

WATER SYSTEM IMPROVEMENT PROGRAM EXPERIENCES & LESSONS LEARNED

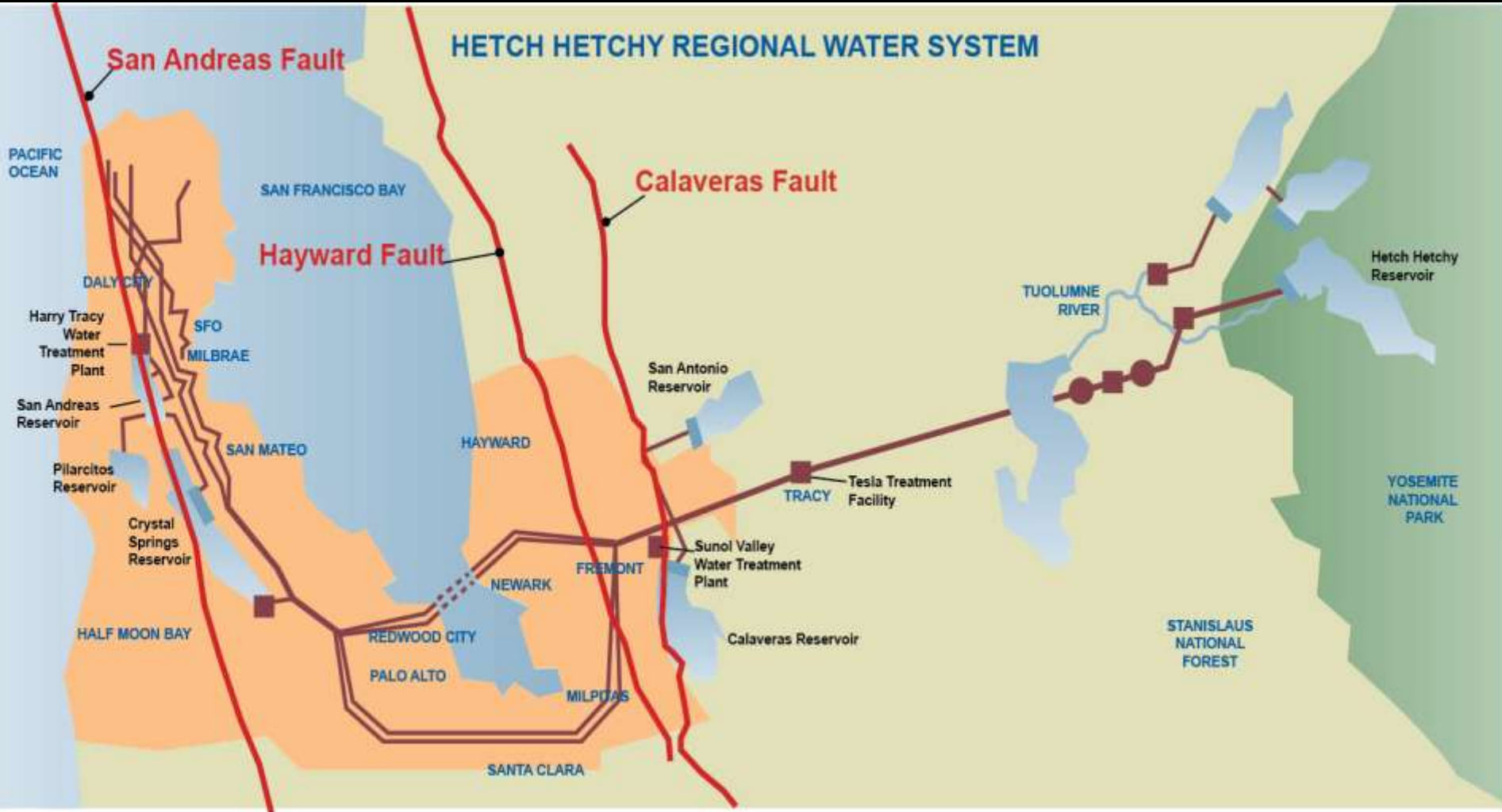


San Francisco
Water
Power
Sewer

September 25, 2012

San Francisco
Public Utilities Commission

HETCH HETCHY WATER SYSTEM



A yellow excavator bucket is suspended in the air on the left side of the image. In the background, a construction worker wearing a hard hat and a high-visibility vest stands on a dirt mound, looking out over a vast city valley. The sky is filled with soft, white clouds.

