

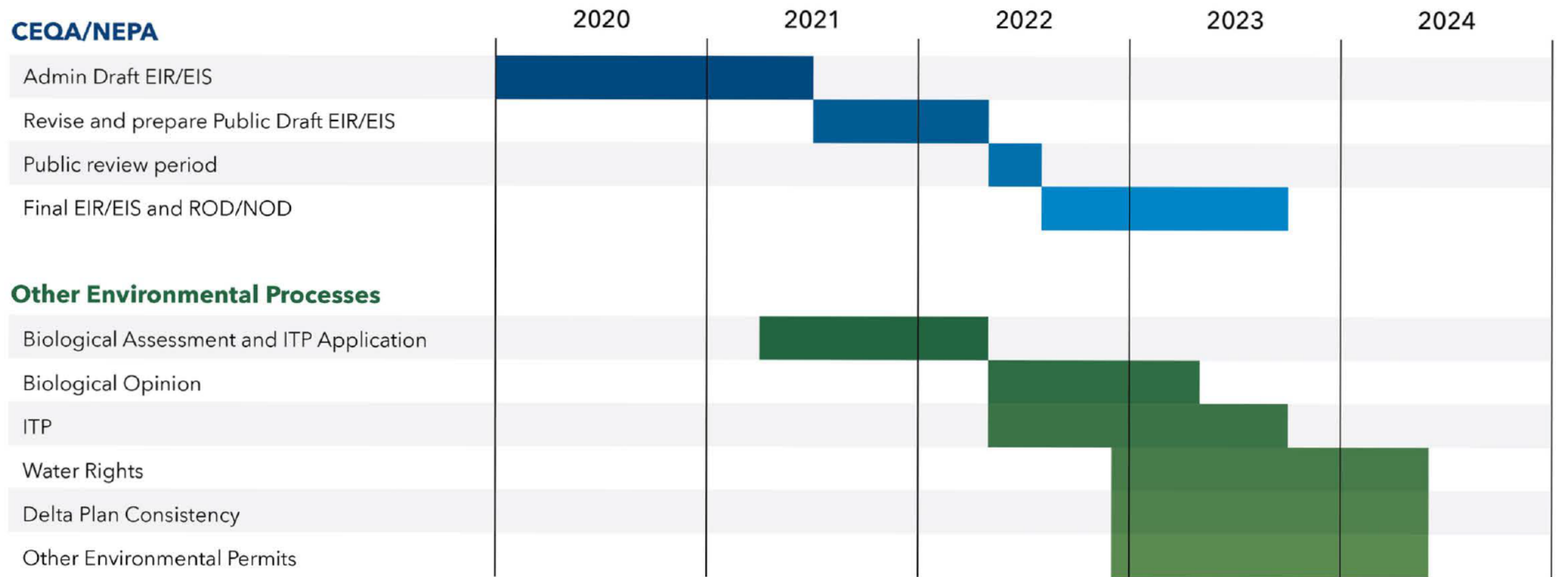
# Delta Conveyance Project

September 2020



# Project Schedule

## Delta Conveyance Project Schedule



# Delta Conveyance Objectives – Notice of Preparation

## To restore and protect ability to deliver SWP Water Supply

- **CLIMATE RESILIENCY:** Addresses climate change, extreme weather, and rising sea-levels in the Delta for the SWP
- **SEISMIC RESILIENCY:** Minimizes health/safety risk to public from earthquake-caused reductions in water delivery quality and quantity from the SWP
- **WATER SUPPLY RELIABILITY:** Restores and protects ability to deliver SWP water in compliance with regulatory and contractual constraints
- **OPERATIONAL RESILIENCY:** Provides SWP operational flexibility to improve aquatic conditions and manage risks of additional future constraints

# Delta Conveyance – Notice of Preparation

## New Facilities:

- Intakes
  - Two intakes (3,000 cfs each)
- Tunnel
  - One underground tunnel
  - Two potential corridors being considered
- Forebays
  - Intermediate and southern
- Pumping plant
- South Delta conveyance facilities
- Other ancillary facilities
- DWR is developing alternatives
  - 3,000 – 7,500 cfs
  - With and without CVP participation
  - Decided by the EIR/S process



# Preliminary DCP Benefits Analysis

- DWR is currently developing the Delta Conveyance Proposed Project.
- At this time, DWR has not defined the project operations and has not completed regulatory processes that may impact project operations.
- Coarse estimate of water supply changes using CalSim II.
- Estimates may change as Delta Conveyance Project is further defined, permitting is completed and modeling is refined.

