



# **Twitchell Dam Project Update**

***California Severe Winter Storms,  
Flooding, Landslides, and Mudslides  
(DR-4683 & DR-4699)***

**July 13, 2023**

# Financial Summary

The below tables outline the current financial landscape of the Twitchell Dam emergency efforts in response to

## Vegetative Debris Removal

Contractor	Invoice #	Invoice Period	Scope	Amount
MSL	CAT A - Vegetative Debris - 6	04.11.23 - 04.13.23	Debris Removal & Disposal Costs	\$ 17,324.50
MSL	CAT A - Vegetative Debris - 7	04.17.23 - 04.25.23	Debris Removal & Disposal Costs	\$ 33,613.41
<b>Total</b>				<b>\$ 50,937.91</b>

## Reservoir Pumping Efforts

Contractor	Invoice #	Invoice Period	Scope	Amount
MSL	23Twitch - Cat A	01.16.23 - 02.25.23	Mobilization, Temporary Storage Facility	\$ 10,568,953.43
MSL	23Twitch – Cat B-4	01.16.23 - 02.25.23	Mobilization, Equipment, Per Diem, Labor	\$ 4,289,844.92
MSL	24Twitch - Cat A2	02.26.23 - 03.18.23	Mobilization, Equipment, Per Diem, Labor	\$ 3,132,592.62
MSL	23Twitch – Cat B-5	02.26.23 - 03.18.23	Demobilization, Equipment, Per Diem, Labor	\$ 2,491,459.96
MSL	24Twitch - Cat A3	03.19.23 - 03.25.23	Mobilization	\$ 1,044,197.54
MSL	23Twitch – Cat B-6	03.19.23 - 03.25.23	Equipment, Per Diem, Labor	\$ 408,042.13
MSL	23Twitch – Cat B-7	03.27.23 - 04.01.23	Equipment, Per Diem, Labor	\$ 180,946.45
<b>Total</b>				<b>\$ 22,116,037.05</b>

**TWITCHELL DAM PROJECT UPDATE**

**Administrative**

<b>Contractor</b>	<b>Invoice #</b>	<b>Invoice Period</b>	<b>Scope</b>	<b>Amount</b>
Synergy	1516	01.19.23 - 02.25.23	Planning	\$ 183,405.12
Synergy	1517	01.19.23 - 02.25.23	Mobilization	\$ 110,975.83
Synergy	1549	02.26.23 - 03.31.23	Field Oversight	\$ 217,606.31
<b>Total</b>				<b>\$ 511,987.26</b>

**Other Costs**

<b>Contractor</b>	<b>Invoice #</b>	<b>Invoice Period</b>	<b>Scope</b>	<b>Amount</b>
ROC Sciences*	TBD	TBD	TBD	\$ 3,800,000.00
MSL**	24Twitch - Cat A4	03.27.2023 - 04.01.23	Mobilization	\$ 1,044,197.54
<b>Total</b>				<b>\$ 4,844,197.54</b>

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**Total Costs Incurred \$ 27,523,159.76**

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\* ROC Sciences invoices have not yet been billed to SMVWCD.

\*\* Per previous discussions, mobilization activities ceased prior to the invoice period of this invoice.

# Key Dates

**DR-4683 INCIDENT PERIOD:** Dec 27, 2022 - Jan 31, 2023

**DR-4683 DECLARATION DATE:** Jan 14, 2023

**DR-4699 INCIDENT PERIOD:** Feb 21, 2023 - Continuing

**DR-4699 DECLARATION DATE:** Feb 21, 2023 - Continuing

**DR-4683 END OF 100% REIMBURSEMENT PERIOD:** Feb 25, 2023

**DR-4699 DECLARATION DATE:** Apr 3, 2023

**DR-4683 EMERGENCY WORK ACTIVITY COMPLETION DEADLINE:** Jul 14, 2023

**DR-4683 PERMANENT WORK ACTIVITY COMPLETION DEADLINE:** Jul 14, 2024



DR-4683



DR-4699

# Grants Portal Status

- **CATEGORY A – DEBRIS REMOVAL**

- Initial Status
  - Streamlined Application present, totaling \$50,937.91 in estimated costs
  - 17 documents uploaded, including LIDAR, procurement, and cost summary of invoices
- Actions Taken
  - Met with FEMA 7/11 to determine shortcomings of current Streamlined Application in Grants Portal
  - Determined support provided in application for cost and tie to disaster was insufficient
  - Combated FEMA concern that potential project scope was due to deferred maintenance
- Next Steps
  - Update Streamlined Application in Grants Portal to include necessary and relevant supporting documentation
  - Modify PW in Grants Portal to not reflect work completed within first 60 days of disaster which changes the cost share from 100% to 75%
    - Per FEMA, 60-day incentive period started on the start date of the incident (12/27/22)
    - Vegetative debris removal completed in April 2023 after stoppage of pumping operations on 3/25/23

