



Engineering, Operations, & Technology Committee

Overview of Construction Management at Metropolitan

Item 6a

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Presented by: Paul Romero

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Overview of Construction Management

Subject

Overview of Construction Management at Metropolitan

Purpose

To provide a high-level understanding of how Metropolitan's Construction Management Unit operates and its role in project delivery

Next Steps

Informational only

Overview of Construction Management at Metropolitan

- Unit comprised of engineers, construction inspectors & technicians
- Responsible for on-site inspection & construction contract management
- Supported by Engineering Field Administration team



Construction Inspection



Fabrication Inspection



Materials Testing

Involvement in All Phases of Infrastructure Projects

Planning & Design

- Perform constructability review
- Develop CM budgets

Advertisement & Contract Award

- Lead pre-bid conferences
- Lead pre-construction meetings

Construction

- Perform on-site contract administration
- Perform on-site inspection & testing
- Inspect off-site fabrication
- Conduct project closeout & turnover

Warranty & Claims Management



Project Goals

- Zero accidents or injuries
- Work meets specifications
- Complete on time & within budget
- Minimize impacts to operations & community
- Avoid rework



Weymouth WTP Basins 5-8 –
Inspection of Valve Coating

Project Partnering

- Drive a project-first mentality
- Approach challenges as a team
- Resolve problems at the lowest level
- Foster a respectful environment



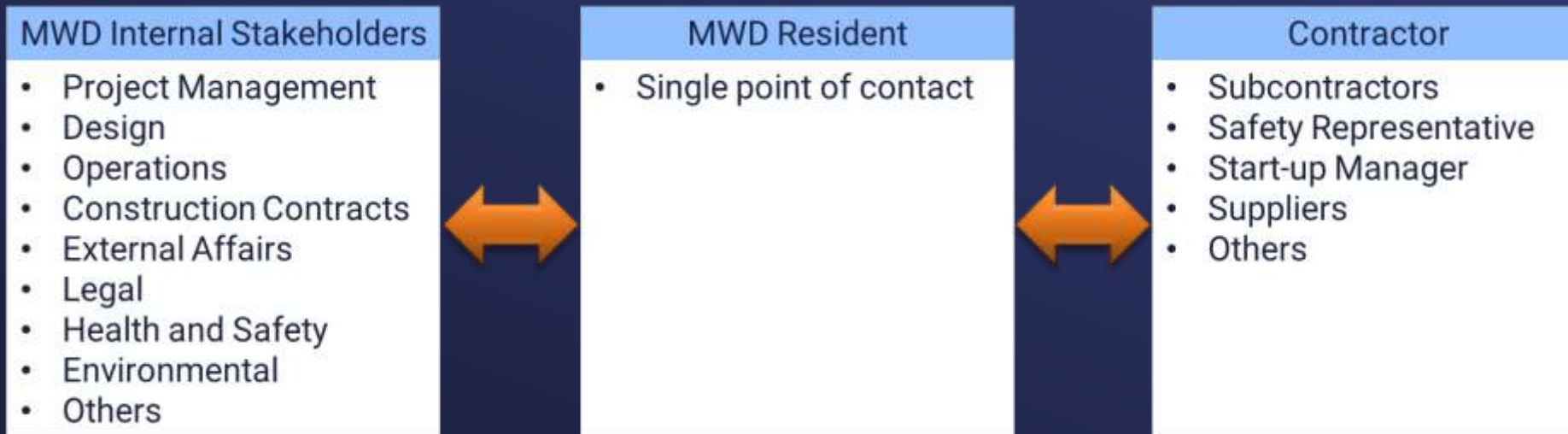
Casa Loma Siphon –
Installing Earthquake Resistant Ductile Iron Pipe (ERDIP)

Project Staff Overview

- Dynamic staffing based on project needs
- Works closely with internal stakeholders
- Resident in Charge of Construction – acts as Metropolitan’s lead representative
- Promote staff development & growth