# Water Reliability and Resiliency Benefits

- Water supply reliability and SWP resilience
  - Climate change adaptation/stormwater capture
  - Sea-level rise adaptation
  - Seismic resilience
- South Delta flow pattern improvements for fisheries
- Water transfer capacity and carriage water savings
- Water quality improvements for SWP deliveries

# Preliminary Water Supply Assessment Scenarios

- 5 plausible combinations of regulatory, climate and sea level, and seismic/levee risk future scenarios
- Each scenario simulated with and without DCP
- DCP operations based on California WaterFix



# DCP Improves SWP Resilience Under Future Conditions

Estimated Annual SWP Exports (MAF/Yr)			
	Without DCP	With DCP	Difference
Existing SWP (ITP)	2.5	3.0	0.5
Current Trends	2.23	2.76	0.53
More Restrictive South Delta	1.5	2.5	1.0
Increased Delta Outflow Requirements	1.9	2.0	0.1
Extreme Sea Level Rise	1.5	2.4	0.9
Seismic and Delta Levee Integrity	1.6	2.3	0.7
Minimum	1.5	2.0	
Maximum	2.23	2.76	
Average	2.0	2.6	

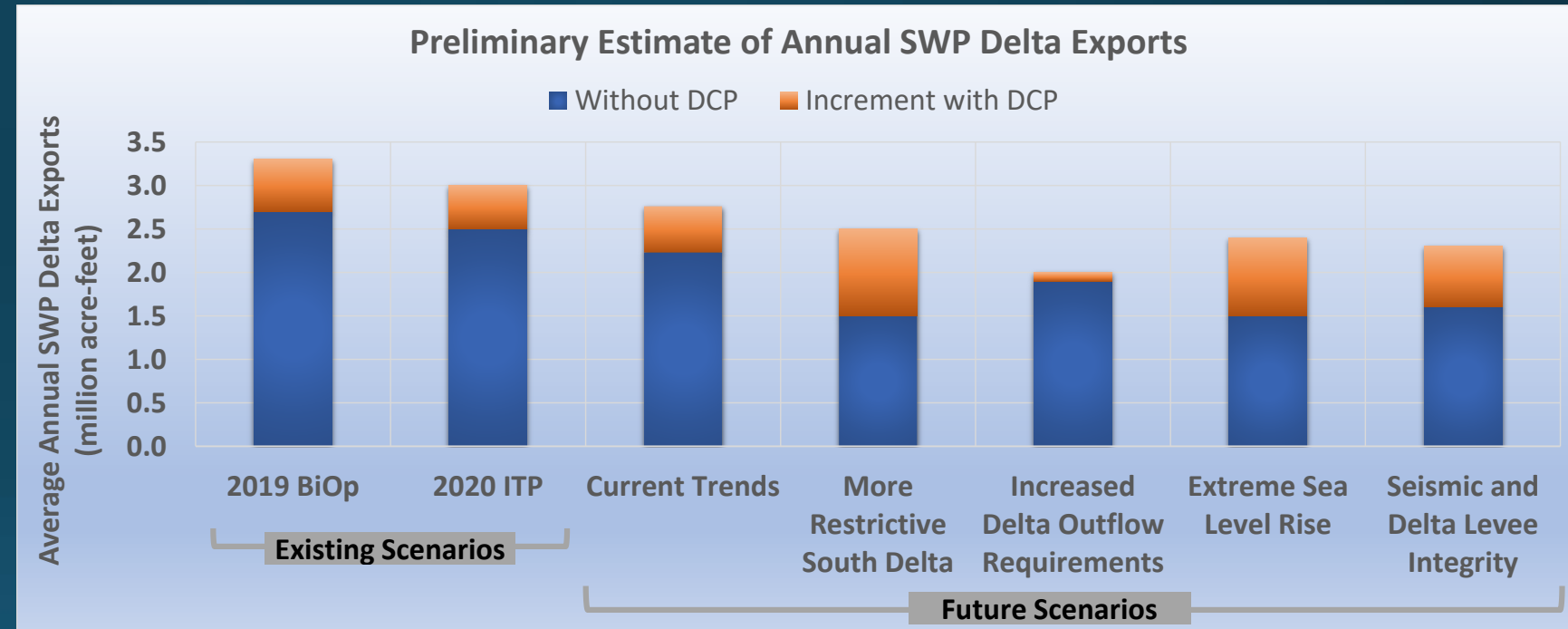
- SWP exports decrease by ~300 to 1000 TAFY under future scenarios without DCP, compared to the existing conditions
- DCP allows similar SWP exports as the existing conditions in the future – *demonstrates improved resilience*

