SC	N	
10-29-A-01-R-A*	1 RD +EN 90CL		1050	VR	7205	142.0	5.9	10.0	2.60	AV	131.8	6.3	63	R	125.7	128.9	9.4	85	3.1	111.5	102.2	NA	(SC)G	N	
10-29-A-02-R-A*	1 RD E+nt 56'S		1050	VR	7205	142.8	7.7	7.0	2.62	AV	130.9	8.1	78	R	132.8	127.8	11.2	97	3.1	106.6	102.4	NA	(SM)G	N	
ACCEPTED TESTS THIS PERIOD: 3					AVG.	141.1	6.9	5.7	2.61		130.7	7.2	69		131.1	128.6	9.9	88	2.7	107.0	101.6				
					S.D.	2.2	0.9	5.1	0.01		1.2	0.9	8		4.7	0.7	1.1	8	0.6	4.3	1.2				
					C.O.V.	1.6	13.3	90.6	0.54		0.9	12.6	12		3.6	0.6	11.5	9	23.2	4.0	1.2				

AV: Assumed Values used for Specific Gravity dependant calculations. +3/4=2.55 -3/4=2.68

10/31/2012

U.S. Bureau of Reclamation  
STATISTICAL SUMMARY OF FIELD AND LABORATORY TESTS OF COMPACTED FILL  
CONTROLLED BY THE LABORATORY COMPACTION METHOD

Page 2

PROJECT: Battle Creek  
FEATURE: Hydropower Facility Mods Stage 1  
SPECIFICATION NO: 20-CO746  
FILL NAME: 1 - Access Road

SPECIFICATION REQUIREMENTS:  
Min percent compaction (D-Value): 95.00 %  
Min average D-Value for ALL tests: 95.00 %  
Max DRY Wo-Wf: 2.00  
Max WET Wo-Wf: -2.00

PERIOD OF REPORT: 10/01/2012 - 10/31/2012

	This Period	To Date
No. of Tests Taken	3	13
No. of Tests Accepted	3	13
No. of Tests Rejected	0	0
No. of Rejected Tests not Re-Checked	0	0
Average Water Content Total Material	6.9	11.0
Average Control Fraction Water Content	7.2	14.2
Average Optimum Water Content	9.9	16.7
Average Wo-Wf	2.7	2.5
Percent of Accepted Tests Dryer Than 2.00	66.7	69.2
Percent of Accepted Tests Wetter Than -2.00	0.0	0.0
Average Wet Density Total Material (PCF)	141.1	131.1
Average Control Fraction Dry Density (PCF)	130.7	112.7
Average Proctor Max Dry Density (PCF)	128.6	113.2
Average Compaction Cylinder Wet Density (PCF)	131.1	122.7
Average Percent +3/4 Material (%)	5.7	25.4
Average C-Value (%)	107.0	104.7
Average D-Value (%)	101.6	99.5
Percent Accepted with D-Value < 95.0	0.0	7.7
Tests Accepted Outside of Specification Limits	2	10
Minimum D-Value of 95.0 %	0	1
Max DRY Wo-Wf of 2.00	2	9



10/31/2012

U.S. Bureau of Reclamation  
STATISTICAL SUMMARY OF FIELD AND LABORATORY TESTS OF COMPACTED FILL  
CONTROLLED BY THE LABORATORY COMPACTION METHOD

Page 2

PROJECT: Battle Creek  
FEATURE: Hydropower Facility Mods Stage 1  
SPECIFICATION NO: 20-CO746  
FILL NAME: 2 - Structural Backfill

SPECIFICATION REQUIREMENTS:  
Min percent compaction (D-Value): 95.00 %  
Min average D-Value for ALL tests: 95.00 %  
Max DRY Wo-Wf: 2.00  
Max WET Wo-Wf: -2.00

