

MARINA COAST WATER DISTRICT END OF YEAR ENGINEERING REPORT 2023

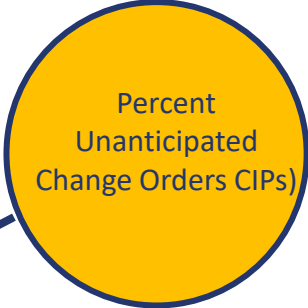
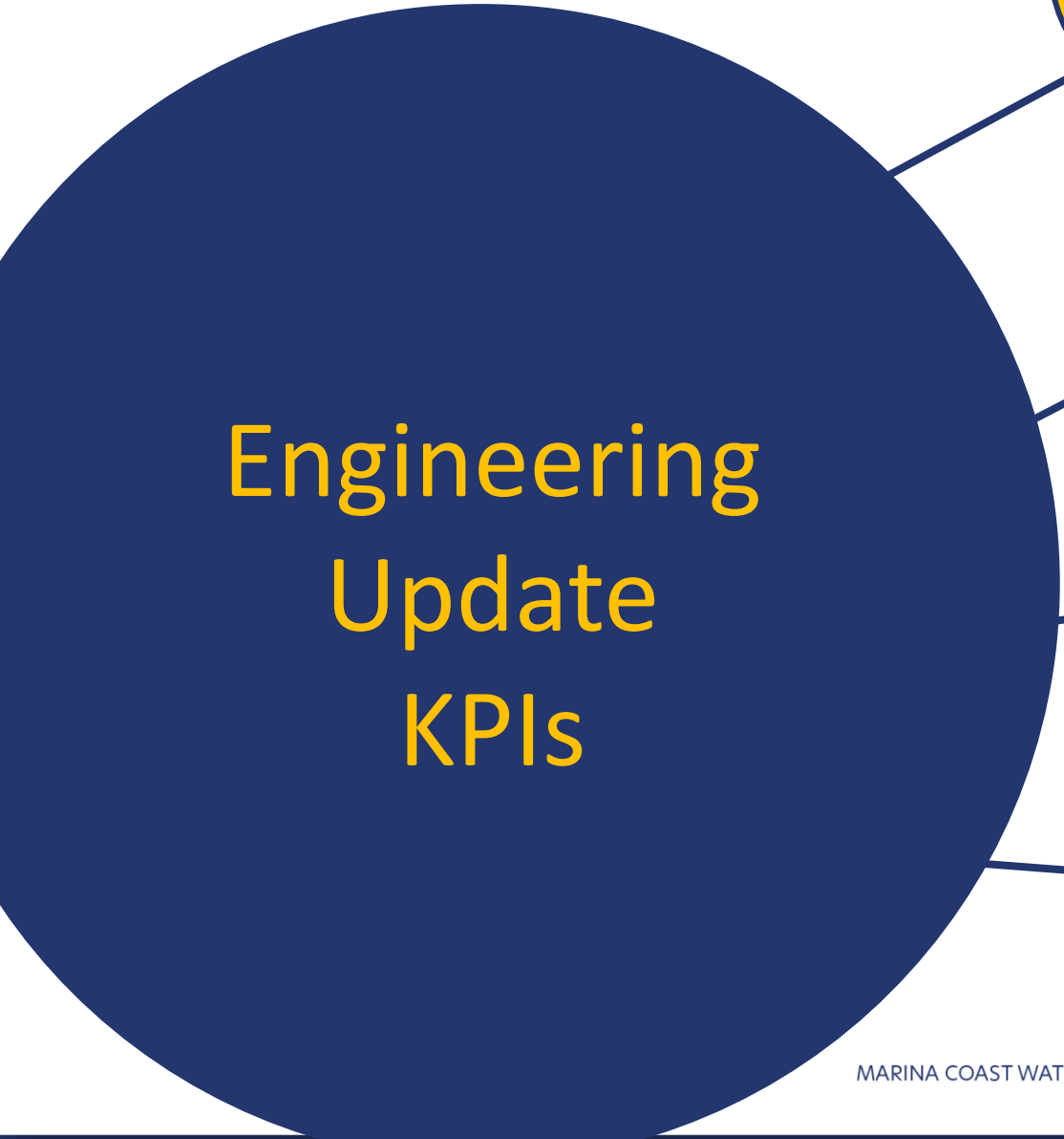
Garrett Haertel, PE
District Engineer
July 11, 2023

Background



The **Marina Coast Water District (MCWD) Engineering Department** serves as the in-house technical resource for the District. In that role engineering staff review, design and manage Capital Improvement Plan (CIP) and development (DEV) projects.

