

Welcome & Logistics

- Welcome to the *Value Engineering in SMART Feasibility Study Process* webinar. Today's webinar is scheduled to last 90 minutes.
- Please sign-in so we know who you are.
- Global Mute on the phone to improve sound quality. Thanks for your understanding.
- Questions welcome via chat function – please send to Everybody so questions don't get lost
 - Will address questions as time allows
- Slides and Q&A will be posted on SMART Guide
- Thank you for your time today



Value Engineering (VE) in SMART Feasibility Study Process

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VEO- New Orleans District



®

US Army Corps of Engineers
PLANNING SMART
BUILDING STRONG®



Planning and Value Engineering

- Value Engineering approach consistent with SMART Planning
- Tool for the right-time and right level of effort
- Integrate into planning process
- Consistent with new OMB Circular A-131 and ECB 2013-21





Today's Presentation

- What's "NEW" in VE ?
- Right LOE + Right Time
- What is Value Engineering ?
- SMART PD / Pilot Projects with VE
- Integration into smart planning
- Types of VE efforts in 3x3
- Example projects
- Time and resources
- Recommendations & action plan



What's "NEW" in VE ?

VE is a Federal mandate aimed at improving "Efficiency & Effectiveness" of the "*Business of government*"

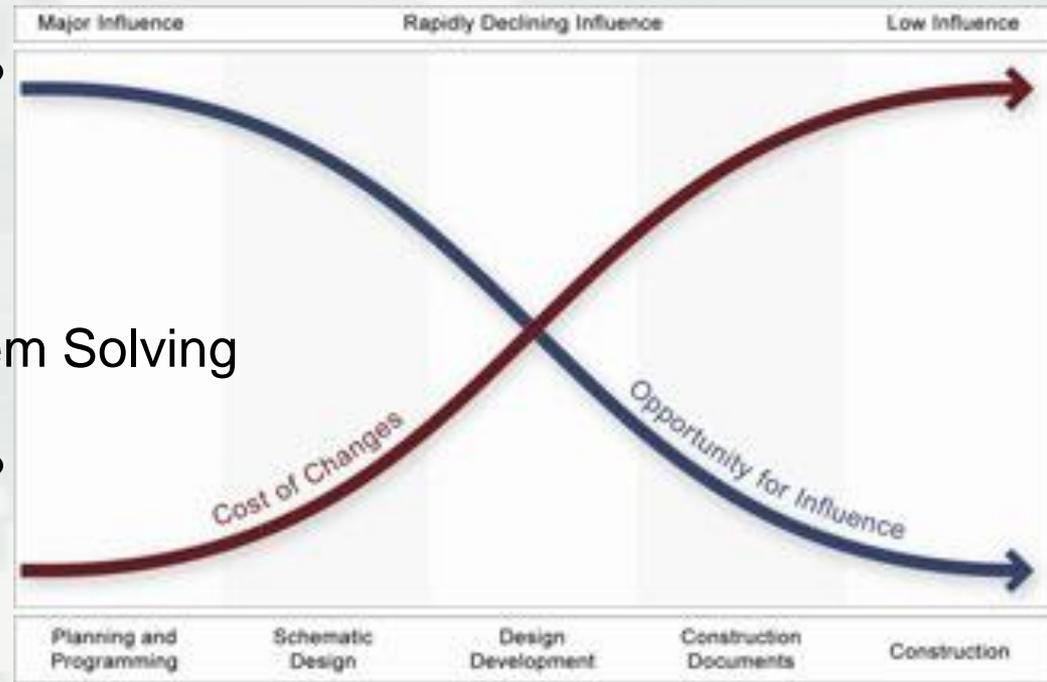
- Architects + Planners + Value Engineers

- Planning & VE Connection?

- Perception –vs- Reality

- Problem Definition & Problem Solving

- Planning & VE Connection?