PERIOD OF REPORT: 10/01/2012 - 10/31/2012

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	This Period	To Date
No. of Tests Taken	5	48
No. of Tests Accepted	4	41
No. of Tests Rejected	1	7
No. of Rejected Tests not Re-Checked	0	4
Average Water Content Total Material	13.1	11.5
Average Control Fraction Water Content	14.9	14.8
Average Optimum Water Content	16.0	16.4
Average Wo-Wf	1.0	1.6
Percent of Accepted Tests Dryer Than 2.00	0.0	31.7
Percent of Accepted Tests Wetter Than -2.00	0.0	0.0
Average Wet Density Total Material (PCF)	129.3	134.3
Average Control Fraction Dry Density (PCF)	108.7	110.1
Average Proctor Max Dry Density (PCF)	111.8	111.5
Average Compaction Cylinder Wet Density (PCF)	127.0	125.7
Average Percent +3/4 Material (%)	17.5	29.5
Average C-Value (%)	98.4	100.5
Average D-Value (%)	97.2	98.7
Percent Accepted with D-Value < 95.0	25.0	12.2
Tests Accepted Outside of Specification Limits	1	18
Minimum D-Value of 95.0 %	1	5
Max DRY Wo-Wf of 2.00	0	13

U.S. Bureau of Reclamation  
Concrete Construction Data

Concrete Class: Lean Concrete Fill  
Report of Mixes Used From 06/28/2012 to 10/31/2012

Mix Design Number: 1529207  
Specification Number: 20-C0754  
Project: MIAD Key-Block  
Feature: Lean Concrete

(psi)	y^3	Percent Of														Fresh Concrete Tests					Compressive Strength Of Individual Specimens									
		Coarse Aggregate							Yield Quantities per Cubic Yard							Air					3	7	28	90	180					
Date	of	in each size					Pounds							Oz					Cem	M	Slump	UW	W/	Grav	Press	3	7	28	90	180
1	Time	Conc	Sand	CA1	CA2	CA3	CA4	Water	Cem	Poz	Sand	C.A.	AD#3	AEA	WRA	AD#4	AD#5	Eff	P	(ins)	(pcf)	C+P	Meth	Meter	Day	Day	Day	Day	Day	
06/28/2012																														
08:52	566.00	73.0	100.0	0.0	0.0	0.0	467	398	101	2039	758	0	0.0	0.0	0.0	0.0	0.0	3.4	72	7.50	139.4	0.94	0.7	0.4	790	1330				
																								770	1360					
10:35	566.00	73.1	100.0	0.0	0.0	0.0	473	402	103	2068	763	0	0.0	0.0	0.0	0.0	0.0	3.5	77	7.00	141.1	0.94	-0.6	0.7	870	1370	1970			
																								900	1470	1910				
12:41	568.00	73.0	100.0	0.0	0.0	0.0	470	401	100	2047	760	0	0.0	0.0	0.0	0.0	0.0	3.4	78	6.75	139.9	0.94	0.2	0.6	790	1310				
																								770	1390					
