

# RECLAMATION

*Managing Water in the West*

Technical Service Center

## Directory of Services



U.S. Department of the Interior  
Bureau of Reclamation  
Technical Service Center  
Denver, Colorado

February 2009

## **Mission Statements**

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

## **Vision**

Be the world-recognized center of technical excellence in water and related resources.

## **Mission**

Provide technical services for managing, developing, and protecting water and related resources.

## **Core Value**

Deliver the greatest value to every customer.

# Technical Service Center Profile

| <b>Created</b>               | October 1994   |             |        |       |                    |      |       |                 |      |       |                    |       |       |
|------------------------------|--|-------------|--------|-------|--------------------|------|-------|-----------------|------|-------|--------------------|-------|-------|
| <b>Agency</b>                | United States Department of the Interior<br>Bureau of Reclamation  |             |        |       |                    |      |       |                 |      |       |                    |       |       |
| <b>Director</b>              | Lowell Pimley, 303-445-2720  |             |        |       |                    |      |       |                 |      |       |                    |       |       |
| <b>Contacts</b>              | Civil Engineering Services, Dick LaFond, 303-445- 3226<br>Water and Environmental Resources, Craig Albertsen, 303-445-2267<br>Geotechnical Services, Karen Knight, 303-445-3044<br>Infrastructure Services, Mark Boyle, 303-445-2828   |             |        |       |                    |      |       |                 |      |       |                    |       |       |
| <b>How to Contact Us</b>     | Internet address                      www.usbr.gov/pmts/tech_services<br>Email address                         lpimley@do.usbr.gov<br>Telephone                                303-445-2720<br>Faxogram                                 303-445-6379<br>Address                                    Denver Federal Center, Bldg 67<br>PO Box 25007 (86-68000)<br>Denver, CO 80225-0007  |             |        |       |                    |      |       |                 |      |       |                    |       |       |
| <b>Our Business</b>          | World-class engineering, science, research, and support services for projects related to water resources   |             |        |       |                    |      |       |                 |      |       |                    |       |       |
| <b>How We Operate</b>        | The Technical Service Center recovers our operating costs through fee-for-service arrangements with clients without profit   |             |        |       |                    |      |       |                 |      |       |                    |       |       |
| <b>Number of Employees</b>   | 450  |             |        |       |                    |      |       |                 |      |       |                    |       |       |
| <b>Our Clients</b>           | <i>Reclamation:</i> Reclamation's Commissioner; Regional and Area Offices; Safety of Dams Program; Office of Program and Policy Services; Science and Technology Program; Office of Security, Safety, and Law Enforcement; International Affairs Office; Management Services Office, etc.<br><br><i>Other government agencies:</i> National Park Service, the U.S. Fish and Wildlife Service, the U.S. Geological Survey, Department of Energy, Bureau of Indian Affairs, the U.S. Environmental Protection Agency, etc.<br><br><i>International Customers</i> |             |        |       |                    |      |       |                 |      |       |                    |       |       |
| <b>Annual Revenues</b>       | \$72 million   |             |        |       |                    |      |       |                 |      |       |                    |       |       |
| <b>Billable Rates (FY09)</b> | <table><thead><tr><th>Skill Level</th><th>Hourly</th><th>Daily</th></tr></thead><tbody><tr><td>1 (GS-10 or below)</td><td>\$76</td><td>\$608</td></tr><tr><td>2 (GS-11 or 12)</td><td>\$99</td><td>\$792</td></tr><tr><td>3 (GS-13 or above)</td><td>\$120</td><td>\$960</td></tr></tbody></table>   | Skill Level | Hourly | Daily | 1 (GS-10 or below) | \$76 | \$608 | 2 (GS-11 or 12) | \$99 | \$792 | 3 (GS-13 or above) | \$120 | \$960 |
| Skill Level                  | Hourly   | Daily       |        |       |                    |      |       |                 |      |       |                    |       |       |
| 1 (GS-10 or below)           | \$76   | \$608       |        |       |                    |      |       |                 |      |       |                    |       |       |
| 2 (GS-11 or 12)              | \$99   | \$792       |        |       |                    |      |       |                 |      |       |                    |       |       |
| 3 (GS-13 or above)           | \$120  | \$960       |        |       |                    |      |       |                 |      |       |                    |       |       |

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# Technical Service Center

## Condensed Directory of Services Contacts

|                 |  | 303-                                   | FAX 303-                        |
|-----------------|--|--|---------------------------------|
| <b>86-68000</b> | <b>Technical Service Center</b>  | <b>Lowell Pimley, Director</b>         | <b>445-2720</b> <b>445-6379</b> |
| <b>86-68010</b> | <b>Client Support and Technical Presentations Office</b>                     | <b>Christi Young, Manager</b>          | <b>445-2561</b> <b>445-6356</b> |
|                 | TSC Business Manager   | Tom Luebke (86-68010)                  | 445-2600      445-6356          |
|                 | Client Liaisons  |  |                                 |
|                 | Great Plains Region  | Roger Burnett (86-68210)               | 445-2508      445-6351          |
|                 | Lower Colorado Region  | Scott Irvine (86-68120)                | 445-2253      445-6489          |
|                 | Mid-Pacific Region   | Dan Maag (86-68170)                    | 445-3084      445-6475          |
|                 | Pacific Northwest Region   | Bob Einhellig (86-68460)               | 445-2142      445-6351          |
|                 | Upper Colorado Region  | Chuck Borda (86-68270)                 | 445-2728      445-6380          |
|                 | International and Native American Affairs                                    | Bill Bouley (86-68360)                 | 445-2754      445-6473          |
|                 | Non-Reclamation Clients, P&A, PPS, S&T, and Reclamation Other (TR, MSO, HRO) | Gay Ann Martinez (86-68010)            | 445-3006      445-6456          |
|                 | K88 and K8T (TSC Working Capital Funds)                                      | Tom Luebke (86-68010)                  | 445-2600      445-6356          |
|                 | SSLE, Dam Safety Office, BIA Dam Safety                                      | Tim Tochtrop (86-68312)                | 445-2990      445-6472          |
|                 | TSC Environmental, Health, and Safety Officer                                | Thomas Bunnelle (86-68221)             | 445-2249      445-6329          |
| <b>86-68100</b> | <b>Civil Engineering Services Division</b>                                   | <b>Dick LaFond, Division Chief</b>     | <b>445-3226</b> <b>445-6379</b> |
| 68110           | Structural Analysis Group  | John Baals, Manager                    | 445-3222      445-6489          |
| 68120           | Plant Structures Group   | Mike O'Shea, Acting Manager            | 445-3272      445-6489          |
| 68130           | Waterways and Concrete Dams Group  | John LaBoon, Manager                   | 445-3235      445-6490          |
| 68140           | Water Conveyance Group   | Dave Edwards, Manager                  | 445-2750      445-6490          |
| 68170           | Estimating, Specifications, and Construction Management Group                | Bob Baumgarten, Manager                | 445-3076      445-6475          |
| 68180           | Materials Engineering and Research Laboratory Group                          | Bill Kepler, Manager                   | 445-2386      445-6341          |
| <b>86-68200</b> | <b>Water and Environmental Resources Division</b>                            | <b>Craig Albertsen, Division Chief</b> | <b>445-2267</b> <b>445-6379</b> |
| 68210           | Water Resources Planning and Operations Group                                | Joe Lyons, Acting Manager              | 445-2531      720-544-0266      |
| 68220           | Environmental Applications and Research Group                                | G. Chris Holdren, Manager              | 445-2178      445-6328          |
| 68240           | Sedimentation and River Hydraulics Group                                     | Tim Randle, Manager                    | 445-2557      445-6351          |
| 68250           | Flood Hydrology and Meteorology Group  | Dave Fisher, Manager                   | 445-2542      445-6351          |
| 68270           | Economics and Resource Planning Group  | Rick Vinton, Manager                   | 445-2738      445-6380          |
| 68290           | Fisheries and Wildlife Resources Group                                       | Steve Hiebert, Manager                 | 445-2206      445-6328          |
| <b>86-68300</b> | <b>Geotechnical Services Division</b>  | <b>Karen Knight, Division Chief</b>    | <b>445-3044</b> <b>445-6472</b> |
| 68311           | Embankment Dams & Geotechnical Engineering Group 1                           | Bob Dewey, Manager                     | 445-2976      445-6472          |
| 68312           | Embankment Dams & Geotechnical Engineering Group 2                           | Chuck Redlinger, Manager               | 445-2768      445-6472          |
| 68313           | Embankment Dams & Geotechnical Engineering Group 3                           | Dan Osmun, Manager                     | 445-2980      445-6472          |
| 68320           | Engineering Geology Group  | Lloyd Crutchfield, Manager             | 445-3074      445-6507          |
| 68322           | Geotechnical Computer and Technical Support                                  | Lloyd Crutchfield, Manager             | 445-3074      445-6507          |
| 68323           | Yucca Mountain Mapping Group   | Steve Beason, Supervisor               | 702-295-4088      702-295-2626  |
| 68330           | Geophysics and Seismotectonics Group   | Jerry Wright, Manager                  | 445-3161      445-6507          |
| 68360           | Instrumentation and Inspections Group  | DeWayne Campbell, Manager              | 445-3036      445-6472          |
| <b>86-68400</b> | <b>Infrastructure Services Division</b>                                      | <b>Mark Boyle, Division Chief</b>      | <b>445-2828</b> <b>445-6468</b> |
| 68410           | Mechanical Equipment Group   | Dave Hulse, Manager                    | 445-2881      445-6469          |
| 68420           | Hydraulic Equipment Group  | Dan Drake, Manager                     | 445-2874      445-6469          |
| 68430           | Electrical Design Group  | George Girgis, Manager                 | 445-2310      445-6420          |
| 68440           | Hydropower Technical Services Group  | Jim Zeiger, Manager                    | 445-2850      445-6468          |
| 68450           | Hydraulic Investigations and Laboratory Services Group                       | Cliff Pugh, Manager                    | 445-2151      445-6324          |





# 86-68000

## Technical Service Center

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|   |                     |
|---|---------------------|
| <b>Lowell Pimley, Director</b>  | <b>303-445-2720</b> |
| <b>86-68100 Civil Engineering Services Division</b><br>John Baals, Acting Division Chief      | 303-445-3222        |
| <b>86-68200 Water and Environmental Resources Division</b><br>Craig Albertsen, Division Chief | 303-445-2267        |
| <b>86-68300 Geotechnical Services Division</b><br>Karen Knight, Division Chief                | 303-445-3044        |
| <b>86-68400 Infrastructure Service Division</b><br>Mark Boyle, Division Chief                 | 303-445-2828        |
| <b>86-68010 Client Support and Technical Presentations Office</b><br>Christi Young            | 303-445-2561        |
| <b>TSC Business Manager</b><br>Tom Luebke   | 303-445-2600        |
| <b>Client Liaisons and Budget Support Staff</b>   | (see page 6)        |
| <b>TSC Environmental, Health, and Safety Officer</b><br>Thomas Bunnelle, (86-68221)           | 303-445-2249        |



## **86 68000 Technical Service Center**

### **Lowell Pimley, Director**

The Technical Service Center (TSC) provides Reclamation wide and Interior Department wide scientific, applied research, and engineering services related to water resources management support; and provides technical support for broad areas of water and power resources management, including geotechnical engineering, dam safety, civil engineering, environmental engineering, mechanical and electrical engineering, social and environmental science, and laboratory services.

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## **86 68010 Client Support and Technical Presentations Office**

### **Christi Young**

This office provides a variety of support services to the TSC and its clients.

#### **TSC Business Manager**

*Tom Luebke*

The Business Manager advises management on business strategies and tactics necessary for the successful operation of the TSC. Key aspects of TSC business include operating costs, billing rates, markets, staffing, outsourcing, and project delivery. Performance measures are developed, monitored, and reported on a real-time basis to aid individual managers in the implementation of the annual TSC business plan.

#### **Client Liaisons**

Client Liaisons coordinate workflow activities between the TSC and its clients. They are the primary points of contact for initiating work within multiple technical groups. Client Liaisons are involved in the following activities:

- Facilitating communication between clients and TSC teams
- Verifying product quality and client satisfaction
- Identifying the technical groups needed to perform the work
- Developing service agreements
- Monitoring schedules and budgets for ongoing work
- Distributing monthly management reports to clients and TSC team leaders
- Coordinating administrative functions such as establishing charge numbers

#### **Budget and Program Analysts**

Budget and Program Analysts assist client liaisons in the above activities and provide budget support to TSC team leaders.

