DCA
DELTA CONVEYANCE DESIGN & CONSTRUCTION AUTHORITY

SEPTEMBER 23, 2020

Stakeholder Engagement Committee Meeting

Meeting Agenda

1	**Welcome/Call to Order**
2	***Roll Call/Housekeeping***
3	***Minutes Review: August 26, 2020 Regular SEC Meeting***
4a.	***DWR Updates & Environmental Justice Survey Overview***
4b.	***Bethany Alternative – Facility Siting Analysis***
4c.	***Bethany Alternative - RTM Management Plan***
4d.	***SEC Questions or Comments on August 26th Meeting Presentation***
4e.	***Public Comment on Item 4***
5a.	***SEC Tour Updates***
5b.	***November Meeting Topics***
5c.	***SEC Report to DCA Board***
6	***Non-Agendized SEC Questions or Comments***
7	***Public Comment on Non-Agendized Items***

Item 3.

Minutes Review:

August 26, 2020 Regular SEC Meeting

Item 4a.

DWR Updates

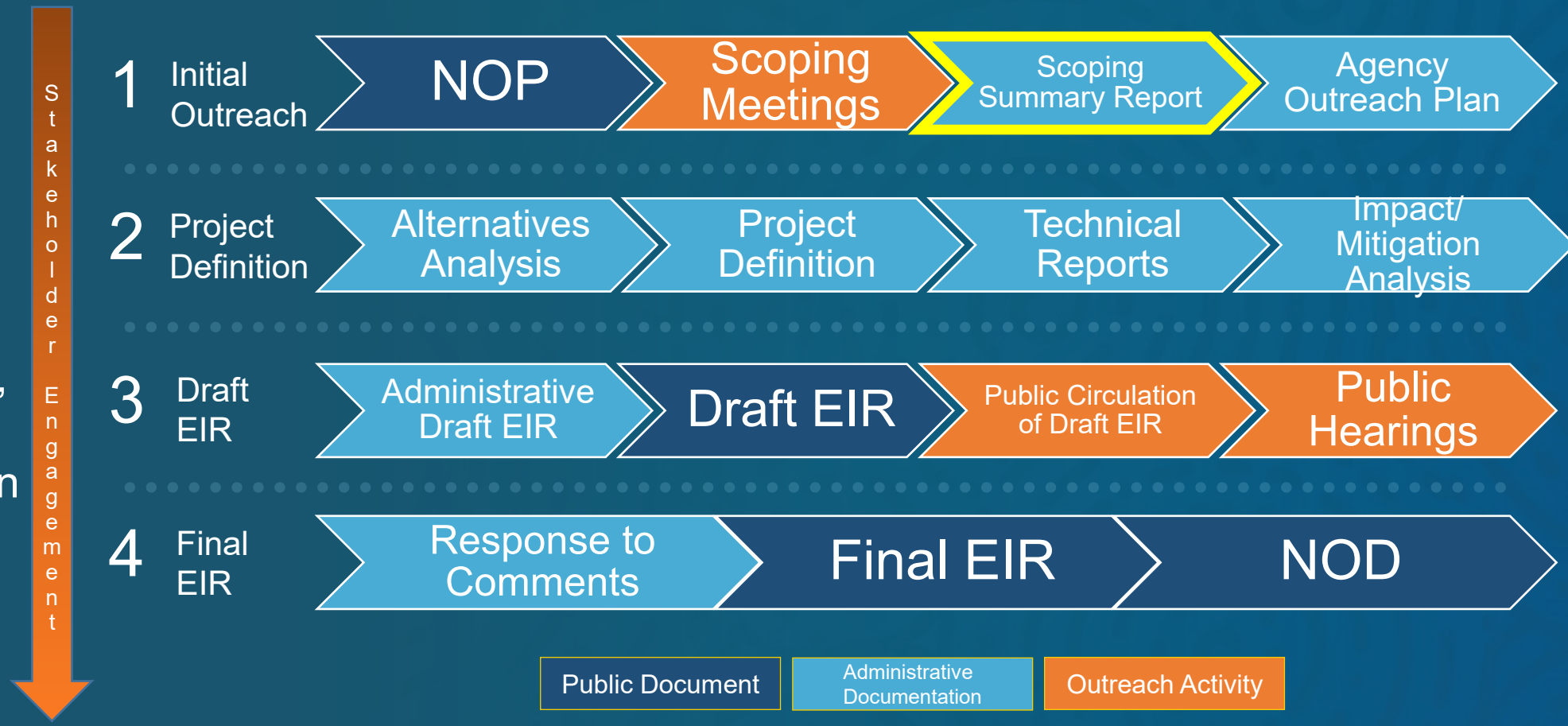
August 2020

Delta Conveyance Project: *Environmental Review Update*

Carrie Buckman
Environmental Program Manager

Environmental Review Process

Identify, analyze and disclose the potential significant adverse environmental impacts of a proposed project, and provide feasible mitigation measures and alternatives to avoid or reduce such effects.



Environmental Planning Update

- California Environmental Quality Act (CEQA): work continues to identify existing conditions and develop methods to analyze impacts
- National Environmental Policy Act (NEPA): scoping comments due to the United States Army Corps of Engineers by October 20
- Soil Investigations: field work under Initial Study/Mitigated Negative Declaration scheduled to start in late September/early October with site clearances
- Community Benefits: DWR is developing a framework for community benefits discussions with the SEC to start in December

DCA Delivery Schedule

Alternatives	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
EAST & CENTRAL CORRIDORS											
Environmental Data	»»	»»	★								
Project Engineering Report				»»	»»	»»	★				
BETHANY CORRIDOR											
Environmental Data		»»	»»	»»	»»	»»	★				
Project Engineering Report								»»	»»	»»	★

Project Engineering Report – Detailed engineering information included in EIR/EIS Document. The Report contains the following components:

- Summary Narrative
- Technical Memorandum *(Appendix to Narrative)*
- Drawings
- Maps

Environmental Data – Information needed by Environmental Analysis team to assess impacts. The deliverable includes the following components:

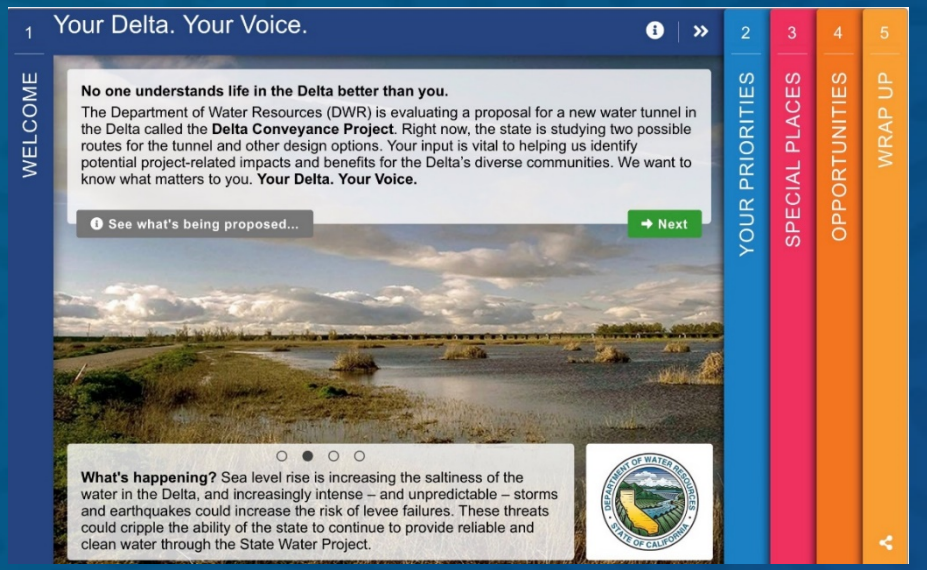
- Drawings
- Maps
- Data Tables

Survey of Delta Environmental Justice Communities

1. **Learn about the places and resources important to people**
   - A robust understanding of these baseline values will improve the CEQA analysis of disproportionate impacts to Disadvantaged Communities in the Delta.
2. **Identify potential project-related impacts and benefits for the Delta's diverse communities**
   - Goal is to identify ways in which the project may affect these places and resources and consider options to reduce these impacts or benefit Disadvantaged Communities in the Delta.

Survey Design

- Collect data and provide education
- Quick and engaging
- Robust marketing to encourage broad participation
- Mobile-friendly, digital surveys are a best practice
- In-person, paper surveys discouraged due to COVID-19



What's Important to You?

PLEASE DRAG YOUR TOP 6 PRIORITIES ABOVE THE LINE WITH YOUR HIGHEST PRIORITY ON TOP.

↑ Order your top 6 items above this line ↑

- Suggest Anothe
- Historic & Cultural Pr
- Affordable, Quality
- Healthy Natural Env
- Recreation & Public
- Preserving Agric
- Roads & Public Trans
- Well-Maintained L
- Jobs, Training & Education
- Clean Air & Drinking Water
- Internet Access

to you for
g the quality of

6 priorities above
hest priority on

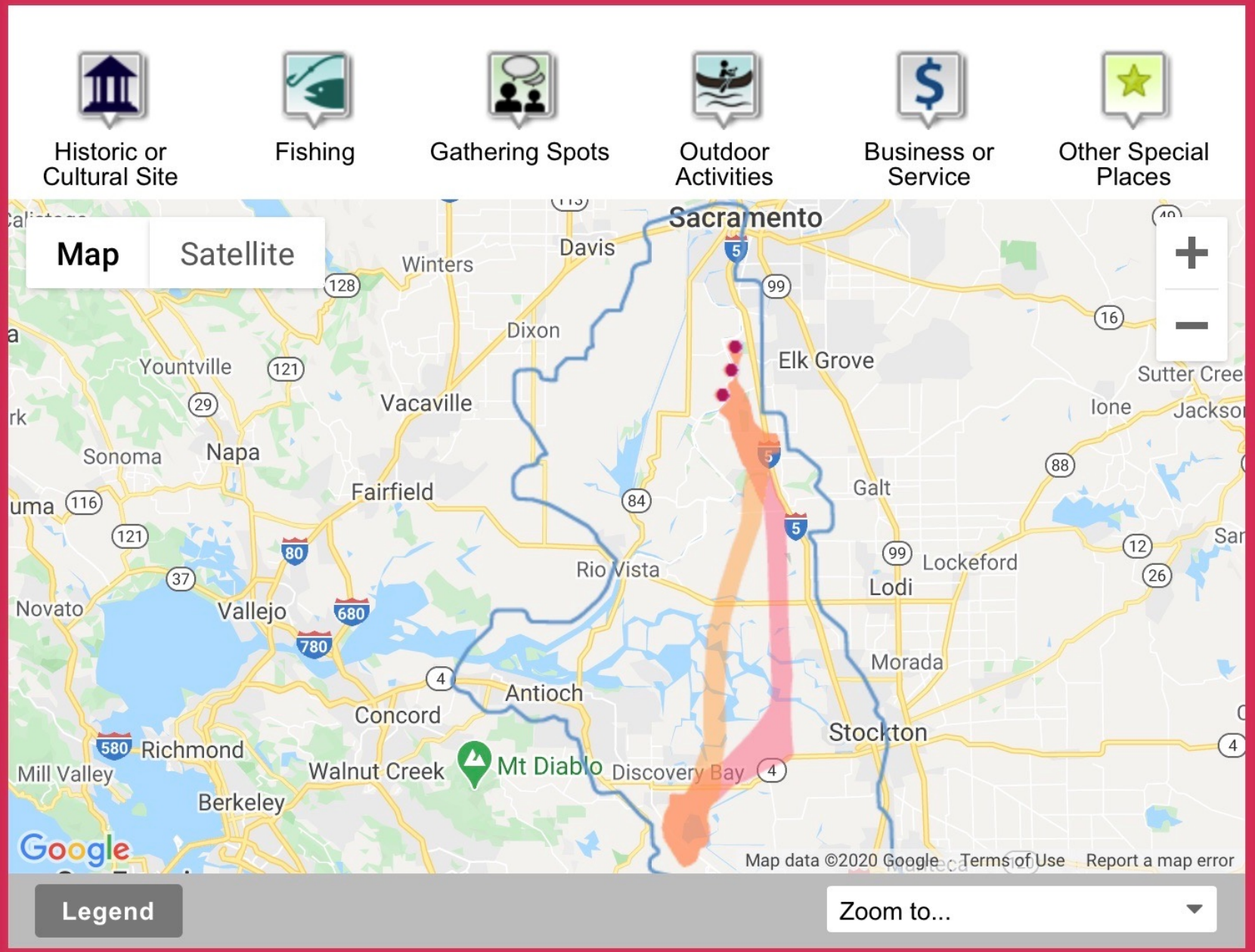
What's Important to You?