07/10/2012																														
09:35	973.33	70.4	100.0	0.0	0.0	0.0	471	402	102	1987	834	0	0.0	0.0	0.0	0.0	0.0	3.5	77	6.50	140.6	0.93	-0.5	0.6	800	1440				
																								840	1410					
12:08	973.33	70.5	100.0	0.0	0.0	0.0	474	405	102	1994	835	0	0.0	0.0	0.0	0.0	0.0	3.2	80	7.00	141.1	0.93	-0.9	0.4	770	1300	1850			
																								750	1260	1800				
14:12	973.33	70.4	100.0	0.0	0.0	0.0	466	399	100	1972	829	0	0.0	0.0	0.0	0.0	0.0	3.3	78	6.50	139.5	0.93	0.3	0.4	800	1360				
																								790	1300					
07/12/2012																														
08:54	602.00	69.5	100.0	0.0	0.0	0.0	471	403	103	1965	862	0	0.0	0.0	0.0	0.0	0.0	3.8	76	6.50	140.9	0.93	-0.6	0.4	850	1510				
																								900	1530					
10:39	602.00	69.5	100.0	0.0	0.0	0.0	472	403	104	1968	863	0	0.0	0.0	0.0	0.0	0.0	3.4	74	6.75	141.1	0.93	-0.8	0.4	830	1430	1980			
																								820	1350	1950				
12:40	602.00	69.6	100.0	0.0	0.0	0.0	469	401	100	1960	855	0	0.0	0.0	0.0	0.0	0.0	3.6	78	6.75	140.2	0.94	-0.2	0.5	820	1430				
																								800	1420					
14:30	602.00	69.6	100.0	0.0	0.0	0.0	472	403	102	1965	860	0	0.0	0.0	0.0	0.0	0.0	80		6.50	140.8	0.93	-0.7	0.6				1930		
																												1940		
16:09	602.00	69.6	100.0	0.0	0.0	0.0	472	403	101	1965	858	0	0.0	0.0	0.0	0.0	0.0	82		6.50	140.7	0.94	-0.7	0.6				1860		
																												1930		
07/17/2012																														
06:47	566.00	68.9	100.0	0.0	0.0	0.0	467	398	103	1923	872	0	0.0	0.0	0.0	0.0	0.0	3.6	67	6.50	139.4	0.93	0.8	0.5	840	1450				
																								820	1420					
09:05	566.00	69.0	100.0	0.0	0.0	0.0	477	407	103	1971	891	0	0.0	0.0	0.0	0.0	0.0	3.8	69	5.50	142.6	0.94	-1.5	0.5	910	1540	2300			
																								930	1590	2410				
11:42	566.00	68.8	100.0	0.0	0.0	0.0	467	403	101	1924	874	0	0.0	0.0	0.0	0.0	0.0	3.3	73	6.50	139.6	0.93	0.6	0.5	890	1340				
																								870	1350					
14:27	566.00	68.9	100.0	0.0	0.0	0.0	471	405	101	1948	887	0	0.0	0.0	0.0	0.0	0.0	73		6.50	141.2	0.93	-0.6	0.4				2070		
																												2140		
15:22	566.00	69.0	100.0	0.0	0.0	0.0	469	400	101	1930	875	0	0.0	0.0	0.0	0.0	0.0	74		6.75	139.8	0.94	0.2	0.5				1870		