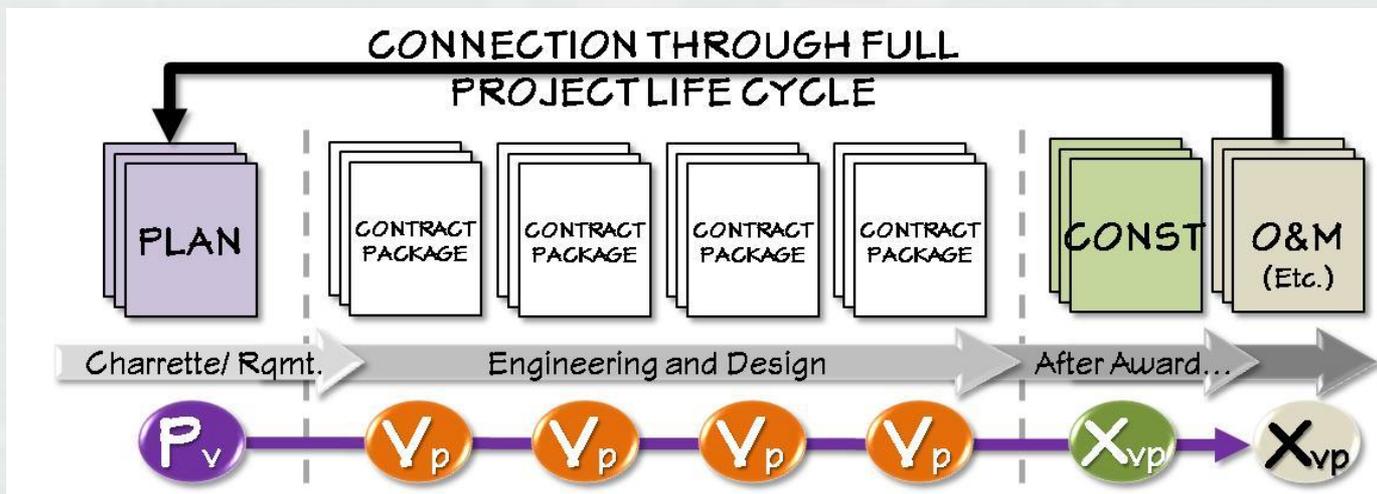
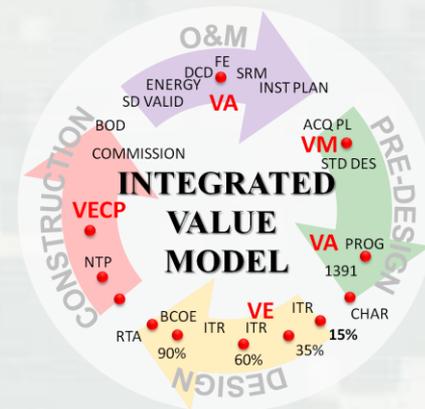
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Right LOE + Right Time = VALUE

■ What's different about VE now ?

- Not just a NEW Wrapper !
- Integrated through entire Project Life Cycle
- Planning (v) -vs- PED (V) ... **Possibilities !**



What Is Value Engineering ? It...

Is a scalable study of a process, product, program or project at any point in its life cycle to improve value;

Provides a means to use additional expertise tailored to address and identify problems, risks, issues or concerns;

Generates and evaluates ideas, concepts and alternatives to address problems, risks, issues or concerns;

Presents solutions to decision makers with sufficient information so timely decisions can be made;

Has a short duration with a beginning-middle-end; and

Has a 'flexible' job plan that can be adjusted and utilized to blend into just about any planning, design and/or management process.



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SMART PD / Pilot Projects with VE

- VE was integrated into several SMART Planning studies and designated Pilot Projects.
- Objective was to integrate VE principles in our new feasibility paradigm.
- VE application was used in various types of projects and integrated with different critical activities in the feasibility process including (but not limited to):

(continued =>)



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SMART PD / Pilot Projects with VE

(VE Application cont.)

- Identification of Alternative Measures
- Evaluation of Final Alternatives
- ATR/IPR
- CSRA



Example Projects & Type

Project/District

Type (PCX)

Jordan Creek (SWL)

FRM

Dallas Floodway (SWF)

FRM

Westside Creeks (SWF)

FRM

Lake Worth Inlet (SAJ)

DDN

CEPP (SAJ)

ECO

Sutter Basin (SPK)

FRM

Delta Island Levees (SPK)