4 level of service goals

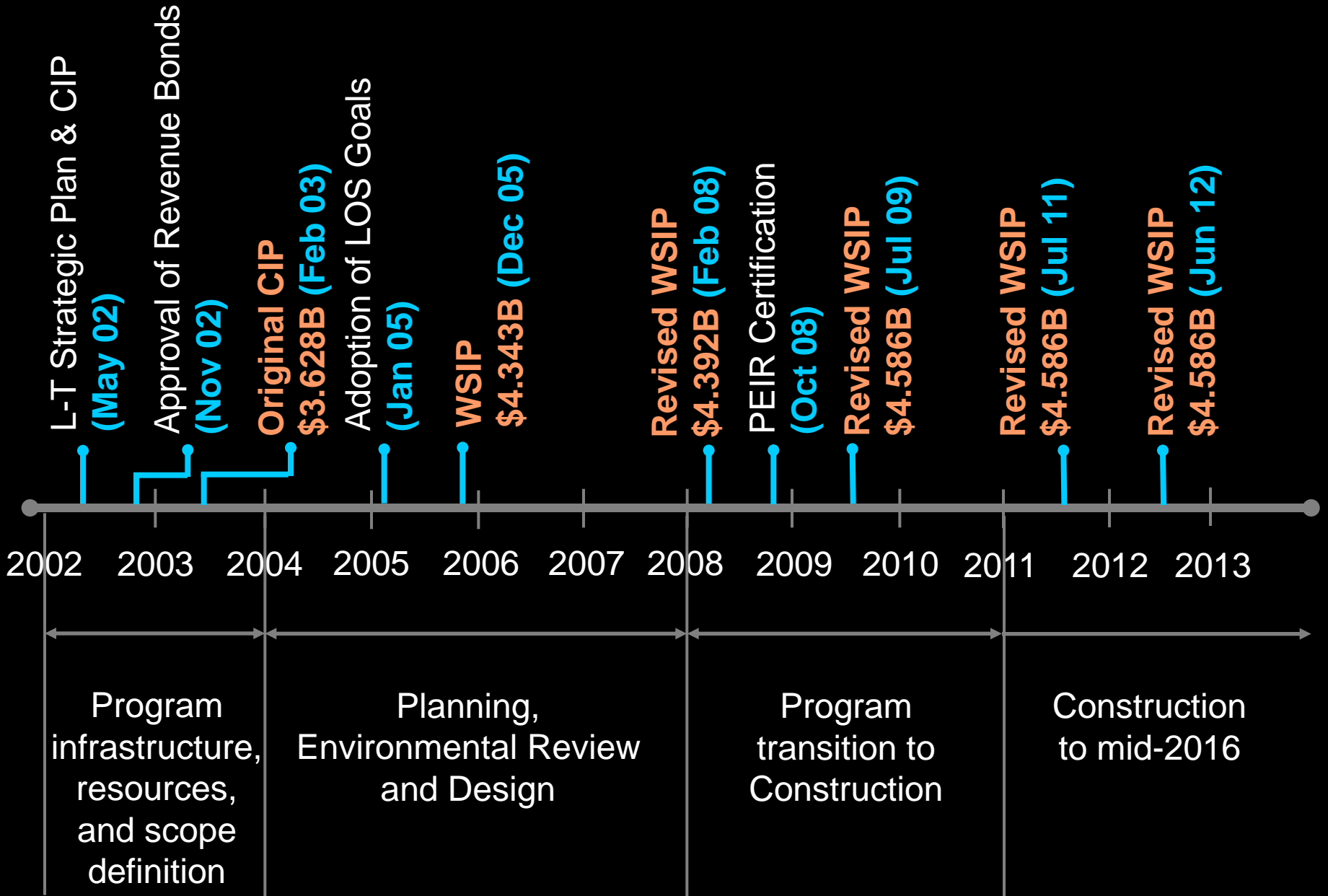
81 projects

7 counties

\$4.6 billion

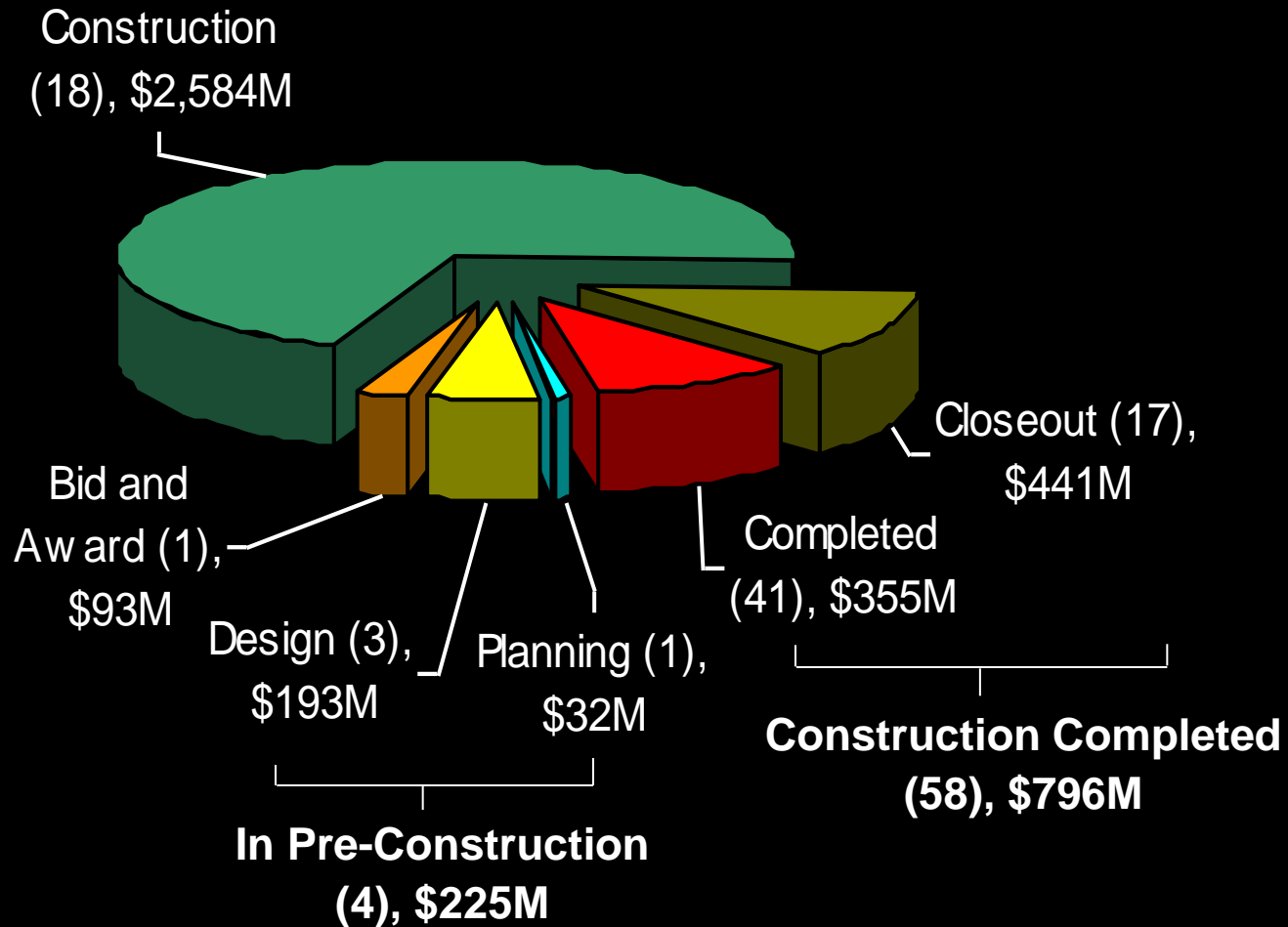
2016 completion

WSIP TIMELINE



PROGRAM STATUS

As of September 1, 2012



OUR CHALLENGES

- Political landscape
- Institutional boundaries
- Environmental requirements
- System operation
- Wide geographic area
- Densely populated areas