**Client Support Staff and Areas Represented**

| <b>Client Liaison</b>                          | <b>Client</b>   | <b>Budget Support</b>                      |
|--|---|--|
| Roger Burnett, (86-68210)<br>303-445-2508      | Great Plains Region   | Tyna Petersen(86-68010)<br>303-445-2573    |
| Scott Irvine (86-68120)<br>303-445-2253        | Lower Colorado Region   | Marlene Johnson (86-68010)<br>303-445-2117 |
| Dan Maag (86-68170)<br>303-445-3084            | Mid-Pacific Region  | Janice Carson (86-68010)<br>303-445-3446   |
| Bob Einhellig (86-68460)<br>303-445-2142       | Pacific Northwest Region  |  |
| Chuck Borda (86-68270)<br>303-445-2728         | Upper Colorado Region   | Marlene Johnson (86-68010)<br>303-445-2117 |
| Bill Bouley (86-68360)<br>303-445-2754         | International Affairs and<br>Native American Affairs                  |  |
| Gay Ann Martinez<br>(86-68010)<br>303-445-3006 | P&A (Policy and Administration;<br>includes Manuals and<br>Standards) |  |
|  | S&T (Science and Technology)  | Janice Carson (86-68010)<br>303-445-3446   |
|  | PPS (Policy and Program Services)                                     | Dianne Parson (86-68010)<br>303-445-2302   |
|  | Reclamation Other (Technical<br>Resources, MSO, WO, HRO,<br>etc.)     |  |
|  | Other Government Agency (OGA)<br>and Non-Reclamation Clients          |  |
| Tom Luebke (86-68010)<br>303-445-2600          | K88 (TSC Working Capital Fund)  | Jacque Wright (86-68010)<br>303-445-2604   |
| Tim Tochtrop (86-68312)<br>303-445-2990        | SSLE, SEED/SOD, BIA, Dam Safety                                       | Dianne Parson (86-68010)<br>303-445-2302   |

**TSC Environmental, Health, and Safety Officer**

*Thomas Bunnelle (86-68221)*

This officer coordinates hazardous material disposal, medical surveillance, and environmental, industrial hygiene, occupational health, and safety services to meet Federal, State, and local government regulations.

## **Technical Presentations**

The technical presentations staff includes technical writers, editors, illustrators, and editorial assistants with extensive publications experience, varied technical backgrounds, and a broad knowledge of Reclamation policies, procedures, and projects. They are experts in Reclamation's Visual Identity requirements. Services and products provided by these staff members include:

- Technical reports
- Environmental impact statements and other environmental documents
- Manuals and handbooks
- Journal articles and proceedings
- Presentations and speeches
- Web page design and modification
- Exhibits and interpretive text
- Brochures
- Policy, instructional, and other nontechnical documents
- CD mastering and duplication
- Video editing and reformatting
- Multimedia enhancements
- Conversion of hardcopy documents into electronic formats
- Creation of documents using optical character recognition (OCR) applications
- Electronic graphic presentations
- Visual graphics for meetings, conferences, displays, litigation cases, and other purposes



# 86-68100

## Civil Engineering Services Division

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|                    |  |                     |
|--------------------|--|---------------------|
| <b>Dick LaFond</b> |  | <b>303-445-3226</b> |
| <b>86-68110</b>    | <b>Structural Analysis Group</b><br>John Baals   | 303-445-3222        |
| <b>86-68120</b>    | <b>Plant Structures Group</b><br>Mike O'Shea, Acting                                   | 303-445-3272        |
| <b>86-68130</b>    | <b>Waterways and Concrete Dams Group</b><br>John LaBoon                                | 303-445-3235        |
| <b>86-68140</b>    | <b>Water Conveyance Group</b><br>Dave Edwards  | 303-445-2750        |
| <b>86-68170</b>    | <b>Estimating, Specifications, and Construction Management Group</b><br>Bob Baumgarten | 303-445-3076        |
| 86-68171           | Yuma, Arizona  | 406-676-2600        |
| 86-68172           | Butte, Montana   | 406-491-1933        |
| <b>86-68180</b>    | <b>Materials Engineering and Research Laboratory Group</b><br>William Kepler           | 303-445-2386        |





## **86 68110 Structural Analysis Group**

### **John Baals**

This group provides structural engineering specialists for the design and analysis of new and existing concrete arch, multiple arch, gravity and buttress dams, powerplants, pumping plants, and other buildings and structures.

The Structural Analysis Group has experience in structures designed and constructed using mass, roller- compacted, reinforced, post-tensioned, and prestressed concrete, steel, timber, and masonry materials. Group expertise includes:

- Seismic performance evaluations of structures
  - Finite element analyses
  - Nonlinear dynamic analysis of dams, appurtenances, and buildings
  - Seismic modification designs of dams, appurtenances, and buildings
  - Seismic risk analyses
- 

## **86 68120 Plant Structures Group**

### **Mike O'Shea, Acting**

This group of structural and environmental engineers, architects, landscape architects, and technicians provides a wide array of services including:

- Project management and planning – appraisal, feasibility, and final design.
- Building and site layouts and design. Expertise includes powerplants, pumping plants, water and wastewater treatment facilities, visitor centers, and office buildings.
- Analysis and design of reinforced concrete, precast/prestressed concrete, masonry, structural steel, miscellaneous metalwork, and timber structures.
- Analysis and design of conventional and advanced water, wastewater, and hazardous waste treatment systems, including membrane purification and concentrate management applications.
- Analysis, design, and testing of pilot and demonstration-scale water treatment plants.
- Conservation and water reuse and recycling program planning.
- Rural water planning and planning designs for municipal, rural, and industrial (MR&I) systems.
- Civil and structural design of switchyards and substations.

- Recreation site development.
- Wetlands site landscape design.
- Structural evaluation of existing facilities.
- Evaluation, design, and retrofit of water treatment systems for compliance with the Safe Drinking Water Act (SDWA) and Clean Water Act (CWA).
- Evaluation, design, and retrofit of buildings and recreation facilities for accessibility compliance in accordance with guidelines established by the Architectural Barriers Act (ABA) and Americans with Disabilities Act (ADA).
- Evaluation, design, and retrofit of buildings for life safety compliance in accordance with the National Fire Protection Code (NFPA 101 – Life Safety Code).
- Technical assistance for contract development and administration, including statements of work, evaluation of proposals, and oversight as Contracting Officer’s Technical Representative (COTR).

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## **86 68130 Waterways and Concrete Dams Group**

### **John LaBoon**

This group specializes in structural and hydraulic analyses, evaluations, and designs of appurtenant structures (such as spillways and outlet works) for both concrete and embankment dams. In addition, the group works in concert with the Structural Analysis Group when designing or evaluating new and existing concrete dams. Typical structures analyzed, evaluated, or designed are composed of mass concrete, roller-compacted concrete, and reinforced concrete. The group analyzes, evaluates, and designs new structures and rehabilitates, removes, replaces, and upgrades existing structures.

The Waterways and Concrete Dams Group has the expertise to effectively undertake and complete technical work, ranging from long-term, complex activities to quick-turn-around activities. A large portion of the group's experience relates to safety of dams modifications to existing structures that are evaluated, analyzed, designed, and constructed in a risk framework.

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## **86 68140 Water Conveyance Group**

### **Dave Edwards**

This group provides engineering services for design and analysis of water conveyance systems, river improvements, and roads and bridges. The Water Conveyance Group performs work on:

- Irrigation and power canals and associated structures
- Transmission pipelines, pipe distribution systems, and pipeline control systems
- Tunnels, underground chambers, and shafts for all purposes
- Fish facilities (screens, ladders, and lifts)
- Hydraulic transient analysis (open channel and closed conduit)
- Water diversion structures
- Wetlands water conveyance features
- Bridge design

The Water Conveyance Group also provides engineering support for inspection and rehabilitation of existing facilities, including open channels, canal automation and control systems, roads, bridges, tunnels, underground structures, diversion dams, and pipelines.

In concert with diverse professional disciplines from the TSC and other Reclamation offices, the group provides planning engineering services to integrate physical resources and environmental intangibles into viable alternative solutions.

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## **86 68170 Estimating, Specifications, and Construction Management Group**

### **Bob Baumgarten**

This group provides numerous distinct areas of services from project conception through design and construction to project close-out. The group prepares Independent Government Cost Estimates (IGCE) at the appraisal, feasibility, percent design, prevalidation, engineers estimate, and contract modification levels. Services include preparing or reviewing detailed cost estimates, providing support for negotiated procurement, and analyzing bids and proposals. The group tracks cost indexes, which provide a rapid means of determining the current cost of construction of various properties based on previous estimates. This group maintains selected guide specifications and coordinates, prepares, and reviews specifications for a variety of purposes:

- Modify embankment dams and concrete dams for safety; to rehabilitate and improve roads and bridges

- Maintain, rehabilitate, and improve water conveyance systems infrastructure, powerplant and pumping plant structures, substations, and switchyards
- Clean up hazardous waste sites
- Plants and architectural buildings

Coordinates and manages Reclamation's Value Engineering/Value Analysis (VE/VA) Program in support of design and construction. Where appropriate, the group promotes the use of VE/VA to serve as a management tool, to ensure realistic budgets, to identify and remove nonessential capital and operating costs, and to improve and maintain optimum quality of program and acquisition functions. Value Program staff provide training to Reclamation staff who carry out VE/VA operations, lead VE studies, and provide consultation. Provide facilitation services for Group Objectives and Logistics (GOAL) and Project Alternative Solutions Study (PASS). These services help quantify user input, develop viable alternatives, and resolve conflicts for the complex situations.

The group provides a full range of construction management type services and support for design activities. Construction/PMP/ project administration, and environmental experts provide specific activities including:

- Constructability and specifications reviews
- Construction scheduling, tracking, and time impact analyses
- Contract dispute analysis and claims resolution
- Developing and monitoring detailed workplans, budgets, contract correspondence and reviewing contractor' submittals
- Interagency support for BIA, NPS, FWS, and EPA
- Project Management/Earned Value Analysis

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## **86 68180 Materials Engineering and Research Laboratory Group**

### **Bill Kepler**

This group provides specialized expertise on all of the engineering materials used to build Reclamation facilities. It provides a wide variety of services and assistance related to the testing, evaluation of engineering materials. The Materials Engineering and Research Laboratory Group is divided into seven teams that work in different areas:

- **Corrosion Technology team**—designs and specifies corrosion monitoring and cathodic protection systems. In addition, they evaluate existing cathodic protection systems, and investigates corrosion problems.

- **Coatings Technology team**—prepares specifications and review submittals pertaining to paints and coatings. They also conduct applied research to evaluate proposed coatings systems. This team also provides technical and troubleshooting assistance related to paints and protective coatings.
- **Geosynthetics Technology team**—conducts applied research to evaluate new, improved, or conventional materials and methodologies to effect more economical construction, less frequent maintenance, and new rep air or design approaches. This team also provides technical and troubleshooting expertise related to the proper use of geosynthetic/polymeric materials (sealants, waterstops, roofing, gaskets, and plastic pipe).
- **Concrete Technology team**—evaluates and tests concrete and concrete making materials, prepares and reviews specifications, and provides concrete mixture proportions for unusual design or construction requirements. It also provides concrete technology training, supplies inspection and calibration services, and assists with procurement of unique testing equipment.
- **Concrete Repair team**—provides guidance and technical advice in failure analysis, condition assessment, maintenance, repair, rehabilitation, and preservation of concrete infrastructure
- **Rock and Soil Testing team**—tests and evaluates the physical properties of rock and soils
- **Structural Testing and Evaluation team**—provides unique testing capabilities for the evaluation of concrete and steel. Capabilities include, dynamic loading, non-linear loading, biaxial, triaxial, and shear loading. Testing of unique structures, field dynamic loading, and nondestructive testing capabilities.

Standard and customized testing is available in the areas listed above. Special equipment includes a 5-million-pound universal large-scale testing machine, a vibration laboratory, and walk-in environmental and adiabatic test chambers.

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**86-68200**

## **Water and Environmental Resources Division**

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|  |                     |
|--|---------------------|
| <b>Craig Albertsen, Division Chief</b>   | <b>303-445-2526</b> |
| <b>86-68210 Water Resources Planning and Operations Support Group</b><br>Joe Lyons                 | 303-445-2531        |
| <b>86-68211 Remote Sensing and Geographic Information Team</b><br>Michael Pucherelli (Team Leader) | 303-445-2267        |
| <b>86-68220 Environmental Applications and Research Group</b><br>Chris Holdren                     | 303-445-2178        |
| <b>86-68221 Water Treatment Engineering Research Team</b><br>Kevin Price (Team Leader)             | 303-445-2260        |
| <b>86-68240 Sedimentation and River Hydraulics Group</b><br>Tim Randle                             | 303-445-2557        |
| <b>86-68250 Flood Hydrology and Emergency Management Group</b><br>Dave Fisher                      | 303-445-2542        |
| <b>86-68270 Economics and Resource Planning Group</b><br>Rick Vinton                               | 303-445-2738        |
| <b>86-68290 Fisheries and Wildlife Resources Group</b><br>Steve Hiebert                            | 303-445-2206        |





## **86 68210 Water Resources Planning and Operations Support Group**

### **Joe Lyons**

This group provides hydrologic engineering technical services to decisionmakers on water resources planning and management, reservoir and river system operations, water supply issues, surface water and groundwater uses, hydrological watershed analysis, watershed hydrology, water conservation planning, water and land resources development and suitability assessments.

The professional staff includes hydraulic engineers, hydrologists, agricultural engineers, environmental engineers, geologists, physical scientists, and engineering technicians.

The Water Resources Planning and Operations Support Group also develops and applies innovative methods for water resource investigations, including advanced development and application of water resource computer modeling systems, analysis tools, and integrated data management systems.

