

the flood protection provided by the reservoir. Along with the District, these communities cooperated with Consolidated in 1976 to design a unique spillway enlargement that met the needs of both Consolidated and the flood-prone communities downstream of the reservoir.

The coordinated plan called for Consolidated to own the 30-foot long by 6-foot tall dam and the District to own the 40-foot long by 10-foot tall dam, both of which were located in the newly-enlarged spillway. The dams in the spillway allowed discharges through the spillway to be controlled by the mechanically operated gates. The result was that the District and downstream local governments could anticipate acceptable spillway outflows during 100-year storm events while Consolidated could be confident in being able to withstand the Standard Project Flood without overtopping the reservoir.

The fabric dams were inflated by a combination of air and water and were difficult to operate and maintain. They showed their vulnerability in March of 1979 when vandals using knives sliced

open the 30-foot long dam allowing a relatively small but certainly unexpected flood to occur. The peak flow immediately below the reservoir was about 750 cubic feet per second and caused some residential basement flooding and first floor damage to some commercial buildings.

The replacement system uses hydraulic cylinders to raise and lower the two

independent crest gates. They will operate under the same discharge parameters as did the fabric dams. The new steel crest gates are more resistant to vandalism and are far simpler to operate and maintain than the fabric dams. The new system affords renewed confidence in the integrity of Maple Grove Dam to the District, Consolidated, and the communities downstream of the reservoir.



Looking upstream at one of the new gates

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## Maintenance Eligibility Program

By David Mallory, P.E., Senior Project Engineer, Floodplain Management Program

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### Construction Plan Reviews

The Wednesday, November 24<sup>th</sup> headline in the *Rocky Mountain News* proclaimed "Home Boom, \$13.1 billion in 2004 home sales". This year's continued robust housing market was fueled by low interest rates, a belief the Colorado economy is strengthening and a post election bounce. Total home sales for 2004 will likely outpace last year's record by 10%. The result was a continued boom in land development activities. The eastern E-470 and northern I-25 corridors have attracted the largest development interest. District staff reviewed over 300 construction plan referrals. Providing timely reviews is always challenging and this year was no exception. Terri Fead, PE has supplemented District staff

throughout the year. Terri's involvement has been a tremendous benefit to the maintenance eligibility program and I'm happy to announce she will be part of the program next year.

The District's maintenance eligibility database, updated bi-monthly, and the *Guidelines for Maintenance Eligibility Of Flood Control Facilities Constructed By Others* (Maintenance Eligibility Guidelines) have been available online throughout the year. This has proved helpful to local governments and consulting engineers alike. Another effective tool has been the practice of holding project meetings involving District staff, design consultants and local government representatives as a way to reach consensus and move

construction plans quickly through the final review process. We are also available by e-mail, fax or telephone to answer questions on design criteria and the maintenance eligibility program.

In April, the District hosted a workshop addressing current issues and guidelines in stormwater planning and design (see Ben Urbonas's article). One presentation subject was "Maintenance Eligibility and Master Plan Implementation". Bill DeGroot touched on this issue in his article. Bill continues to provide excellent leadership in this important effort. Private land development projects are responsible for constructing perhaps one-half to two-thirds of the Denver metropolitan area's major drainageway

infrastructure. In working with local governments, developers and their consultants, we have also been mindful that major drainageways must be attractive, provide a community asset and represent a "sense of place" in addition to functioning hydraulically. The aesthetic and urban design components are difficult to capture in criteria manuals, but oh so important in the final product.

### **RTD's West Corridor Project**

Voters approved the \$4.6 billion Fast Tracks project in November. One of the six alignments, known as the West Corridor, will precede the other alignments into design and construction phase. The West Corridor, which will connect downtown Denver to the Federal Center and Jefferson County Government Center, follows the old Associated Railroad alignment, which RTD purchased a number of years ago. The West Corridor project is budgeted at \$500 million with major impacts to

the South Platte River, Lakewood Gulch, Dry Gulch and North Dry Gulch. We have been working with City and County of Denver, City of Lakewood and RTD representatives since mid-summer in an effort to advance the preliminary design, enhance drainageway and open space functions and define budget risks for RTD. Significant progress has been made and significant work still needs to be done. The largest remaining issue is the South Platte River crossing. The crossing alignment is approximately 14<sup>th</sup> Avenue, just north of the Zuni Power Plant and south of Denver's Solid Waste Management facility. Stay tuned...

### **In the field**

An integral part of the maintenance eligibility process is construction oversight. Construction activity has increased this year over past years. At any given time, we typically have 120 to 150 active construction projects spread out over 1600 square miles in many

different local jurisdictions. We depend heavily on networking and partnerships developed with local governments and various engineering consultants over the years to adequately cover construction oversight. In some cases, local government inspection staffs have conducted construction observations on the District's behalf. Field reports and/or digital photos are typically provided to us through e-mail. We also rely upon local inspection staff, engineering consultants and in some instances, contractors to keep us apprised of construction progress and the need for District construction site visits. During 2004, District staff completed over 100 construction site visits. Over 60 projects were completed and recommended for construction acceptance during the preceding 12 months. Another 30 previously approved projects were re-inspected for adequate vegetative cover and received final approval.

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## **District Projects in the News**

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### **Two projects tie for CASFM 2004 Grand Award**

Two projects with District involvement tied for the 2004 Grand Award for Engineering Excellence presented by the Colorado Association of Stormwater and Floodplain Managers at their annual conference in August.

The Goose Creek project was a flood mitigation project sponsored by the City of Boulder and the District, and designed by ASCG, Inc. The \$8 million

project 3200 feet of walls, a continuous trail along the 3300 foot length of channel, and creation of wetlands and wildlife habitat.

The Comprehensive Stormwater Management at Stapleton project involved the District in ways other than funding. This project included the restoration of Westerly Creek on the former airport site. In order to meet tight time lines the District met with Denver, developer and designer representatives on a monthly basis to

assure that the completed design would be eligible for District maintenance assistance, and would also experience minimal difficulty in receiving a Conditional Letter of Map Revision from FEMA. Both objectives were accomplished.

The developer is Forest City Stapleton, Inc. and the designers were Matrix Design Group, Inc. and EDAA, Inc.

### **Marcy Gulch featured in magazine**

The Marcy Gulch restoration project which has won several awards and is described in detail in the 2003 edition of *Flood Hazard News* was the cover story in the September/October issue of *Land and Water*. The project was sponsored by the District and the Highlands Ranch Metro Districts.

### **District wins accounting award**

For the fifteenth year in a row the District has received a "Certificate of Achievement for Excellence in Financial Reporting" from the Government Finance Officers Association of the United States and Canada.

The certificate is presented to government units whose comprehensive annual financial reports achieve the highest standards in government accounting and financial reporting. Congratulations to Frank Dobbins, Manager of Finance and Accounting, for continuing this string of awards.



**Goose Creek channel, decorative walls and trail**