What is most important to you for maintaining or improving the quality of your life in the Delta?

Please drag your top 6 priorities above the line with your highest priority on top.

Places That Matter to You

DRAG AND DROP AT LEAST 3 MAP MARKERS TO SHOW US THE PLACES THAT ARE SPECIAL TO YOU.



Delta Community Needs

PLEASE TELL US ABOUT YOUR EXPERIENCE AND THE NEEDS IN YOUR COMMUNITY.

Your Delta Today
Your Economic Wellbeing
Your Experience in Nature
Your Voice

Your Delta Today

What do you like best about the Delta region? (Choose up to 5)

- [ ] Local jobs
- [ ] Access to affordable, quality housing
- [ ] Quality of the natural environment
- [ ] Slower lifestyle & small town feel
- [ ] Beautiful, rural landscape
- [ ] Welcoming community
- [ ] Access to outdoor activities
- [ ] Diverse cultures
- [ ] History and culture of the area
- [ ] Other (tell us more below)

What, if any, concerns do you currently have about living or working in the Delta? (Choose up to 5)

- [ ] Local jobs
- [ ] Access to affordable, quality housing
- [ ] Quality of the natural environment
- [ ] Drinking water quality
- [ ] Levee maintenance & flooding
- [ ] Traffic
- [ ] Other (tell us more below)
- [ ] Non-welcoming community
- [ ] Access to outdoor activities
- [ ] Air quality
- [ ] Access to internet
- [ ] Quality of roads
- [ ] Public transit (buses, etc.)

Would you like to say more?

Type...

0/500

Dates, Languages and Marketing

- Expect survey to be in field September 29 - November 30
- Survey will be in English, Spanish, Chinese, and Tagalog (the top 4 spoken languages of the residents in the 5-county Delta region)
- Marketing will include:
  - Postcard to ~13k people
  - E-blast
  - Social media
  - Flyers
  - Extensive phone bank

How to Access and Next Steps

- Access:
  - YourDeltaYourVoice.org
  - QR codes
- Next Steps
  - Please help spread the word, encourage participation
  - Contact Heather@AgInnovations.org if you can help

Item 4b.