- **CATEGORY B – EMERGENCY PROTECTIVE MEASURES**

- Initial Status
  - Project Application for \$14,858,798.35
  - 273 documents uploaded, mostly photos
- Actions Taken
  - Met with FEMA 7/11 to determine shortcomings of current Streamlined Application in Grants Portal
  - Determined support provided in application for cost and tie to disaster was insufficient
  - Combated FEMA concern that potential project scope was due to deferred maintenance

- Next Steps
  - Update Streamlined Application in Grants Portal to include necessary and relevant supporting documentation.
  - Modify PW in Grants Portal to not reflect work completed within first 60 days of disaster which changes the cost share from 100% to 75%
    - Per FEMA, 60-day incentive period started on the start date of the incident (12/27/22)
    - Vegetative debris removal completed in April 2023 after stoppage of pumping operations on 3/25/23
  
- **CATEGORY D – SEDIMENT REMOVAL**
  - Initial Status
    - No project submitted in FEMA Grants Portal as of 7/11/2023 for this work
  - Actions Taken
    - Discussed project with FEMA on 7/11/2023
  - Next Steps
    - FEMA directing project to be submitted as a permanent work project, Category D
    - FEMA will have to create the project in Grants Portal since it is deemed permanent work. In order for FEMA to take that initial step, the District will be required to provide the following documents to FEMA:
      - Scope of work to be completed
      - Estimated cost to complete work (showing calculations to build cost)
      - Supporting documentation, which is expected to be:
        - Pre-disaster sediment levels
        - LiDAR data/reports from February 2023
        - Calculations to show the volume of sediment deposited due to 4699
        - Maintenance plan and records

- **CATEGORY D – OTHER PERMANENT WORK**

- Initial Status
  - No project submitted in FEMA Grants Portal as of 7/11/2023 for this work
- Actions Taken
  - Met with FEMA 7/11 to discuss.
  - Determined that any additional permanent work that may be identified after the sediment/water-level recedes will need a project worksheet completed in Grants Portal
- Next Steps
  - Add potential project work to the application
  - Develop estimates to complete work, develop RFP documents to bid work, provide additional information to FEMA to develop projects within Grants Portal

- **NEXT STEPS SUMMARY**

- MSL invoices need to be resubmitted to SMVWCD to properly silo costs under each project.
- Obtain maintenance records for the dam to support continued maintenance efforts.
- Update Streamlined Applications in Grants Portal.
  - Include Synergy and missing MSL/ROC Sciences costs.
  - Archive/Rename unnecessary documents within the Streamlined Application.
  - Develop Scope of Work document including a calculation that outlines volume of sediment pre- and post-disaster for each declaration.
- Contract and perform another round of LIDAR to document change from 4683 to 4699.

# Attachment I:

Thumb Drive

Contents Analysis



**HORNE**



The below section outlines the contents of the thumb drive provided to HORNE for review. Our analysis attempts to highlight important information relevant for the obligation of funds and performance of upcoming sediment removal work.

- **CONTRACTOR DOCUMENTS & GENERAL DOCUMENTS FOLDERS**

- Pre-disaster photos dated 11/5/22, 11/16/22, 12/23/22, 1/2/23 all of which show the reservoir essentially dry and show top of trash rack
- Biological Resources Assessment from 2013 which discusses potential impacts to biological resources from a potential dredging project.
- Initial Study – Twitchell Reservoir Dredging Project – January 15, 2023 – report references prior dredging operations in 1999, 2002, and 2010/2011
  - **Did the district conduct this project?**
- Map for Temporary Road
- 2012 Draft Twitchell Dam Maintenance Program – appears to contemplate work on the downstream channel side of the dam
- 2013 Draft Twitchell Dam Maintenance Program - appears to contemplate work on the downstream channel side of the dam
- 2020 Twitchell Project Manual – describes sediment removal.
  - **Has the district been following this?**
- 2012 Aerial Survey and Sedimentation Update
- 2018 Aerial Survey and Sedimentation Update
- LiDAR data from February 2023
- Project plan and supporting documents (workflow diagram, permitting info and summaries, work plan – mostly working documents)
- Environmental documents:
  - California Water Board
    - SWPPP
    - Permit forms and regulations (*blank*)
  - Fish and Wildlife
    - Biological assessment
    - Endangered species map
    - Endangered species lists (broader area)
    - Best Management Practices requirements
  - Floodplain
    - Disaster floodplain resource information
  - Inspections
    - BMPs (3/7 – 3/21/23)
    - Rain Gauge Log (3/7 – 3/21/23)
    - Rain Event Action Plan (REAP) – 3/9 – 3/21/23)
  - Permit Applications
    - Cal General Permit to discharge storm water
    - 401 General Permit for sediment removal (NOI)