ECO



* Pilot Projects

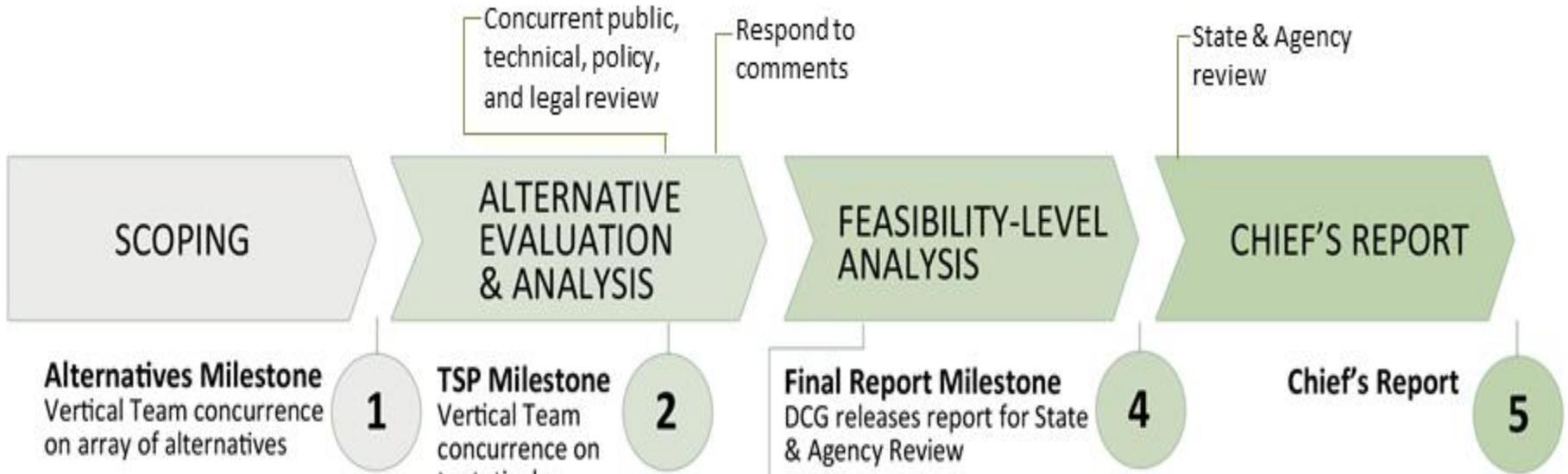
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Integration in Planning Process

SMART Feasibility Study Process

18-36 MONTHS



AND (OPTIONAL)

a) **VALUE BASED PLANNING CHARRETTE**

b) **VE STUDY TO ASSIST IN IDENTIFYING ALTERNATIVES (INTEGRATE W/ SCOPING MEETING)**

c) **VE STUDY TO ASSIST IN EVALUATING FINAL ALTERNATIVES & SELECTING TSP (INTEGRATED W/ PLAN FORMULATION / SELECTION PROCESS MEETING)**

d) **VE STUDY TO IMPROVE TSP VIA ADDRESSING HIGH RISK ITEMS**



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Example Projects & SMART Phase

Project/District

SMART Planning Phase

Jordan Creek (SWL)

Scoping

Dallas Floodway (SWF)

Scoping

Westside Creeks (SWF)

Scoping

Lake Worth Inlet (SAJ)

TSP

CEPP (SAJ)

Alternative Evaluation/Analysis

Sutter Basin (SPK)

Alternative Evaluation/Analysis

Delta Island Levees (SPK) Alternative Evaluation/Analysis



* Pilot Projects

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Lake Worth Inlet Navigation Project Feasibility Study

The Problem:

The TSP called for offshore disposal of all dredged materials. High disposal costs and mitigation impacts needed refinement. The PDT needed to refine the plan with timely input from the sponsor and resource agencies.



The Solution:

The VE study was crafted to address PDT needs. Several lagoon sites were identified by the sponsor for material disposal and mitigation. In order to include the sites and keep the report schedule, the PDT included the sites in the NEPA documentation and PED Phase Activities. Timely input from the sponsor and resource agencies was obtained.

Results:

Project refinements were included in NEPA and PED.

COE will consider the use of the sponsor's existing mitigation program and expertise in lieu of COE during PED activities.

