

# Gulf Intracoastal Waterway, Brazos River Floodgates and Colorado River Locks Feasibility Study



**Inland Waterways Users Board Meeting No. 90**

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*"The views, opinions and findings contained in this report are those of the authors(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation."*



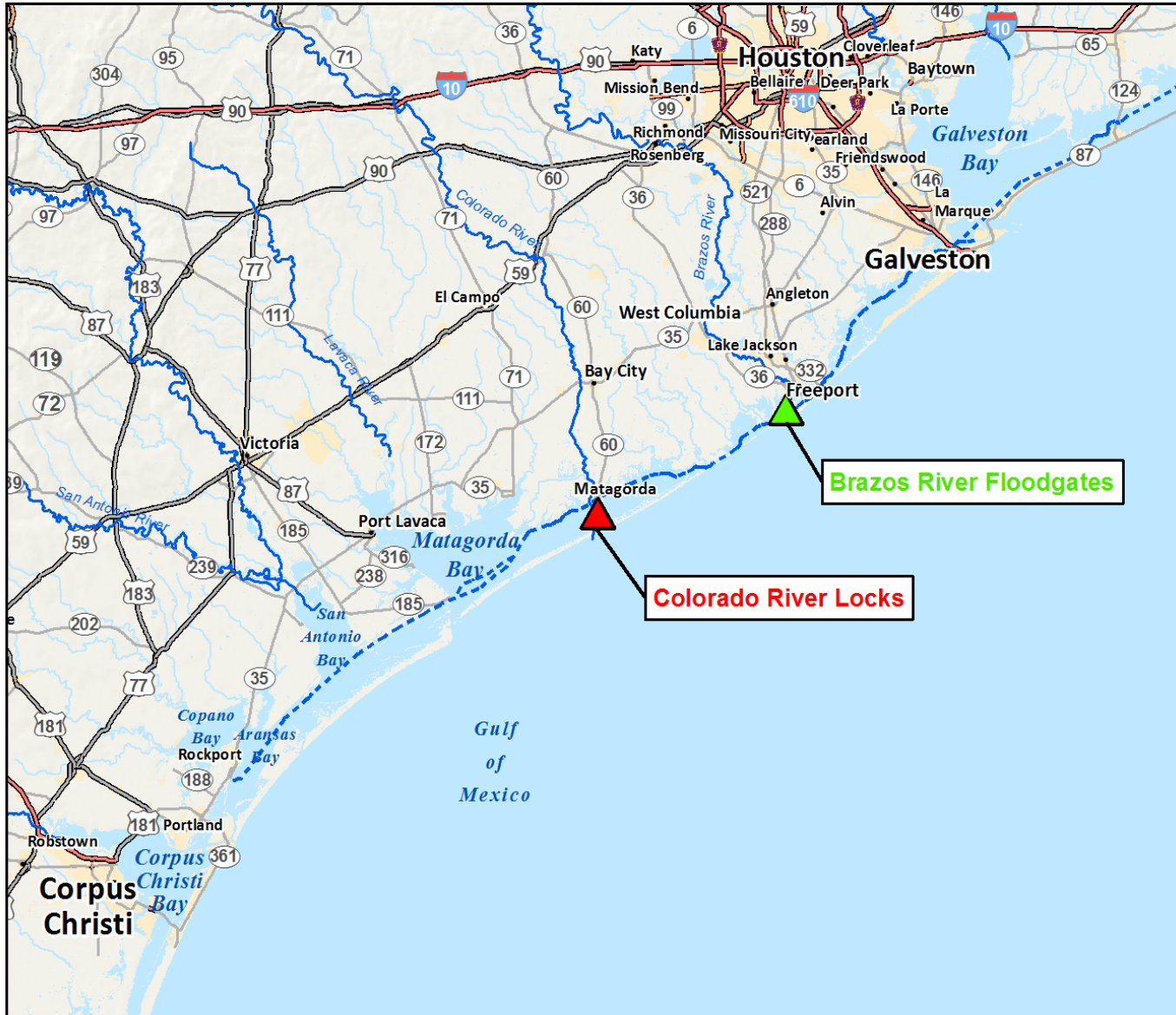
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# Brazos River Floodgates and Colorado River Floodgates - Project Location