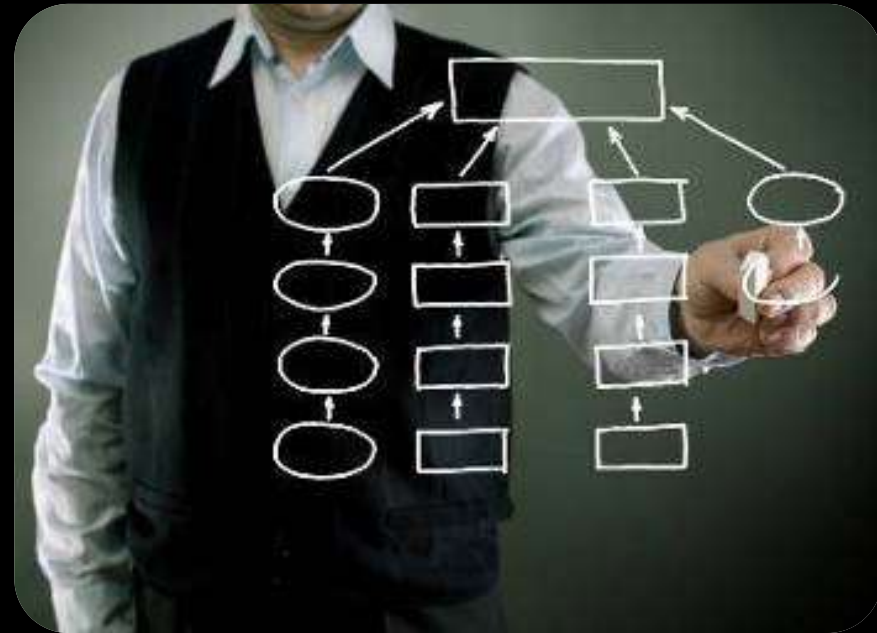
SYSTEM PLANNING AND PROGRAM DEVELOPMENT

- Tipping point: Loma Prieta
- Early master planning efforts
 - Condition assessment
 - Facility-specific risk analysis
 - System-wide vulnerability model
- Adoption of level of service goals
- Establishment of program-wide design criteria
- Refinement of project scopes and budgets



OVERALL MANAGEMENT APPROACH

- City-led program through matrix organization
- 3-Tier organizational structure
- Integration of consultants
- Use of state-of-the-art technology
- Key implementation strategies
 - Environmental
 - Contracting
 - Transparency



PROGRAM MANAGEMENT FUNCTIONS

- Program Controls / Change Management
- Risk Management
- Quality Management
- Construction Management
- Environmental Review and Mitigation
- Design and System Engineering
- System Operation
- Permitting
- Real Estate / ROW
- Contracts
- Legal
- Finance
- Labor Relations
- Outreach
(Public / Contractor)