\*TAFY: thousand acre-feet per year on average



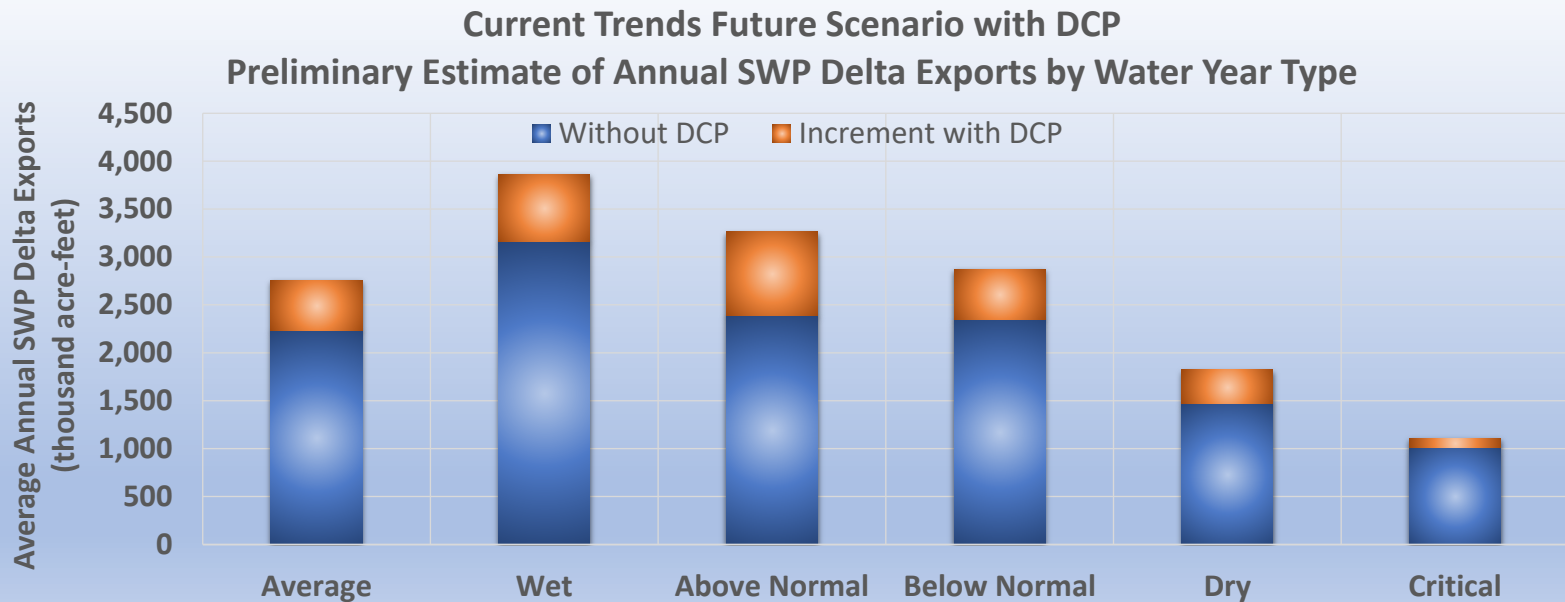
# SWP Reliability Compared to Future Conditions Without DCP

- DCP shows potential to alleviate reductions to SWP reliability under many plausible future risk scenarios
  - ~100 TAFY to 1000 TAFY under greater regulatory restrictions
  - ~700 TAFY under seismic risks and delta island flooding
  - ~900 TAFY under extreme sea level rise
- Exact future likely a combination of climate/hydrology, sea level, regulatory, seismic, and other risks



\*TAFY: thousand acre-feet per year on average

# Preliminary Estimate of Potential SWP Water Supply Change with DCP Under Current Trends



\*TAFY: thousand acre-feet per year on average

- Current Trends scenario assumes:
  - current Delta regulations
  - projected climate change and sea level rise around year 2040
  - WaterFix operations for DCP
- Estimated SWP export improvement with DCP of ~500 TAFY under the Current Trends scenario
- Most of the export improvement in wetter years
- On average, ~60% increase is Table A and ~40% increase is Article 21
- As DCP Proposed Project is further defined and modeling is refined, water supply estimates may change