Specific areas of technical expertise include:

- Technical team leadership and/or participation in complex water resources investigations and feasibility studies.
- Studies of stream flow and aquifer conditions to determine natural flows, consumptive uses, influences of changing watershed conditions on runoff, water quality, and aquifer recharge.
- Modeling tools and decision support for integrated operations of river systems, multipurpose reservoirs, water delivery and return flows, and conjunctive surface and groundwater use.
- Evaluating beneficial and consumptive uses of water for agricultural, domestic, commercial, industrial, hydropower, environmental, recreational and other purposes.
- Analysis of availability and dependability of water supplies for meeting historical, present and future water demands including uncertainty and risk analysis.
- Utilization of advanced mathematical techniques such as stochastic hydrology and optimization for managing water resources and analysis of improved water operations to conserve water supplies and manage water more efficiently to meet competing demands.
- Evaluation, quality assurance, and enhancements of hydrological databases including measure and natural streamflow, water uses and

demands, precipitation and evaporation evapotranspiration.

- Technical assistance for design, construction, operations and maintenance of wells, well fields, subsurface irrigation drainage, dewatering, and infiltration systems.
- Conducting drainage investigations, canal seepage testing, and analysis to assess infiltration seepage losses, drainage systems, groundwater flow, and quality.
- Conducting water supply and use investigations for National Environmental Policy Act (NEPA) compliance to support construction, operation, and maintenance planning activities.
- Laboratory analyses on soil and sediment for land resource and watershed investigations including chemical and physical properties, particle size distribution, and leachate trace element.
- Investigating soil, water, and plant interactions and compatibility on lands experiencing crop production problems, salinity control measures, and for revegetation studies.
- Providing Reclamation-wide technical guidance and standards for hydrologic information, supply and utilization, surface water/groundwater studies, land resources, irrigation suitability and drainage investigation.
- Providing technical training on request for Reclamation staff and stakeholders.
- Conducting applied research and technology advancement in the areas of water resources planning and operations.
- Providing support to Native American water right negotiations.
- Evaluating opportunities for improved water delivery and water use efficiency in water conservation planning activities.

## **Remote Sensing and Geographic Information Team**

*86-68211 Mike Pucherelli*

This group designs and compiles tabular and graphic spatial databases. Basic data are gathered using existing maps, aerial photography, airborne videography, satellite imagery, and Global Positioning Systems (GPS). Information can then be extracted from these data using the analytic capabilities of geographic information systems (GIS).

A short list of applications for remote sensing and GIS available from the Remote Sensing and Geographic Information Group includes:

- Resource inventories
- Lake limnology
- Endangered fish habitat studies
- Water spreading
- Environmental change detection

Other services provided include high resolution scanning, plotting maps/drawings, and GIS and remote sensing training.

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## **86 68220 Environmental Applications and Research Group**

### **G. Chris Holdren**

This group uses applied research to examine the interrelationships between the environment and regulated aquatic systems. Studies and research conducted by the group help Reclamation staff, stakeholders, and cooperators understand environmental conditions and issues, develop measures to protect and enhance water quality, and adopt solutions to improve water deliveries. The group provides techniques to control the spread of invasive species, including quagga and zebra mussels, and provides recommendations on reservoir management measures to help maintain or enhance water deliveries.

The Environmental Applications and Research Group's specialized expertise includes:

- Aquatic ecology
- Aquatic, terrestrial, and riparian plant ecology and management
- Bioassessment
- Environmental chemistry
- Invasive species management
- Reservoir management
- Water quality
- Wetlands construction and management
- Drainage analysis
- Evaluating water, soil, sediment, and biological characteristics of regulated systems to assist with environmental assessments, environmental impact statements, and resource management plans
- Planning investigations for aquatic, wetland, and riparian restoration; point and non-point source best management practices (BMPs); and watershed loading plans (TMDLs).

- Numerical, statistical, chemical, and hydrodynamic models to evaluate water quality in reservoirs, rivers, and other aquatic systems.

The Environmental Applications and Research Group's specialized resources and equipment include biological laboratories, a greenhouse, environmental chambers for plant and aquatic weed studies, boats, and extensive field monitoring and collection equipment.

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## **Water Treatment Engineering Research Team**

### **86-68221 M. Kevin Price, Team Leader**

This team researches and designs desalination, water treatment, and wastewater treatment systems. These systems remediate water containing hazardous chemicals and compounds to meet current requirements, including the Safe Drinking Water Act, Clean Water Act, and quality requirements for water reuse or discharge. The group's work includes researching pretreatment techniques, chlorine resistant membranes, concentrate disposal techniques, renewable energy related to treatment, methods for reducing fouling, reducing operation and maintenance costs, and identifying and resolving environmental issues. Research contracts with universities, nonprofit organizations, and private industry are managed to cost share research and testing projects.

The Water Treatment Engineering Research Team's services include:

- Advanced treatment workshops on desalination, reuse, concentrate management, and other issues
- Research and pilot studies, laboratory and demonstration testing
- Testing and demonstrations of treatment for brackish water, seawater, irrigation return flows, produced water, and reclaimed water
- Standards setting
- Technology transfer

The team installs and tests pretreatment systems using advanced water treatment and desalting pilot plants, low-grade heat brine disposal systems, salt-gradient solar ponds, and renewable energy-driven pumping and desalting systems.

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## **86 68240 Sedimentation and River Hydraulics Group**

### **Tim Randle**

This group conducts studies on how rivers and reservoirs have or will respond to changes in river flow, sediment supply, or channel modification. Studies are prepared for a variety of purposes including operation and maintenance, dam

safety, and fish and wildlife habitat restoration. Many studies focus on Reclamation facilities; their physical impact on river channels and endangered species habitat, recreation, wetlands, and cultural resources.

The Sedimentation and River Hydraulics Group assists in planning effective water and sediment management programs including:

- Reservoir sedimentation surveys
- Sediment management studies for rivers, reservoirs, and structures
- Flood inundation mapping and emergency planning
  
- Reservoir and river channel surveys
- GIS and data analysis
- Geomorphic analysis
- Research and development:
  - Numerical model development
  - River channel process investigations
  - River structure design criteria
- Numerical Modeling (1D, 2D, and 3D):
  - River and floodplain hydraulics
  - Sediment transport,
  - Channel migration
  - Vegetation and habitat
- Environmental impact analysis
- Dam safety and loss of life analysis.

See our website for more information at <<http://www.usbr.gov/pmts/sediment/>>

Sediment impact studies of rivers and reservoirs link changes in stream flow and sediment supply to processes controlling changes in channel shape and bank erosion. Applied research and customized investigations range from simple technical advice to in-depth, multi-year studies integrating diverse disciplines.

Investigations focus on the hydraulic and sediment impacts to fish and wildlife habitat, recreation, wetlands, or cultural resources and can incorporate assessment, planning, and design of water resource facilities. Staff participate in interdisciplinary and interagency teams in evaluating ecological systems and providing input for environmental impact statements and assessments.

Dam break and flood inundation studies are used for emergency planning, hazard classification, and guidance in selecting risk reduction alternatives for dams. The group has also developed procedures for estimating the loss of life from dam failures.

A wide range of modeling and analysis software tools are applied including an extensive suite developed and maintained in-house. In-house software allows us to customize and optimize numerical models to solve specific problems. Software

packages are designed to work together and provide an integrated view of river hydraulic and morphological processes.

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## **86 68250 Flood Hydrology and Emergency Management Group**

### **Dave Fisher**

This group provides technical investigations, designs, reviews, and related work in flood hydrology, hydrometeorology, paleohydrology, meteorology, and emergency management.

The Flood Hydrology and Emergency Management Group provides information on a range of flood-related hydrology and emergency management including:

- Extreme precipitation and extreme flood event studies up to the probable maximum flood
- Hydrologic input for risk assessments of dams
- Inflow design hydrographs and cross drainage analyses
- Flood frequency and statistical hydrological analyses
- Early warning system planning, design, installation, and maintenance
- Drought index development and application, hydrometeorology, and hydrology research
- Various other activities associated with flood hydrology
- Conducting fluvial geomorphology studies and paleohydrologic investigations
- Meteorological water analysis and forecasting
- Cloud physics analyses of precipitation processes
- General meteorological studies including field program evaluation and analysis
- NEXRAD precipitation processing application
- Emergency Action Plan (EAP) development
- EAP exercise development and facilitation including orientation, tabletop, functional, and full scale exercises
- Continuity of Operations (COO) Planning and support

The staff provides expertise for the hydrological aspects of Reclamation's Dam Safety Program and services to other Department of the Interior agencies as well. They also develop flood hydrology, hydrometeorology, and dam safety standards and criteria and coordinate these with other Federal agencies. General meteorological studies are also performed. Emergency Management activities from planning to operations including policy development/support are also conducted.

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## **86 68270 Economics and Resource Planning Group**

### **Rick Vinton**

This group provides a wide range of expertise in water resource-related planning, economic and financial analyses, recreation, cultural resources, multidisciplinary team management, public involvement, conflict resolution, social analysis, facilitation, and conference planning. It provides a wide range of analyses to assist in decision making for project planning and evaluation. The group also provides studies and other associated services necessary for compliance with the National Environmental Policy Act (NEPA).

The Economics and Resource Planning Group staff consists of a broad range of experts providing the following services:

- Economists who derive benefit-cost analyses for feasibility studies, apply economic models to estimate NEPA impacts in environmental impact statements, compute ability-to-pay of irrigators and rural domestic water users, determine the value of environmental resources such as wetlands and endangered species, determine recreation use benefits, value the costs of hydropower generation changes, evaluate actions affecting Native Americans, prepare project final cost allocations, develop economic standards for land classification, evaluate the economic benefits of improvements in water quality, and provide economic decision making for Safety of Dams Programs.
- Resource managers who manage and facilitate multidisciplinary water resource planning and environmental compliance teams. They prepare environmental impact statements and environmental assessments including needs and key issue identification, alternative formulation, scoping, and scheduling.
- Cultural resources staff that provide expertise in historic, architectural, archeological, and ethnographic resources. Services include comprehensive field surveys; archival research; consultation with the Advisory Council on Historic Preservation and with Tribal and State Historic Preservation Offices; determinations of significance; repository evaluations; National Register listings; curation and compliance with the National Historic Preservation Act; historic context statements, and oral histories.
- Recreation specialists who are experienced in the principles, concepts, and methodologies of outdoor recreation planning, management, and administration. This includes recreation master and conceptual planning, interpretive planning and design guidance, NEPA analysis of recreation impacts, recreation needs assessments, and recreation facility design



guidance. Recreation specialists also provide expertise in resource management planning and team management.

- Public involvement staff who provide expertise in soliciting public opinion, conflict resolution, consensus building, and issue identification. The group assists in scoping for environmental compliance, and developing and implementing public involvement programs.
- Social analysis staff who evaluate societal changes resulting from proposed or ongoing Reclamation activities. They provide consultation and analyses for NEPA compliance and planning studies, including environmental justice and Indian Trust Assets.

Staff members have successfully conducted numerous conferences of various sizes and complexity. They have the knowledge and capability to manage all aspects of a conference or can customize services to meet specific needs.

The staff also includes agricultural and natural resource economists, all with advanced degrees and many years of experience.

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## **86 68290 Fisheries and Wildlife Resources Group**

### **Steve Hiebert**

This group conducts investigations to understand and develop technologies to reduce impacts, sustain, and improve aquatic and terrestrial communities associated with Reclamation's water development facilities and operations. Group member fisheries scientists, wildlife biologists, NEPA specialists, and environmental chemists work together with hydraulic, civil and design engineers to perform studies and projects that provide information for Reclamation to maintain water and power deliveries in an environmentally sound manner.

The Fisheries and Wildlife Resources Group provides specific research and services, including:

- Investigating fishery and avian interactions with Reclamation operations and facilities
- Evaluating habitat needs, use, and upstream-downstream movements for native and rare bird and fish species
- Assessing and assisting in designing fish protection technology (fishways, fish louvers, crowders, and screens)
- Evaluating new fish screening technology and other fish protection methods for irrigation canal diversions.
- Performing NEPA process and documentation: Environmental Impact Statements, Environmental Assessments, Categorical Exclusions, Section 7 ESA Consultation

- Determining methods for separating and removing debris, invasive species (including exotic mitten crabs), and other unwanted materials from fish at protection facilities
- Aquaculture of fish for live evaluation testing in hydraulic models
- Developing a fish friendly pumping technology for water diversions
- Performing environmental chemistry studies and interpretations
- Testing, validating, and designing environmental, biological, and fisheries computer models

The group's specialized resources include boats (electrofishing, inflatable, survey), DIDSON (Dual Frequency Identification Sonar) underwater imaging system, hydroacoustic survey gear; avian, herpetological, and fisheries biotelemetry systems, fish and bird sampling equipment, water quality probes, laboratory research equipment, and aquaculture facilities.