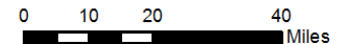


## Legend

- ▲ Brazos River Floodgates
- ▲ Colorado River Locks
- - - Gulf Intracoastal Waterway
- ~ River



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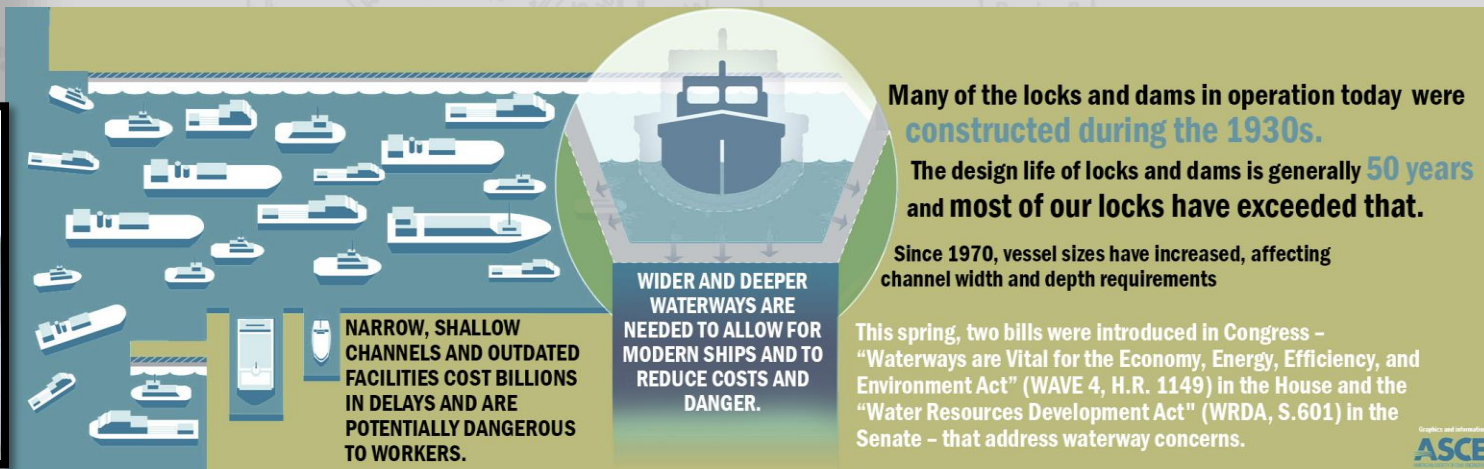
Base Map: ESRI