Bethany Alternative - Facility Siting Analysis

Delta Conveyance Alternatives

All Alternatives

Intakes and North Tunnels

East Alternative

Eastern Tunnel Corridor

Central Alternative

Central Tunnel Corridor

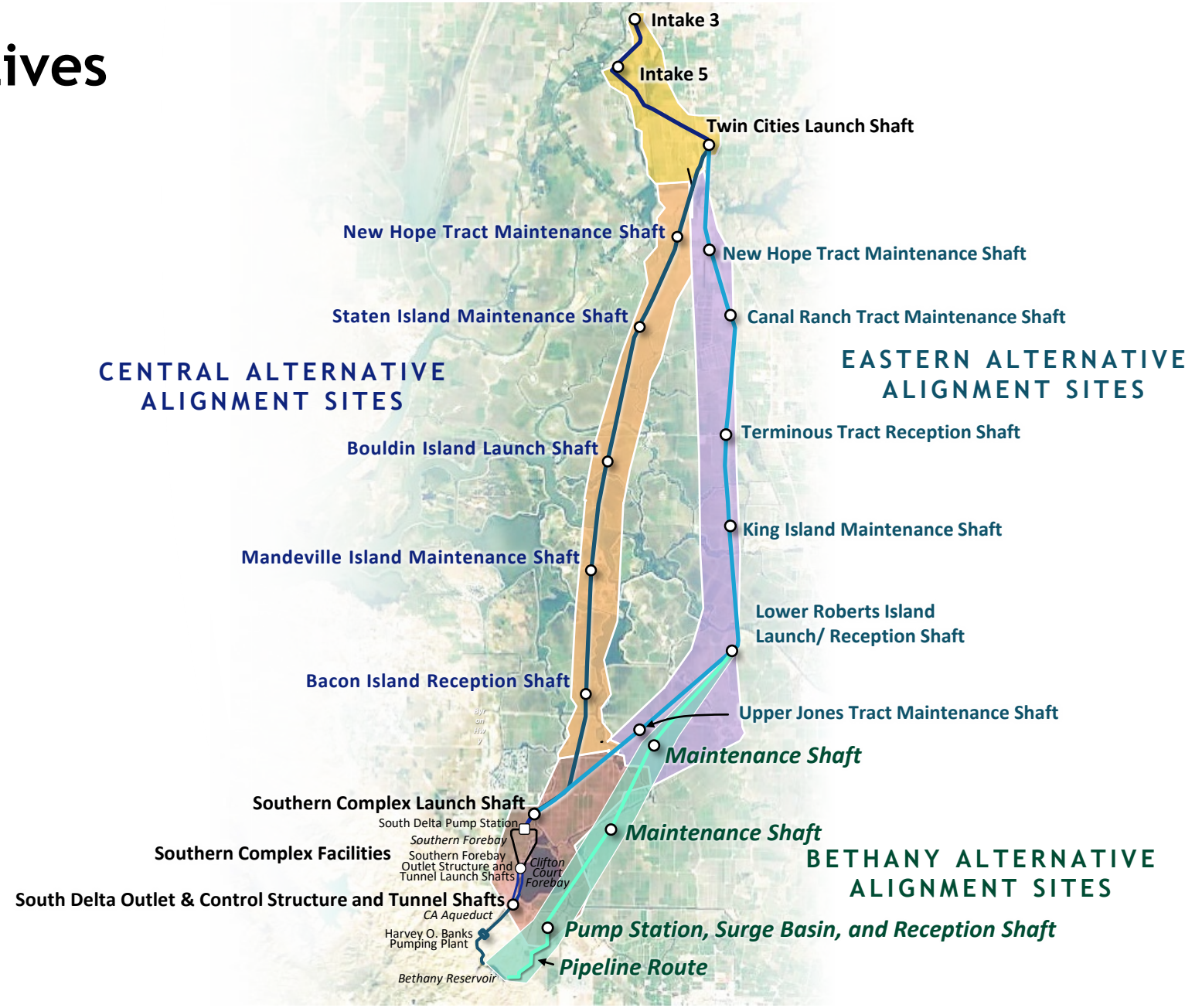
East & Central Alternatives

Pump Station, Southern Forebay & South Delta Conveyance

Bethany Alternative

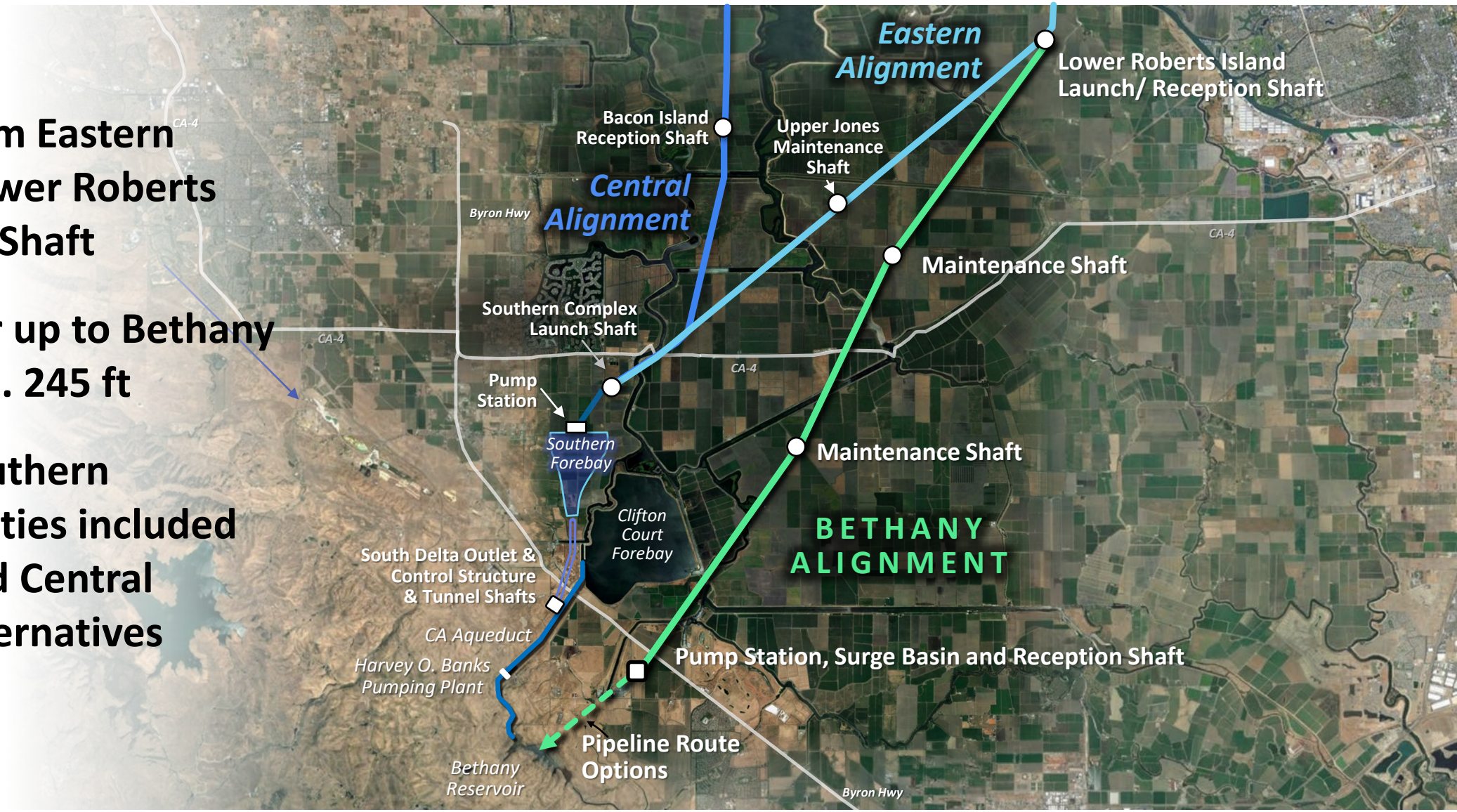
Eastern Tunnel Corridor

Bethany Corridor, Pump Station, Surge Relief Basin and Pipelines

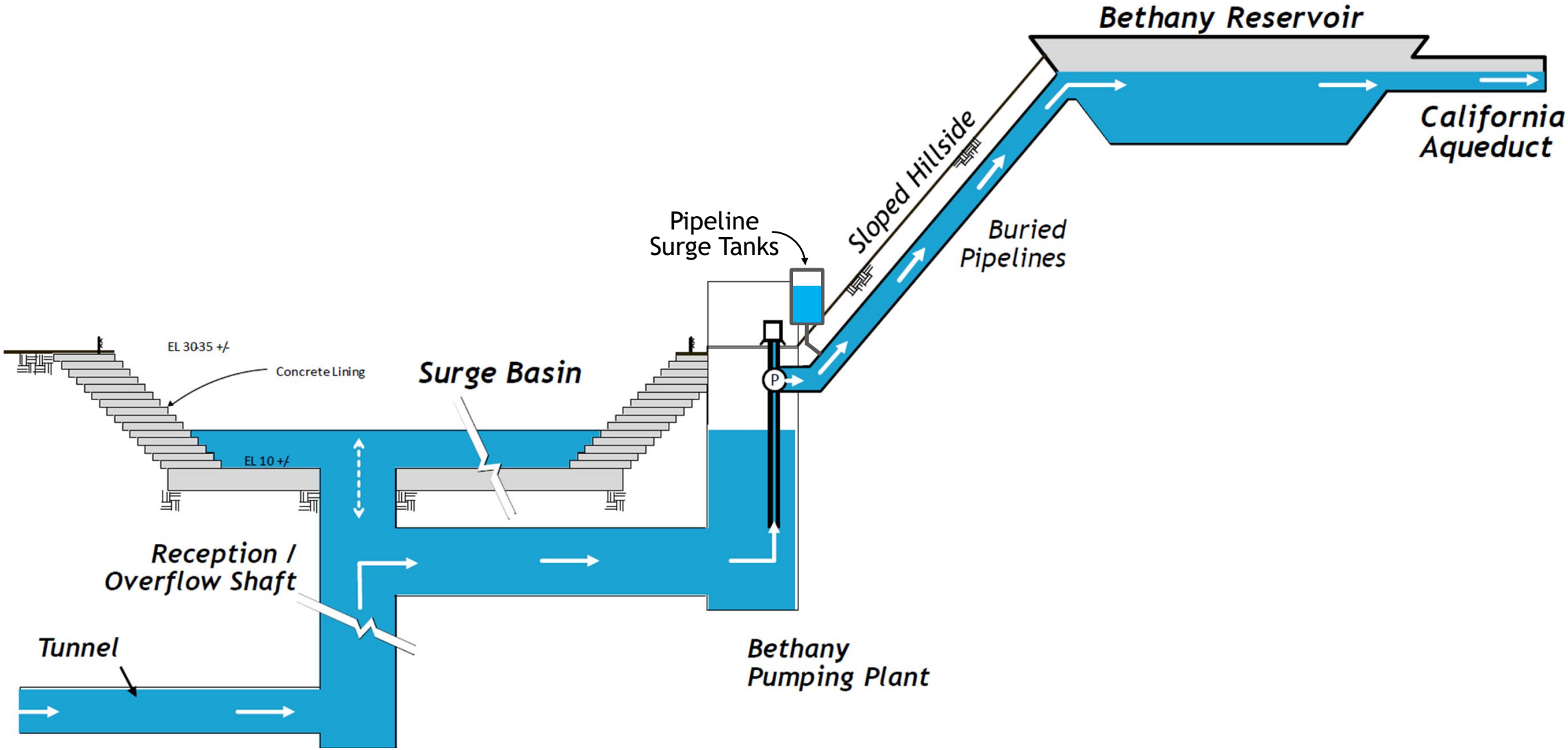


Bethany Alternative

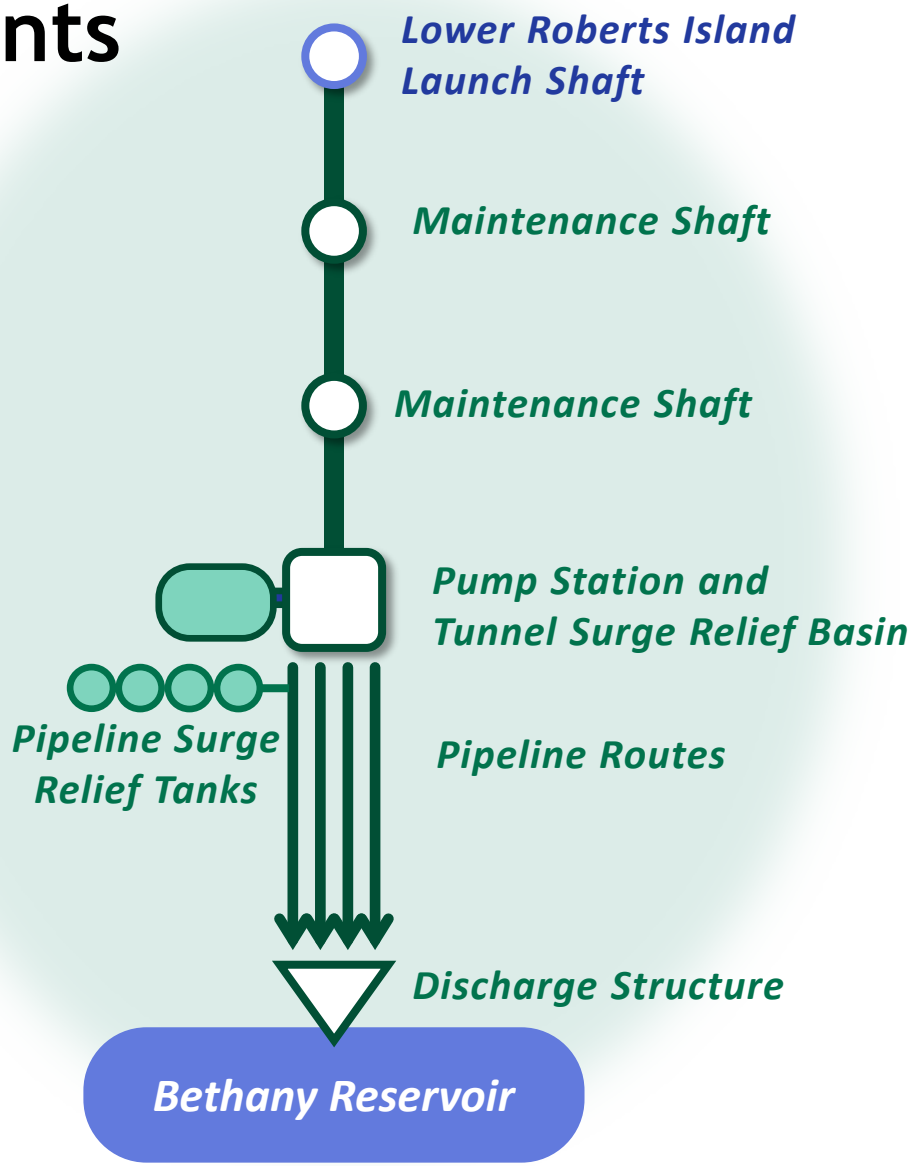
- Originates from Eastern Corridor at Lower Roberts Island Launch Shaft
- Delivers water up to Bethany Reservoir at El. 245 ft
- Eliminates Southern Complex Facilities included in the East and Central Alignment Alternatives



Schematic of Bethany Reservoir System Configuration



Bethany System Components

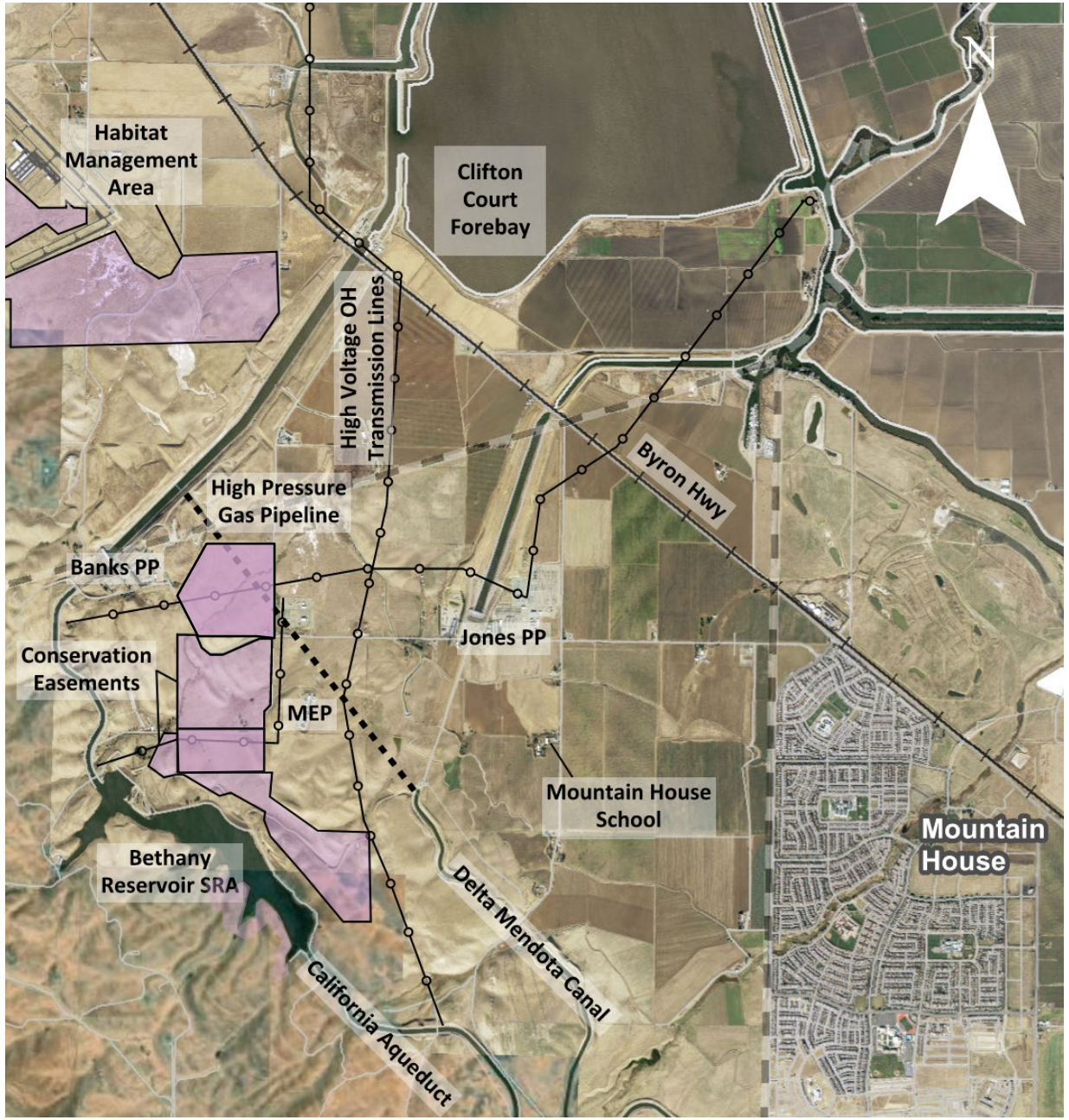


- **Tunnel** and two **Maintenance Shafts** to convey flow from Lower Roberts Island Launch Shaft to Pump Station
- **Pump Station** to lift tunnel flow up to Bethany Reservoir
- **Surge Relief Basin** adjacent to Pump Station to release water during a power outage surge
- Four parallel **Pipelines** to convey water from Pump Station to Reservoir
- **Surge Relief Tanks** adjacent to Pipelines to release water during a power outage surge
- **Discharge Structure** into Bethany Reservoir

Pump Station and Surge Relief Basin Siting Alternatives Analysis

Pump Station Siting - Existing Considerations

- Conservation Easements and Habitat Management Areas
- Power Lines and Gas Pipelines
- State and Federal Water Facilities
- Mountain House and Mountain House School
- Steep grades up to Bethany Reservoir

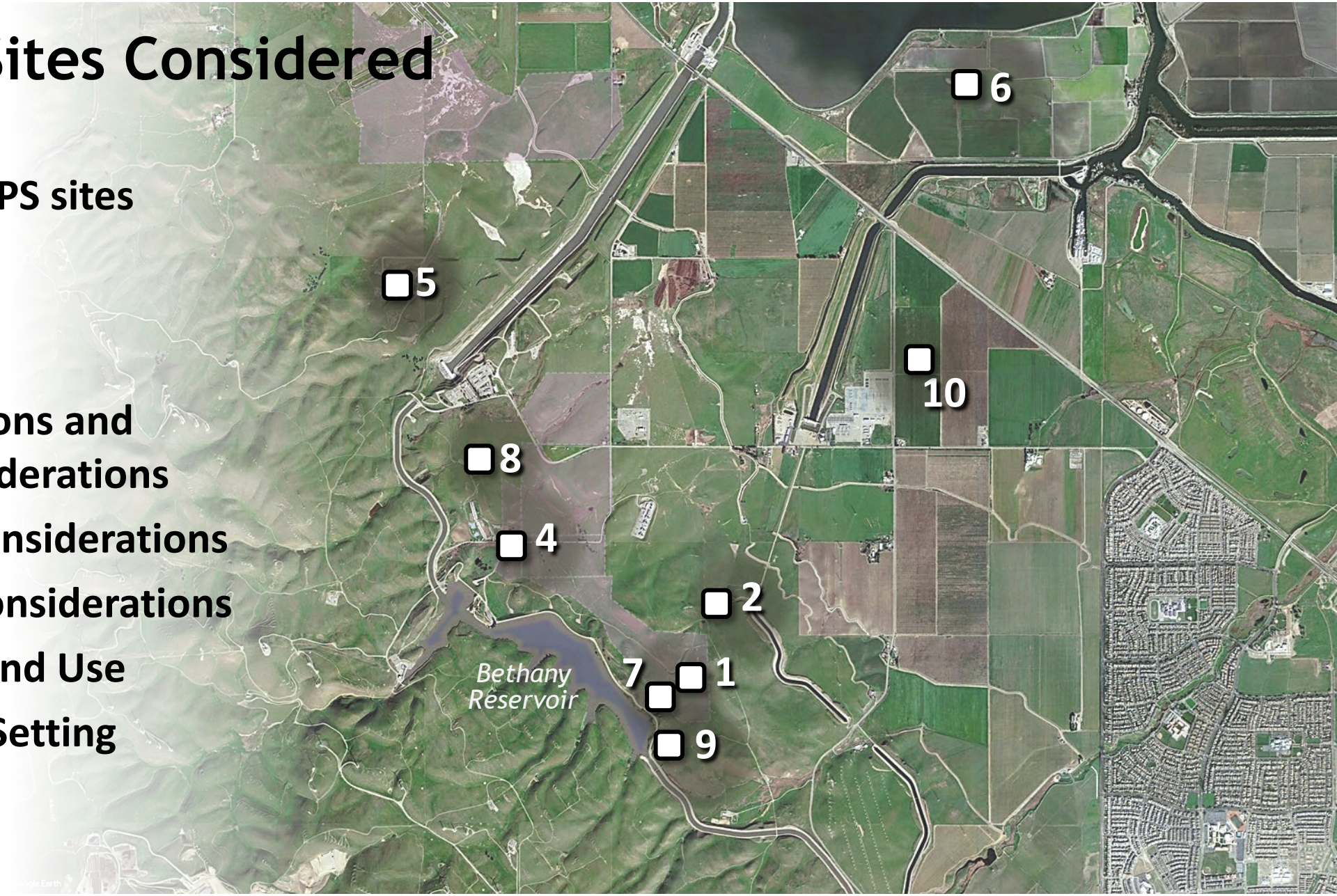


Pump Station Sites Considered

Total of 10 potential PS sites considered

<u>Comparison Criteria</u>:

- **System Operations and Flexibility Considerations**
- **Construction Considerations**
- **Geotechnical Considerations**
- **Property and Land Use**
- **Environmental Setting**



Bethany Reservoir Options Comparison

Criterion	Importance	Pump Station Siting Options 1	2	4	5	6	7	8	9	10
System Operations & Flexibility Considerations										
O&M Access	4									
Relative O&M Complexity	1									
CVP Expansion	3									
Impact to SWP Operations	4									
Hydraulic Operations Complexity	2									
Construction Considerations										
Construction Access	4									
Space Available	2									
Compatibility with Tunnel Shaft Locations	3									
Conflicts with Existing Linear Infrastructure	3									
Geotechnical Considerations										
Seismic Fault Crossing	1									
Challenges associated with Soil Type, Depth, etc.	3									
Property and Land Use										
Parcels Affected by Surface Facilities	2									
Future development	1									
Farmland Impacts	2									
Conflicts with Public Facilities	4									
Conservation Easements	5									
Environmental Setting										
Federal or State Threatened or Endangered Species	3									
Proximity to Sensitive Receptors	3									

ELIMINATED

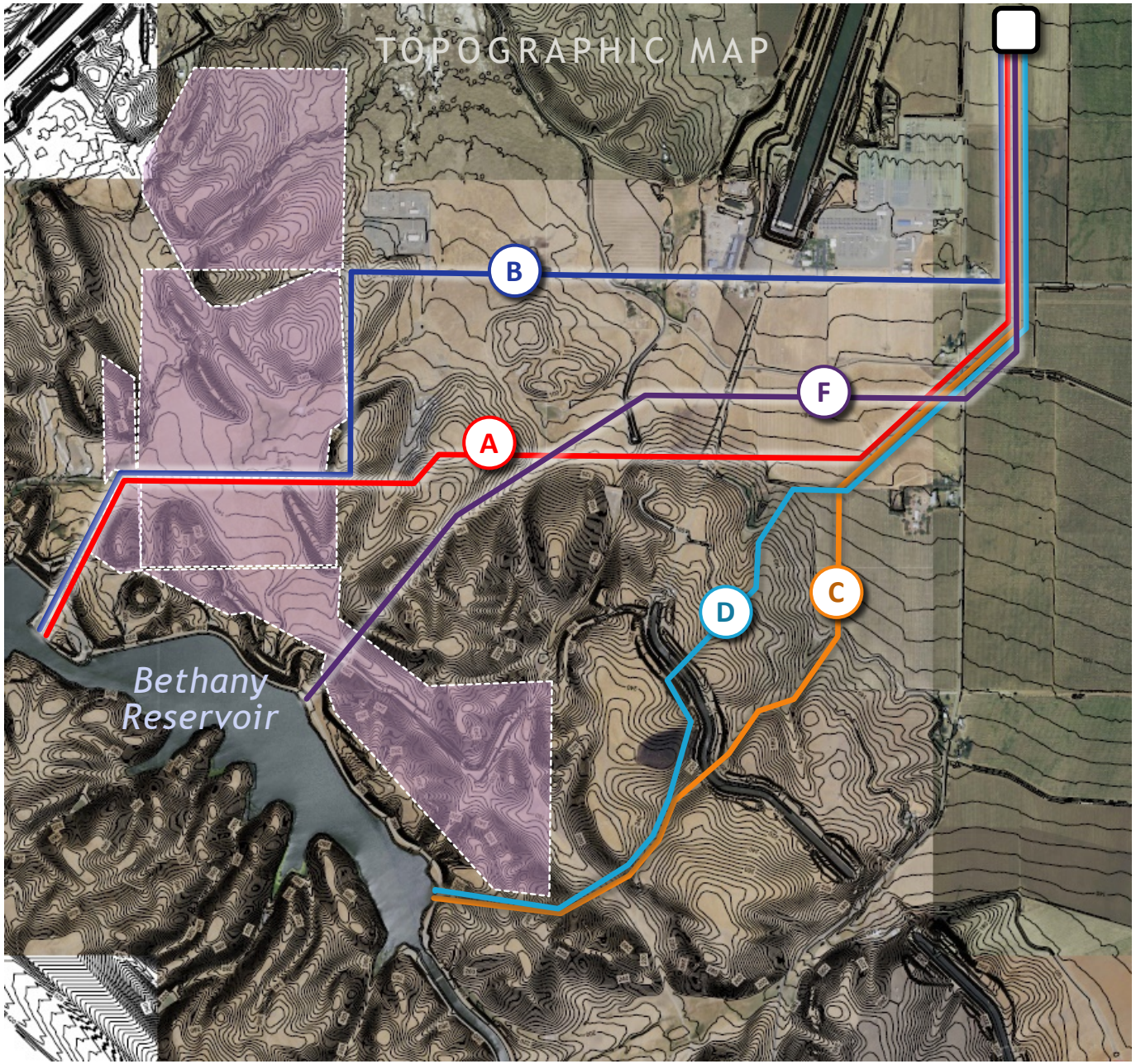
Site 10 - Most Favorable for Pump Station Siting

- Avoids impacts to conservation easements
- Excellent access from Byron Highway/Int 580 and to existing power
- Similar Pump Station configuration to existing DWR Facilities (pump from base of hill)
- Adequate space
- Low ground elevation to minimize height of surge relief basin and avoid dam safety regulations

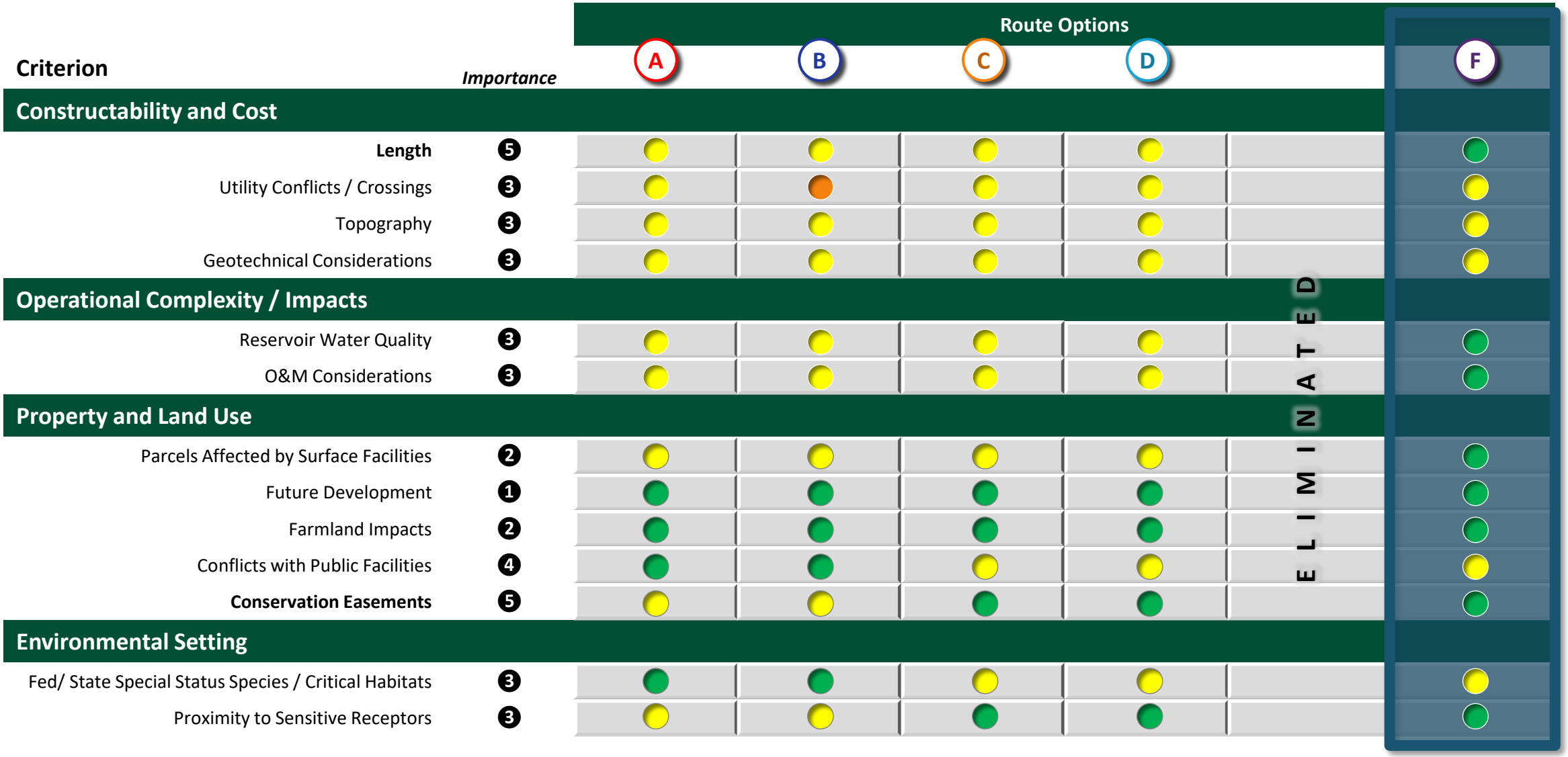
Pipeline Alignment Alternative Routing Analysis

Pipeline Alignment Basics

- Pipeline corridor extends from Pump Station to Bethan Reservoir.
- Four ~15 ft diameter parallel steel pipelines required (at 6,000 cfs).
- Pipelines constructed with open cut and cover methods and in some areas tunneled.
- Steep incline from Pump Station at ground elevation 50 ft to Reservoir at elevation 245 feet.
- Need to cross federal aqueduct, several channels, conservation easements, and the peak along the ridge of the reservoir.



Bethany Reservoir Pipeline Options Comparison



Pipeline Route Summary

- Alignment has shortest length
- Discharge location in Reservoir provides adequate mixing to limit stagnation
- Maintains adequate distance from sensitive receptors
- Avoids conflict with existing surface structures and conservation easements
- Alignment requires two tunneled sections:
  - Under federal aqueduct (Delta-Mendota Canal)
  - Under conservation easement along southern perimeter of Bethany Reservoir