- Conditional approval from USACE for fill material discharge for emergency work
    - USACE Nationwide Permit Pre-Construction Notification
    - 2018 USACE permit applications
  - POC Lists (primarily CalOES but general industry list as well)
- **CASE MANAGEMENT FOLDER**
  - Email correspondence with:
    - CalOES
    - Cal Fish and Wildlife
    - Permitting assistance consultants
    - MSL and SMVWCD
    - NRCS denial for funding assistance
  - Letters:
    - SMVWCD to CalOES and FEMA for Synergy access
  - General Disaster Guidance documents from CalOES
  - Notes:
    - Meeting agenda from Synergy meeting with CalOES 1/30/23
    - Synergy Notes from 1/31/23 “Debris Ops Overview”
    - “Talking Points”
    - Bureau of Reclamation map of Twitchell Reservoir
    - Working document to start SOW development
  - Work Plan:
    - Multiple versions of work plan development for sediment removal from Jan 17, 2023
  - Damaged Inventory (FEMA requirement)
  - 1955 Contract for the construction of the “Santa Maria Project” between the Santa Barbara County Water Agency and the Santa Maria Valley Water Conservation District
  - 1956 Contract between the United States and the Santa Barbara County Water Agency for the construction of the Santa Maria Project
  - Files from Wendy Mota:
    - 2017 CalOES approval letter to SMVWCD for Public Assistance with the Keyhole Stilling Basin PW attached
    - 2018 FEMA letter to SMVWCD denying public assistance
    - 2020 SMVWCD letter to Congressman Carbajal for assistance with funding
    - March 31, 2022 letter from FEMA denying SMVWCD appeal for public assistance
    - Draft letter dated April 4, 2022 from SMVWCD to “Wendy and Leigh”
      - Appears to be a draft 2<sup>nd</sup> level appeal
- **PROJECT FILES FOLDER**
  - CAT A Pre and Post 60 folders were empty, minus a couple unedited templates.
  - CAT B Pre and Post 60 folders contained some inspection photos, but also empty for the most part.

# Attachment II:

## Activity Timeline



**HORNE**

ATTACHMENT II: ACTIVITY TIMELINE

The below section outlines the contents of the thumb drive provided to HORNE for review. Our analysis attempts to highlight important information relevant for the obligation of funds and performance of upcoming sediment removal work.