## Location Map

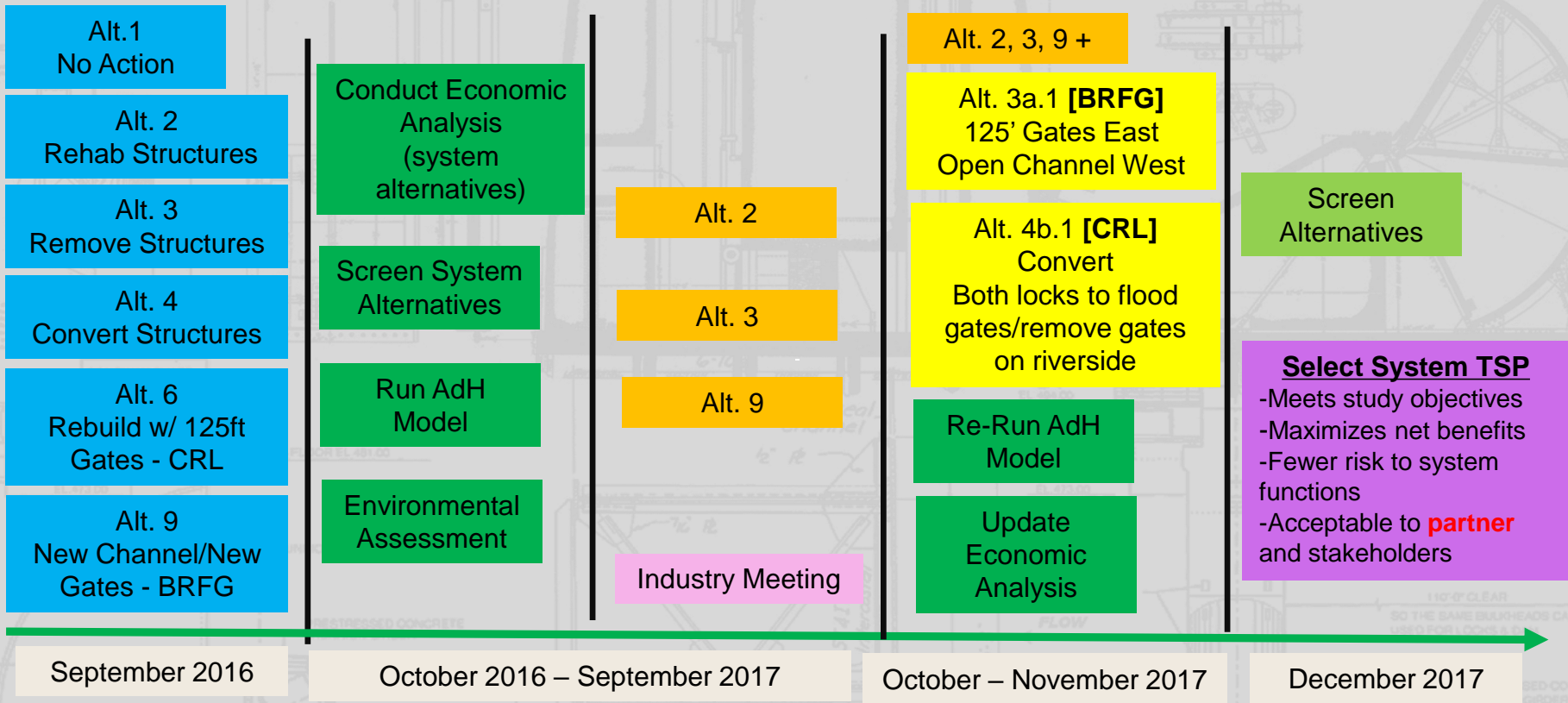


## STUDY PROBLEMS

- Modern barges/ships have to navigate through narrow 75ft. width alignments and outdated/narrow floodgates and locks that lead to frequent accidents that damage guidewalls and gates.
- Outdated lock/floodgate construction at sector gates leads to structural, electrical and mechanical maintenance issues.
- Shutdown of operations during high water periods and to repair strikes causes significant economic impacts to navigation industry.
- Any changes to sediment deposition into the GIWW will be assessed and included as additional O&M cost to the study.



# EVALUATION PROCESS



Screen Alternatives

**Select System TSP**  
 -Meets study objectives  
 -Maximizes net benefits  
 -Fewer risk to system functions  
 -Acceptable to **partner** and stakeholders

September 2016

October 2016 – September 2017

October – November 2017

December 2017

AMM

Hurricane Harvey

TSP



# EVALUATION PROCESS

Draft Integrated Feasibility Report- Environmental Impact Statement

Public ATR IEPR Review Period

Alt. 3a.1 [BRFG]  
125' Gates East  
Open Channel West

Alt. 4b.1 [CRL]  
Convert  
Both locks to flood gates/remove gates on riverside

Team would evaluate 125' gates at CRL Per Review Comments

Request Exemption for 2 months

Alt. 3a.1 [BRFG]  
125' Gates East  
Open Channel West

Alt. 4b.1 [CRL]  
Convert  
Both **75' locks to 125' flood gates**/remove gates on riverside

DQC/ATR of Final Report

Alt. 3a.1 [BRFG]  
125' Gates East  
Open Channel West

Alt. 4b.1 [CRL]  
Convert  
Both **75' locks to 125' flood gates**/remove gates on riverside