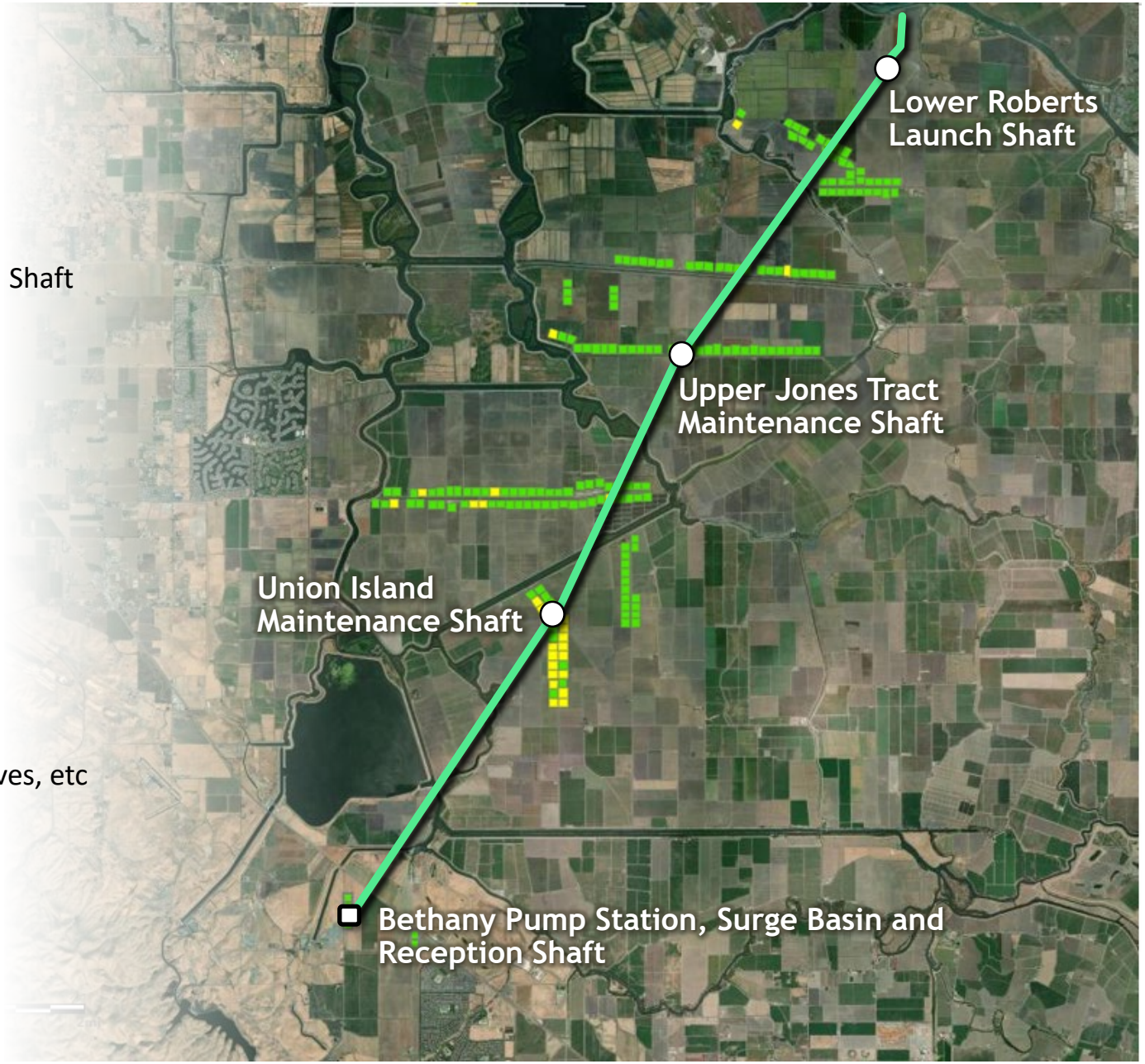
Tunnel Alignment and Maintenance Shaft Siting

Tunnel Alignment and Shaft Siting Analysis

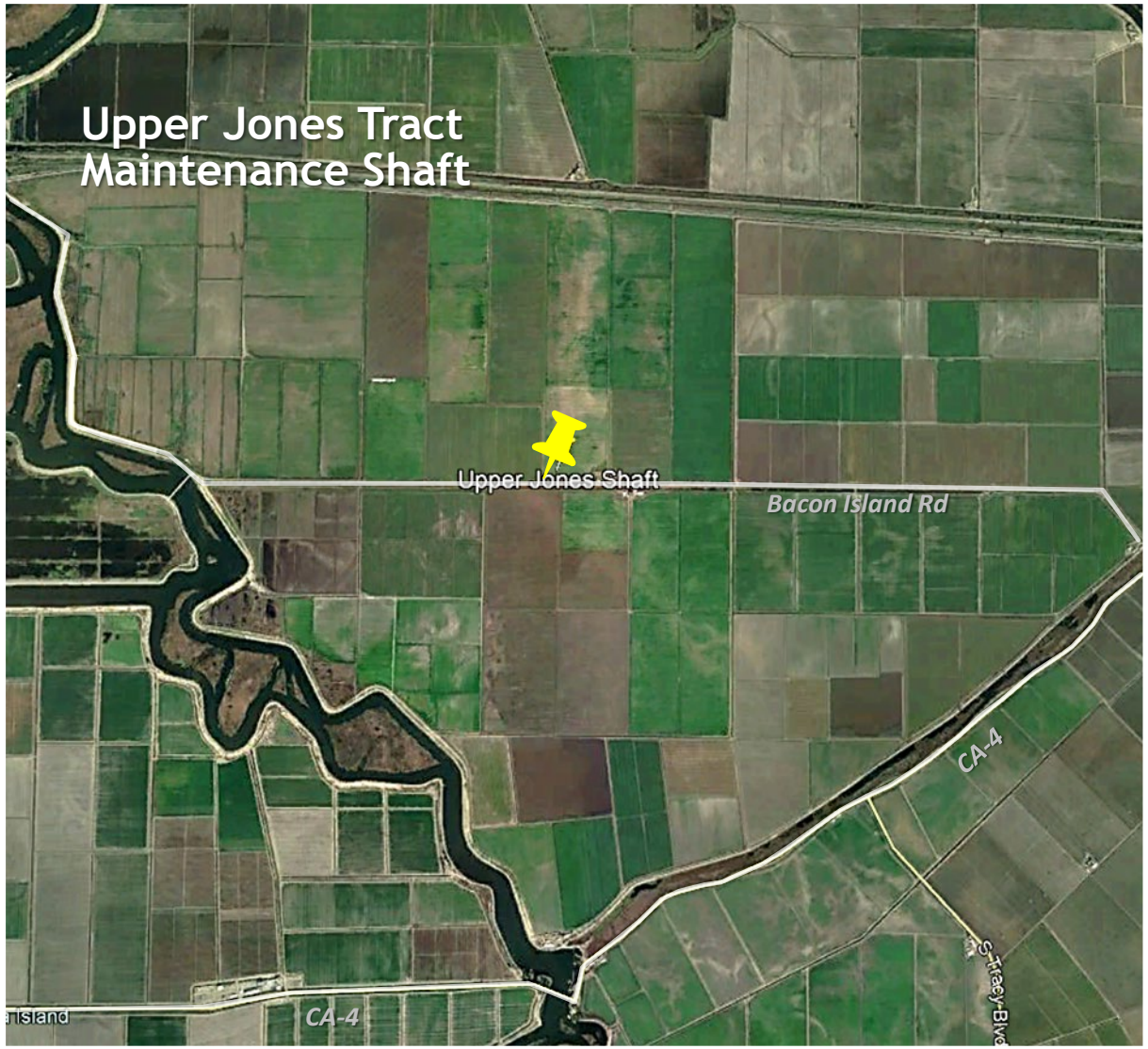
- **Tunnel Alignment Criteria:**
  - Maximum 15-mile tunnel drive length from Launch Shaft to Receiving Shaft
- **Maintenance Shaft Criteria:**
  - Every 4-6 miles along tunnel route
  - Minimum 10-acre site
- **Additional desirable criteria for shaft sites:**
  - Within 1/8-mile of existing roads***
  - > 1/2-mile from existing schools,
  - > 1/4-mile from existing houses,
  - > 1/2-mile from conservation land, refuges, preserves, etc

Rating Scale

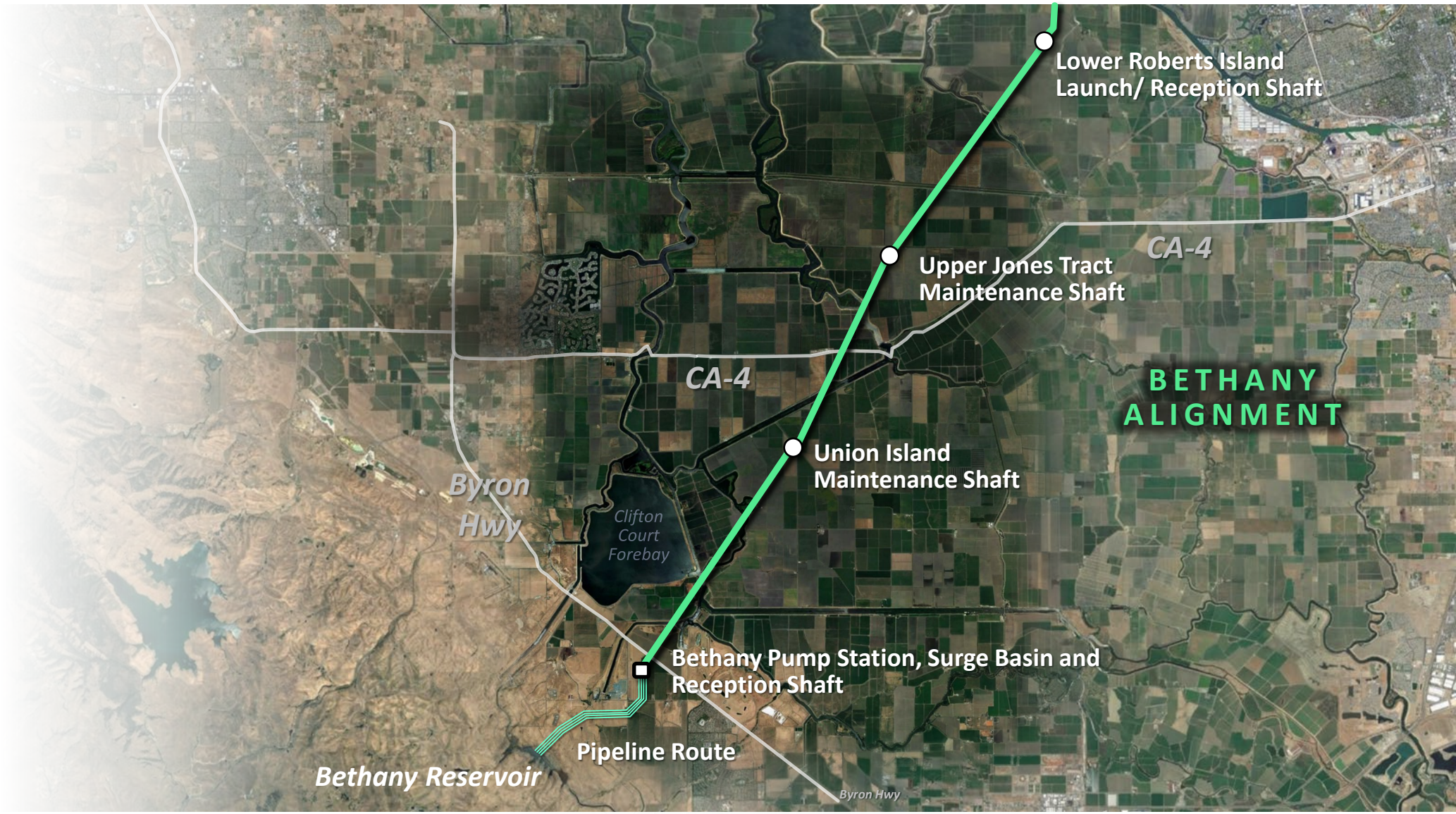
Overall Ranking	Theoretical Range
More Favorable	> 50th Percentile
Less Favorable	< 50th Percentile



Selected Maintenance Shaft Sites



Summary of Bethany Alternative Selected Facility Sites



Item 4c.

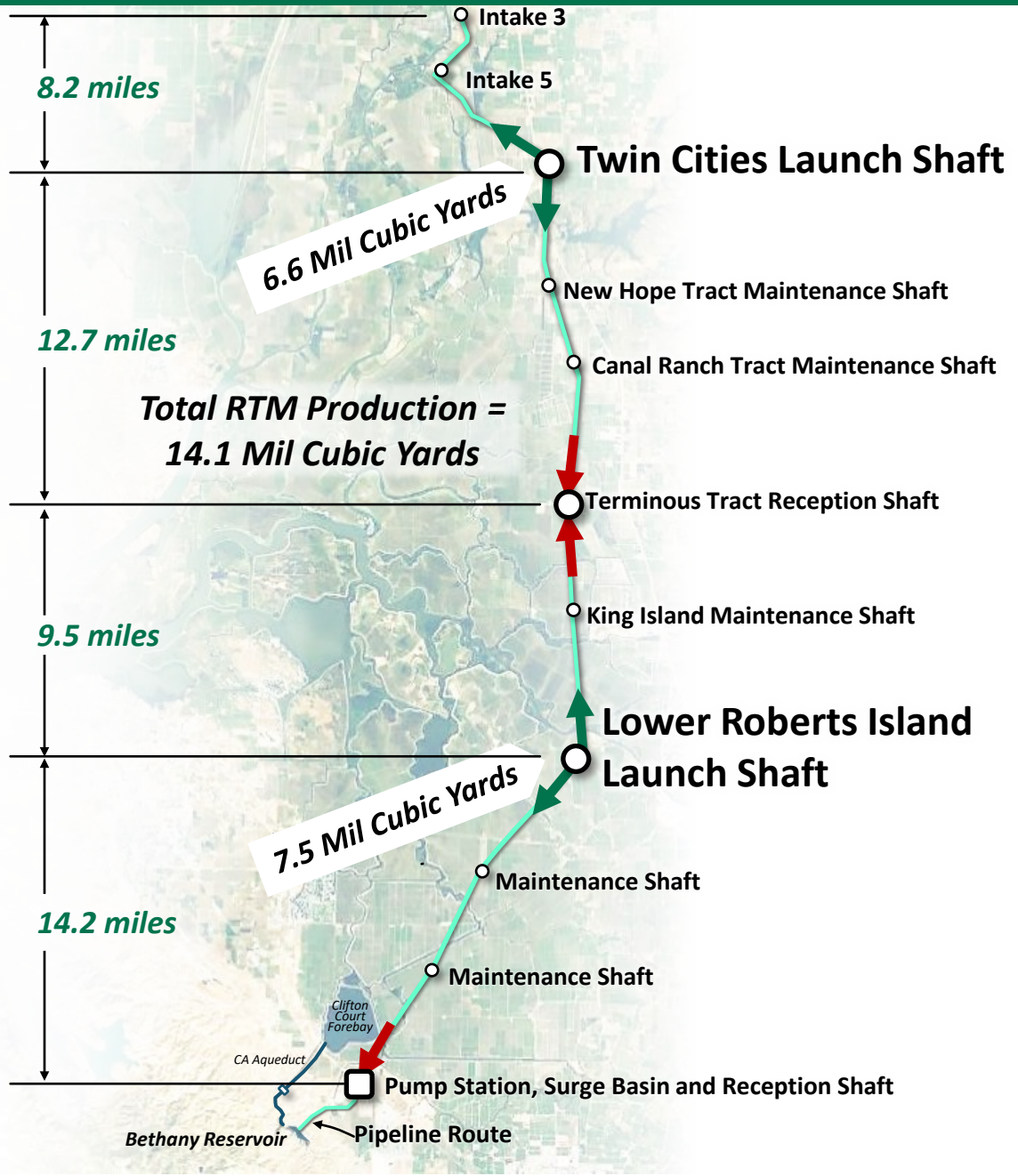
Bethany Alternative - RTM Management Plan