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# 86-68300

## Geotechnical Services Division

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|                 |  |                     |
|-----------------|--|---------------------|
|                 | <b>Karen Knight, Division Chief</b>  | <b>303-445-3044</b> |
| <b>86-68311</b> | <b>Embankment Dams and Geotechnical Engineering Group 1</b><br>Bob Dewey       | 303-445-2976        |
| <b>86-68312</b> | <b>Embankment Dams and Geotechnical Engineering Group 2</b><br>Chuck Redlinger | 303-445-2768        |
| <b>86-68313</b> | <b>Embankment Dams and Geotechnical Engineering Group 3</b><br>Dan Osmun       | 303-445-2980        |
| <b>86-68320</b> | <b>Engineering Geology Group</b><br>Lloyd Crutchfield                          | 303-445-3074        |
| 86-68322        | Geotechnical Computer and Technical Support<br>Lloyd Crutchfield               | 303-445-3074        |
| 86-68323        | Yucca Mountain Support<br>Steve Beason   | 702-295-4088        |
| <b>86-68330</b> | <b>Geophysics and Seismotectonics</b><br>Jerry Wright                          | 303-445-3161        |
| <b>86-68360</b> | <b>Instrumentation and Inspections Group</b><br>DeWayne Campbell               | 303-445-3052        |



## **Embankment Dams and Geotechnical Engineering Groups**

**86 68311 Group 1 B Bob Dewey**

**86 68312 Group 2 B Chuck Redlinger**

**86 68313 Group 3 B Dan Osmun**

These highly experienced groups provide cost-effective geotechnical studies and analyses for embankment dams and a wide range of other water resource and environmental mitigation projects. The groups are substantially involved in the support of Reclamation's Dam Safety Program. The groups perform dam safety evaluations, including probabilistic risk analysis, for over 300 high and significant hazard embankment dams in Reclamation's current inventory, many of which are over 50 years old. The groups also provide design support services for dam safety modifications to Reclamation and other agency dams resulting from these and other agencies dam evaluations. The groups provide experienced team leaders to lead multidisciplinary technical teams actively engaged in the support of Reclamation's mission, as well as those at other Federal agencies and tribal authorities.

The Geotechnical Engineering Groups' projects include:

- Embankment dams and foundations (geotechnical analysis and design of new and modifications to existing dams, construction support services, dam safety evaluations including probabilistic risk analysis, and security evaluations)
- Embankment dam risk analysis
- Emergency incident response
- Geotechnical analysis and design for concrete dams, pumping plants, powerplants, and other civil structures, canals, pipelines, and related features
- Environmental restoration of mining and other hazardous waste sites
- Natural soil and rock slope, including landslide, stability analysis, and improvement
- Underground excavations, rock slopes, landslides, and other projects requiring the application of rock mechanics

The highly experienced geotechnical engineering staff also has specialized expertise in the areas of static and dynamic (earthquake loading) stability analyses of embankments and natural slopes; numerical modeling of structures and foundations; groundwater, dewatering, and seepage analyses related to structures; geosynthetics design; security-related evaluations; and applied rock mechanics for foundations, slopes, and tunnels.

## **86 68320 Engineering Geology**

### **Lloyd Crutchfield**

This group leads planning, executing, and coordinating geologic site characterization activities, evaluates, and portrays geological and geotechnical conditions. Geologic services are integrated with seismotectonic and geophysical studies.

- The Engineering Geology Group provides a range of services, including:
- Field mapping and subsurface exploration and sampling
- Close-range stereographic geologic mapping
- Computer-aided design (CAD) and computer-aided design and drafting (CADD) three-dimensional modeling using GIS, GPS, and related databases for subsurface conditions, pollutants, and other physical data
- Geologic interpretations for planning, design, and specifications
- Foundation mapping and approval during construction
- Geologic analyses for rock mechanics issues, blasting and grouting programs, foundations, borrow investigations, seepage studies, dewatering systems, and environmental restoration
- Photogrammetric modeling and geologic analysis

The Engineering Geology Group's investigation and analysis expertise includes dams; water conveyances; bridge, building, and plant foundations; excavation stability; landslide studies; and characterizing sites for hazardous and toxic wastes. The group has broad expertise in technical project management.

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## **Geotechnical Computer and Technical Support**

### **86-68322 Lloyd Crutchfield**

This group provides technical and computer services and support to the geotechnical, geological, geophysical, and instrumentation and inspections groups in the Geotechnical Services Division and to other clients throughout Reclamation.

The Geotechnical Computer and Technical Support Group is integrated with the Geotechnical Services groups to support a wide variety of activities including:

- Two- and three-dimensional modeling and analyses for material and quantity estimates using state-of-the-art modeling packages such as Auto Cad (Civil 3D) and MicroStation (InRoads) programs
- Three-dimensional terrain modeling analysis for embankment dams, foundations, borrow areas, rock abutments, and foundations for rock mechanics issues, and environmental restoration
- Use of Global Positioning Systems (GPS) surveys and point cloud data for foundation and surface mapping

- Computer-aided design and drafting for final specifications drawings
- Contouring and development of three-dimensional surfaces for presentation of alignments, profiles, and cross sections
- Image processing

The group's staff members include highly trained technicians, scientists, and draftsmen with significant experience in the geotechnical, geological, and geophysical fields.

## **Yucca Mountain Support**

**86-68323**     *Steve Beason*

The Yucca Mountain Support Group is located in Las Vegas, Nevada. This group provides engineering geologic services to the Department of Energy (DOE) and U.S. Geological Survey (USGS) for characterization of Yucca Mountain to determine the suitability of long-term storage of spent nuclear fuel and high-level radioactive wastes. The group also provides data and input into geology-related issues of the repository design being conducted by DOE's management and operations contractor.

The Yucca Mountain Mapping Group's services include:

- Full-peripheral geologic mapping
- Stereographic photography
- Consolidated sampling
- Detailed line surveys
- Geotechnical, geologic, and engineering geology investigations
- Data presentations
- Foundation investigations

The group is now working with USGS scientists to produce a report summarizing the fracture and lithophysical characteristics of the repository host horizon. The paper will summarize the results of 15+ years of detailed structural and lithostratigraphic studies at Yucca Mountain in preparation for DOE's license application for the nation's first high-level, nuclear-waste storage facility.

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## **Geophysics and Seismotectonics**

**86-68330**     **Jerry Wright**

This group provides specialized geological, geomorphological, seismological, and geophysical expertise for site-specific and regional earthquake and geomorphology studies, Quaternary geology, and engineering geophysics.

Information and services that the Seismotectonics and Geophysics Group provides include:



- Natural hazards for risk analysis through probabilistic earthquake hazard studies
- Numerical and statistical analysis and modeling, including ground motion synthesis, and seismic tomography
- Earthquake loadings, including site-specific ground motions and response spectra
- Probabilistic risk analyses for dam safety and design evaluations
- Seismic monitoring of Reclamation facilities for real-time structural response information for post-earthquake assessment and emergency notification
- Paleoseismic investigations to define earthquake hazards
- Geomorphology, geomorphological processes, and Quaternary history for stream evaluation and restoration, site characterization, environmental impact, and other investigations
- Complete geophysical site characterization services including data acquisition, processing, analysis, and integration with borehole and other geologic and hydrologic information
- Surface, borehole, cross-hole, and surface-to-borehole geophysical surveys to determine a wide range of subsurface physical properties and conditions, including centimeter-level global positioning system surveys in support of scientific and engineering investigations

The group directly operates regional seismic networks in the Western United States and maintains an extensive network of digital and analog strong-motion recorders.

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## **86 68360 Instrumentation and Inspections Group**

### **Dewayne Campbell**

This group provides a wide range of instrumentation and inspection-related services for dams and other facilities.

Instrumentation-related services include:

- Routine dam performance monitoring:
  - Reviewing data for validity and performance anomalies
  - Troubleshooting questionable data to assure accurate information
  - Maintaining a database of visual and instrumental monitoring information
  - Reporting and presenting routine data results
- Periodic in-depth analyses of monitoring results, including dam safety analyses
  - Participating in the failure mode analysis/performance parameter process
  - Participating in comprehensive facility reviews

- Instrumentation design:
- Determining the type, number, location, and reading frequency of instruments required
- Preparing drawings and specifications for procuring, installing, maintaining, and repairing instrumentation systems
- Designing automated data collection and transmission systems for both short and long term monitoring
- Field assistance including:
  - Calibrating, installing, and inspecting instrument systems
  - Maintaining lab facilities for instrument repair, testing, calibration, and assembly
  - Troubleshooting and consulting on special problems
  - Providing training on instrumentation matters

The group's engineers and technicians have extensive experience in designing, installing, and monitoring over 70 types of instruments used to provide information in categories such as water pressure, earth/total pressure and load, deformations (internal and surface), temperature, and seepage quantity and quality. The group also has expertise developing monitoring systems for special purposes and unique applications.

Registered professional engineers perform a variety of activities, including:

- Coordinating and performing dam safety and operation and maintenance (O&M) inspections of Reclamation dams as a part of the Comprehensive Facility Review Program, and inspections for other Department of the Interior and other agency dams upon request
- Participating in transfer inspections of facilities from construction to O&M status
- Performing preliminary hazard classifications and hazard reassessments of low- and significant- hazard dams
- Providing technical advice and assistance on O&M items
- Updating the Technical Priority Ratings of all Department of the Interior dams
- Coordinating and providing training to Reclamation staff and others, including:
  - Annual Safety Evaluation of Existing Dams (SEED) seminars for Federal, State, and private personnel, and biennial seminars for international personnel
  - Onsite O&M training for dam tenders, operating personnel, and water systems managers
  - Client-tailored onsite dam safety and emergency management training programs domestically and abroad

The group also provides data and document management services, including:

- Development and maintenance of the Dam Safety Information System (DSIS) and the Dam Safety Document Management System (DSDaMS) databases
  - Maintenance and updating of the official record copies of Standing Operating Procedures and Designer's Operating Criteria
  - Development and maintenance of O&M technical standards, bulletins, and guidelines
  - Maintenance of other dam safety and O&M files and databases of information, including landslide surveillance data and O&M cost trends
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**86-68400**

## **Infrastructure Services Division**

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|  |                     |
|--|---------------------|
| <b>Mark W. Boyle, Division Chief</b>   | <b>303-445-2828</b> |
| <b>86-68410 Mechanical Equipment Group</b><br>Dave Hulse   | 303-445-2881        |
| <b>86-68420 Hydraulic Equipment Group</b><br>Dan Drake   | 303-445-2874        |
| <b>86-68430 Electrical Design Group</b><br>George Girgis   | 303-445-2310        |
| <b>86-68440 Hydropower Technical Services Group</b><br>Jim Zeiger                                  | 303-445-2850        |
| <b>86-68460 Hydraulic Investigations and Laboratory Services Group</b><br>Vacant, Tony Wahl acting | 303-445-2155        |



## **86 68410 Mechanical Equipment Group**

### **Dave Hulse**

This group provides engineering services for mechanical equipment and systems related to new and existing dams, powerplants, pumping plants, fish handling facilities, water conveyance structures, and other building facilities. They also provide factory inspection and equipment installation expertise; operation and maintenance support, finite element studies; and produce technical manuals and standard operating procedures (SOP). Systems and equipment that the Mechanical Equipment Group designs and services include:

- Compressed air, cooling water, service water, oil lubrication, fire suppression, gravity drainage, heating, ventilating, air conditioning, and building plumbing systems
- Cranes and hoists
- Engine generators
- Trashrakes, conveyors, and traveling water screens
- Fish and moss screens and fish handling equipment
- Water temperature control devices and selective withdrawal systems
- Water flow meters and temperature sensors
- Stoplogs, draft tube gates, and bulkhead gates

Mechanical operation and maintenance (O&M) support and program services are provided in coordination with the Power Resources Office. These include Facilities Instructions, Standards, and Techniques (FIST) volumes, Power Equipment Bulletins (PEBs), power O&M reviews and incident investigations, technical advice and assistance, training, unit alignment and balancing, mechanical speed governor adjustment, unit vibration testing and analysis, welding procedure analysis, penstock inspection program management, penstock guard gate and valve testing program management, pressure vessel inspection, and underwater inspection services using a remote-controlled vehicle.

## **86 68420 Hydraulic Equipment Group**

### **Dan Drake**

This group provides mechanical engineering services for water delivery equipment. Engineering services include budget estimating, design, and specifications writing, and equipment installation and field assistance. The Hydraulic Equipment Group's services include engineering analysis and design for:

- Hydraulic transients in power system waterways including stress analysis
- General stress analysis for large gates, turbine/pumps, and other equipment

- Equipment life analysis using field test data, fatigue analysis, and fracture mechanics
- Onsite testing for pumps and turbines during new equipment startups
- Performance testing for pumps and turbines to confirm warranted characteristics

The staff works on a variety of equipment including pumps, hydroelectric turbines, pump-turbines, and turbine governors; large custom-designed gates and commercial slide gates; sleeve, hollow-jet, and butterfly valves; and steel penstocks.

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## **86 68430 Electrical Design Group**

### **George Girgis**

This group provides designs, drawings, technical specifications, and construction/installation support for electrical equipment and systems. The Electrical Design Group's electrical engineering services include:

- Generator rewind/uprates
- Neutral grounding transformers
- Power transformers
- Power circuit breakers
- Substations, switchyards, switchgear, and station service equipment
- Excitation (voltage regulator) and governor systems
- High and medium voltage cable and bus
- Motor control centers, adjustable speed drives, and reduced voltage starters
- Factory inspection of electrical equipment
- Warranty inspections of generators
- Control system interface
- Wiring checkout, startup, and acceptance testing
- On-site inspection services
- Design Summaries, Designer Operating Criteria, and Standing Operating Procedures
- Support of Reclamation's Western Electricity Coordinating Council control system requirements

The group also provides electrical engineering services for low voltage circuit breakers; station batteries and battery chargers, distribution panelboards; dry type transformers; electrical equipment grounding; instrumentation and annunciation systems; and electrical features of mechanical equipment (such as speed governors, cranes, gates, valves, heating and ventilation, elevators, trash rakes, etc.).