Policy Review of Final Report

Dec 2017- June 2018

July 2018

August 2018- February 2019

March 2019

ADM



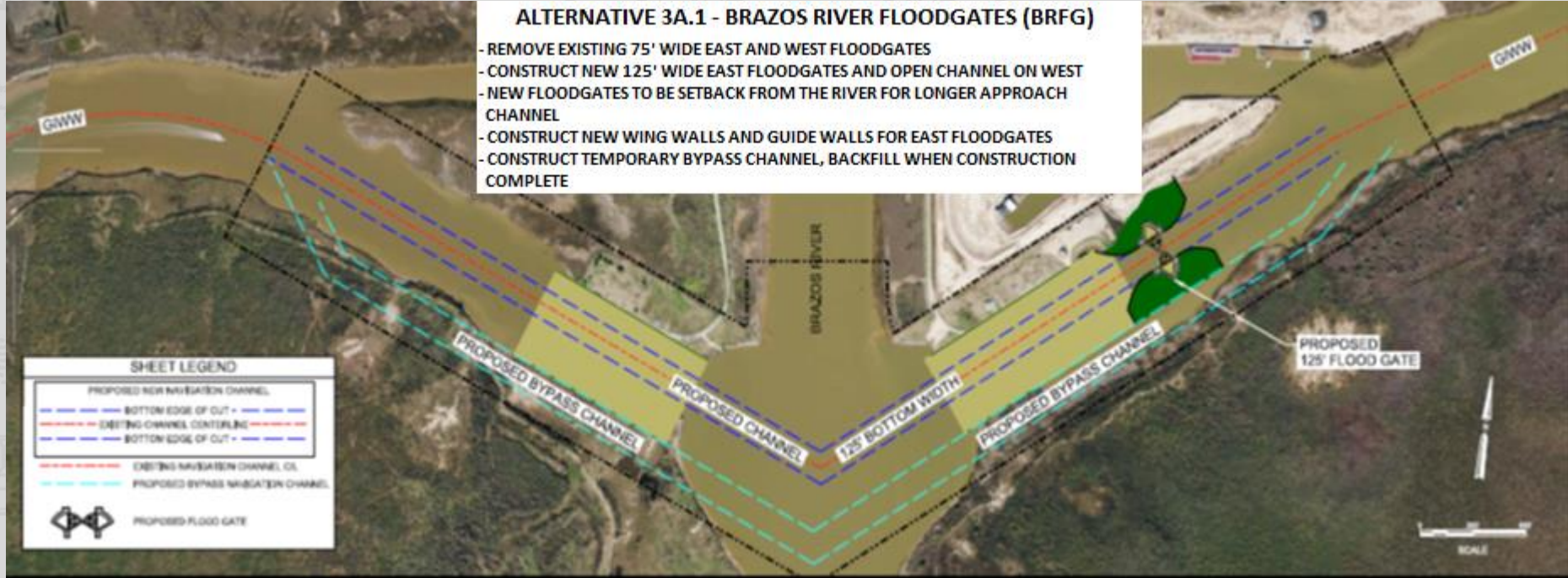