RTM Management Basics

- **Reminder - RTM is generated at Tunnel Launch Shaft Sites**
- **Bethany Alternative Launch Shaft Locations:**
  - Twin Cities
  - Lower Roberts Island
- **Twin Cities = 6.6 Million Cubic Yards**
- **Lower Roberts = 7.5 Million Cubic Yards**
- **There is NO Southern Forebay on the Bethany Alternative so no need to transport RTM from Twin Cities to Southern Facility Site**

HOW BIG IS 1 MIL CUBIC YARDS?

~600 acres 1 ft deep | ~60 acres 10 ft deep | ~300 Olympic Swimming Pools



Two Options for RTM Management

Option 1 - On-Site Stockpile

Option 2 - Off-Site Disposal

Twin Cities Stockpile

- Allow space on site for natural drying – eliminate mechanical drying
- Stockpiles 15 to 25 feet tall
- Eliminate rail spur and other logistics improvements at Twin Cities Drive Site that were provided for moving RTM from site to other locations

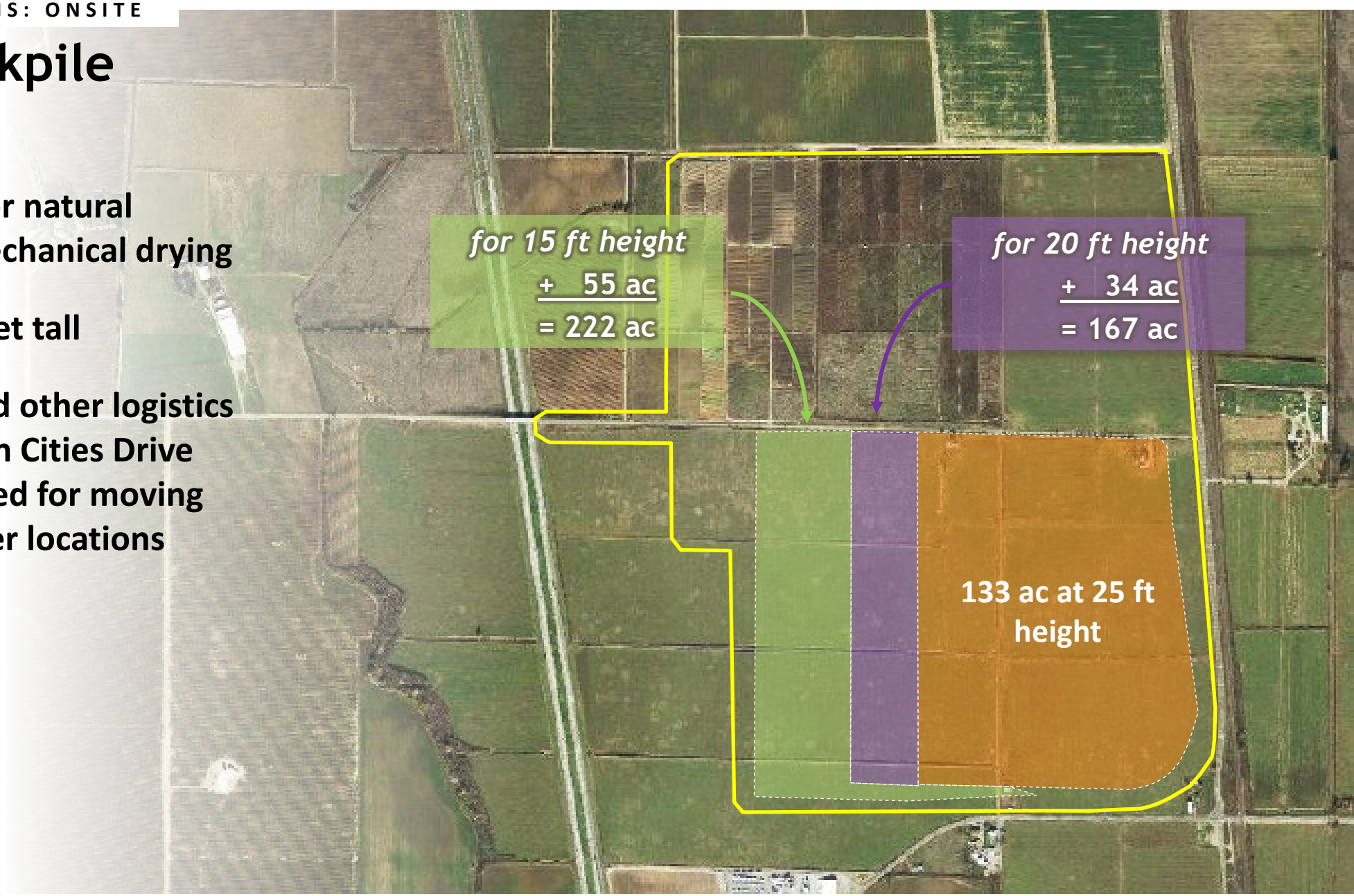


Photo Render of Stockpiles at Twin Cities

Photo Render of Stockpiles at Twin Cities

Photo Render of Stockpiles at Twin Cities

Photo Render of Stockpiles at Twin Cities

222 ac Stockpile, 15 ft height

133 ac Stockpile, 25 ft height

Lower Roberts Stockpile

- Allow space on site for natural drying
- Stockpiles 15 to 25 feet tall
- 15 ft height is similar to existing dredge stockpile height
- Maintain rail spur to reduce traffic impacts on Hwy 4 and Stockton Area
- Port of Stockton manages dredge stockpile on adjacent site – could coordinate material management

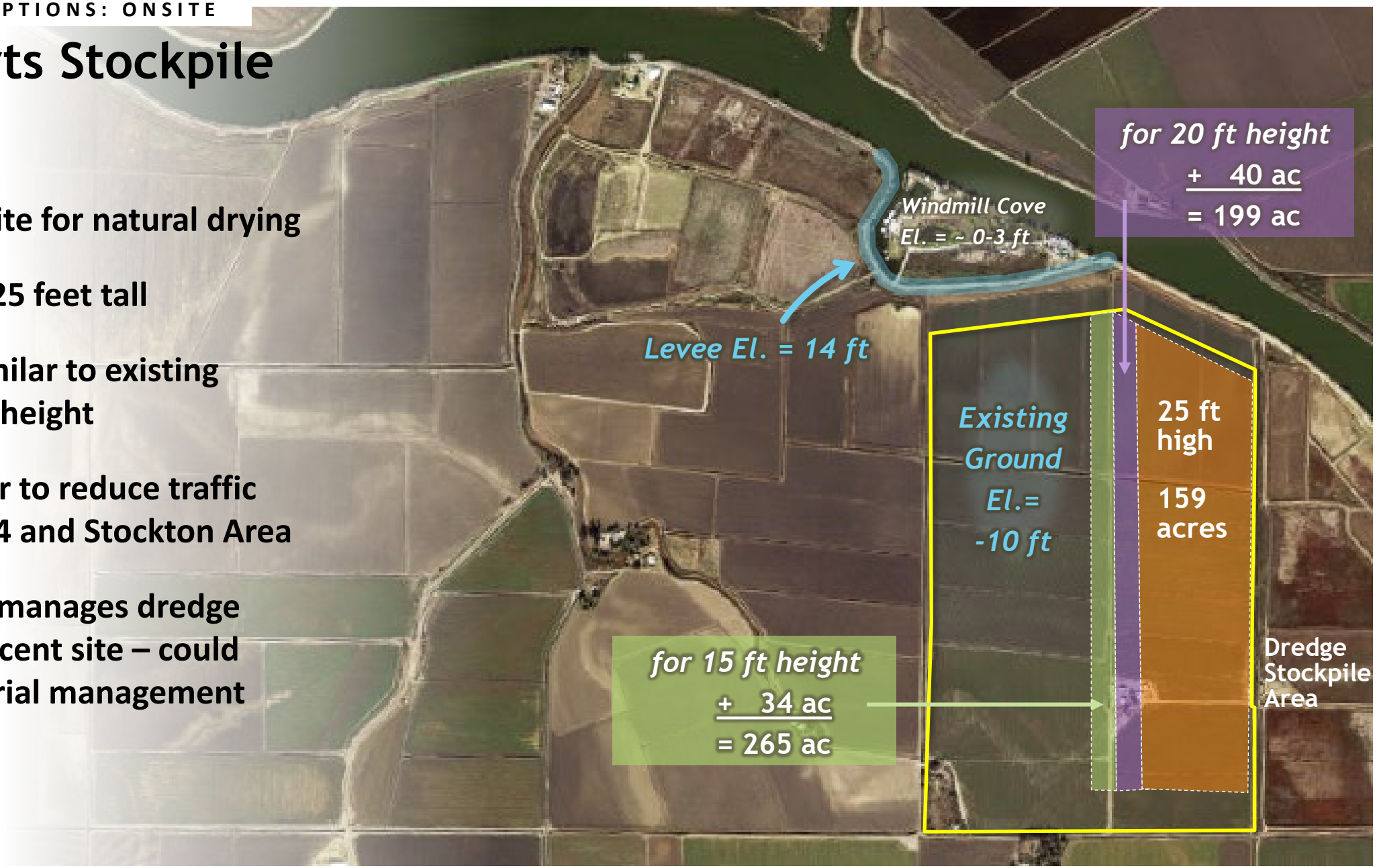


Photo Render of Stockpiles at Lower Roberts

265 ac Stockpile, 15 ft height

Option 2 - Off-Site Disposal Considerations

Smaller Site Required

- RTM is transported off-site as it is generated (following testing)
- No significant on-site drying required