# Previous Cost Estimates

- 2014 DHCCP Cost estimate - \$24.78 B
  - 2 Tunnels
  - 5 Intakes
  - Split CVP, SWP
- 2017 Cost estimate - \$16.7 B
  - 2 Tunnels
  - 3 Intakes
- 2017 Cost estimate - SWP share \$11.09 B
  - 2 tunnels
  - 3 intakes
  - 67% SWP, 33% MWD

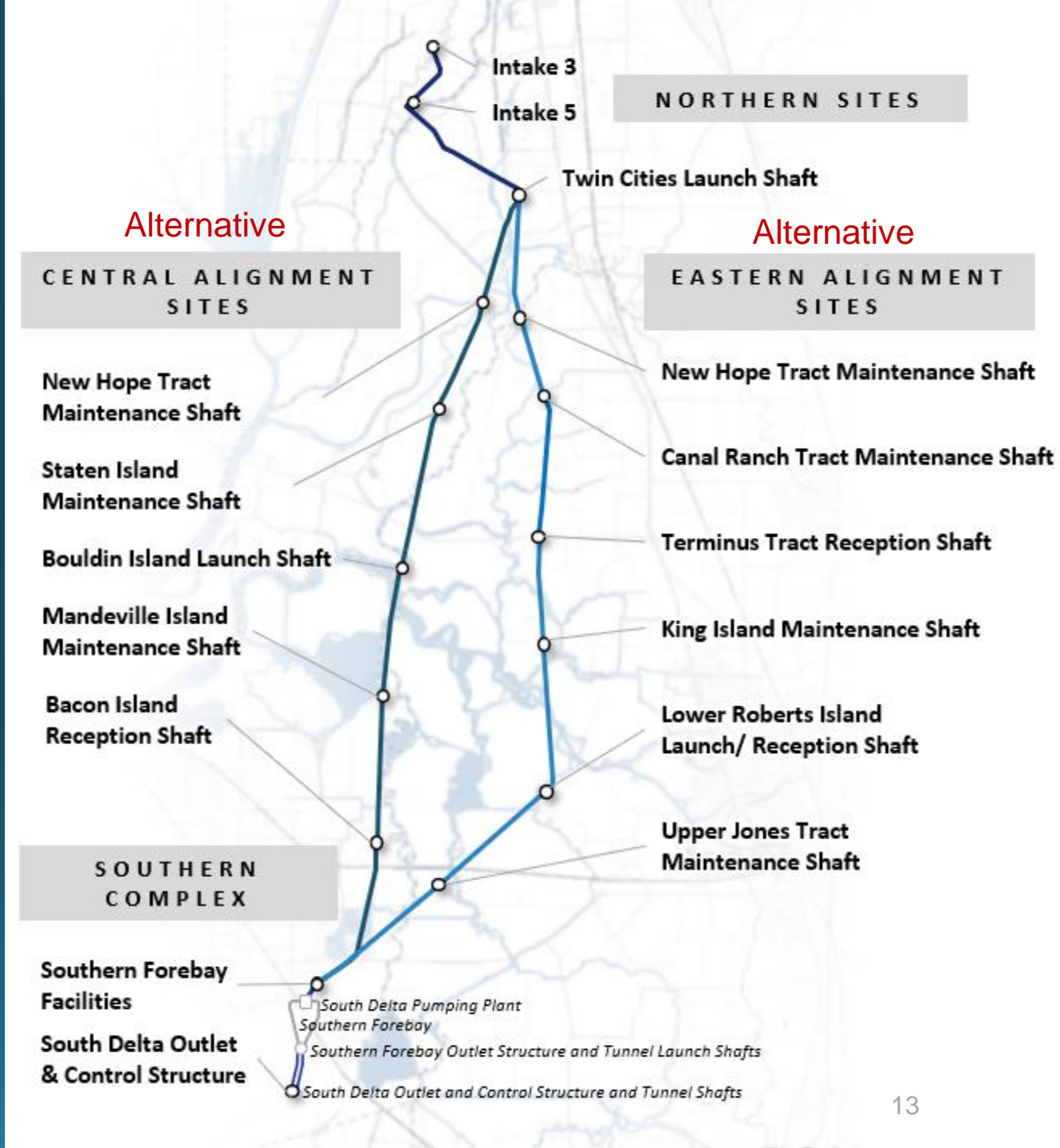
# DCA Cost Assessment

<b>DCA Program Scope:</b>	Cost assessment based on DWR's Proposed Project in NOP Conceptual Engineering Report (CER) is not completed
<b>Purpose:</b>	Early cost assessment to inform PWA's investment in project planning
<b>DCA Cost Assessment:</b>	\$15.9 billion in non discounted dollars
<b>Included:</b>	Based on preliminary engineering but includes project costs for construction, management, oversight, mitigation, planning, soft costs and contingencies