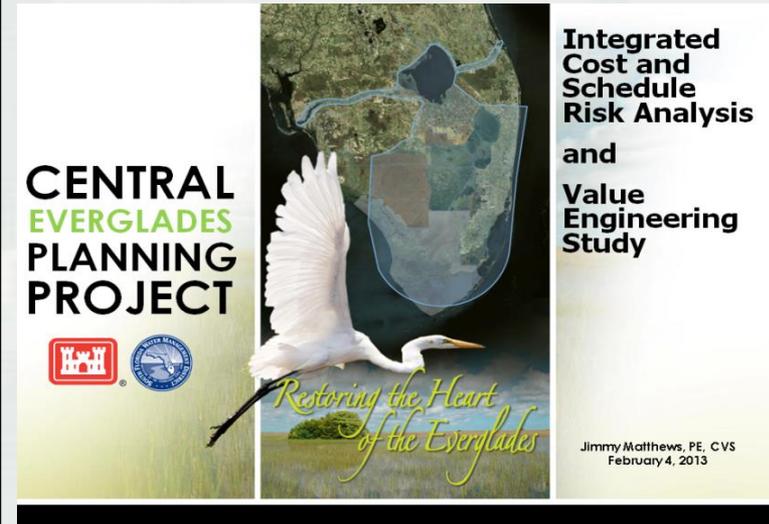
\$6M-\$29M potential in cost improvements depending on site suitability at the time of PED.



Central Everglades Planning Project

The Problem:

The PDT needed to develop and assess additional alternatives with input from sponsor and large interagency team in a timely manner. In addition, a Cost and Schedule Risk Analysis and VE study needed to be conducted over the same time frame to meet the study schedule.



The Solution:

An Integrated Cost and Schedule Risk Analysis and VE Study was scoped with input from PDT and Cost MCX. The workshop was conducted over a 5 day period with 40 team members. 14 of the sponsor and interagency team members participated by Web.

Results:

Team developed 24 recommendations. PDT decided to address in:

- Current plan development to strengthen report; and/or
- PED Phase; and/or
- Adaptive Management Activities.



Herbert Hoover Dike Dam Safety Modification Report

The Problem:

The PDT needed to develop non-structural measures for a unique physiographic setting encompassing an area over 100 sq miles. The non-structural measures were needed to assess risk reduction measures for the HHD which surrounds Lake Okeechobee.



The Solution:

A VE study was scoped to obtain national non-structural expertise from the National Nonstructural Flood Proofing Committee, RMC, ATR Team and Team members with non-structural feature installation experience. The VE study was conducted on site because the uniqueness of the project area could not be properly assessed via desk top means.

Results:

Team developed 13 recommendations that strengthened the risk evaluation and DSMR.

Study helped get early by-in from vertical and ATR Teams.



Value Engineering in the



People:

SAJ Planning and Engineering personnel serve multiple CW programs:

Coastal and Storm Damage Reduction;
Ecosystem Restoration;
Deep Draft and Inland Navigation;
Flood Risk Management; and
Dam and Levee Safety Programs

Process:

The VE scope is developed with input from the PDT to identify their specific needs as well as the need to meet VE requirements.

Communication:

The PDTs in Planning and Engineering Divisions are encouraged and supported in using Value Engineering to help improve projects.

Results:

VE decision document history over the last 10-yrs:

- ~ 40 projects
- ~ \$300 - \$500 million in cost avoidance

DRAFT WRDA13 has 6 SAJ projects.
5 with VE Cost Avoidance.



Lessons Learned

- ✓ Absolutely critical that we share agency (and beyond) knowledge in 'SMART' Planning
- ✓ VE is an excellent means to integrate lessons learned & facilitate sponsor participation



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Time and Resources

- Integrated use of VE should have little or no schedule impact; may very well help focus planning process and maintain schedule
- VE cost range ~ \$15 - \$85k depending on project



Recommendations & Action Plan

- Continue to utilize VE as an integral tool to execute SMART planning
- Include (add) VE into Planners' tool box
- Include District VEO in study scope development



Value Engineering Web Site

HQ VE site has a number of resources

VE Historical Timeline, FAQs, Guidance, Process Maps, best practices, VMP guides, etc.....



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HOME > VALUE ENGINEERING

<http://www.usace.army.mil/ValueEngineering.aspx>

Value Engineering

MISSION: The Office of Federal Procurement Policy Act (41 U.S.C. 432, PL 104-106), requires each executive agency to establish and maintain cost-effective Value Engineering procedures and processes. The Water Resources Development Act of 1986 (PL 99-662) requires Value Engineering on Corps Water Resources Projects. The Office of Management and Budget (OMB) Circular A-131 requires Federal agencies to apply VE procedures to all projects with estimated costs of \$1 million or more.