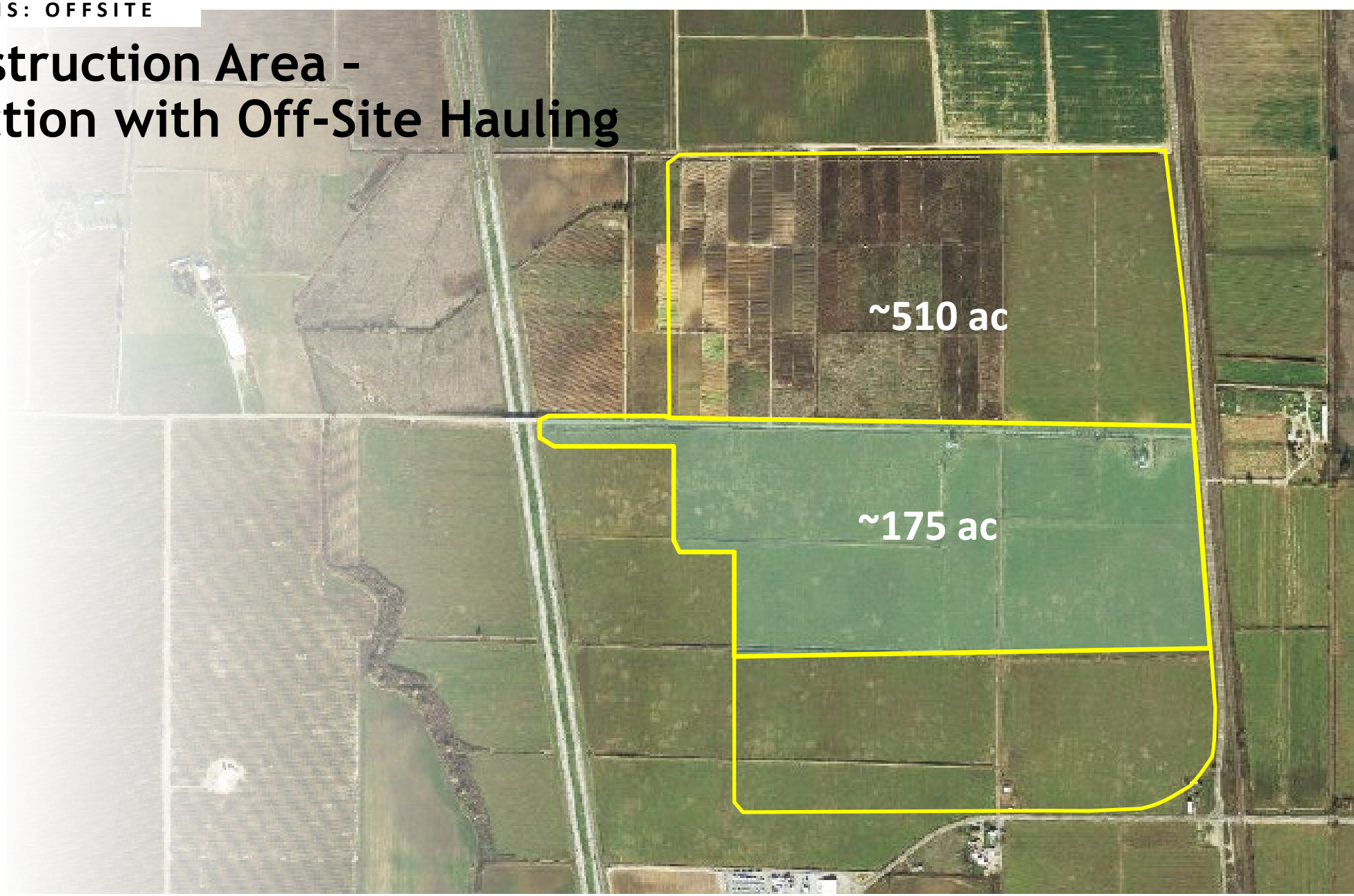
Hauling Methods

- Road
- Rail

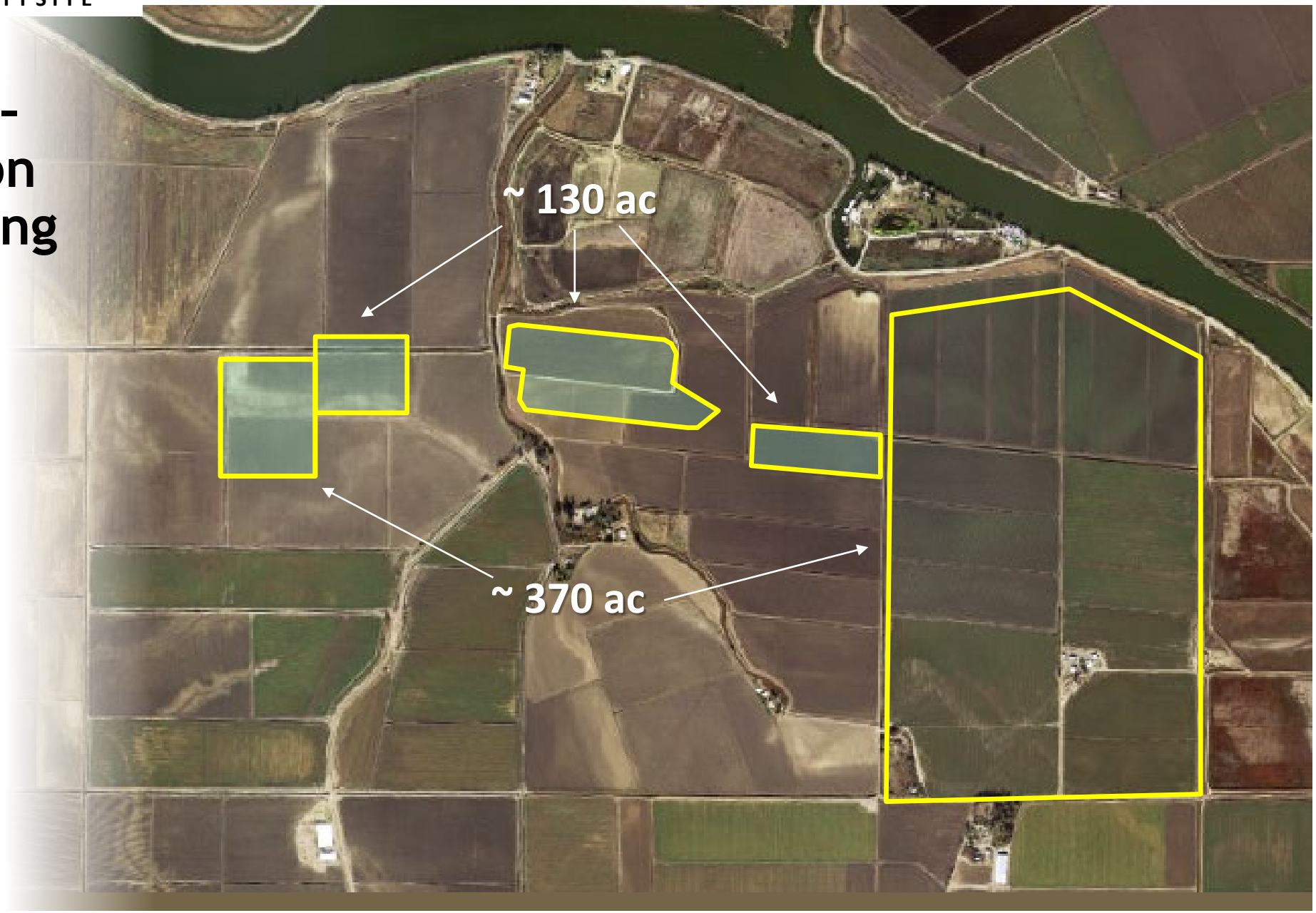
Disposal Options

- Quarries
- Landfills

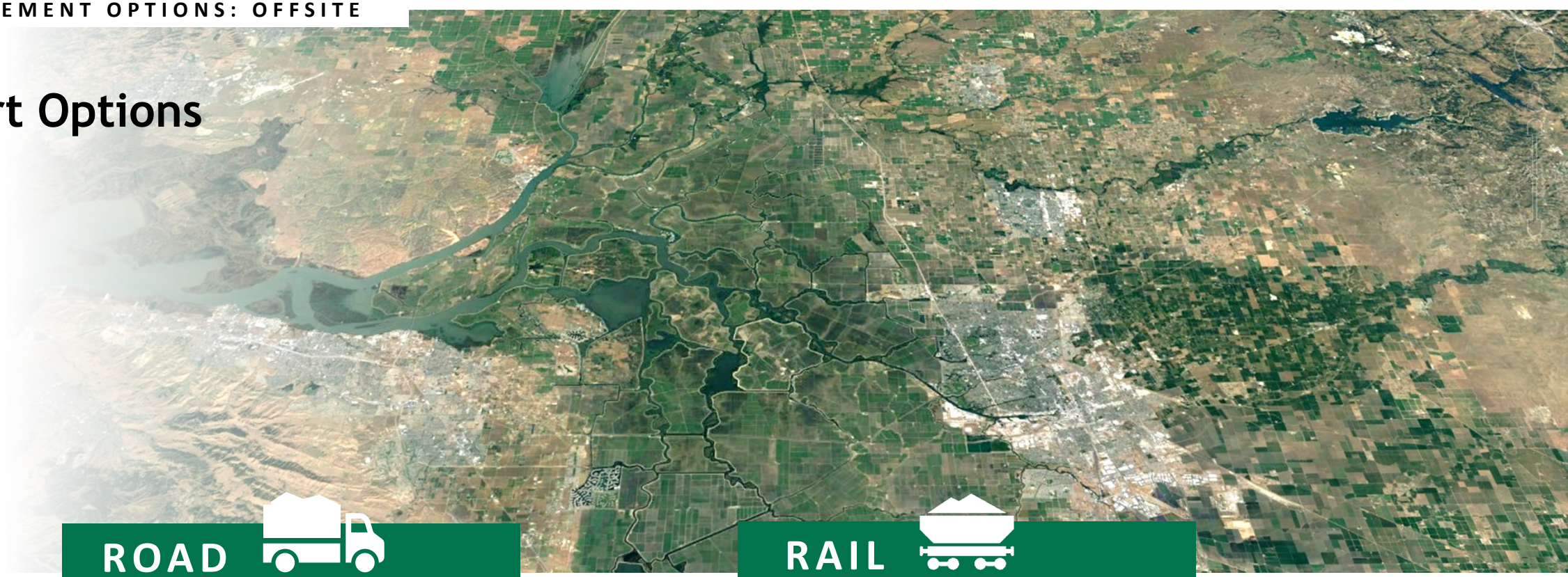
Twin Cities Construction Area - Footprint Reduction with Off-Site Hauling



Lower Roberts Construction Area - Footprint Reduction with Off-Site Hauling



Off-Site Transport Options



ROAD

- 13 cy/truck
- 3,600 truck trips / week avg (round trip)
- 7,200 truck trips / week max (round trip)

RAIL

- 1,200 cy/trip (20 rail-car load)
- 21 trips / week avg
- 42 trips / week max

RTM Hauling Trip Counts

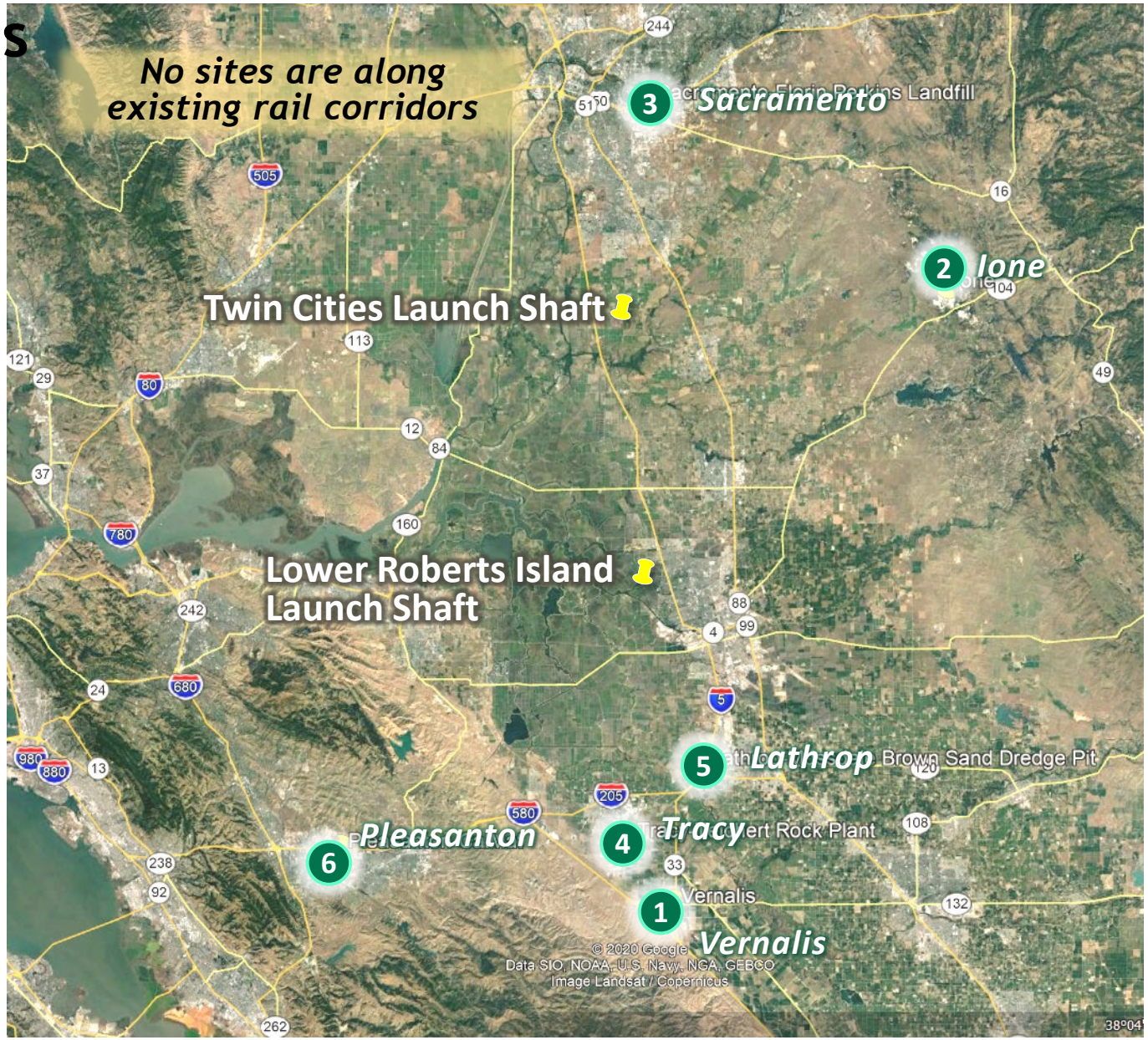
Trips to export all RTM from Twin Cities	
	*6.0 MCY**
Road	449,000 trips
Rail	5,000 trips