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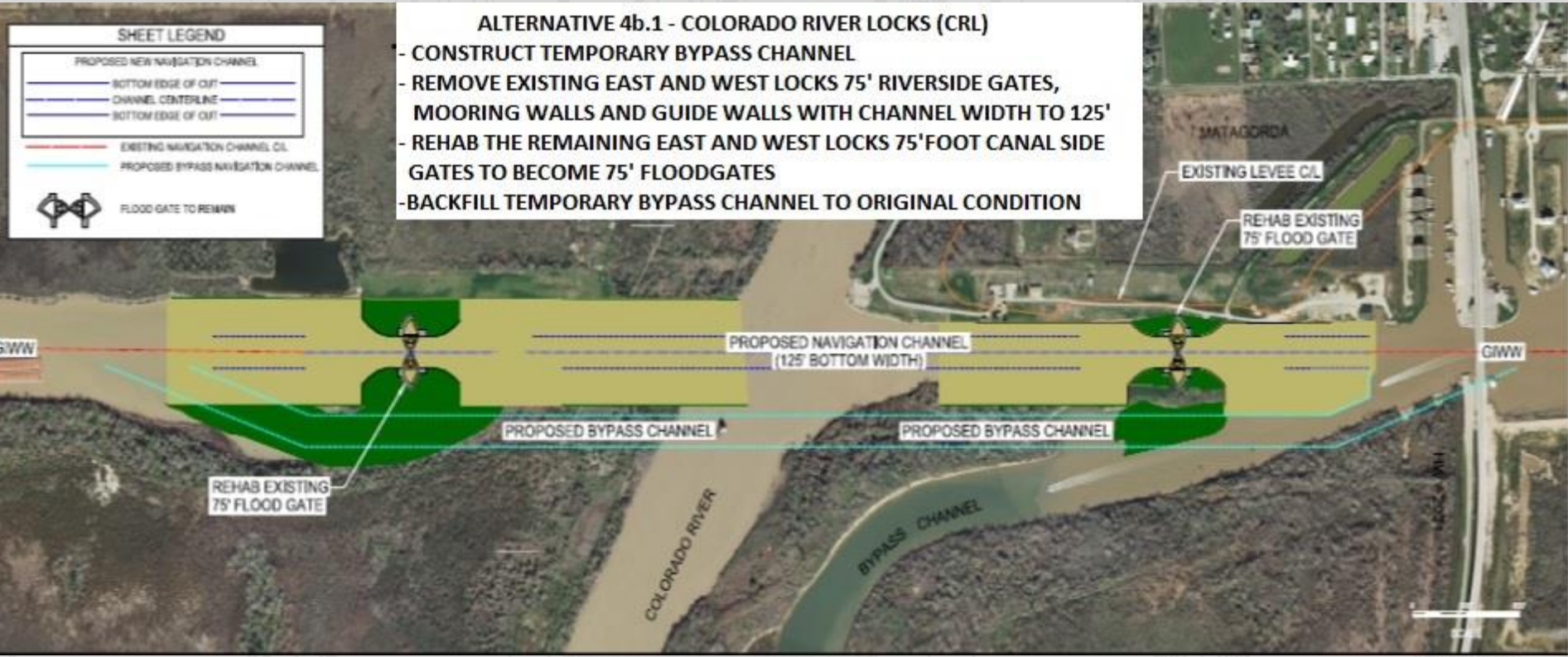
# BRAZOS RIVER TSP ALTERNATIVE 3a.1