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## **86 68440 Hydropower Technical Services Group**

### **Jim Zeiger**

This group performs a wide range of electrical hydropower technical services including onsite technical assistance, diagnostics, troubleshooting, failure investigation, and inspection. It also offers program consultation, training, unique in-house support services, power system studies, and design and installation support for plant Supervisory Control and Data Acquisition (SCADA) systems.

The group's electrical engineering services include:

- Power system modeling (e.g., arc-flash analysis, fault studies, circuit transient, synchronous stability, harmonic system performance, insulation coordination, power flow studies, and facility design rating reviews)
- Protective relay system recommendations and settings
- Protective relay system calibration, functional testing, and commissioning
- SCADA system and Programmable Logic Controller (PLC) system design
- SCADA system evaluation, analysis, software support, and security accreditation
- Plant automation, embedded systems, and efficiency-based water/power control and modeling software
- Technical support for Reclamation's Western Electricity Coordinating Council power reliability requirements
- Machine startup, acceptance, and diagnostic testing
- System staged-fault testing
- Voltage regulator, power system stabilizer, and speed governor tuning
- Equipment and personal protective safety grounding evaluation
- Plant control battery system diagnostics
- In-house electrical/electronics equipment design and fabrication
- Machine condition monitoring
- Life extension
- Development of related training

The group also coordinates Reclamation's technical power program services and hydropower research efforts to focus on innovative solutions for power facilities in the following areas:

- Power apparatus (rotating machinery, power transformers, electronics, etc.)
- Electrical insulation systems including rotating machinery and cable systems
- Excitation systems (voltage regulators) and speed governor systems including related power system stability and controls
- Automatic generation control, water and power scheduling, and plant optimization



- Electrical operation and maintenance (O&M) support and program services are provided in coordination with the Power Resources Office. These include Facilities Instructions, Standards, and Techniques (FIST) volumes, Power Equipment Bulletins (PEBs), power O&M reviews and incident investigations, technical advice and assistance, training, Doble testing, infrared testing services, arc flash studies, and speed governor adjustment.

This group also maintains extensive power, electronics, controls, and computer laboratories and research facilities, which enable the group to support project needs in an efficient, cost-effective manner.

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## **86 68460 Hydraulic Investigations and Laboratory Services Group**

### **Vacant, Tony Wahl (acting)**

This group uses unique expertise and capabilities in hydraulics and fluid mechanics to investigate and develop application-oriented solutions to water resources problems. Capabilities include physical modeling, computational fluid dynamics modeling, field investigations, and analytical studies. Application focus areas include:

- **Water Conservation** – Canal automation and operations, water measurement technology and field evaluations, groundwater and drainage modeling, and water management training workshops
- **Environmental Hydraulics** – Reservoir selective withdrawal, fish protection and passage, design support and field evaluations, river restoration, habitat model verification data collection, reservoir density current measurements, total dissolved gas abatement, river sediment flushing, and reservoir and river sedimentation related to hydraulic structures.
- **Testing and Evaluation of Hydraulic Facilities** – Hydraulic design, operation and maintenance troubleshooting, hydraulic structures and machinery improvements, flow-induced vibration, fatigue failure evaluations, cavitation analyses and research, and selective withdrawal structure performance evaluations.

- **Hydroacoustic Applications** – Our staff have been involved in developing and using acoustic flow measurement technology since the early 1970s. We use a variety of state-of-the-art acoustic Doppler instruments to collect hydraulic data for laboratory and field studies.
- **Computational Fluid Dynamics (CFD) Modeling** – Commercially available modeling software, FLOW-3D® is employed to study a variety of hydrodynamic processes for a wide range of applications. For example, CFD modeling has recently been used to improve predictions for existing spillway discharge capacity at Folsom Dam, improve our understanding of energy dissipation and hydraulic performance characteristics for the proposed Folsom Auxiliary Spillway, develop innovative fish passage concepts, and improve our description and understanding of transient reservoir hydrodynamics.
- **Dam Safety** – Design support and evaluation of dam safety tools including emergency spillways, risk assessment studies, dam-overtopping protection, rock and alluvium scour, cohesive soil erodibility, cavitation, stagnation-induced uplift, and improved models for simulating embankment dam breach.
- **Training Courses** – Our group hosts specific annual training classes on Modern Methods in Canal Operation and Control (5 days) and Basic Principles and Developments in Flow Measurement (3 days). Our staff also provides teaching assistance for the annual Water Management Workshop, and Safety Evaluation of Existing Dams seminar offered by the Technical Service Center. We also provide customized training on request in the field or at other sites (e.g., water measurement training for irrigation districts or State Engineer’s Offices)

Please visit our website for updated project information, training course schedules, and recent accomplishments:

<[http://www.usbr.gov/pmts/hydraulics\\_lab/](http://www.usbr.gov/pmts/hydraulics_lab/)>

The engineers and technicians in the Hydraulic Investigations and Laboratory Services Group work on over 100 projects per year. Some recent projects include model studies to support the spillway design and construction at Folsom Dam, incorporate new valves (which were invented in the hydraulics laboratory) into Arrowrock Dam outlet works; Tracy Fish Facility model studies using live fish; stilling basin abrasion research; and a physical model study to improve sediment bypass at Robles Diversion Dam to support Matilija Dam removal project

## Laboratory Shops

Our team of craftsmen constructs and fabricates physical models and specialized testing equipment to support Reclamation's Science and Technology Program and hydraulic laboratory studies conducted in the Technical Service Center. Our Laboratory Shops are equipped and staffed for carpentry, pattern making (plastics), machining, welding, electrical work, painting and coating applications, and other disciplines. The Laboratory Shops are an integral part of the Hydraulic Investigations and Laboratory Services Group.

A sample of laboratory shop products includes:

- Custom-designed scaled physical models of hydraulic structures
  - Architectural and demonstration models
  - Construction of scientific testing facilities
  - Integrating instrumentation packages and specialized installation tools
  - Custom CNC routing and machining
-

# Technical Service Center Subject Matter Areas and Contacts

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| <b>A</b>   |          |                   |             |
| Ability of irrigated agriculture to meet repayment obligations | 68270    | Richard Vinton    | 445-2738    |
| Ability-to-pay in determining rates                            | 68270    | Richard Vinton    | 445-2738    |
| Abrasion testing   | 68180    | William F. Kepler | 445-2386    |
| Acceptance testing for concrete aggregates                     | 68180    | William F. Kepler | 445-2386    |
| Accessibility  | 68120    | Al Bernstein      | 445-3275    |
| Acid mine drainage   | 68311    | Michael Gobla     | 445-3032    |
| Acid mine drainage, mitigation                                 | 68311    | Bob Dewey         | 445-2976    |
| Acoustic Doppler surveys                                       | 68460    | Tracy Vermeyen    | 445-2154    |
| Acoustic Doppler velocimetry                                   | 68460    | Tracy Vermeyen    | 445-2154    |
| Acoustic emissions   | 68460    | Warren Frizell    | 445-2145    |
| Acoustic flowmeters  | 68460    | Tracy Vermeyen    | 445-2154    |
| Activity managers (see resource management)                    | 68270    | Richard Vinton    | 445-2738    |
| Administrative record management                               | 68270    | Richard Vinton    | 445-2738    |
| Advanced Water Treatment Research (AWTR) Program               | 68221    | Kevin Price       | 445-2260    |
| Aerial photography   | 68211    | Mike Pucherelli   | 445-2267    |
| Aggregate quality evaluation                                   | 68180    | William F. Kepler | 445-2386    |
| Aggregate testing  | 68180    | William F. Kepler | 445-2386    |
| Agrometeorology  | 68250    | John England      | 445-2541    |
| Amphibian/reptile  | 68290    | David Moore       | 445-2242    |
| Anadromous fish, economic values                               | 68270    | Richard Vinton    | 445-2738    |
| Analytical chemistry   | 68290    | Steven Hiebert    | 445-2206    |
| Ancillary service monitoring                                   | 68440    | Toby Steves       | 445-3258    |
| Aquaculture systems  | 68290    | Chuck Hueth       | 445-2183    |
| Aquatic restoration  | 68210    | Joseph Lyons      | 445-2531    |
| Aquatic systems research                                       | 68220    | G. Chris Holdren  | 445-2178    |
| Aquatic vertebrates, physiological stress                      | 68290    | Donald Portz      | 445-3663    |
| Aquifer / stream interaction analysis                          | 68210    | Joseph Lyons      | 445-2531    |
| Aquifer tests, characteristics                                 | 68210    | Joseph Lyons      | 445-2531    |
| Arc flash  | 68440    | Gary Cawthorne    | 445-2817    |
| Archeologic resources and analysis                             | 68010    | James Bailey      | 445-2704    |
| Architectural design   | 68120    | Jim Neumaier      | 445-3280    |
| Architectural models   | 68460    | Neal Armstrong    | 445-2160    |
| As-built drawings  | 68322    | Stu Nitta         | 445-2979    |
| Assessment of dams, spillways, bridges, water conveyance.      | 68180    | William F. Kepler | 445-2386    |
| Assignment of project costs among multiple beneficiaries       | 68270    | Richard Vinton    | 445-2738    |
| Atmosphere / watershed ecosystem models                        | 68250    | John England      | 445-2541    |
| AutoCAD (Committee, TSC drawings, records management)          | 68322    | Stu Nitta         | 445-2979    |
| Automated Data Acquisition Systems                             | 68360    | DeWayne Campbell  | 445-3052    |
| Automation, irrigation   | 68460    | Tony Wahl         | 445-2155    |
| Automation, powerplant and generation control                  | 68440    | Ted Bechtel       | 445-2319    |
| Avian surveys and research                                     | 68290    | Darrell Ahlers    | 445-2233    |
| <b>B</b>   |          |                   |             |
| Bank and bed stabilization                                     | 68240    | Timothy Randle    | 445-2557    |
| Bathymetric surveys  | 68460    | Tracy Vermeyen    | 445-2154    |
| Battery testing  | 68440    | Nathan Myers      | 445-2643    |
| Bed material sampling  | 68240    | Jennifer Bountry  | 445-3614    |
| BESTSIM  | 68210    | Joseph Lyons      | 445-2531    |
| Bioassessments   | 68220    | G. Chris Holdren  | 445-2178    |
| Biocontrol   | 68220    | Fred Nibling      | 445-2202    |
| Biological Assessments and Opinions                            | 68010    | Dianne Clark      | 445-2579    |
| Bird resources   | 68290    | David Moore       | 445-2242    |
| Blasting requirements  | 68311    | Bob Dewey         | 445-2976    |
| Borescope inspection   | 68410    | Roger Cline       | 445-2293    |