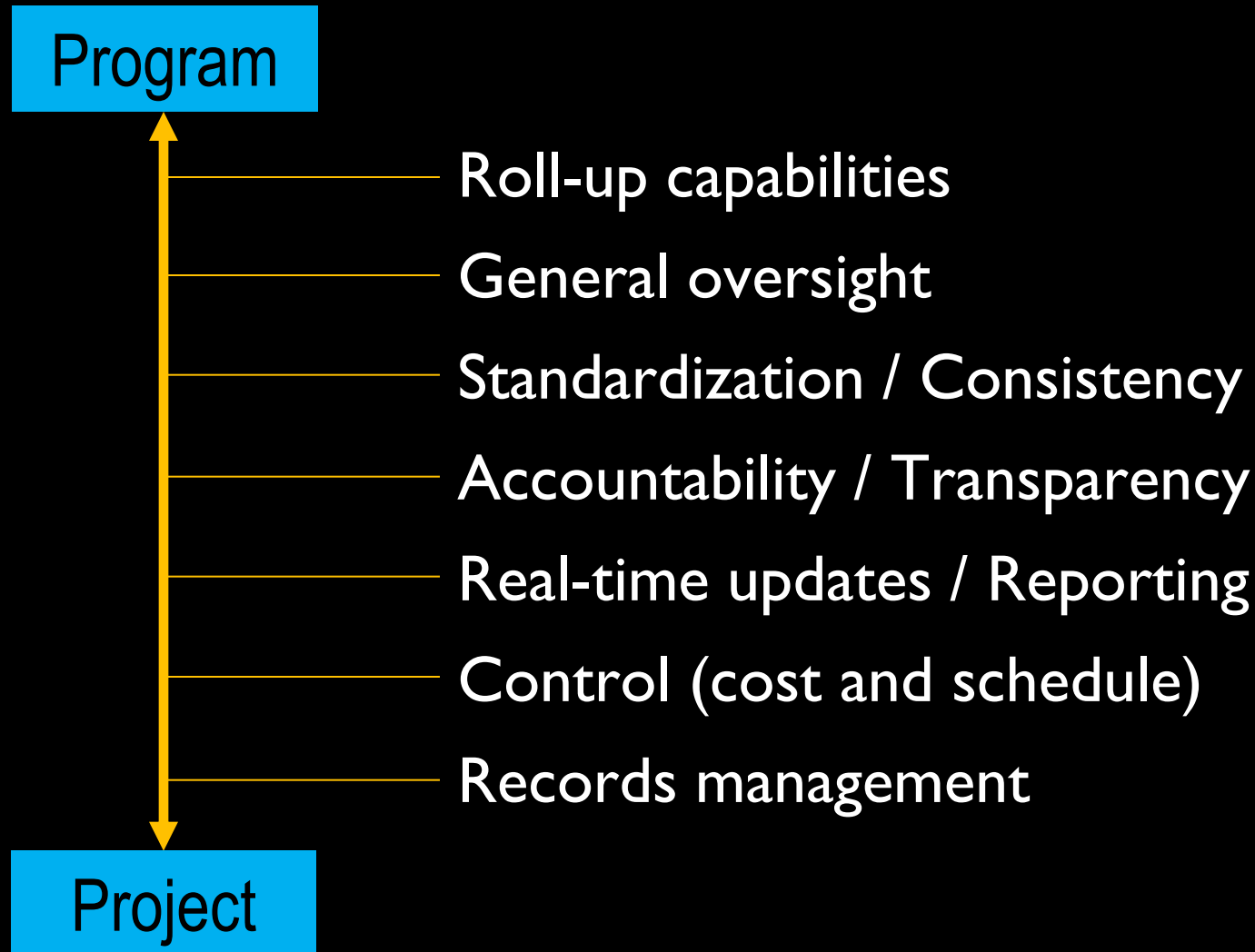


CONSULTANT INVOLVEMENT

- Consultants used to
 - Provide specialized services
 - Address peak demands
 - Perform unplanned work
- Consultant Services
 - Program Management
 - Environmental
 - Engineering
 - Construction Management
 - Others



PROGRAM AND PROJECT NEEDS



DELIVERY TOOLS

- Standard procedures
- Business processes
- Systems
 - Program Controls
 - CMIS
 - System Integration
- Training and auditing



ENVIRONMENTAL STRATEGY

- Commitment and stewardship
- Pre-Construction
 - Review
 - Permitting
- Construction
 - Mitigation
 - Monitoring / Reporting



CONTRACTING

- Promoting local jobs
- Project Labor Agreement
- Delivery methods
- Changing San Francisco's contracting environment
 - Automation → Efficiency
 - Pre-qualification Program
 - Contract incentives
 - Risk allocation