# Cost Information Assumptions

- **Proposed Facilities Included in Estimate:**
  - One Tunnel - Total capacity 6,000 cfs
  - Two intakes at 3,000 cfs each
  - 42 miles of tunnel and associated shafts
  - Southern Complex Facilities
    - Pump Station
    - Forebay
    - Connections to existing CA Aqueduct



# Construction Costs

Significant Features	(\$ millions in 2020)	
	CWF <sup>1</sup>	DCA
Intakes 3 and 5	814	1,397
Tunnels (North and Main)	4,226	4,302
Clifton Court Forebay & South Delta Connectors and South Tunnels	679	1,357
Pump Plant (CWF to 6,000 cfs)	401	794
Utilities, Power, Roads, and Communication and Controls	454	508
<b>Total</b>	<b>6,574</b>	<b>8,358</b>

1. CWF costs are normalized to represent a single tunnel of smaller diameter and a 6,000 cfs pump plant.

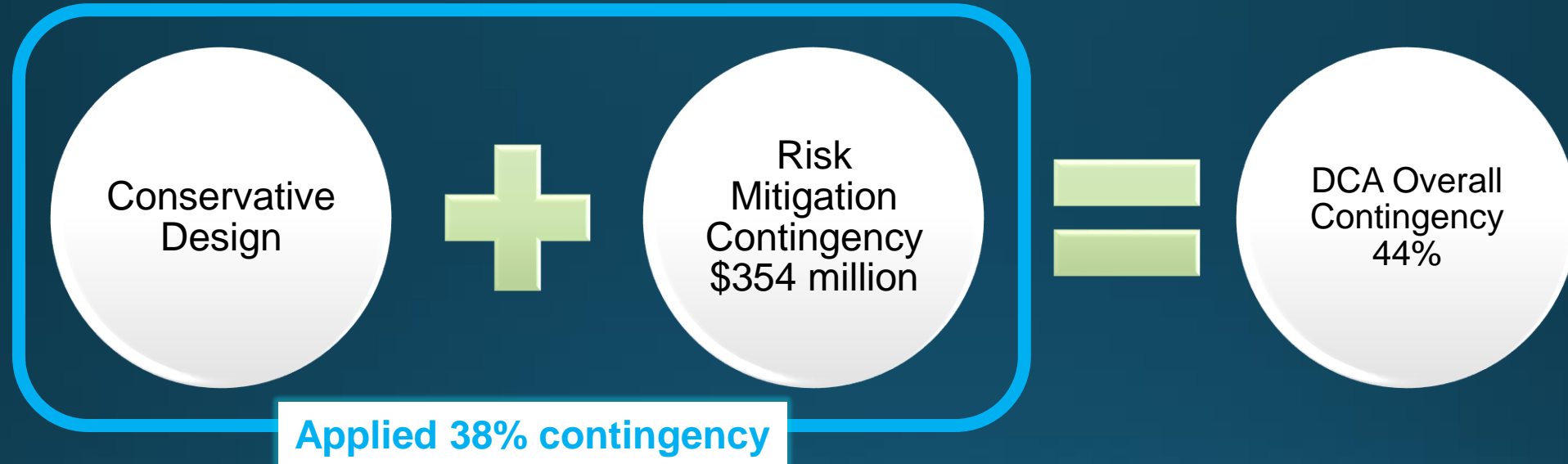


Intakes



Pump Station

# Contingency Levels for DCA Cost Assessment



## WaterFix Overall Contingency

35% of construction costs

# Contingency and Soft Cost Variance

Category	DCA Estimate (\$ Billions)	% of Baseline Construction Costs	Industry Range <sup>4</sup> (% of Baseline Construction Costs)	Applied Industry Range (\$ Billions)	Variance from Industry Range (\$ Billions)
Baseline Construction	8.37 <sup>1</sup>	100	100	8.37	-
Contingency	3.71 <sup>2</sup>	44	10 to 30	0.84 to 2.51	1.20 to 2.87
Program Management	0.42	5	6	0.50	(.08)
Design & CM	2.42	29	10 to 15	0.83 to 1.26	1.16 to 1.59
<b>Subtotal for Variance<sup>3</sup></b>	<b>14.92</b>	<b>178</b>	<b>126 to 151</b>	<b>10.55 to 12.64</b>	<b>2.28 to 4.37</b>
DCO oversight, mitigation, land acquisition	.98	n/a	n/a	n/a	n/a
<b>Total Project</b>	<b>15.9</b>	n/a	n/a	n/a	n/a

