

APPENDIX E4

INFORMATION RELATED TO PROPOSED MEASURES

Appendix E4 includes for YCWA's proposed Project the following information required pursuant to 18 C.F.R. Section 5.18(b)(5)(ii)(2):

(A) Functional design drawings of any fish passage and collection facilities or any other facilities necessary for implementation of environmental measures, indicating whether the facilities depicted are existing or proposed (these drawings must conform to the specifications of § 4.39 of this chapter regarding dimensions of full-sized prints, scale, and legibility);

(B) A description of operation and maintenance procedures for any existing or proposed measures or facilities;

(C) An implementation or construction schedule for any proposed measures or facilities, showing the intervals following issuance of a license when implementation of the measures or construction of the facilities would be commenced and completed;

(D) An estimate of the costs of construction, operation, and maintenance, of any proposed facilities, and of implementation of any proposed environmental measures.

(E) A map or drawing that conforms to the size, scale, and legibility requirements of § 4.39 of this chapter showing by the use of shading, cross-hatching, or other symbols the identity and location of any measures or facilities, and indicating whether each measure or facility is existing or proposed (the map or drawings in this exhibit may be consolidated).

E4.1 Functional Design Drawings

Implementation of YCWA's proposed environmental and recreation conditions, as provided in Appendix E2, does not require any fish passage or fish collection facilities.

Implementation of YCWA's proposed minimum flows conditions (AR1 and AR3) as well as YCWA's proposed spill cessation conditions (AR2 and AR4) require use of the existing fish release valves and low level outlet valves at Our House and Log Cabin diversion dams, the New Bullards Bar Dam spillway, the New Bullards Bar Minimum Flow and Narrows 2 powerhouses, and the Narrows 2 Full Bypass. These are existing facilities and a design drawing for each is included in Volume VI (Exhibit F Design Drawings) of YCWA's Application for New License. The drawings are considered Critical Energy Infrastructure Information (CEII).

In addition, implementation of YCWA’s conditions requires upgrades to a few streamflow gages and some recreation facilities.¹ See YCWA’s proposed Conditions WR4, Implement Streamflow and Reservoir Level Monitoring Plan, and RR1, Implement Recreation Facilities Plan, for a description of these facilities.

See Appendix E2 of this Exhibit E for a description of whether YCWA’s proposed conditions are existing or new.

E4.2 Operation and Maintenance Procedures

O&M of the existing fish release valves and low level outlet valves at Our House and Log Cabin diversion dams, the New Bullards Bar Dam spillway, the New Bullards Bar Minimum Flow and Narrows 2 powerhouses, and the Narrows 2 Full Bypass are described in Section 2 of this Exhibit E. Streamflow gage O&M is described in YCWA’s proposed Streamflow and Reservoir Level Monitoring Plan (WR4). Recreation facilities O&M is described in YCWA’s proposed Recreation Facilities Plan (RR1).

E4.3 Implementation and Construction Schedule for Proposed Measures

Table E4.3-1 provides a schedule for the implementation of YCWA’s proposed environmental measures, as provided in Appendix E2.

Table E4.3-1. Schedule for implementation of YCWA’s proposed Yuba River Development Project environmental conditions.

YCWA’s Proposed Condition	Description	Interval Following License Issuance when Condition Would Be Implemented and Completed
GENERAL		
GEN1	Meet with Agencies and Indian Tribes Annually	Implement in 1 st full calendar year after license issuance and continue annually through license term
GEN2	Review Special-status Species Lists and Assess Newly-listed Species Annually	Implement in 1 st full calendar year after license issuance and continue annually through license term
GEN3	Provide Environmental Training to Employees	Implement in 1 st full calendar year after license issuance and continue annually through license term
GEN4	Develop and Implement a Coordinated Operations Plan for Yuba River Development Project and Narrows Project	Develop plan within 90 days after license issuance and implement through license term

¹ See YCWA’s proposed Conditions WR4, Implement Streamflow and Reservoir Level Monitoring Plan, and RR1, Implement Recreation Facilities Plan, for a description of these facilities.

Table E4.3-1. (continued)