Background



Background

FY 22/23 Budget – \$47,529,033 (\$15,350,283 CIP)

Approved by the MCWD Board of Directors on May 16, 2022 included improvements and expansion plans for:

- **District Facilities,**
- **Existing Ord & Marina Water System,**
- **Recycled Water System, and**
- **Ord & Marina Wastewater Collections Systems.**

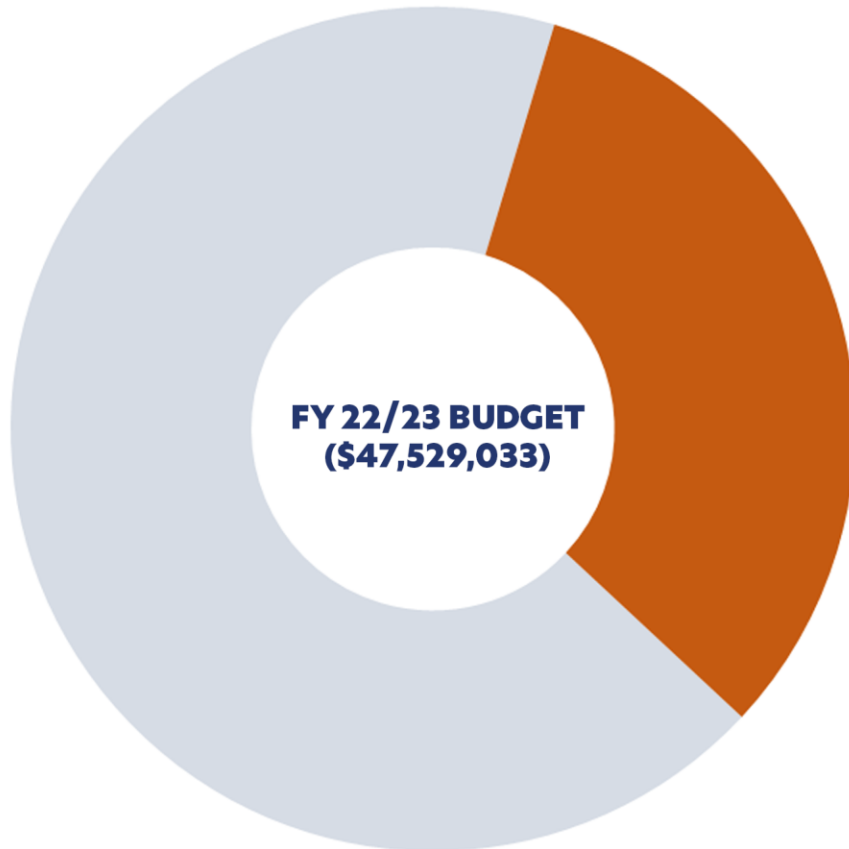
Discussion/Analysis



This end of year engineering update will focus on the three main areas of workload within the department;

- CIP Projects and Development Review and Inspections,
- Workforce Utilization, and
- Process Improvements.