<b>Date</b>	<b>Actioner</b>	<b>Event</b>
<b>1/14/2023</b>	FEMA	DR-4683-CA Declaration Date
<b>1/16/2023</b>	BSC	Requisition Equipment and Materials
<b>1/17/2023</b>	SMVWCD	MSL Contract Activated
<b>1/17/2023</b>	MSL	Sedement Removal Work Plan Developed
<b>1/17/2023</b>	BSC	Requisition Equipment and Materials
<b>1/18/2023</b>	BSC	Requisition Equipment and Materials; Planning Meeting
<b>1/19/2023</b>	BSC	Requisition Equipment and Materials; Planning Meeting
<b>1/20/2023</b>	SMVWCD	Synergy Contract Executed
<b>1/20/2023</b>	BSC	Requisition Equipment and Materials; Planning Meeting
<b>1/21/2023</b>	BSC	Requisition Equipment and Materials; Planning Meeting
<b>1/22/2023</b>	BSC	Receive Equipment and Materials
<b>1/23/2023</b>	BSC	Receive Equipment and Materials
<b>1/24/2023</b>	BSC	Receive Equipment and Materials
<b>1/25/2023</b>	BSC	Receive Equipment and Materials
<b>1/26/2023</b>	BSC	Assemble Barges and Construct Haul Road
<b>1/27/2023</b>	BSC	Assemble Barges and Construct Haul Road
<b>1/28/2023</b>	BSC	Assemble Barges and Construct Haul Road
<b>1/29/2023</b>	BSC	Assemble Barges and Construct Haul Road
<b>1/30/2023</b>	BSC	Assemble Barges and Construct Haul Road
<b>1/31/2023</b>	BSC	Assemble Barges and Construct Haul Road
<b>2/1/2023</b>	BSC	Splash and Assemble Poseidon Barges
<b>2/2/2023</b>	BSC	Splash and Assemble Poseidon Barges
<b>2/3/2023</b>	BSC	Place Equipment on Poseidon Barges; Build Ramp; LIDAR Survey Collection
<b>2/4/2023</b>	BSC	Build Ramp; Develop Road Access
<b>2/5/2023</b>	BSC	Build Ramp; Develop Road Access
<b>2/6/2023</b>	BSC	Build Ramp; Develop Road Access
<b>2/7/2023</b>	BSC	Outfit Crane Barge; Install Drainage; Excavate Scale Pad
<b>2/8/2023</b>	BSC	Install Crane Ramps; Install Drainage; Excavate Scale Pad
<b>2/9/2023</b>	BSC	Install Drainage; Excavate Scale Pad; Place Matts on Bulkhead; Prepped for Crane Walk and Scale Pad Pour

**TWITCHELL DAM PROJECT UPDATE**

<b>2/10/2023</b>	BSC	Install Drainage; Excavate Scale Pad; Place Matts on Bulkhead; Prepped for Crane Walk and Scale Pad Pour
<b>2/10/2023</b>	CALOES	Site Inspection
<b>2/11/2023</b>	BSC	Install Drainage; Scale Pad Install; Walk Crane onto Barge; Connected Clamshell
<b>2/11/2023</b>	SBK	Site Visit
<b>2/12/2023</b>	BSC	Place Cap on Roadway; Install Scale Pad
<b>2/13/2023</b>	SMVWCD	Synergy Authorization Letter Issued
<b>2/13/2023</b>	BSC	Place Cap on Roadway; Install Scale Pad; Place Runoff Measures
<b>2/14/2023</b>	BSC	Pour Scale Foundation; Walk Crane onto Barge; Attach Clamshell
<b>2/15/2023</b>	BSC	Remove Forms on Scale Foundation; Permit Request
<b>2/16/2023</b>	BSC	Preposition Equipment; Permit Request
<b>2/17/2023</b>	BSC	Preposition Equipment; Permit Request
<b>2/18/2023</b>	BSC	Preposition Equipment; Permit Request; Extended Crane
<b>2/19/2023</b>	BSC	Preposition Equipment; Permit Request
<b>2/20/2023</b>	BSC	Preposition Equipment; Permit Request
<b>2/21/2023</b>	BSC	Preposition Equipment; Permit Request; Prep for Storm
<b>2/22/2023</b>	BSC	Preposition Equipment; Permit Request; Prep for Storm
<b>2/23/2023</b>	BSC	Preposition Equipment; Permit Request; Prep for Storm
<b>2/24/2023</b>	BSC	Preposition Equipment; Permit Request; Prep for Storm
<b>2/25/2023</b>	BSC	Preposition Equipment; Permit Request; Prep for Storm
<b>3/7/2023</b>	BSC	BMP Inspection
<b>3/9/2023</b>	BSC	BMP Inspection
<b>3/9/2023</b>	BSC	Rain Event Action Plan
<b>3/10/2023</b>	BSC	BMP Inspection
<b>3/10/2023</b>	BSC	Rain Event Action Plan
<b>3/11/2023</b>	BSC	BMP Inspection
<b>3/12/2023</b>	BSC	BMP Inspection
<b>3/13/2023</b>	BSC	BMP Inspection
<b>3/13/2023</b>	BSC	Rain Event Action Plan
<b>3/14/2023</b>	BSC	BMP Inspection
<b>3/14/2023</b>	BSC	Rain Event Action Plan
<b>3/15/2023</b>	BSC	BMP Inspection
<b>3/16/2023</b>	BSC	BMP Inspection
<b>3/20/2023</b>	BSC	BMP Inspection
<b>3/20/2023</b>	BSC	Rain Event Action Plan
<b>3/21/2023</b>	BSC	BMP Inspection
<b>3/21/2023</b>	BSC	Rain Event Action Plan



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