YCWA's Proposed Condition	Description	Interval Following License Issuance when Condition Would Be Implemented and Completed
GEOLOGY AND SOILS		
GS1	Implement Erosion and Sediment Control Plan	Implement immediately on license issuance and continue, as needed, through license term
GS2	Implement Our House and Log Cabin Diversion Dams Sediment Management Plan	Implement immediately on license issuance and continue, as needed, through license term
GS3	Pass Large Woody Material at Our House and Log Cabin Diversion Dams	Implement immediately on license issuance and continue, as needed, through license term
GS4	Implement New Bullards Bar Reservoir Floating Material Management Plan	Implement immediately on license issuance and continue, as needed, through license term
WATER RESOURCES		
WR1	Implement Hazardous Materials Management Plan	Implement immediately on license issuance and continue, as needed, through license term
WR2	Determine Water Year Types for Conditions Pertaining to Our House Diversion Dam, Log Cabin Diversion Dam and New Bullards Bar Dam	Implement within 90 days after license issuance and implement through license term
WR3	Determine Water Year Types for Conditions Pertaining to Narrows 2 Powerhouse and Narrows 2 Full Bypass	Implement within 90 days after license issuance and implement through license term
WR4	Implement Streamflow and Reservoir Level Compliance Monitoring Plan	Implement immediately on license issuance and continue, as needed, through license term
WR5	Maintain New Bullards Bar Reservoir Minimum Pool	Implement immediately on license issuance and continue, as needed, through license term
WR6	Operate New Bullards Bar Reservoir for Flood Control	Implement immediately on license issuance and continue, as needed, through license term
AQUATIC RESOURCES		
AR1	Maintain Minimum Streamflows below Our House Diversion Dam, Log Cabin Diversion Dam and New Bullards Bar Dam	Implement within 90 days after license issuance and implement through license term
AR2	Control Project Spills at Our House Diversion Dam	Implement immediately on license issuance and continue, as needed, through license term
AR3	Maintain Minimum Streamflows at Narrows 2 Powerhouse and Narrows 2 Full Bypass	Implement immediately on license issuance and continue, as needed, through license term
AR4	Control Project Spills at New Bullards Bar Dam	Implement immediately on license issuance and continue, as needed, through license term
AR5	Implement Aquatic Invasive Species Management Plan	Implement immediately on license issuance and continue, as needed, through license term
AR6	Implement New Bullards Bar Reservoir Fish Stocking Plan	Implement immediately on license issuance and continue, as needed, through license term
AR7	Implement Upper Yuba River Aquatic Monitoring Plan	Implement immediately on license issuance and continue, as needed, through license term

Table E4.3-1. (continued)

YCWA's Proposed Condition	Description	Interval Following License Issuance when Condition Would Be Implemented and Completed
TERRESTRIAL RESOURCES		
TR1	Implement Integrated Vegetation Management Plan	Implement immediately on license issuance and continue, as needed, through license term
TR2	Implement Bald Eagle and American Peregrine Falcon Management Plan	Implement immediately on license issuance and continue, as needed, through license term
TR3	Implement Ringtail Management Plan	Implement immediately on license issuance and continue, as needed, through license term
TR4	Implement Bat Management Plan	Implement immediately on license issuance and continue, as needed, through license term
ESA-LISTED SPECIES		
TE1	Monitor Water Temperature Downstream of Narrows 2 Powerhouse	Implement within 90 days after license issuance and implement through license term
TE2	Monitor Chinook Salmon Downstream of Narrows 2 Powerhouse	Implement immediately on license issuance and continue, as needed, through license term
TE3	Establish Lower Yuba River Anadromous Fish Ecological Group	Implement within 6 months after license issuance and implement through license term
TE4	Control Project Ramping and Flow Fluctuations Downstream of Englebright Dam	Implement immediately on license issuance and continue, as needed, through license term
RECREATIONAL RESOURCES		
RR1	Implement Recreation Facilities Plan	Implement immediately on license issuance and continue, as needed, through license term
RR2	Provide Recreation Flow Information	Implement in 1 st full calendar year after license issuance and continue through license term
LAND USE		
LU1	Implement Transportation System Management Plan	Implement immediately on license issuance and continue, as needed, through license term
LU2	Implement Fire Prevention and Response Plan	Implement immediately on license issuance and continue, as needed, through license term
CULTURAL RESOURCES		
CR1	Implement Historic Properties Management Plan	Implement immediately on license issuance and continue, as needed, through license term
TRIBAL INTERESTS		
VR1	Implement Visual Resource Management Plan	Implement immediately on license issuance and continue, as needed, through license term

Table E4.3-2 provides a schedule for the construction of YCWA's proposed environmental and recreation facilities, as provided in Appendix E2.

Table E4.3-2. Anticipated construction schedule for proposed environmental and recreation facilities in YCWA’s proposed Yuba River Development Project conditions.

YCWA’s Proposed Condition	Facility	Construction Period	
		Commence	Complete
GS5	Minor extension of existing roads at Our House and Log Cabin diversion dams to facilitate placement of LWM in the stream below the dams	Upon license issuance	By end of 1 st full calendar year
AR1	Modify fish release valves at Our House , Log Cabin and New Bullards Bar dams to release YCWA’s proposed minimum streamflows, which exceed the existing capability of the releases	Upon license issuance	Within 2 years of receiving all necessary permits/approvals for the modifications
WR4	Modify streamflow gages below Our House, Log Cabin and New Bullards Bar dams to document compliance with YCWA’s proposed minimum streamflows, which exceed the existing ratings of the gages	Upon license issuance	Within 2 years of receiving all necessary permits/approvals for the modifications
RR1	Rehabilitate and enhance existing recreation facilities, and construct new facilities	See Table 3.5-1 in YCWA’s proposed Recreation Facilities Plan	
TR1	Rehabilitate existing Primary Project and recreation roads	See Attachment F in YCWA’s proposed Transportation System Management Plan	

E4.4 Estimated Costs of Environmental Measures

Table 4.3-2 in Section 4.0 of this Exhibit E provides an estimate of the costs of construction, operation, and maintenance of YCWA’s proposed environmental and recreation conditions.