22/23 Capital Improvement Plan (CIP) Projects



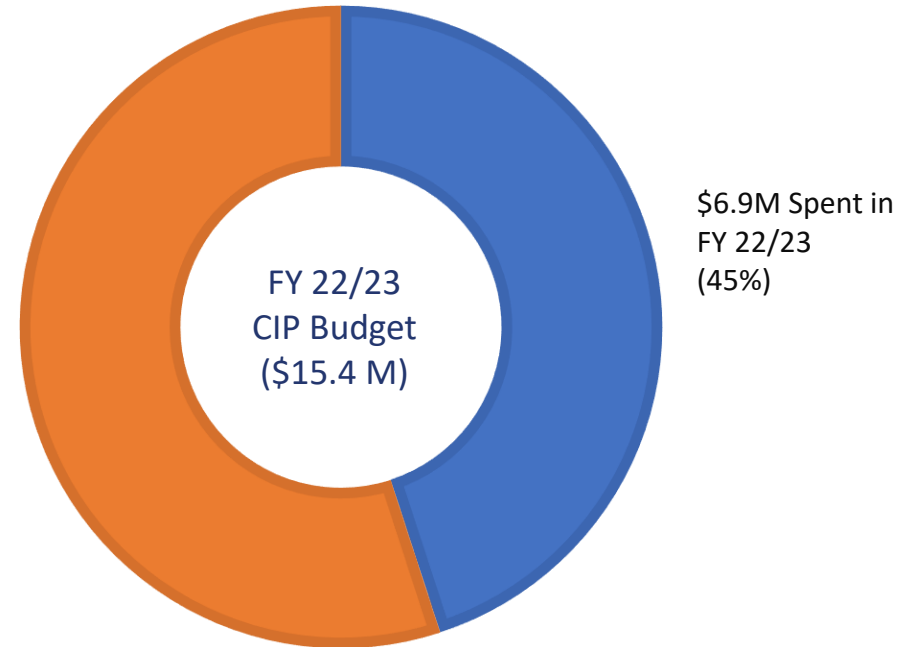
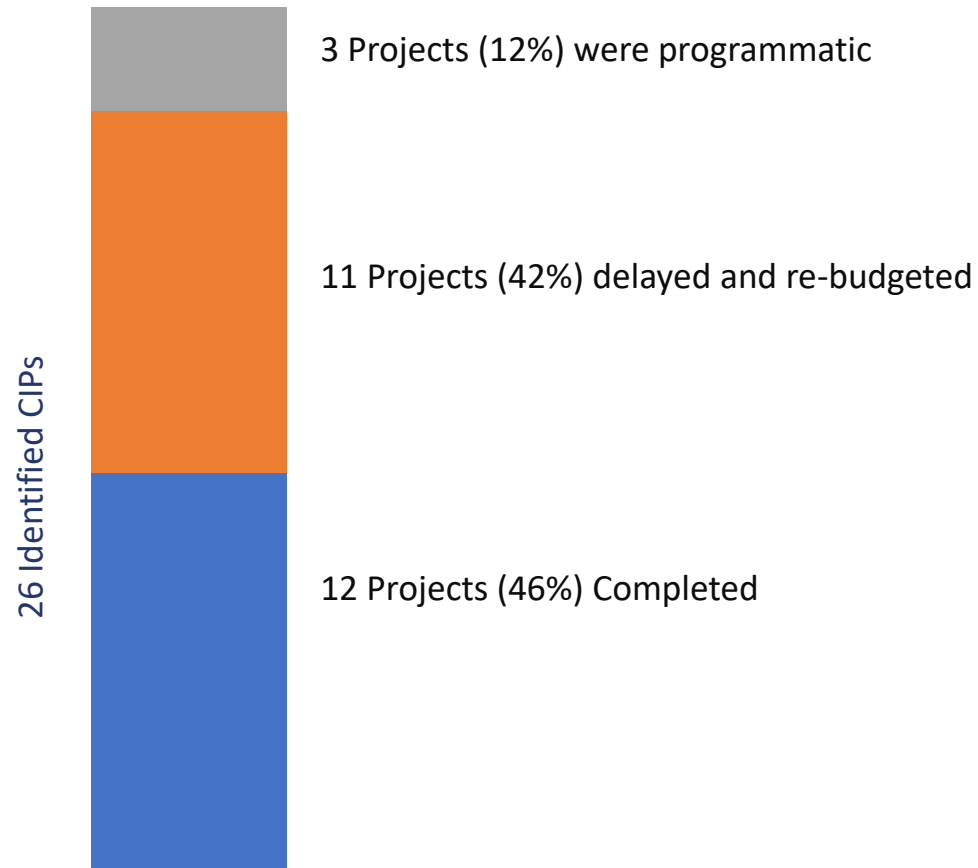
**Capital Improvement
Projects (CIPs)**
(\$15,350,283)

26 Projects Identified in the CIP

- 18 renewal and replacement,
- 7 engineering improvement, and
- 1 for current development.

32% of the Approved Budget

22/23 Capital Improvement Plan (CIP) Projects



22/23 Capital Improvement Plan (CIP) Projects



12 Completed Projects – Spend of Budgeted Amount of 68%.
2 projects over the budgeted amount (10% combined),
remaining 83% under budget.

Engineering Department Management Expectation –
 $\pm 10\%$ of the Engineer's Estimate for spend of budgeted
amount

This expectation represents accurate project scoping and
budgeting and accounts for any potential project changes.

