

# O&M – ERCP Capital Projects



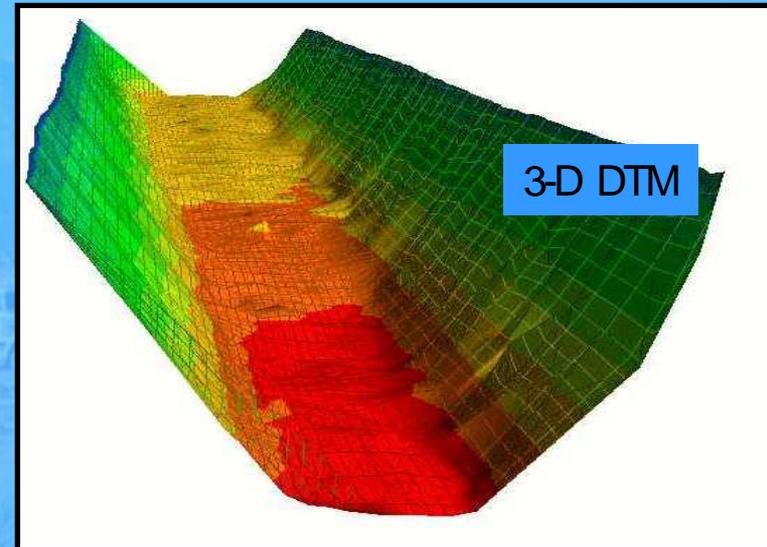
# Canal Conveyance Capacity Program

- **O&M ongoing effort**
  - **Maintenance of canals - Mandated by C&SF Project Agreements**
  - **Safety Concerns – Flood Mitigation**
  - **Emergency Situations**
  - **Water Conveyance Costs**



# Canal Conveyance Capacity Program

- Collect design, historic operational and condition data
- Tools: field recon, topo/hydro survey, geotechnical and preliminary hydraulic modeling
- Identify and rank deficiencies
- Conduct detailed hydraulic modeling and/or slope stability analysis
- Identify potential requirements for spoil handling, permitting, ROW and environmental concerns



# Dredging Program Analysis

## Challenges & Factors Affecting Costs

- Type of Sediment
- Urban vs. Rural Location
  - Noise limitations
  - Right of Way availability
  - Access points
- Material Transportation & Disposal
- Environmental Concerns - Contamination



# Dredging Program Cost Summary

## Year 1 - Initial Investment – From the Capital Project Funds

- Equipment Estimated Costs: \$4.1 Million
- Full Time Equivalent Employees: \$600,000
- Operating Costs & Equipment Maintenance: \$2.2 Million
- Hauling & Disposal Costs: \$3.5 Million (188,000 cy)

Total Investment and Operations Year 1: \$10.4 Million

## After Year 1 - Recurring Costs – O&M Operational Funds

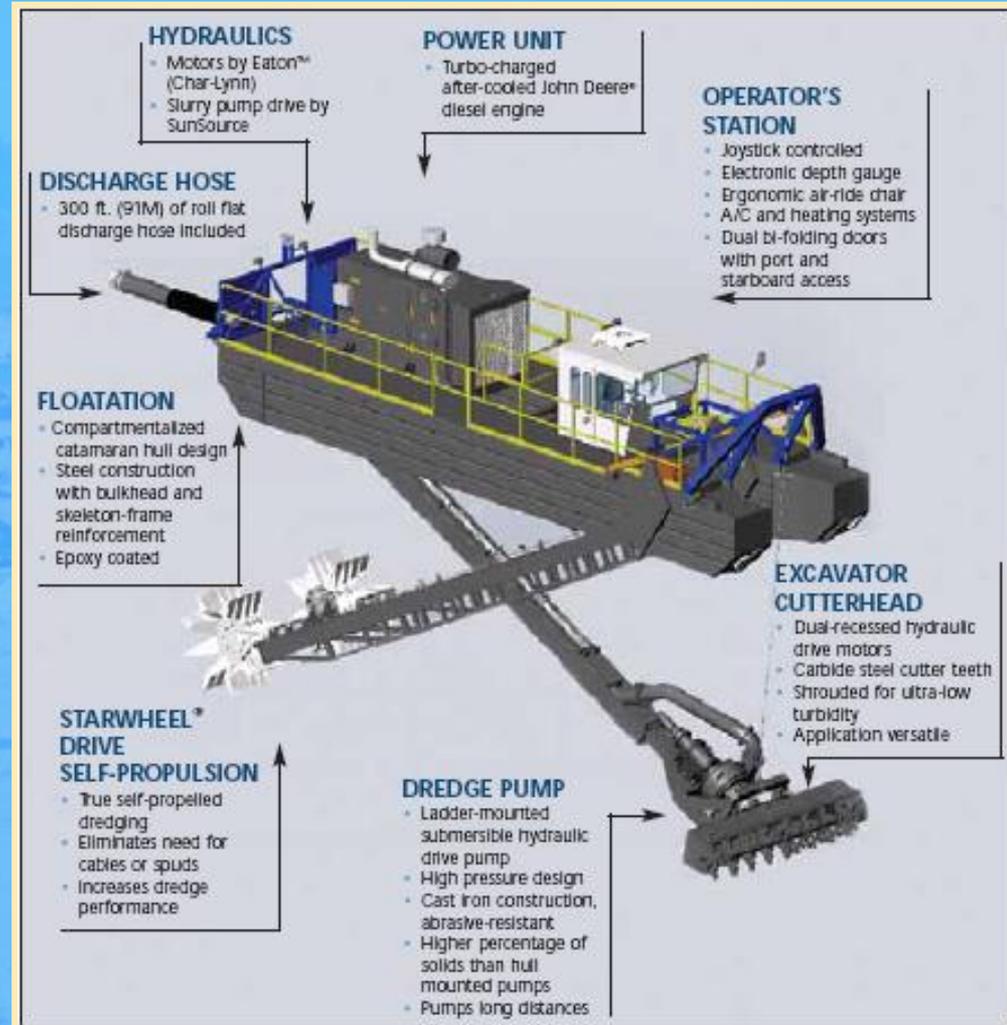
- Full Time Equivalent Employees: \$600,000
- Operating Costs & Equipment Maintenance: \$2.2 Million
- Hauling & Disposal Costs: \$3.5 Million

Total Annual Program Costs: \$6.3 Million (188,000 cy)

Program Return on Investment: 2.5 years



# Dredging Program Equipment



# Dredging Program Equipment - New





# **Dredging Program Activity Sequence**

- 1. O&M – Prioritization of canals according to set criteria**
- 2. O&M – Project charter and scoping**
- 3. ERCP – Survey, Geotechnical investigations, Water quality testing**
- 4. ERCP – Design and permitting**
- 5. O&M Dredge Team – Schedule and Execute the work**
- 6. O&M Inspection and turnover to Operations**



# Dredging Program

## Canal Selection Criteria

- Upland area available for dewatering
- Minimal upland residential development
- Sediment settling characteristics
- High priority based on inspections, operational needs, and % flow capacity reduction

Canal	% Capacity Reduction
C20 / C21	High
C40	High
C41A	High
Hillsboro	High



# Identified Quantities and Costs

Dredging costs identified by Consultants at  
Industry Standard Rates

Region	Dredge Quantity (million CY)	Cost per CY	Dredging (million)
North	11	\$59	\$644
Central	5	\$111	\$554
South	2	\$133	\$265
Totals	18	\$82	\$1,463



# Dredging Program - Capital Plan