E4.5 Maps Showing Location of Environmental Measures

Figure E4.5-1 shows the location of YCWA’s proposed Yuba River Development Project environmental and recreation conditions, with the exception of 18 conditions listed in the figure legend. Seventeen of those conditions do not pertain to a specific location, other than the area within the FERC Project Boundary. So, the specific geographic locations to which each of those conditions apply cannot be easily shown on a map. The last condition - CR1, Implement Historic Properties Management Plan – is not shown on the figure due to the Privileged nature of the information.

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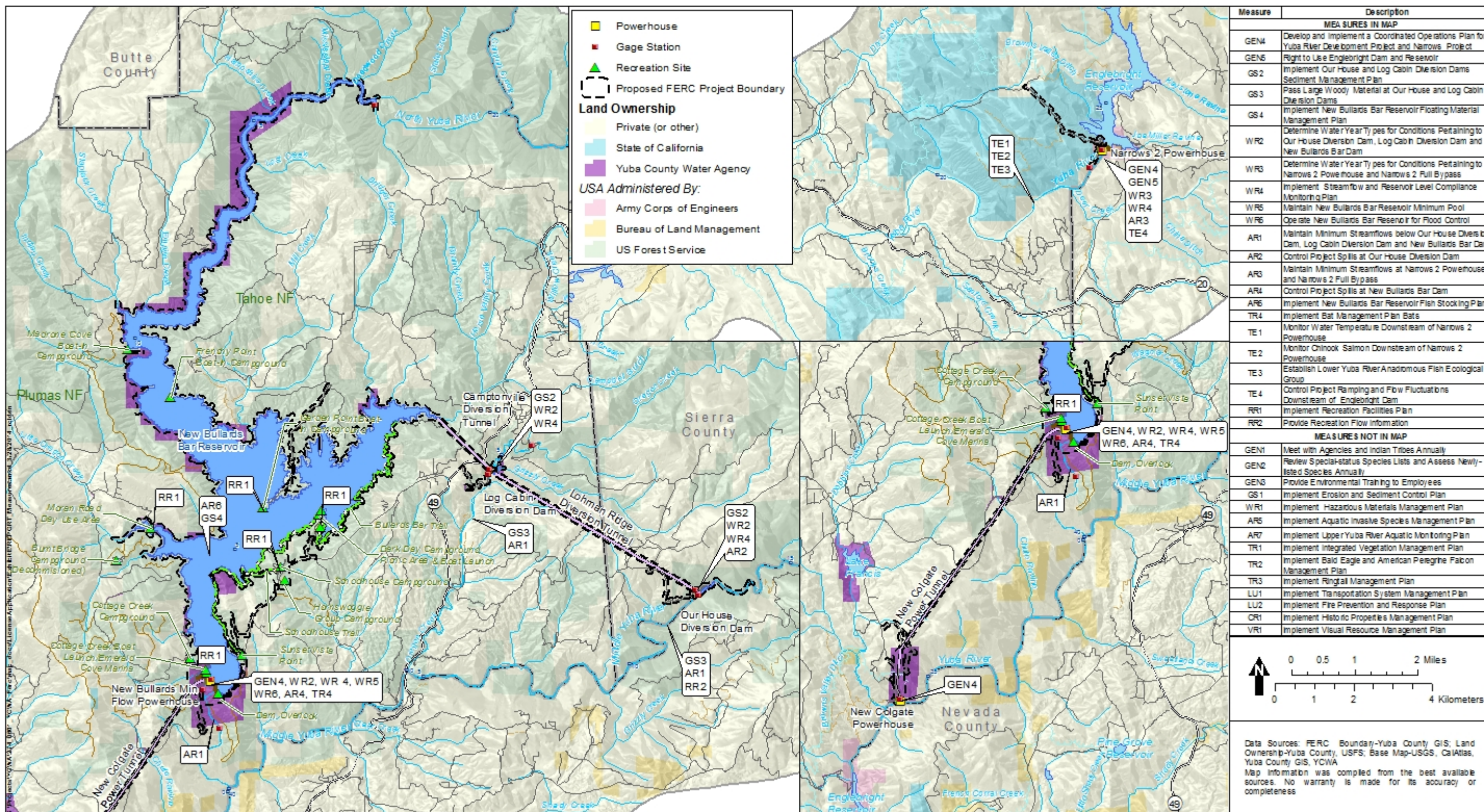


Figure E4.5-1. Map depicting the approximate location of various environmental and recreation condition proposed by YCWA.

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