PROGRAM TRANSPARENCY

Transparency + Accountability = Public Trust

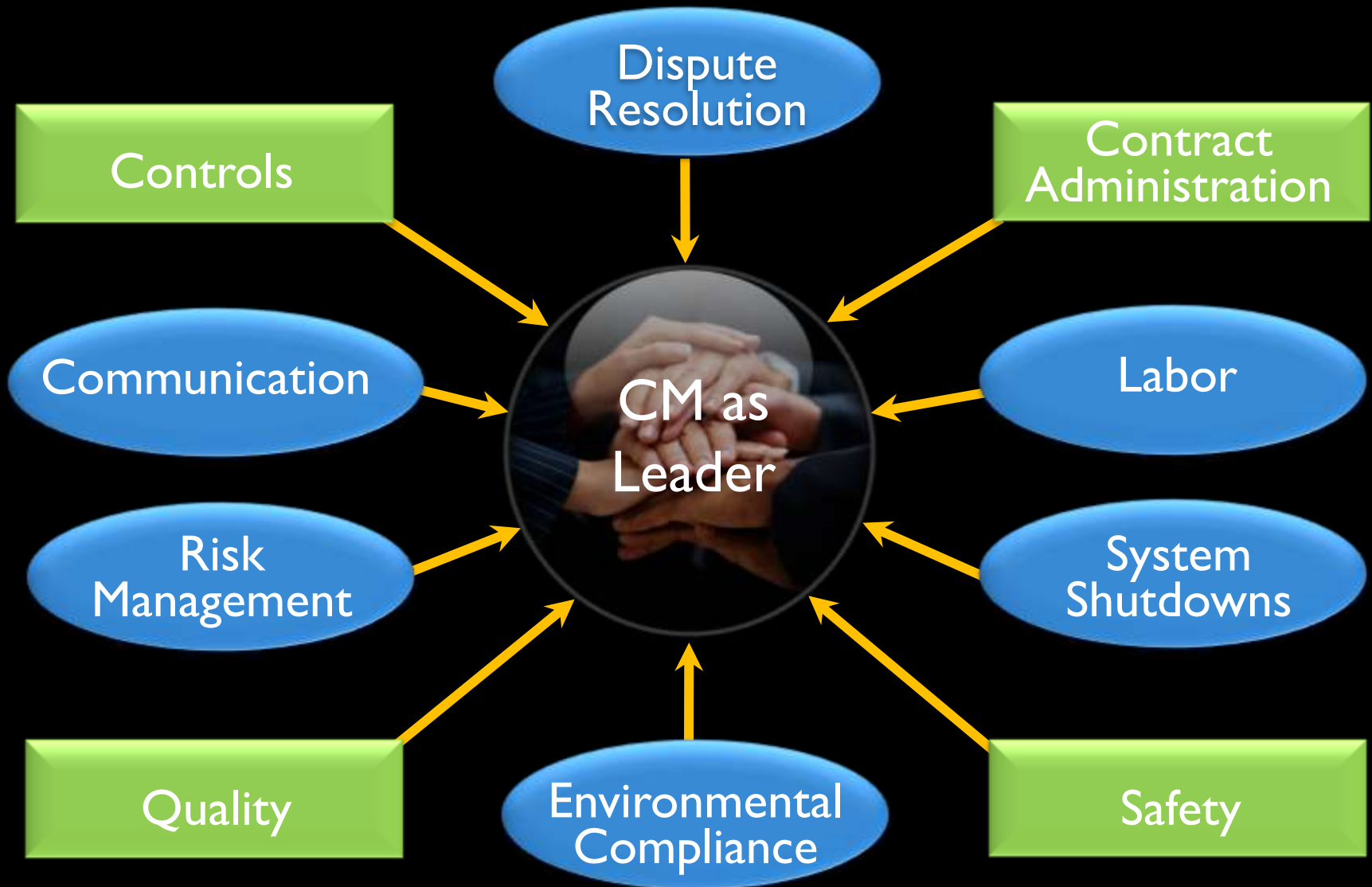
- Reaching out to stakeholders
- Accountability to oversight bodies
- Reviews by independent panels
- Extensive reporting
- WSIP Website (sfwater.org/wsip)
- Use of social media   

A FEW OTHER LESSONS LEARNED

- **Baseline Schedule and Budget**
 - Long-term implications to be considered
- **Quality Management**
 - Make it a priority in all phases of implementation
- **Risk Management**
 - An integral part of day-to-day management
- **Change Management**
 - Controlling scope creep



STRONG CM – A MUST



KEY TO OUR SUCCESS



- Strong and diversified staff
- Balanced and thoughtful involvement of SFPUC Upper Management
- Strategic integration of consultants
- Clearly defined need and universally accepted goals
- Trust of stakeholders



“I never handled any proposition where the engineering problems were so simple and the political ones so complex”

*- Michael O'Shaughnessy, 1934
(Architect of Hetch Hetchy System)*

QUESTIONS