22/23 Capital Improvement Plan (CIP) Projects



Project Change Orders

- Project Change Orders manifest as reductions in productivity from 10 to 30%
- Change Orders amounts typically are 10 to 15% of contract value based on studies conducted from B.V.M Engineering College

4 main projects within FY22/23:

(RUWAP Distribution Mains, Ord Lift Station and Force Main and Gigling Force Main, A1/A2 Tanks and B/C Booster Station, and Booker Lift Station Projects)

- Total cumulative contract amounts for total project lifespan – \$29.1M
- Unanticipated change order amount of \$1.4M or 4.8%.

Change Order percentage 33% to 50% of standard =
Significant Project Delivery Efficiency

Development (DEV) Projects



- Major DEV projects are all development projects not including Additional Dwelling Unit (ADU) projects and small renovation reviews.
- DEV project scope includes project setup, associated project review, coordination, agreement preparation and approval, and potential construction of infrastructure that has become or will become assets of the District.

Development (DEV) Projects

In FY22/23 District Engineering staff completed work and improvement plan review on 28 separate major DEV projects which include:

- 9 phases of the Dunes Development Project
- 2 phases of the Sea Haven Development Project
- 2 Projects related to 5 Phases of the Enclave at Cypress Grove Development Project
- Seaside Resort Project
- Lower Stilwell Development
- Veterans Transition Center – Lightfighter Village Development,
- Campus Town Project
- City of Marina Blight Removal Project
- Surplus Area II Demolition Project
- CSUMB Stadium Project
- CHISPA – East Garrison Apartments Project
- Marina Station Development
- Quick Quack Car Wash Project
- Abdy Way Subdivision Project
- Imjin Parkway Landscape Project
- Nurses Barracks Renovation Project
- Hampton Inn Project
- Home 2 Suites Project
- Chartwell High School Temporary Campus Development
- Joby Aviation Project

9 of these projects (32%) were completed in FY22/23. Staff is working on an additional 22 small development projects.

Engineering staff is generating metrics to track DEV projects. Examples consist of:

- Timing of initial plan submission to returned comments or approval,
- Staff and consultant workload requirements, and
- Number of outstanding projects and why.

These metrics will support the department's drive towards efficiency by improving costing, fee rates, staff demands, and customer service.

Workforce Utilization



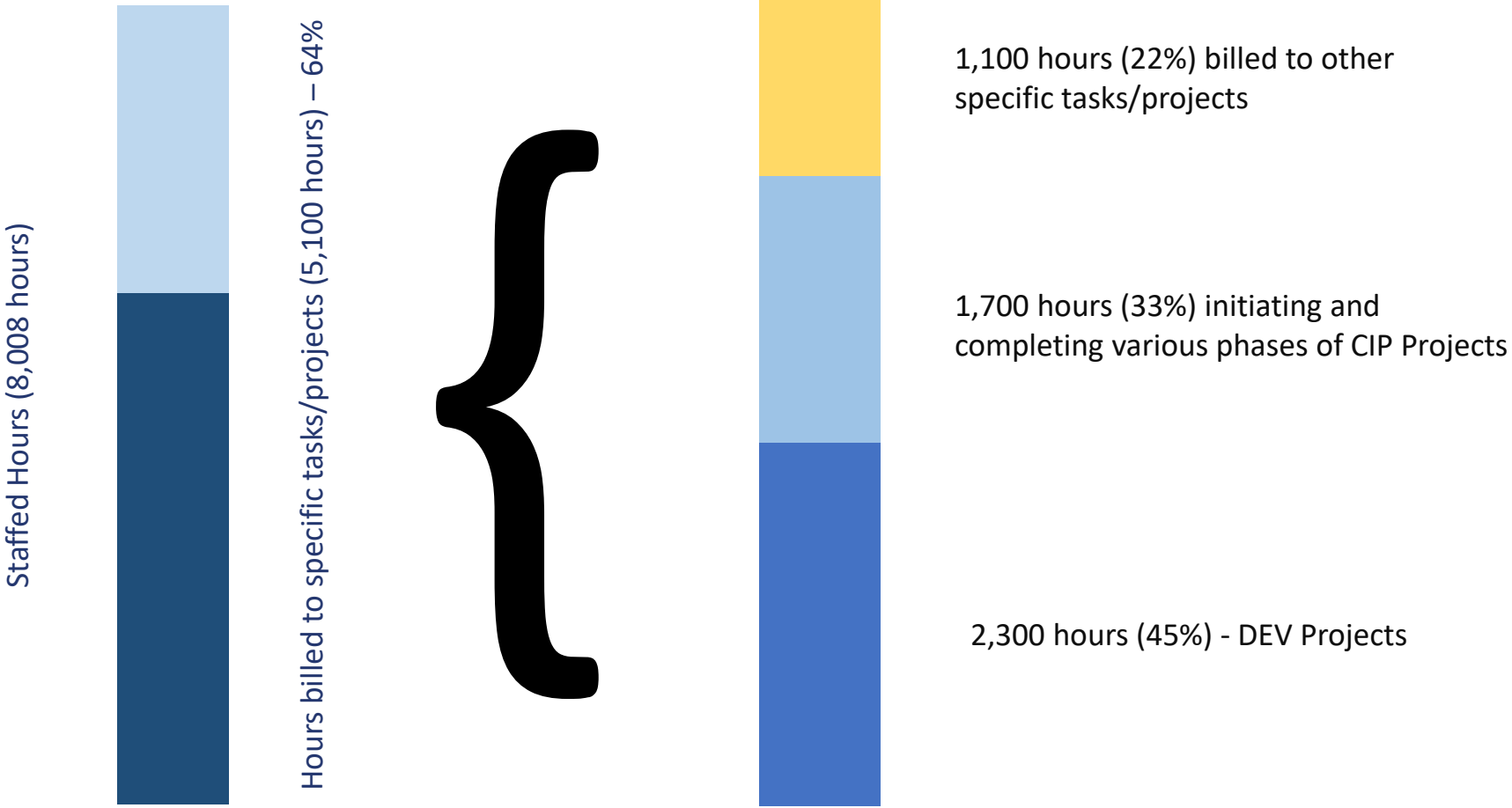
The Engineering Department had 6 full time equivalent (FTE) staff positions budgeted and available for project work.