MWD External Affairs –
Public Outreach



Construction Inspection

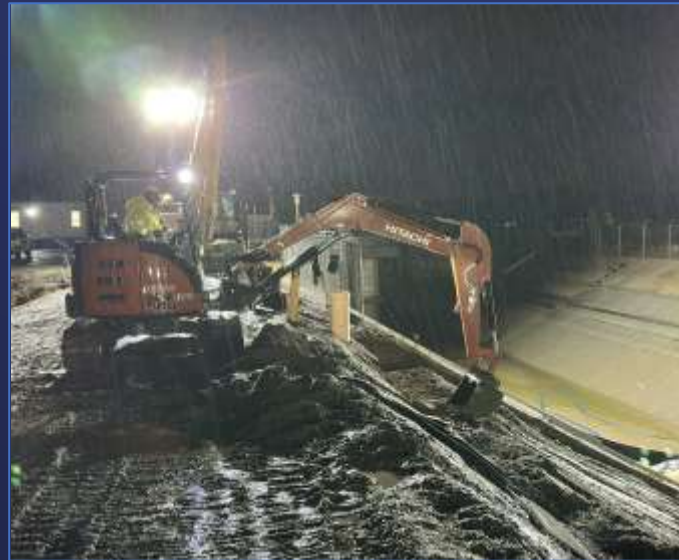
- Continuous & rigorous construction inspection
- Verify deliverables comply with the contract requirements
- Track extra & disputed work
- Document the work – progress, resource use & issues



CRA 6.9kV Switch House Seismic Upgrades –
Drilling for Micropiles

Shutdowns & Outages

- Coordinate with shutdown team
- Communicate expectations
- Verify contractor readiness
- Monitor progress
- Timely assessments & decisions
- Complete the work & turnover facilities



San Diego Canal Rehabilitation Stage 3 – Replacement of Concrete Liner

Fabrication Inspection

- Fabrication inspections at remote locations
- Includes local, domestic & foreign shops
- Virtual inspections
- Reduces risk of delays & rework



Off-site Fabrication Inspection –
84-inch Valve for
Wadsworth Pumping Plant

Soils & Concrete Materials Testing

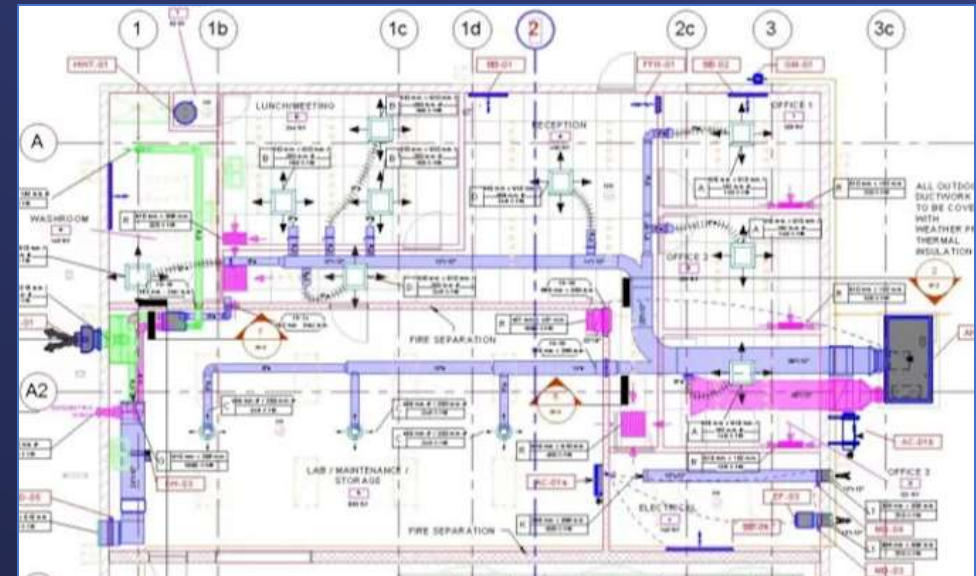
- In-house ability to:
 - Take & test concrete samples
 - Check subgrade compaction
 - Exploratory investigation
 - Core drilling of concrete/asphalt
 - Reinforcing steel scanning
- Located in La Verne – Building 40



Concrete Cylinder
Compressive Strength Testing

Leveraging Technology

- iPad
- Bluebeam
- SharePoint
- Benefits
 - Provides remote access to documents & reports
 - Facilitates collaboration with design teams & stakeholders
 - Improves document controls



Project Performance Metrics

- Monitor inspection costs
- Track construction costs
- Determine inspection cost as a percentage of total construction cost
- Oversee change orders



CRA Conduit Protection –
Transition Cover Installation

Claims Mitigation & Management

- Negotiate contract time & cost adjustments
- Resolve issues at the lowest possible level
- Factual & contractual approach
- Practice:
 - Early engagement on issues
 - Clear & thorough documentation
 - Fair, reasonable & consistent



DVL Floating Wave Attenuator –
Concrete Module Repair

Tangible Benefits

- Improved design & constructability
- Reduced project risk
- Reduced cost of contracts & extra work
- Reliable facilities with higher quality, functionality & service life



CRA Domestic Water Treatment System
Replacement – Electrical Ductbank