U.S. Bureau of Reclamation  
Concrete Construction Data

Concrete Class: Lean Concrete Fill  
Report of Mixes Used From 06/28/2012 to 10/31/2012

Mix Design Number: 1529207  
Specification Number: 20-C0754  
Project: MIAD Key-Block  
Feature: Lean Concrete

(psi)	Percent Of														Fresh Concrete Tests					Compressive Strength Of Individual Specimens								
	y^3	Coarse Aggregate				Yield Quantities per Cubic Yard					Air					3	7	28	90	180								
Date of	Conc	Sand	CA1	CA2	CA3	CA4	Water	Cem	Poz	Sand	C.A.	AD#3	AEA	WRA	AD#4	AD#5	Cem M	Slump	UW	W/	Grav	Press	3	7	28	90	180	
Time	Year																Eff	P	(ins)	(pcf)	C+P	Meth	Meter	Day	Day	Day	Day	Day
07/26/2012																												
11:32	464.00	69.4	100.0	0.0	0.0	0.0	467	399	100	1942	858	0	0.0	0.0	0.0	0.0	76	6.00	139.5	0.94	0.6	0.5						2060
13:08	464.00	69.2	100.0	0.0	0.0	0.0	468	400	100	1940	864	0	0.0	0.0	0.0	0.0	76	6.00	139.7	0.94	0.4	0.4						2070
																												2100
																												2020
07/31/2012																												
09:31	680.00	69.2	100.0	0.0	0.0	0.0	473	403	102	1947	868	0	0.0	0.0	0.0	0.0	3.9	73	5.75	140.5	0.94	-0.2	0.3	800	1560	2160		
12:28	680.00	69.4	100.0	0.0	0.0	0.0	469	399	102	1951	862	0	0.0	0.0	0.0	0.0	3.8	78	6.25	140.1	0.94	0.1	0.3	760	1550	2100		
																								730	1520	2040		
																								640	1510	2100		
10/25/2012																												
08:13	887.50	69.4	100.0	0.0	0.0	0.0	469	399	107	1957	863	0	0.0	0.0	0.0	0.0	67	5.00	140.6	0.93	-0.1	1.5	#####	#####	#####			
10:16	887.50	69.4	100.0	0.0	0.0	0.0	475	405	103	1975	869	0	0.0	0.0	0.0	0.0	69	5.50	141.7	0.94	-1.0	1.0	#####	#####	#####			
13:07	887.50	69.3	100.0	0.0	0.0	0.0	472	406	103	1975	875	0	0.0	0.0	0.0	0.0	72	7.00	141.9	0.93	-1.0	1.0	#####	#####	#####			
16:21	887.50	69.4	100.0	0.0	0.0	0.0	472	402	101	1959	865	0	0.0	0.0	0.0	0.0	72	6.50	140.7	0.94	-0.3	1.5	#####	#####	#####			
Design		45.0	100.0	0.0	0.0	0.0	475	399	101	1257	1542	0	0.0	0.0	0.0	0.0			8.00	139.8	0.95	0.4	0.4					1000
AVG.		69.8	100.0	0.0	0.0	0.0	471	402	102	1967	851	0	0.0	0.0	0.0	0.0	3.5	74	6.48	140.4	0.93	-0.2	0.6	841	1421	1988		
S.D.		1.1	0.0	0.0	0.0	0.0	3	2	2	31	32	0	0.0	0.0	0.0	0.0	0.2	4	0.62	0.8	0.00	0.6	0.3	66	91	144		
C.O.V		1.6	0.0	0.0	0.0	0.0	0.6	0.6	1.7	1.6	3.7	0.0	0.0	0.0	0.0	0.0	6.2	5.4	9.6	0.6	0.3	**.*	49.0	7.8	6.4	7.2		

Bureau.....: Required average strength = 1114 psi at 28 days. Based on 90% exceeding the design strength of 1000 psi & C.O.V. (n=46) = 8.0  
 ACI.....: Required average strength = 1154 psi at 28 days (n=46)  
 CURE METHOD...: Water Tank with an Average Cure Temperature of 78 - 82 (F)

##### = Specimen not broken as of report date.

U.S. Bureau of Reclamation  
Aggregate Gradation Summary

From 2/16/2012 to 10/25/2012

Specification : 20-C0754  
Mix Number : 1534982  
Project : MIAD Key-Block  
Feature : MIAD Key-Block Lean Concrete

Nominal Size : 1" (ASTM)

Combined Aggregate Gradations for Lean Concrete

Date	Percent Passing Screen Sizes in Inches or Sieve Size Shown								
	1 1/2"	1"	1/2"	% Moist #4	Spec #8	-200	%	Grav	Absorp
Spec Max %		100.0		50.0		10			
Spec Min %		100.0		0.0		0			
02/16/2012D		100.0		45.9		8.1	N/A	2.72	1.00
02/23/2012D		100.0		43.5		7.7	3.15	2.72	1.00
03/02/2012B		100.0		42.9		6.6	5.5	2.72	1.00
03/05/2012D		100.0		47.2		7.9	N/A	2.72	1.00
03/09/2012B		100.0		48.3		7.8	5.5	2.72	1.00
03/21/2012B		100.0		46.6		7.9	5.0	2.72	1.00
06/28/2012E		100.0		50.8		9.5	N/A	2.72	1.00
07/10/2012E		100.0		46.4		8.5	N/A	2.72	1.00
07/12/2012A		100.0		44.8		8.3	N/A	2.72	1.00
07/17/2012E		100.0		43.3		8.1	N/A	2.72	1.00
07/19/2012A		100.0		45.2		8.3	N/A	2.72	1.00
07/24/2012E		100.0		47.7		9.2	N/A	2.72	1.00
07/26/2012A		100.0		44.2		7.9	N/A	2.72	1.00
07/31/2012A		100.0		44.3		8.1	N/A	2.72	1.00
10/25/2012F		100.0		46.4		7.9	N/A	2.72	1.00
Average		100.0		45.8		8.1	3.80	2.72	1.00