Of the 6 FTEs, or 12,480 available working hours, 8,008 hours (64%) were staffed and utilized throughout FY22/23.

Reduced engineering capacity due to staff turnover is the source of reduced output and reductions in completed work assignments.

With the 64% staffed hours 46% of CIP Projects and 32% of development projects were completed.

Workforce Utilization



Process Improvements

The engineering department has been restructured to include Information Technology (IT). This will assist in the integration of Geographic Information Systems (GIS) into data systems district-wide, including hydraulic modeling, system mapping, and Computer Maintenance Management System (CMMS) administration

Engineering Department has spearheaded an internal project to develop the CIP tool for budgeting, forecasting and tracking projects.

The tool has aided in the development of a long-term, comprehensive CIP that can easily be modified to account for changing infrastructure demands and fiscal and construction environments.

This tool also aids in understanding the financial impact of a planned CIP versus a reactionary run-to-failure approach. The tool is being updated and it is planned to include DEV projects going forward.

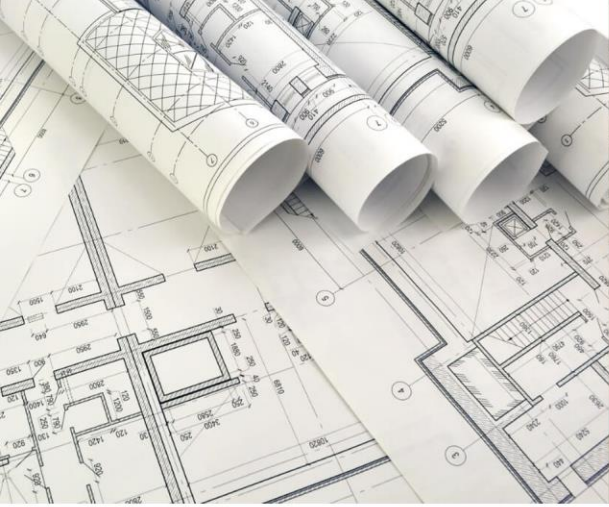
Process Improvements



Process Improvements can be made by using metrics to:

- Understand the full scope of the demands on the engineering department and staff,
- Assess current staff bandwidth for completing projects and activities and the need to hire outside contractors and consultants to complete necessary workloads, and
- Complete work tasks, such as construction inspections, and double check internal and external work product by internal staff without sole reliance on external support.

Over the last year, the engineering department has made significant inroads with both internal and external customers and the knowledge from these metrics will aid in further improvements to the engineering department structure and culture for improving the District.



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2023

Questions?