

Exhibit A**Monterey County Water Resources Agency
Interlake Tunnel and Spillway Modification Project****Fish Screen Design Parameters and Operational Criteria**
(White Bass Exclusion)

The following criteria and parameters guide the design, construction, and operation of a fish screen and water intake structure. The criteria and parameters are reasonably determined to minimize or avoid the passage of White Bass through the proposed Interlake Tunnel using feasible design features and equipment.

The fish screen design requires a rotating cylindrical wedgewire screen with external and internal brush cleaning systems equivalent to screens manufactured by Intake Screens, Inc. (ISI).

Criteria	Units	Value	Comments
Max. Normal Nacimiento Water Surface Elevation (WSEL)	ft	800.0	
Min. Nacimiento Tunnel Operations WSEL	ft	760.0	
Maximum Top of Screen Elevation	ft	760.0	Criterion applies if screen opening size is 0.5 mm, which is expected to provide White Bass exclusion down to the larvae size.
		740.0	Criterion applies if the fish screen opening size is greater than 0.5 mm. This top of screen elevation provides at least 20 ft of submergence for all tunnel operations. This reduces the potential occurrence of White Bass at the tunnel inlet since White Bass are expected to be in the top 20 ft of the water column.
Minimum Bottom of Screen Elevation	ft	728.5	
Average Design Flow	cfs	600	
Maximum Design Flow	cfs	1,400	
Screen Approach Velocity	fps	0.4 – 2.0	
Maximum Added Head Loss	ft	< 2	

Screen Opening Size Range	mm	0.5 min – 1.75 max	Preference is given to 0.5 mm since White Bass eggs and larvae can be smaller than 1.75 mm. Typical screen opening size of 1.75 mm in the narrow direction is per NMFS fish screen design criteria which was set for minimizing entrainment of salmonid fry and maximizing fish protection.
Screen Porosity (min)	%	22	
Screen Guides and Seals Gap	mm	0.5 min – 1.75 max	No gaps greater than the maximum screen opening defined above.
Porosity Control (for flow distribution)	-	Yes	
Max. Head Differential for Screen Structural Integrity	ft	10	Provide continuous screening whenever there is tunnel flow. A quick closure feature for the downstream valve at San Antonio Reservoir will be included to shut down tunnel flow if the Maximum Added Head Loss occurs.
Post-Construction Evaluation	-	See comment	1. All components of the fish screen will be inspected to verify conformance with the screen opening size criterion. 2. A post construction hydraulic evaluation will be conducted at a high tunnel flow to confirm that the cleaning systems works well at the higher end of the range of design approach velocities.

Criteria	Units	Value	Comments
Tunnel inside diameter	Ft	Not less than 10.0	
Operations and Maintenance Plan	-	See comment	An O&M plan will, at a minimum, outline operational criteria, frequency of inspections and any maintenance requirements.
Fish Screen Cleaning System	-	See comment	External and internal brush cleaning systems capable of operating continuously.
Debris Management System	-	See comment	Floating debris booms at the entrance to the approach channel, trash rack in the intake approach channel, collected debris removal systems.

WSEL = water surface elevation; fps = feet per second, cfs = cubic feet per second, ft = feet, in = inch, mm = millimeter, % = percent
 NMFS = National Marine Fisheries Service
 MCWRA = Monterey County Water Resource Agency