Trips to export all RTM from Lower Roberts	
	*7.2 MCY**
Road	536,000 trips
Rail	6,000 trips

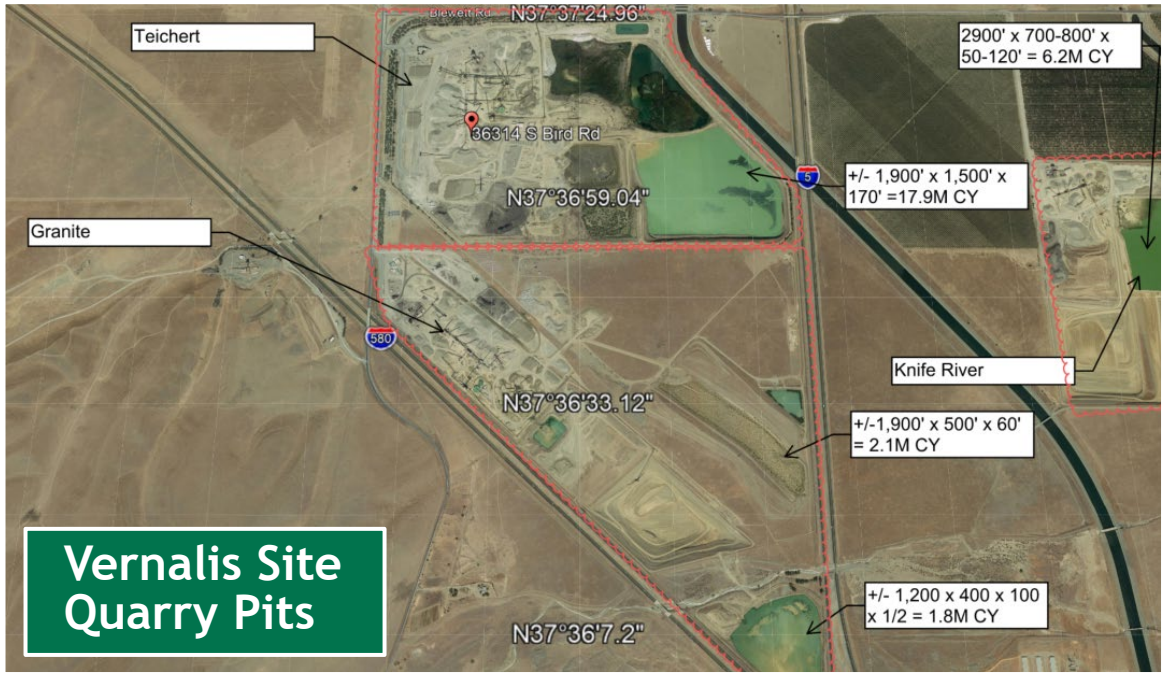
*export after restoration of borrow areas

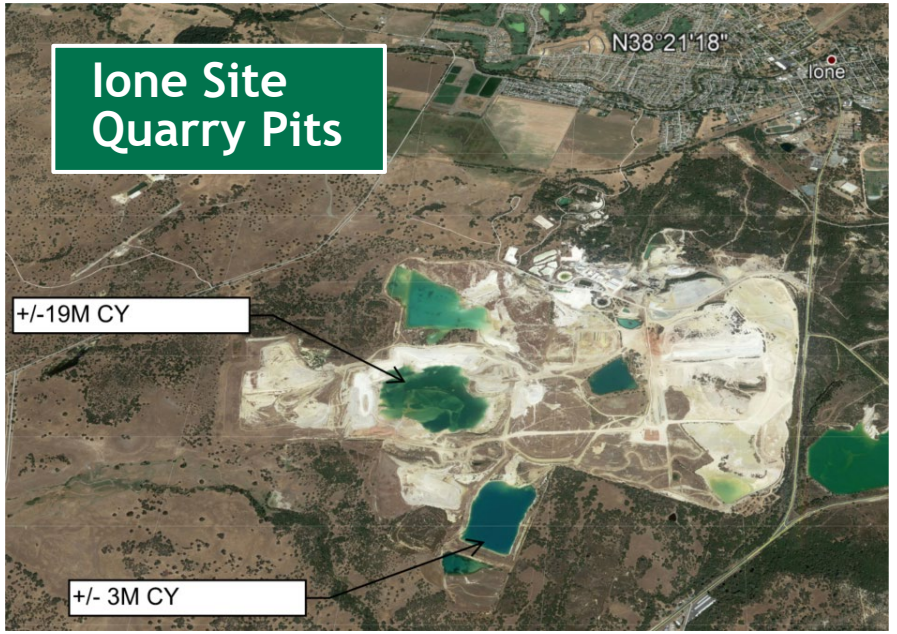
Off-Site Hauling Disposal Options

Quarries	Miles from Twin Cities Site	Miles from Lower Roberts Site
1. Vernalis: Granite, Teichert Aggregates, & Knife River Vernalis Plant	53 mi	33 mi
2. Ione	33 mi	59 mi
3. Sacramento: Florin Perkins Landfill	25 mi	55 mi
4. Tracy: Teichert Rock Plant	50 mi	26 mi
5. Lathrop: Mossdale Brown Sand Dredge Pit	41 mi	20 mi
6. Pleasanton: CalMat	72 mi	45 mi



Three Sites with Adequate Capacity





Recommendation:

Vernalis selected for purposes of CEQA Analysis:

- No easy rail access
- Along I-5 corridor
- Rural area for off-peak hauling
- Conservative hauling distances allowing for better future options

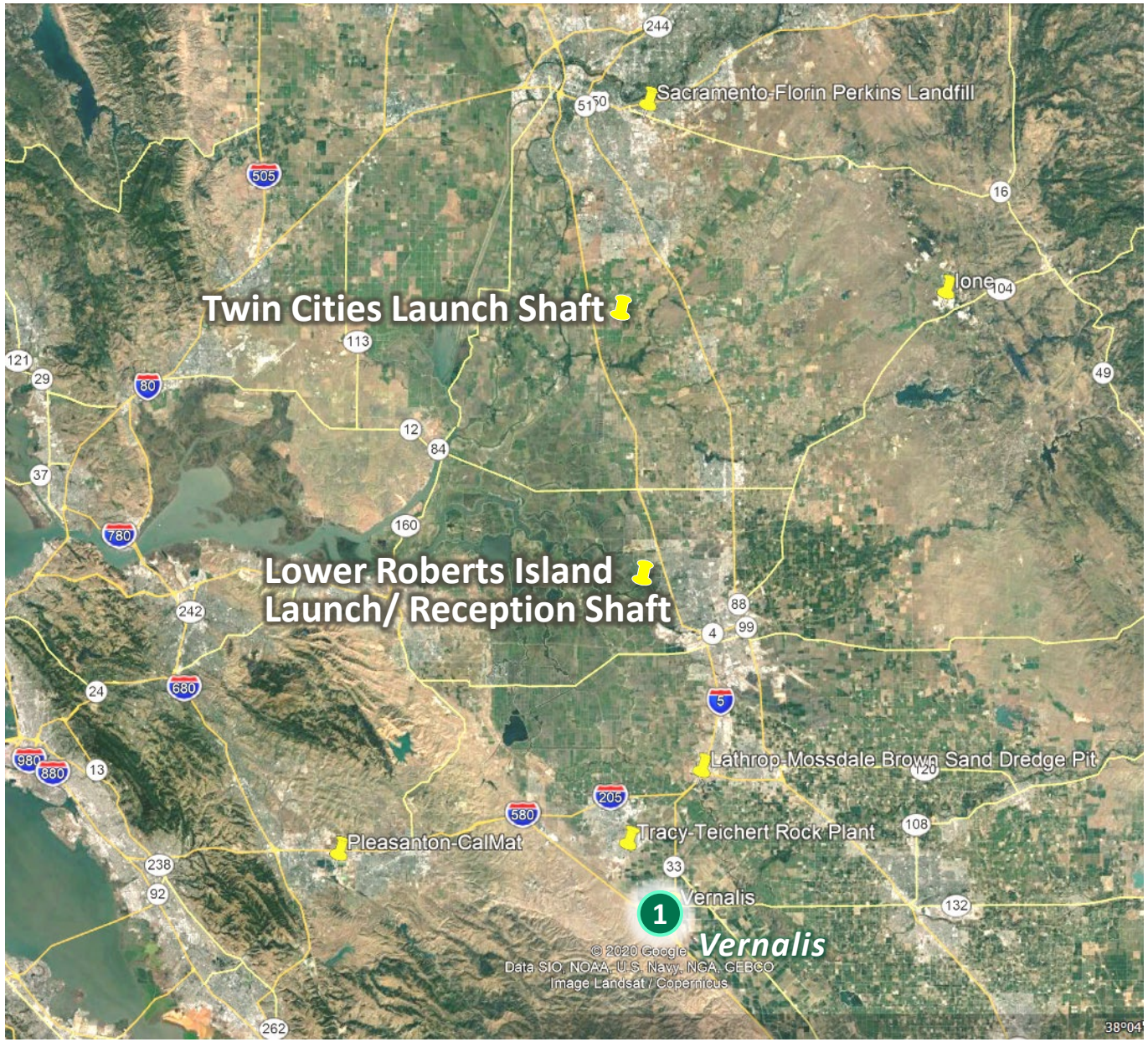
Truck Hauling to Vernalis

Twin Cities

Trips / Week	*Total Trips*	*Roundtrip Miles*	*Total Truck Miles*
1,800	449,000	106 miles	47.6M

Lower Roberts

Trips / Week	*Total Trips*	*Roundtrip Miles*	*Total Truck Miles*
1,800	536,000	66 miles	35.4M



Comparison of Alternatives

Option 1 - On-Site Stockpile

- **Substantial reduction in truck traffic and associated air emissions and greenhouse gas emissions. Eliminates ~83Mil trucking miles.**
- **Material available for Delta Area Reclamation Districts for levee maintenance or other local beneficial uses; current estimate of levee repair needs ~13Mil CY**
- **On-site stockpiling gives time for industry to advance electrified hauling vehicle technology. Commercial vehicles will likely be available over next decade.**
- *Aesthetic issue of on-site stockpiled material*
- *Significant land requirements for drying and stockpiling (~ 580 extra acres)*

Option 2 - Off-Site Disposal

- **Substantially less construction and permanent area required at Twin Cities and Lower Roberts Tract sites**
- *Adds significant truck traffic and associated air emissions and greenhouse gas (GHG) emissions along I-5 corridor and near Port of Stockton*
- *Material not available for local beneficial uses*

Questions?

Item 4d.

SEC Questions or Comments on August 26th Meeting Presentation

Item 4e.

Public Comment on Item 4

Thank You

Item 5a.

SEC Tour Updates

Item 5b.

November SEC Meeting Topics

- *Outstanding SEC Questions Deferred to Future Meeting*
- *Bethany Alternative – Logistics and Truck Traffic*

Remaining 2020 SEC Meetings

October 2020

SUN	MON	TUE	WED	THU	FRI	SAT
					2	3
4	5	6	7	8	9	10
11	12	13		15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

CANCELLED

October Meeting Cancelled

November 2020

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Wed., November 4th 3-6pm

December 2020

SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Wed., December 9th 3-6pm

Item 5c.

SEC Report to DCA Board

Item 6.

Non-Agendized SEC Questions or Comments

Item 7.

Public Comment

Non-Agendized Items

Next SEC Meeting

- *Date: November 4, 2020*
- *Time: 3-6 PM*
- *Topics**
  - *Outstanding SEC Questions Deferred to Future Meeting*
  - *Bethany Alternative – Logistics and Truck Traffic*

***(subject to change)**