1. This removes \$354 M from the DCA construction costs since those were line item risk mitigation contingencies.
2. This adds \$354 M to the DCA stated contingency of 3.3 to include risk mitigation contingencies.
3. Does not include DCO oversight, mitigation, land acquisition, capital costs, and O&M costs.
4. Based on level of detail provided in DCA documents and estimate



# Agreements for Agency Board Consideration – November 2020

## 1. Agreement in Principle (AIP) for the SWP Delta Conveyance Contract Amendment

➤ Agency's DCF Participation Factor = \_\_\_ %

## 2. Funding Agreement for DCF Planning Costs

## 3. Delta Conveyance Design and Construction Authority (DCA) JPA Agreement

# Delta Conveyance AIP

- Option to opt-out of DCF costs and benefits
- Option to assume additional DCF costs and benefits
- Effective Date will be on or after the contract extension billing transition date
- Costs and DCF water supply are allocated based on the DCF Participation Table
- Adopt “Pay-As-You-Go” Billing Provisions for both the Capital and Minimum Components

# Key Provisions of Funding Agreements

- Funding Agreements for \$385 million for planning costs from 2021-2024
- Authorizes contributed funds to be spent on DCA invoices consistent with the JEPA and DCO environmental planning costs
- Allows for customization of contributed funds
- Provides flexibility to provide additional funds without amendment to the Agreement

# Options:

- Statement of Charges
  - Rebill for 2021 SOC
  - Pay-go or Lump Sum
- Authorization for entire share of \$385 million in planning costs or only first two years
- Will allow for additional funds to be contributed upon showing of Board authorization



# Summary

- Project Schedule – ROD/NOD mid-2023
- Project Benefits (yield) – Current modeling shows that DCP improves yield under 5 different scenarios
- Project Cost
  - Planning costs over 4 years = participation percent of \$385M
  - Project cost estimated at \$15.9B
- Funding Agreement
  - SOC (rebill for 2021)
  - Lump Sum or Pay-go
  - Two years or 4 years
- Member Unit Board actions in October
  - Other participants expect that construction participation will be at the same level as participation in the planning phase unless there is significant change in the project or its costs.

# Delta Conveyance Program

- Response to KCWA by November Board meeting
  - Planning participation level
  - Planning commitment 2 or 4 years
  - Pay-go or lump sum
- Plan Joint Districts Board meeting November 4 or 5
- Post DCP information on our web sites
- Notify landowners
  - DCP information is available on web sites
  - Staff available to discuss
  - Planning participation decision is anticipated at November Board meeting
  - Include staff recommendation
  - Request landowner input

# Delta Conveyance Program

- Initially no response from KCWA regarding our participation conditions
- Member Units (Westside, SWSD, WRMWSD) and KCWA developing a Policy/GM level process
  - Goal to provide input and improve communication
  - We've had two positive meetings
- Member Unit Managers meeting October 8<sup>th</sup> 1:30pm
- DCP Validation

# Delta Conveyance Program

DCP Planning & Environment Cost									
Est SWC participation		3,902,943	AF			45,350	92,600	119,110	121,508
						DRWD	BMWD	LHWD	BWSD
		<u>Million \$</u>		<u>\$/Table A AF</u>		<u>Million \$</u>	<u>Million \$</u>	<u>Million \$</u>	<u>Million \$</u>
2021		79		20.24		0.92	1.87	2.41	2.46
2022		86		22.03		1.00	2.04	2.62	2.68
2023		110		28.18		1.28	2.61	3.36	3.42
2024		110		28.18		1.28	2.61	3.36	3.42



# Delta Conveyance Program

- Staff recommendation
  - Respond to KCWA our Districts willing to continue support for first two years of planning cost on a pay-go process. Support after first two years subject to:
    - Finalize SWP contract extension
    - Finalize SWP water management amendment
    - Acceptable project cost and yield amounts
    - Acceptable project cost and yield allocations
    - Local administration of project yield and cost
    - Clarification that landowners will have ability to transfer Table A equivalent to DCF yield
    - Commitment of support from Governor