## HYBRID Alternative – 125' Gates/Open West, Adjust Channel Angle



# COLORADO RIVER TSP ALTERNATIVE 4b.1

## Convert both locks to 75' flood Riverside floodgates on both sides of crossing



NOTE: This drawing depicts the East and West Locks 75' Rivergates as already removed.



# PROJECT AUTHORIZATION

## Recommendation in Final Report

### Brazos River Floodgates:

- Alternative 3a.1
  - 125' gates on the east side of channel
  - Open channel on west side of channel

### Colorado River Locks:

- Authorization contingent upon the tonnage volume reaching a predetermined amount to be agreed upon prior to the signing of the Chief's Report



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# PROJECT FIRST COST (PROGRAM YEAR BUDGET FY 2019) <sup>9</sup>

- Brazos River Floodgates- \$176 Million
- Colorado River Locks- \$279 Million

## Benefit Cost Ratio

The BCRs at 2.87% are:

System TSP - 3.25  
BRFG- 5.03  
CRL-1.65

The BCRs at 7% are:

System TSP- 1.63  
BRFG- 2.75  
CRL-0.77

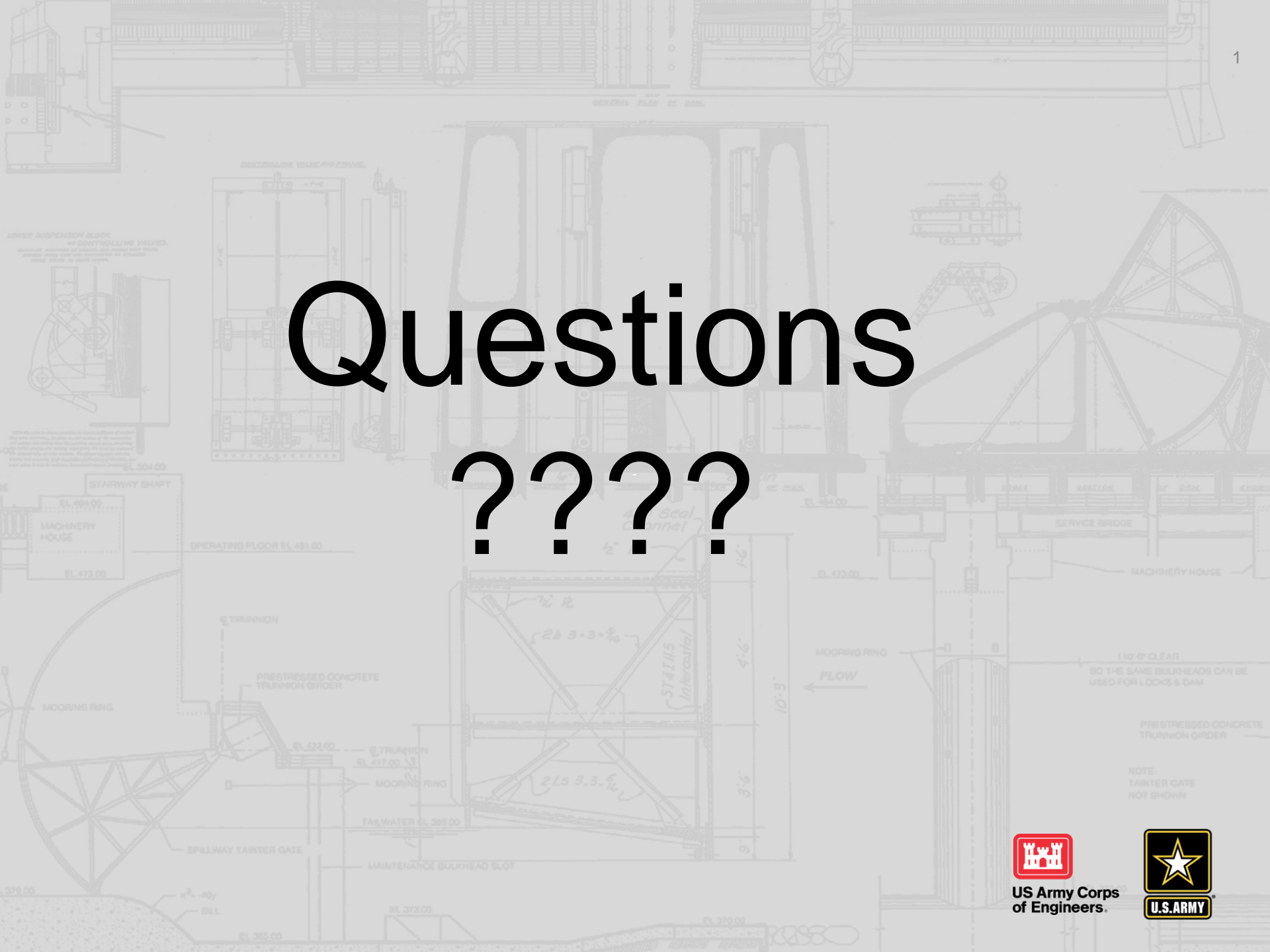


# BRFG & CRL STUDY MILESTONES

Activity		Study Milestone Dates	
		1a \$3M/3 YRs	1b \$3.1M/ 3YR, 2MO
		3x3x3 Baseline study focus with limited modeling	Existing with limited additional Cost and Time
Study Start		JUL 2016	JUL 2016
Alternative Evaluation and Analysis	Alternatives Milestone	SEP 2016	SEP 2016
Exemption	Exemption Approval by Senior Leaders	N/A	FEB 2017
Alternative Evaluation and Analysis	Tentatively Selected Plan (TSP) Milestone	OCT 2017	OCT 2017
Feasibility Level Analysis	Agency Decision Milestone	JUL 2018	JUL 2018
	Feasibility Report Complete (Post DQC & ATR)	FEB 2019	MAR 2019
	Senior Leader Panel	APR 2019	MAY 2019
	S&A Review	APR-MAY 2019	MAY-JUN 2019
	Chief's Report	JUL 2019	SEPT 2019

# Questions

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