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| Borrow area development                                     | 68311           | Bob Dewey                   | 445-2976           |
| Borrow investigations                                       | 68320           | Kathlene Wasik              | 445-3193           |
| Brackish water desalination                                 | 68221           | Kevin Price                 | 445-2260           |
| Bridge building, investigation and analysis                 | 68320           | Kathlene Wasik              | 445-3193           |
| Bridge foundations, geologic analysis                       | 68320           | Kathlene Wasik              | 445-3193           |
| Bridges, water conveyance                                   | 68140           | Jesus Romero                | 445-3124           |
| Brochures   | 68010           | James Bailey                | 445-2704           |
| Brochures, writing and design                               | 68010           | James Bailey                | 445-2704           |
| Budget and schedule developing and monitoring               | 68010           | See Specific Client Liaison |                    |
| Building additions, modifications, and rehabilitation       | 68120           | Dick LaFond                 | 445-3226           |
| Building design   | 68120           | Dick LaFond                 | 445-3226           |
| Building earthquake safety                                  | 68110           | John Baals                  | 445-3222           |
| Building foundations, geologic analysis                     | 68320           | Kathlene Wasik              | 445-3193           |
| Building, structural analysis                               | 68110           | Tim Brown                   | 445-3709           |
| Buildings, risk analysis                                    | 68110           | John Baals                  | 445-3222           |
| Buildings, seismic analysis and safety                      | 68110           | Tim Brown                   | 445-3709           |
| Bulkhead gates  | 68410           | Randy Egan                  | 445-2855           |
| Bullchase gate, stoplog design                              | 68410           | Dave Hulse                  | 445-2881           |
| <b>C</b>  |                 |                             |                    |
| Cable testing   | 68440           | Eric Eastment               | 445-2324           |
| Cableways   | 68410           | Alex Ritt                   | 445-2866           |
| CAD, computer-aided design                                  | 68322           | Stu Nitta                   | 445-2979           |
| CAD, computer-aided design, drawings and standardization    | 68322           | Stu Nitta                   | 445-2979           |
| CAD, three dimensional modeling                             | 68322           | Dave Martinez               | 445-2997           |
| Calibration of specialized field testing equipment          | 68180           | Kurt Mitchell               | 445-2387           |
| CALSIM (optimization system model)                          | 68210           | Nancy Parker                | 445-2532           |
| Canal lining  | 68180           | Jay Swihart                 | 445-2397           |
| Canal lining workshops                                      | 68180           | Jay Swihart                 | 445-2397           |
| Canal seepage testing analyses                              | 68210           | Del Smith                   | 445-2516           |
| Canal system modeling                                       | 68460           | Robert F. Einhellig         | (970) 259-1110     |
| Canals and pipelines, geotechnical engineering              | 68311           | Bob Dewey                   | 445-2976           |
| Canals, specification drawings for geotechnical aspects     | 68311           | Bob Dewey                   | 445-2976           |
| Canals, water conveyance                                    | 68140           | Steve Robertson             | 445-3123           |
| Categorical Exclusion checklist                             | 68270           | Richard Vinton              | 445-2738           |
| Cathodic protection   | 68180           | Daryl Little                | 445-2384           |
| Cathodic protection field investigations, research, testing | 68180           | Daryl Little                | 445-2384           |
| Cathodic protection, guide paragraphs                       | 68180           | Daryl Little                | 445-2384           |
| Cathodic protection, technical specifications               | 68180           | Daryl Little                | 445-2384           |
| Cavitation detection  | 68460           | Warren Frizell              | 445-2145           |
| CD mastering and duplication for publications               | 68010           | Cynthia Gray                | 445-2615           |
| Cement-pozzolan testing                                     | 68180           | Kurt Mitchell               | 445-2387           |
| Channel maintenance and stability (geomorphic & sediment)   | 68240           | Drew Baird                  | 445-2564           |
| Charge numbers established                                  | 68010           | See Specific Client Liaison |                    |
| Charge numbers established                                  | 68010           | Gay Ann Martinez            | 445-3006           |
| Chemical processes  | 68221           | Kevin Price                 | 445-2260           |
| Chemical testing  | 68290           | Steven Hiebert              | 445-2206           |
| Chemistry for hazardous waste products                      | 68170           | Margaret Lake               | 445-2181           |
| Chemistry, data analysis                                    | 68290           | Steven Hiebert              | 445-2206           |
| Chemistry, quality assurance                                | 68290           | Steven Hiebert              | 445-2206           |
| Circuit breaker ratings                                     | 68440           | Shawn Patterson             | 445-2311           |
| Circuit breaker testing                                     | 68440           | Jim DeHaan                  | 445-2305           |
| Circuit breakers design                                     | 68430           | Lisa Gamuciello             | 445-2835           |
| Civil Engineering Services Division                         | 68100           | Dick LaFond                 | 445-3226           |
| Claims, contract  | 68170           | Nancy Lender                | 445-3299           |
| Class 3 cultural surveys                                    | 68010           | James Bailey                | 445-2704           |
| Clean Water Act compliance                                  | 68221           | Kevin Price                 | 445-2260           |
| Client liaisons and client support                          | 68010           | See Specific Client Liaison |                    |
| Climate analysis and simulation                             | 68210           | Levi Brekke                 | 445-2494           |
| Climate change analyses                                     | 68210           | Levi Brekke                 | 445-2494           |

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| Climate studies  | 68250    | David Raff        | 445-2461       |
| Closed Circuit TV (CCTV) inspection and evaluation services  | 68130    | Chuck Cooper      | 445-3262       |
| Coatings and paints technology                               | 68180    | Allen Skaja       | 445-2396       |
| Coatings and paints, laboratory and field testing            | 68180    | Allen Skaja       | 445-2396       |
| Coatings and paints, technical specifications                | 68180    | Allen Skaja       | 445-2396       |
| Coatings technology workshops                                | 68180    | Allen Skaja       | 445-2396       |
| Coatings, guide paragraphs                                   | 68180    | Allen Skaja       | 445-2396       |
| Coatings, guide specifications                               | 68180    | William F. Kepler | 445-2386       |
| Cofferdams   | 68311    | Bob Dewey         | 445-2976       |
| Commercial services planning                                 | 68270    | Richard Vinton    | 445-2738       |
| Commissioner's Office client liaison                         | 68010    | Gay Ann Martinez  | 445-3006       |
| Community and residential redevelopment                      | 68120    | Dick LaFond       | 445-3226       |
| Components, rapid replacement of malfunctioning              | 68360    | DeWayne Campbell  | 445-3052       |
| Comprehensive Facility Reviews --mechanical equipment        | 68410    | John Shisler      | 445-2869       |
| Compressed air systems                                       | 68410    | Randy Egan        | 445-2855       |
| Computer simulation models                                   | 68210    | Joseph Lyons      | 445-2531       |
| Computer system debugging, problem solving, administration   | 68440    | James Zeiger      | 445-2850       |
| Computer-aided design (CAD)                                  | 68322    | Stu Nitta         | 445-2979       |
| Concession management  | 68270    | Richard Vinton    | 445-2738       |
| Concrete aggregate source surveys                            | 68180    | William F. Kepler | 445-2386       |
| Concrete and concrete core cutting, preparation, and testing | 68180    | William F. Kepler | 445-2386       |
| Concrete and concrete repair workshops                       | 68180    | William F. Kepler | 445-2386       |
| Concrete and rock abrasion testing                           | 68180    | William F. Kepler | 445-2386       |
| Concrete and rock creep design and testing investigations    | 68180    | William F. Kepler | 445-2386       |
| Concrete and rock durability testing                         | 68180    | William F. Kepler | 445-2386       |
| Concrete construction and protective coatings                | 68180    | Katie Bartojay    | 445-2374       |
| Concrete construction and repair                             | 68180    | Katie Bartojay    | 445-2374       |
| Concrete construction laboratory testing and inspection      | 68180    | Katie Bartojay    | 445-2374       |
| Concrete construction quality control practices training     | 68180    | Katie Bartojay    | 445-2374       |
| Concrete construction, field inspection of concrete          | 68180    | William F. Kepler | 445-2386       |
| Concrete construction, technical specifications              | 68180    | Katie Bartojay    | 445-2374       |
| Concrete core evaluation studies, mass and structural        | 68180    | William F. Kepler | 445-2386       |
| Concrete coring investigations                               | 68180    | William F. Kepler | 445-2386       |
| Concrete dam foundations                                     | 68312    | Gregg Scott       | 445-3233       |
| Concrete dams  | 68130    | John LaBoon       | 445-3235       |
| Concrete dams, seismic analysis                              | 68110    | Larry Nuss        | 445-3231       |
| Concrete inspection  | 68180    | William F. Kepler | 445-2386       |
| Concrete materials, guide paragraphs                         | 68180    | Katie Bartojay    | 445-2374       |
| Concrete pipe design   | 68140    | David Edwards     | 445-2750       |
| Concrete pipe investigations                                 | 68180    | Ken Sayer         | 445-3125       |
| Concrete repair  | 68180    | Kurt VonFay       | 445-2399       |
| Concrete repair materials -- development and testing         | 68180    | Kurt VonFay       | 445-2399       |
| Concrete structure inspection                                | 68130    | Chuck Cooper      | 445-3262       |
| Concrete technology  | 68180    | Tim Dolen         | 445-2380       |
| Concrete thermal properties testing (hydration, diffusivity) | 68180    | William F. Kepler | 445-2386       |
| Concrete, forensic evaluation of failures                    | 68180    | William F. Kepler | 445-2386       |
| Concrete, laboratory testing                                 | 68180    | William F. Kepler | 445-2386       |
| Concrete, precast  | 68120    | Dick LaFond       | 445-3226       |
| Concrete, roller compacted                                   | 68180    | Tim Dolen         | 445-2380       |
| Cone penetration tests (CPT)                                 | 68320    | Jeff Farrar       | 445-2333       |
| Conference planning  | 68270    | Richard Vinton    | 445-2738       |
| Conflict resolution and mediation                            | 68270    | Richard Vinton    | 445-2738       |
| Conjunctive relationships, surface and groundwater           | 68210    | Joseph Lyons      | 445-2531       |
| Conjunctive use opportunities evaluation                     | 68210    | Joseph Lyons      | 445-2531       |
| Conservation, water supply and use                           | 68210    | Joseph Lyons      | 445-2531       |
| Consolidated sampling  | 68320    | Steve Beason      | (702) 295-4088 |
| Constructed wetlands   | 68210    | Joseph Lyons      | 445-2531       |
| Construction control/materials testing                       | 68180    | William F. Kepler | 445-2386       |
| Construction cost estimates                                  | 68170    | Dan Maag          | 445-3084       |

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| Construction cost trends, index                                  | 68170           | Dan Maag          | 445-3084           |
| Construction geologic mapping                                    | 68320           | Kathlene Wasik    | 445-3193           |
| Construction management  | 68170           | Bob Baumgarten    | 445-3076           |
| Construction materials, technical standards                      | 68180           | William F. Kepler | 445-2386           |
| Construction submittals, review and approval                     | 68180           | Katie Bartojay    | 445-2374           |
| Construction support and inspections                             | 68120           | Dick LaFond       | 445-3226           |
| Construction support, subsurface drains and wells                | 68210           | Roger Burnett     | 445-2508           |
| Consumptive use  | 68210           | Joseph Lyons      | 445-2531           |
| Consumptive use demands  | 68210           | Joseph Lyons      | 445-2531           |
| Consumptive water use by crops and riparian vegetation           | 68210           | Joseph Lyons      | 445-2531           |
| Contaminants, fate and transport                                 | 68290           | Steven Hiebert    | 445-2206           |
| Contract claims consultation services                            | 68170           | Nancy Lender      | 445-3299           |
| Contract management  | 68270           | Richard Vinton    | 445-2738           |
| Contract schedules   | 68170           | Carlton Smith     | 445-3303           |
| Control system analysis and testing                              | 68440           | J. C. Agee        | 445-2309           |
| Control system design  | 68430           | Larry Rossi       | 445-2820           |
| Conveyance systems automation                                    | 68140           | David Edwards     | 445-2750           |
| Conveyors  | 68410           | Rick Christensen  | 445-2858           |
| Core recovery  | 68320           | Gary Turlington   | 445-3203           |
| Coring   | 68180           | William F. Kepler | 445-2386           |
| Corrosion and cathodic protection workshops                      | 68180           | Daryl Little      | 445-2384           |
| Corrosion control systems, O&M procedures                        | 68180           | Daryl Little      | 445-2384           |
| Corrosion monitoring & cathodic protection systems, designs      | 68180           | Daryl Little      | 445-2384           |
| Corrosion protection   | 68180           | Daryl Little      | 445-2384           |
| Corrosion protection field investigations, research, testing     | 68180           | Daryl Little      | 445-2384           |
| Corrugated plastic drain pipe (approval)                         | 68210           | Roger Burnett     | 445-2508           |
| Corrugated plastic drain pipe (testing)                          | 68140           | David Edwards     | 445-2750           |
| Cost allocation  | 68270           | Richard Vinton    | 445-2738           |
| Cost effectiveness   | 68270           | Richard Vinton    | 445-2738           |
| Cost estimates, level-of-effort                                  | 68170           | Dan Maag          | 445-3084           |
| Cost estimates-prevalidation, feasibility, appraisal, conceptual | 68170           | Dan Maag          | 445-3084           |
| Cost proposal reviews  | 68170           | Dan Donaldson     | 445-3080           |
| Cost trends, operation and maintenance                           | 68360           | DeWayne Campbell  | 445-3052           |
| Costs vs. benefits of fishery improvements or restoration        | 68270           | Richard Vinton    | 445-2738           |
| Cost-sharing proposals   | 68270           | Richard Vinton    | 445-2738           |
| Cranes and hoists  | 68410           | Alex Ritt         | 445-2866           |
| Critical path method (CPM) schedules                             | 68170           | Carlton Smith     | 445-3303           |
| Cross-drainage studies   | 68250           | David Raff        | 445-2461           |
| CSAM   | 68010           | Lonnie Lewis      | 445-2586           |
| Cultural resources   | 68010           | James Bailey      | 445-2704           |
| Cultural surveys   | 68010           | James Bailey      | 445-2704           |
| Cutoff wall design   | 68311           | Jack Gagliardi    | 445-2969           |
| Cutoff walls, geotechnical engineering                           | 68311           | Jack Gagliardi    | 445-2969           |
| Cutoff walls, specification drawings for geotechnical aspects    | 68311           | Jack Gagliardi    | 445-2969           |
| <b>D</b>   |                 |                   |                    |
| Dam breach modeling  | 68460           | Tony Wahl         | 445-2155           |
| Dam decommissioning planning                                     | 68240           | Timothy Randle    | 445-2557           |
| Dam failure inundation studies and maps                          | 68240           | Bruce Feinberg    | 445-3241           |
| Dam foundations grouting   | 68311           | Chris Slaven      | 445-3046           |
| Dam foundations, grouting  | 68311           | Chris Slaven      | 445-3046           |
| Dam inspection, diving   | 68130           | Walt Heyder       | 445-3246           |
| Dam instrumentation database                                     | 68360           | DeWayne Campbell  | 445-3052           |
| Dam overtopping protection                                       | 68460           | Kathy Frizell     | 445-2144           |
| Dam removal design (concrete dams)                               | 68130           | Bob Dewey         | 445-2976           |
| Dam removal design (embankment dams)                             | 68311           | Michael Gobla     | 445-3032           |
| Dam removal or modification (sediment transport)                 | 68240           | Timothy Randle    | 445-2557           |
| Dam safety analysis of instrumentation data                      | 68360           | DeWayne Campbell  | 445-3052           |
| Dam safety and O&M inspections                                   | 68360           | DeWayne Campbell  | 445-3052           |