The USACE VM/VE Program has been a leader in applying the Value Engineering Methodology to construction projects since 1964, solidly demonstrating Corps cost effectiveness. The program has resulted in construction of over \$6.2 billion in additional facilities, without additional funds requests.

The basic thrusts of the program are to increase project value by proactively searching for and resolving issues through very open, short-term workshops, and to stretch precious taxpayer resources by providing the required function(s), most amenities, and the highest quality project(s), at the lowest life cycle cost.

Policy

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NEW VE C

Greater Effi

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Diagram

VE in the PM

VE Process

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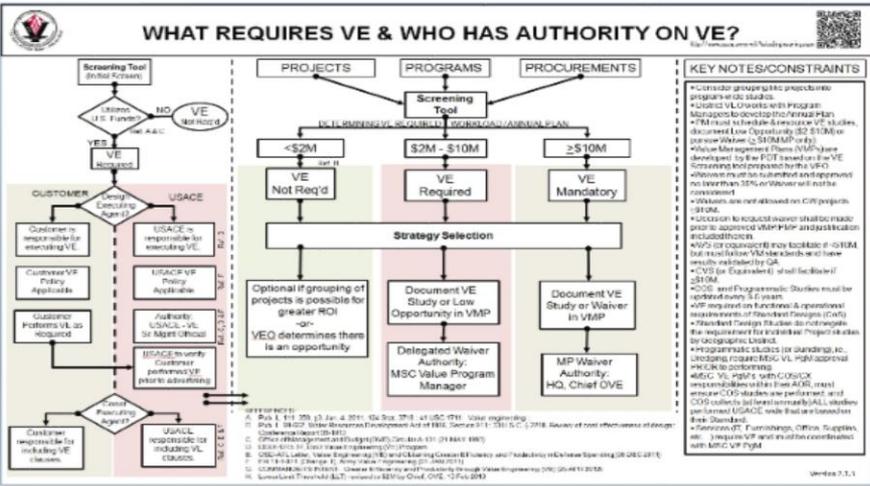
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CONTEXT FOR ANSWERING THE QUESTIONS:

"WHY DO WE HAVE TO DO VE?"

"WHO HAS AUTHORITY OVER VE?"

"...THE CUSTOMER WON'T PAY FOR VE!"

- Pub L. 111-350, §3, Jan. 4, 2011, 124 Stat. 3718
<http://uscode.house.gov/cod411.html#f141>
 41 USC 1711 - Value engineering
<http://ve.usa.gov/values/41-1711-VE.pdf>
- §1711. Value engineering.
 "Each executive agency shall establish and maintain cost-effective procedures and processes for analyzing the functions of a program, project, system, product, item of equipment, building, facility, service, or supply of the agency. The analysis shall be -
 (1) performed by qualified agency or contractor personnel; and
 (2) directed at improving performance, reliability, quality, safety, and life cycle cost."
- Pub L. 99-662, Water Resources Development Act of 1986, Section 911
www.usace.army.mil/ValueEngineering/Tools/911.htm
 33 U.S.C. § 2288. Review of cost effectiveness of design.
<http://codes1.usa.gov/codes/33265/2288>
 Conference Report 99-1013
<http://finance.usace.army.mil/reports/conference/download?file=5404271c-a307-4748-a4bc-cf4442aceab>
- § 911. Review of cost effectiveness of design.
 "During the design of each water resources project which has a total cost of \$10,000,000, which is authorized before, on, or after the date of enactment of this Act and undertaken by the Secretary shall require a review of the cost effectiveness of such design..." The Conference Committee Report states that this review "is known as Value Engineering".
- Office of Management and Budget (OMB) Circular A-131 (21 MAY 1993)
<http://www.whitehouse.gov/omb/circulars/a131>



Questions?



Type questions in the chat box.
We will answer as many
as time allows.

For more information:

[http://www.usace.army.mil/
ValueEngineering.aspx](http://www.usace.army.mil/ValueEngineering.aspx)
and

<http://www.corpsplanning.us>



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