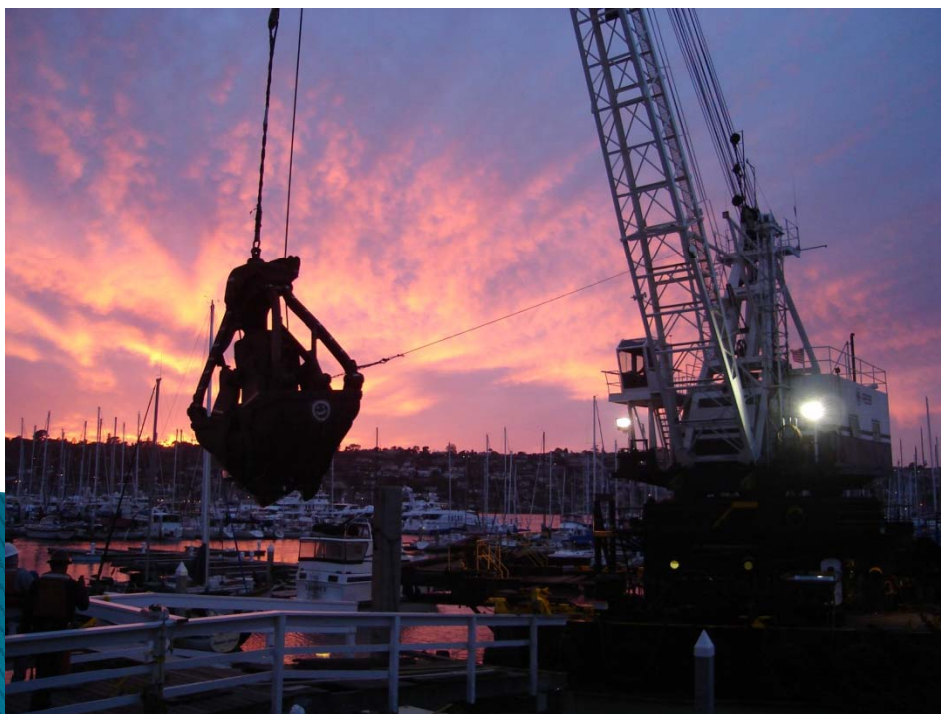


Planning Your Dredging Project

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The Planning and Execution of a Dredging Episode



LONG TERM MANAGEMENT STRATEGY

Dredging -18 Months

Evaluate the need to dredge

- ▶ Sediment accretion rates?
- ▶ Maximum drafts?
- ▶ Tidal range?
- ▶ Overdredge/advance maintenance?
- ▶ Needs (visiting yachts, tall ships, hosting sailing regattas, etc.). Some racing boats have very deep drafts.



Other Considerations (1)

- ▶ Previous dredging episodes
- ▶ Anticipated/estimated intervals and volumes
- ▶ Alternatives for dredged material disposal and re-use (small dredger programmatic alternative analysis)
- ▶ Dredging performed on adjacent property

Other Considerations (2)

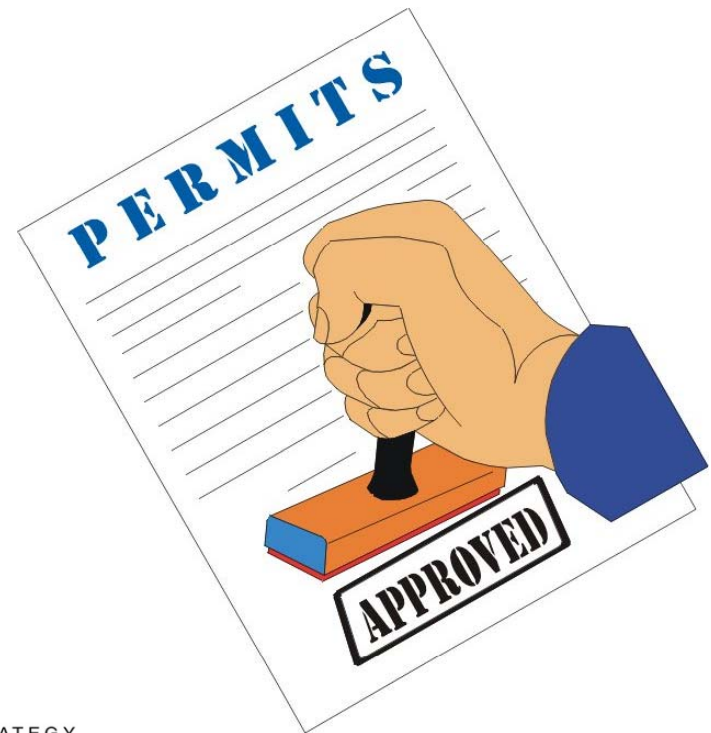
- ▶ Five year history of pollution and contamination issues on property, adjacent sites, and/or “upstream” along drainage for storm sewer system
- ▶ History of previous testing or approvals that no testing was required (Tier I, Inland Testing Manual)

Even More Considerations

- ▶ Evidence of rocky substrate, legacy contaminants (entrained in sediments)
- ▶ Debris (fishing equipment, shopping carts, dropped winch handles, wrecks, etc.)
- ▶ Issues reflecting shoreline stability
- ▶ Existing marine structures (deteriorating wooden piling, floats, docks, ramps, etc.)?
- ▶ Stakeholders

Dredging -16 Months

- ▶ Status of existing permit?
- ▶ Acquisition plan to obtain needed permits



Dredging -14 Months

- Long Term Management Strategy (LTMS) for dredging and the disposal/reuse of dredged material in the San Francisco Bay Area
- Delta LTMS
- Attend LTMS/DMMO Meeting
- Evaluate Dredging Windows



What is the DMMO?

DMMO

Dredged Material Management Office

- ✓ Consolidated Permits Application
- ✓ DMMO Approval Process

DMMO Agencies



Dredging -12 Months

Acquisition Plan for Professional Services & Contractor

- ▶ Bathymetric surveys
- ▶ Assistance with Regulatory Permits / Consultations
- ▶ Material Characterization
- ▶ Dredging
- ▶ Construction Management

Dredging -10 to 5 Months

- *D -10 Months*

Condition survey

- *D -8 Months*

Development of and approval for Sampling & Analysis Plan (SAP)

- *D -5 Months*

Sediment characterization

Dredging -3 to 1 Months

➤ *D -3 Months*

Planning for temporary relocation of tenants, boats, floats, etc.

➤ *D -2 Months*

Submit Dredging Operations Plan
Pre-Dredge Survey/Volume calculations

➤ *D -1 Month*

Episode Approval
Agency/Owner Notice to Proceed
Pre-Construction Meeting

D Day

Execute Dredging Episode

- ▶ Mobilization
- ▶ Agency notification
- ▶ Staging/Access issues
- ▶ Construction management
- ▶ Compliance with permit conditions
- ▶ Tracking disposal/Reuse trips, volumes
- ▶ Post-Dredge Surveys

D+1 Month

Close out reports



LONG TERM MANAGEMENT STRATEGY



Summary



Questions?



LONG TERM MANAGEMENT STRATEGY

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