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| Dam safety chemistry  | 68290           | Steven Hiebert    | 445-2206           |
| Dam safety client liaison                                       | 68010           | Tim Tochtrop      | 445-2990           |
| Dam safety evaluations and examinations                         | 68311           | Bob Dewey         | 445-2976           |
| Dam safety inspections  | 68360           | DeWayne Campbell  | 445-3052           |
| Dam safety research laboratory investigations                   | 68180           | Stephen Dominic   | 445-2379           |
| Dam safety research, hydraulic models                           | 68460           | Tony Wahl         | 445-2155           |
| Dam safety technical priority rating system                     | 68360           | Chris Danley      | 445-2755           |
| Dam safety training   | 68360           | DeWayne Campbell  | 445-3052           |
| Dam safety, hydrological aspects                                | 68250           | John England      | 445-2541           |
| Dam Safety/SEED and SOD client liaison                          | 68010           | Tim Tochtrop      | 445-2990           |
| Dam seepage geochemistry  | 68290           | Steven Hiebert    | 445-2206           |
| Dam tender training   | 68360           | Bill Bouley       | 445-2754           |
| Dams, hydraulic structure designs and modifications             | 68130           | John LaBoon       | 445-3235           |
| Dams, overtopping   | 68311           | Ashok Chugh       | 445-3026           |
| Dams, risk assessment   | 68311           | Karl Dise         | 445-3030           |
| Dams, risk assessment   | 68311           | Karl Dise         | 445-3030           |
| Data acquisition systems for condition monitoring               | 68440           | Jim DeHaan        | 445-2305           |
| Database design and systems                                     | 68210           | Joseph Lyons      | 445-2531           |
| Debris control  | 68410           | Rick Christensen  | 445-2858           |
| Decision Process Guide  | 68270           | Richard Vinton    | 445-2738           |
| Decision support systems  | 68210           | Joseph Lyons      | 445-2531           |
| Decontamination   | 68320           | Kathlene Wasik    | 445-3193           |
| Decontamination of cyanide heap-leach facilities                | 68311           | Bob Dewey         | 445-2976           |
| Demonstration testing   | 68221           | Kevin Price       | 445-2260           |
| Desalination and Water Purification Research & Development      | 68221           | Kevin Price       | 445-2260           |
| Desalination pilot plants                                       | 68221           | Kevin Price       | 445-2260           |
| Design natural channels and habitat                             | 68240           | Linda Bowles      | 445-3114           |
| Design procedures and practices training                        | 68120           | Dick LaFond       | 445-3226           |
| Designs and specifications for new projects                     | 68311           | Bob Dewey         | 445-2976           |
| Designs and specifications for remediation of existing projects | 68311           | Bob Dewey         | 445-2976           |
| Designs, design data, specifications, and construction support  | 68180           | William F. Kepler | 445-2386           |
| Desktop publishing and printing                                 | 68010           | Deena Larsen      | 445-2584           |
| Dewatering construction   | 68312           | Chuck Redlinger   | 445-2768           |
| Dewatering designs; seepage/groundwater modeling                | 68311           | Bob Dewey         | 445-2976           |
| Dewatering system design and analysis                           | 68210           | Joseph Lyons      | 445-2531           |
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| Water losses   | 68210           | Joseph Lyons     | 445-2531           |
| Water management decision support systems                  | 68210           | David King       | 445-2471           |
| Water markets, economic investigations                     | 68270           | Richard Vinton   | 445-2738           |
| Water measurement consulting and training                  | 68460           | Tony Wahl        | 445-2155           |
| Water operation and maintenance program                    | 68360           | Bill Bouley      | 445-2754           |
| Water quality analysis                                     | 68221           | Kevin Price      | 445-2260           |
| Water quality assessment                                   | 68210           | Joseph Lyons     | 445-2531           |
| Water quality chemical analysis                            | 68220           | Kevin Kelly      | TTY***             |
| Water quality models for rivers, etc                       | 68210           | Joseph Lyons     | 445-2531           |
| Water quality models for rivers, reservoirs, streams, etc. | 68220           | Merlynn Bender   | 445-2460           |
| Water quality, computer modeling                           | 68220           | Merlynn Bender   | 445-2460           |
| Water Recreation Opportunity Spectrum (WROS)               | 68270           | Richard Vinton   | 445-2738           |
| Water remediation of hazardous chemicals                   | 68221           | Kevin Price      | 445-2260           |
| Water requirements   | 68210           | Joseph Lyons     | 445-2531           |
| Water resource suitability                                 | 68220           | Mike Horn        | 445-2203           |
| Water resources geotechnical projects                      | 68311           | Bob Dewey        | 445-2976           |
| Water Resources Planning and Operations Group              | 68210           | Joseph Lyons     | 445-2531           |
| Water Resources Research Laboratory                        | 68460           | Tracy Vermeyen   | 445-2154           |
| Water resources, hydraulic                                 | 68460           | Tony Wahl        | 445-2155           |
| Water reuse and recycling                                  | 68120           | Robert Jurenka   | 445-2254           |
| Water Reuse and Recycling Title XVI                        | 68221           | Kevin Price      | 445-2260           |
| Water rights and water rights analysis                     | 68210           | Joseph Lyons     | 445-2531           |
| Water salvage  | 68210           | Joseph Lyons     | 445-2531           |
| Water savings  | 68210           | Joseph Lyons     | 445-2531           |

Technical Service Center Directory

| <b>Subject Matter</b>                                | <b>Code 86-</b> | <b>Contacts</b> | <b>Number 303-</b> |
|--|-----------------|-----------------|--------------------|
| Water stops  | 68180           | Jay Swihart     | 445-2397           |
| Water supply availability and planning               | 68210           | Joseph Lyons    | 445-2531           |
| Water supply forecasting                             | 68210           | Levi Brekke     | 445-2494           |
| Water supply, use, and conservation                  | 68210           | Joseph Lyons    | 445-2531           |
| Water surface profiles (modeling)                    | 68240           | Blair Greimann  | 445-2563           |
| Water system planning, design, and O&M support       | 68240           | Timothy Randle  | 445-2557           |
| Water temperature control devices                    | 68410           | Wayne Delzer    | 445-2860           |
| Water Treatment Engineering and Research Teamp       | 68221           | Kevin Price     | 445-2260           |
| Water treatment engineering research                 | 68221           | Kevin Price     | 445-2260           |
| Water treatment processes and systems                | 68221           | Kevin Price     | 445-2260           |
| Water treatment research                             | 68221           | Kevin Price     | 445-2260           |
| Water treatment research and design                  | 68120           | Robert Jurenka  | 445-2254           |
| Water treatment specifications, cost estimates       | 68221           | Kevin Price     | 445-2260           |
| Water treatment training                             | 68221           | Kevin Price     | 445-2260           |
| Water treatment, innovative technologies             | 68221           | Kevin Price     | 445-2260           |
| Water treatment, laboratory and bench-scale testing  | 68221           | Kevin Price     | 445-2260           |
| Water use assessments and efficiency                 | 68210           | Joseph Lyons    | 445-2531           |
| Water use transfers impacts on income and employment | 68270           | Richard Vinton  | 445-2738           |
| Water use, legal and institutional issues            | 68210           | Joseph Lyons    | 445-2531           |
| Water, operation and maintenance program             | 68360           | Bill Bouley     | 445-2754           |
| Watershed analysis                                   | 68210           | Joseph Lyons    | 445-2531           |
| Watershed hydrology                                  | 68210           | Joseph Lyons    | 445-2531           |
| Watershed planning                                   | 68210           | Joseph Lyons    | 445-2531           |
| Watershed processes                                  | 68290           | Steven Hiebert  | 445-2206           |
| Waterways and Concrete Dams Group                    | 68130           | John LaBoon     | 445-3235           |
| Weather analysis and forecasting                     | 68250           | John England    | 445-2541           |
| Weather forecasts                                    | 68250           | John England    | 445-2541           |
| Web page design and development                      | 68010           | Deena Larsen    | 445-2584           |
| Web-based graphics and page design                   | 68010           | Deena Larsen    | 445-2584           |
| Weed control research                                | 68220           | Fred Nibling    | 445-2202           |
| Welding procedures                                   | 68410           | Roger Cline     | 445-2293           |
| Well and well field design                           | 68210           | Bob Talbot      | 445-2518           |
| Well-head protection studies                         | 68210           | Roger Burnett   | 445-2508           |
| Wetlands and instream flows, economic values         | 68270           | Richard Vinton  | 445-2738           |
| Wetlands design                                      | 68120           | Dick LaFond     | 445-3226           |
| Wetlands research                                    | 68220           | Mark S. Nelson  | 445-2225           |
| Wetlands site landscape design                       | 68120           | John Pattie     | 445-3273           |
| Wetlands, ground water hydrology/hydraulics          | 68210           | Roger Burnett   | 445-2508           |
| Wetlands, water conveyance features                  | 68140           | David Edwards   | 445-2750           |
| Wildlife management models, GIS based                | 68220           | Kathleen Fenton | 445-2274           |
| Wildlife studies                                     | 68220           | Darrell Ahlers  | 445-2233           |
| Wireless instrumentation                             | 68440           | Jim DeHaan      | 445-2305           |
| Workflow coordination in TSC                         | 68010           | Christi Young   | 445-2561           |
| Writing and editing assistance                       | 68010           | Dianne Clark    | 445-2579           |
| <b>Y</b>   |                 |                 |                    |
| Yucca Mountain Mapping Group                         | 68323           | Steve Beason    | 445-4088           |
| <b>Z</b>   |                 |                 |                    |
| Zebra mussel and corbicula control                   | 68220           | Fred Nibling    | 445-2202           |





# TECHNICAL SERVICE CENTER – 86-68000

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## Client Support and Technical Presentations 86-68010 – continued

### Technical Presentations

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Gray, Cindy 2615  
Larsen, Deena 2584  
Leffel, Sharon 2585  
Lewis, Lonnie 2586  
Manross, Teri 2587  
Petersen, Tyna 2573  
Ward, Susan 2690

**NOTE: All numbers are 303-445- unless  
otherwise noted.**

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|---------------------|------|
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| Dressel, William    | 3267 |
| Gold, David         | 3131 |
| Guerra, Andres      | 3269 |
| Jones, Eric         | 3132 |
| Koltuniuk, Roman    | 3225 |
| Latham, Steve       | 2519 |
| Mills-Bria, Barbara | 3229 |
| Munoz, Rich         | 3230 |
| Nuss, Larry         | 3231 |
| Payne, Terry        | 3232 |
| Reynolds, Rose      | 3239 |
| Schneider, Jason    | 3211 |
| Toothman, Adam      | 3596 |
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|-------------------|------|
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| Benik, Rick       | 3242 |
| Cohen, Bitsy      | 3247 |
| Cooper, Chuck     | 3262 |
| Ellingson, John   | 3264 |
| Fiedler, Bill     | 3248 |
| Godaire, David    | 3249 |
| Hall, Ernest      | 3244 |
| Hepler, Tom       | 3261 |
| Heyder, Walt      | 3246 |
| Hinchliff, Dave   | 3256 |
| Huggins, Jennifer | 2169 |
| Johnson, Stacy    | 3277 |
| Mares, Dan        | 3252 |
| Markley, John     | 3254 |
| McGovern, Bob     | 3243 |
| Percell, Phoebe   | 3033 |
| Scobell, Tom      | 3706 |
| Stanton, Doug     | 3265 |
| Trojanowski, John | 3263 |

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| Bernstein, Al        | 3275 |
| Dham, Ribha          | 2638 |
| Dundorf, Steve       | 2263 |
| Goplen, Brian        | 3271 |
| Huerta, Olaff        | 3270 |
| Irvine, Scott        | 2253 |
| Jorgensen, Erik      | 3604 |
| Jurenka, Robert      | 2254 |
| Lajimodiere, Bernard | 2996 |
| Neumaier, James      | 3280 |
| Pattie, John         | 3273 |
| Rodriguez, Robert    | 2262 |
| Ruchti, Paul         | 3290 |
| Snyder, Gary         | 3282 |
| VanOtterloo, Brad    | 3179 |
| Yokoyama, Ken        | 2014 |

### Water Conveyance 86-68140

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|------------------|------|
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| Baysinger, Jeff  | 3194 |
| Bowles, Linda    | 3114 |
| Calhoun, Tedd    | 3115 |
| Cha, Chou        | 3129 |
| Clough, Nicholas | 3112 |
| Duke, Chris      | 3120 |
| Edwards, David   | 2750 |
| Gemperline, Joe  | 2483 |
| Gesundheit, Dave | 3119 |
| Joyce, Charles   | 2863 |
| Leavitt, Mark    | 3227 |
| Robertson, Steve | 3123 |

**CIVIL ENGINEERING SERVICES DIVISION – 86-68100 - continued**

**Water Conveyance  
86-68140 – continued**

|               |      |
|---------------|------|
| Romero, Jesus | 3124 |
| Sayer, Ken    | 3125 |
| Streifel, Art | 3126 |
| Wagner, Jason | 3136 |

**Estimating, Specifications, and Construction  
Management  
86-68170 – continued**

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|-----------------------------------|------|
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| Babcock, John                     | 3091 |
| Carbone, Linda C.                 | 3739 |
| Cardon, Diana (contract employee) | 3301 |
| Carlson, Rob                      | 3077 |
| Chavira, Betty                    | 3078 |
| Cook, Tom                         | 3292 |
| Donaldson, Dan                    | 3080 |
| Dowling, Casey                    | 2386 |
| Foreman, John                     | 3297 |
| Grush, Craig                      | 3081 |
| Gulsvig, Greg                     | 3082 |
| Haley, Keith                      | 2899 |
| Hanke, Thomas                     | 3083 |
| Lake, Margaret                    | 2181 |
| Lender, Nancy                     | 3299 |
| Maag, Dan                         | 3084 |
| Magalong, Connie                  | 3085 |
| Mar, Daniel                       | 2872 |
| McKelvie, David                   | 3099 |
| Morris, Jeff                      | 3373 |
| Paul, Dave                        | 3296 |
| Power, Kate (contract employee)   | 3276 |
| Siebert, Gary                     | 3089 |
| Smith, Carlton                    | 3303 |
| Zander, Gerald                    | 3088 |
| Zlomke, Lonnie                    | 3087 |

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86-68180**

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Jim, Ellen M. 2006

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|--------------------------|------|
| Bartojay, Katie          | 2374 |
| Dolen, Timothy P.        | 2380 |
| Dominic, Stephen         | 2379 |
| Dooley, Todd             | 2390 |
| Erdogan, Zeynep          | 2348 |
| Fahy, Juliana            | 2188 |
| Goloskewitsch, Alexander | 3618 |
| Hurcomb, Doug            | 2336 |
| Little, Daryl            | 2384 |
| Madera, Veronica         | 2424 |
| Mitchell, Kurt D.        | 2387 |
| Muehlberg, Aaron         | 2376 |
| Pepin, Richard A.        | 2391 |
| Skaja, Allen             | 2396 |
| Strauss, Tom             | 2343 |
| Swihart, John J. (Jay)   | 2397 |
| Travers, Fred A.         | 2398 |
| Turcotte, Roger          | 2383 |
| Von Fay, Kurt F.         | 2399 |

# WATER AND ENVIRONMENTAL RESOURCES DIVISION – 86-68200

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Osterberg, John 2462  
Parker, Nancy 2532  
Perry, Thomas 2567  
Pruitt, Tom 2512  
Smith, Del 2516  
Spears, Mark 2514

## Remote Sensing and Geographic Information Team 86-68211

**Pucherelli, Michael, Team Leader** **2267**  
Bell, Alan 2268  
Clark, Douglas 2271  
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Goettlicher, Bill 2275  
Lawallen, Joyce (contract employee) 2018  
Salas, David 3619  
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## Environmental Applications and Research 86-68220

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Bender, Merlyn 2460  
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Carpenter, Jeanette\* 2230  
Horn, Mike 2203  
Hosler, Denise 2195  
Kelly, Kevin 2017  
Lieberman, Davine 2223  
Mangan, Patrick 2236  
Mueller, Gordon\* 2218  
Nelson, Mark S. 2225  
Nibling, Frederick 2202  
O'Meara, Scott 2216  
Simonavice, Mike 2196  
Thullen, Joan\* 2212  
Wydoski, Richard 2207  
Yahnke, James W. 2015

\*U.S. Geological Survey

## Water Treatment Engineering Research Team 86-68221

**Price, M. Kevin, Team Leader** **2260**  
Benko, Katherine 2013  
Bunnelle, Thomas 2249  
Chapman, Michelle 2264  
Delagah, Saied 2248  
Leitz, Frank 2255  
Murphy, Andrew 2259  
Porras, Yuliana 2265  
Tiffenbach, Andrew 2393

## WATER AND ENVIRONMENTAL RESOURCES DIVISION – 86-68200 — continued

### Sedimentation and River Hydraulics 86-68240

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|   |                 |
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| Bauer, Travis   | 3672            |
| Bountry, Jennifer   | 3614            |
| Carlson, John   | 2270            |
| Collins, Kent   | 2549            |
| Ferrari, Ron  | 2551            |
| Fotherby, Lisa  | 2476            |
| Godaire, Jeanne   | 3164            |
| Greimann, Blair   | 2563            |
| Hilldale, Robert  | 3135            |
| Holburn, Elaina   | 2550            |
| Huang, Victor (Jiachun)   | 2158            |
| Klumpp, Cassie  | 2554            |
| Lai, Yong   | 2560            |
| Makar, Paula  | 2555            |
| Oliver, Jan   | 2281            |
| Russell, Kendra   | 2552            |
| Samad, Mohammed   | 2559            |
| Sixta, Mike   | 2568            |
| Varyu, David  | 2535            |
| Wille, Kurt   | 2285            |

### Flood Hydrology and Meteorology 86-68250

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|  |                 |
| Collins, Colette   | 2540            |
| Dworak, Frank  | 2547            |
| England, John  | 2541            |
| Feinberg, Bruce  | 3241            |
| Graham, Wayne  | 2553            |
| Kamstra, Lex   | 2544            |
| Kinkel, Brenda   | 2530            |
| Leverson, Verne  | 2487            |
| Martin, Peter  | 2588            |
| Nuanes, Sharon   | 2533            |
| Raff, David  | 2461            |
| Sutley, David  | 2464            |
| Tisdale-Hein, Rinda  | 2241            |
| Wanker, Patrick  | 2594            |
| Wright, Joseph   | 2463            |

### Economics and Resource Planning 86-68270

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|  |                 |
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| Borda, Charles   | 2728            |
| Davis, Rob   | 2730            |
| Engel, Paula   | 2732            |
| Flynn, Kurt  | 2605            |
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| Lichtkoppler, Richard  | 2792            |
| Munger, Dawn   | 2734            |
| Piper, Steve   | 2736            |
| Platt, Jonathan  | 2737            |
| Redhorse, Rebecca  | 2710            |

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| Casement, Joan   | 2017            |
|  |                 |
| Ahlers, Darrell  | 2233            |
| Bark, Raymond  | 2204            |
| Bernal, Yvonne   | 2205            |
| Best, Eric   | 2179            |
| Bowen, Mark  | 2222            |
| Callahan, Debra (contract employee)  | 3645            |
| Fenton, Kathleen   | 2274            |
| Hueth, Chuck (contract employee)   | 2183            |
| Johanson, Vicky (contract employee)  | 2292            |
| Karp, Catherine  | 2226            |
| Kennedy, Seth (contract employee)  | 2182            |
| Lyons, Judy  | 2210            |
| Mefford, Brenna  | 2237            |
| Moore, Dave  | 2242            |
| Portz, Donald  | 2220            |
| Reed, Gregory  | 2208            |
| Ryan, Stephen (contract employee)  | 2234            |
| Sechrist, Juddson  | 2198            |
| Sutphin, Zachary   | 2141            |
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Hanneman, Dennis 2958  
Harris, Jonathan 2959  
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## GEOTECHNICAL SERVICES DIVISION – 86-68300 – continued

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Markiewicz, Rich 3167  
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Martinez, Andrea 2762  
Mogck, Larry 3107  
Purto, Gerri 3051  
Rosenfield, Jack 3061  
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Sharman, Jerry 2749  
Stateler, Jay 3064  
Suggs, John 3065  
Swanson, Charlie 2757  
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Ritt, Alex 2866  
Schlein, Paul 2868  
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Gamuciello, Lisa 2835  
Heckler, Bill 2833  
Kelly, John 2822  
Maurer, Cory 2834  
Nguyen, Kimmi 2851  
Noi, Richard 2819  
Patterson, Jay 2753  
Perkins, Remeshian 2714  
Rossi, Larry 2820  
Schuh, Mike 2821  
Toland, Dan 2823  
Vaughn, Eric 2816  
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Eastment, Eric 2324  
Flaherty, Dan 2829  
Gonzales, Dan 2250  
Hidalgo, Allison 2326  
Hoang, Vince 2836  
Keller, James 2838  
Myers, Nathan 2643  
Patterson, Shawn 2311  
Schmidt, Jason 2843  
Sewell, Jim 3063  
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Smith, Jill 2307  
Snorteland, Nathan 2395  
Steves, Toby 3258  
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Vu, Hoa 2312  
Weeks, Benjamin 2306  
Westerdale, Matthew 2313

**Hydraulic Investigations and Laboratory Services  
86-68460**

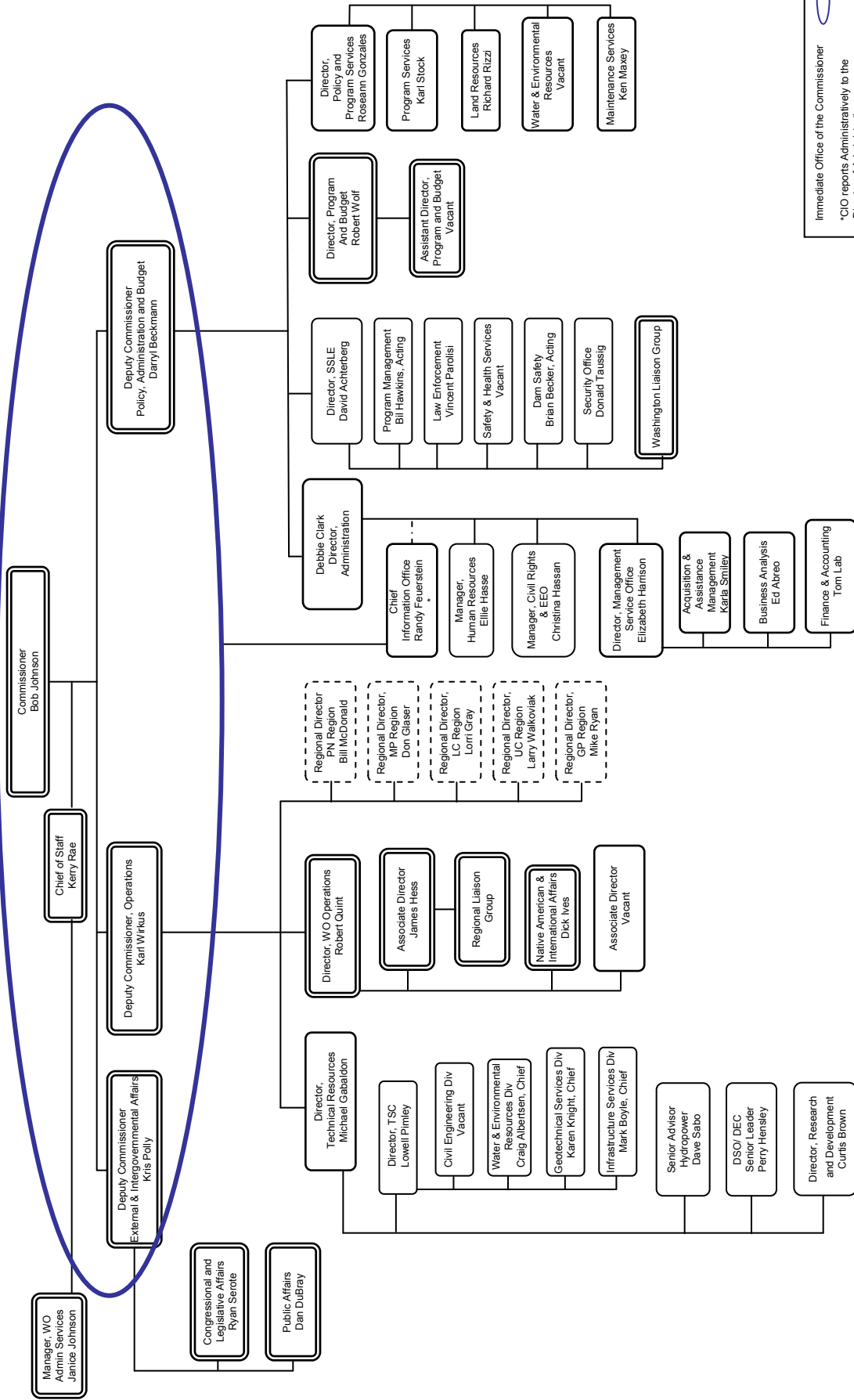
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| Cheek, Dane*   | 2162        |
| Demoyer, Connie  | 2152        |
| Einhellig, Robert F.   | 2142        |
| Frizell, K. Warren   | 2145        |
| Frizell, Kathleen  | 2144        |
| Gill, Tom  | 2201        |
| Hanna, Leslie  | 2146        |
| Higgs, James (7th floor)   | 2147        |
| Insonia, Justine   | 2026        |
| Kubitschek, Joseph   | 2148        |
| Lentz, Dale  | 2143        |
| Mefford, Brent   | 2149        |
| Poos, Marty* (contract employee)   | 3623        |
| Vermeyen, Tracy  | 2154        |

\*Lab shops



# Bureau of Reclamation October 24, 2008



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# Bureau of Reclamation Technical Service Center

