List of Attachments

1. Project description
2. Construction drawings
3. Water Availability Analysis narrative
4. Existing water right (License 10721)
5. Draft Amended License 10721
6. Map
7. Photos (upstream, downstream, and place of use)
8. Water Management Plan (Exhibit B to Forbearance Agreement)
9. Archaeological report
10. Easements for POD & treated water storage site (CA State Parks)
11. Finding of CEQA categorical exclusion (CA Coastal Conservancy)
12. Request for approval of site-specific criteria pursuant to the *North Coast Instream Flow Policy*

To receive a copy of any attachments not included in this notice, please contact Mark Matranga at mark.matranga@waterboards.ca.gov or 916-327-3112.

Attachment 1 – Project Description

Overview of Project

This water right application is the final component of a fisheries enhancement project designed to increase instream flows in a critical reach of the Mattole River headwaters during the dry season through a storage and forbearance project with Whitethorn School. This Whitethorn School Project is being implemented by the Southern Humboldt Unified School District in partnership with the non-profit organizations Sanctuary Forest, Trout Unlimited, and the Center For Ecosystem Management and Restoration, with funding from the school district, the California State Coastal Conservancy, the National Oceanic and Atmospheric Administration, and the Fish America Foundation.

The Whitethorn School has historically obtained its domestic water supply via a licensed direct diversion from the Mattole River near river mile 57 – an area containing some of the best coho salmon habitat on the mainstem river as well as valuable steelhead habitat. This diversion has the potential to seriously affect habitat for native fish during the late summer and early fall.

The Whitethorn School Project reduces these impacts by replacing the school's direct diversion with stored water during the critical low-flow season. To date, the following components of the project have been completed:

- Installation of approximately 80,000 gallons of new storage (completed in September 2013; see Attachment 4 for detail);
- A forbearance agreement in which the school agrees to forego diverting water under its existing right when flows drop below 0.7 cfs (generally a 2-3 month period at the driest time of year); and
- A change petition dedicating the water left instream under the forbearance agreement to fish and wildlife use under Water Code §1707 (see Exhibit 5, draft amended License 10721).

The fourth component of the project is this Application to Appropriate Water. This is needed because the weekly rate of diversion in the school's existing 1976 water right imposes a serious practical constraint on its ability to effectively manage that storage. The license allows an instantaneous diversion rate of 18 gallons per minute (which would yield 25,920 gallons per day if the pump operated around the clock), but it limits the average daily rate of diversion to the actual amount of use – 1,000 gallons – and the weekly rate of diversion 7,000 gallons per week. If the school used an 18 gpm pump, it would be allowed to operate less than one hour per day.

This application would set the maximum instantaneous rate of diversion at 11 gpm but allow the pump to operate for longer periods of time when flows are optimal for diversion to storage. This effectively increases the school's allowed daily and weekly rate of diversion to allow the newly-installed storage to be filled more efficiently. More importantly, it will allow the school to eliminate its diversions when flows are low. The application does not change the school's existing water use on an annual basis.

Under the current license, it would take more than 11 weeks to fill the 80,000-gallon storage system, and longer when school is in session and water is being used. This deprives the school of the operational flexibility needed to quickly fill the tanks when it would not harm fish, and to top off the tanks in the event they are drawn down by unforeseen circumstances – for example, sudden loss due to leakage, or interruptions in pumping due to pump failure or increased instream turbidity.

This current inflexible license is worse, both for school operations and for fisheries, in at least three ways. First, a rate of 7,000 gallons per week is insufficient to fill the storage while the school is also operating. This would force the school to extend the timing of its diversion into later periods of the year when flows are lower. Second, if the school were to begin the no-diversion period with less than full tanks and subsequently run out of stored water, it would need to resume direct diversion from the river during the season when fish are most vulnerable in order to serve the children. Dry-season diversion is allowed under the school's existing license and the emergency provisions of its forbearance agreement, but is undesirable for operational purposes and for fish. Third, being forced to fill the tanks at the existing slow rate could prevent the school from working with other water users to protect fish by rotating the timing of their diversions during the spring and early summer period when flows are low but not critical.

The requested modification to the diversion rate would avoid all three of these harms. Moreover, as demonstrated in the attached Water Availability Analysis and Water Supply Report, the requested change is fully consistent with the Board's 2010 *Policy for Maintaining Instream Flows in Northern California Coastal Streams*.

Proposed License Term Preventing Limiting the School's Total Water Use to the Value of Its Existing License

This application does not request the right to use any additional water beyond that already allowed under the school's existing 1975 license (#10721). Consistent with this intent, the applicant proposes that the new license contain a term limiting the combined amount of water used under both licenses to 1000 gallons per day – the face value of the existing license.

The School further proposes that fish and wildlife enhancement under Water Code §1707 be added as a purpose of the entire face value of the 1971 right, so that in years when the school's entire diversion is made under this new right – as will be the normal mode of operation – the school can report all its water use under this right, while preserving its future ability to divert under the old right should unusual or unforeseen circumstances arise.

Physical Description of Whitethorn School Water Facilities

The water source for the Whitethorn School is the Mattole River. The diversion intake is a stainless steel pipe with 12 inch nominal diameter. The pipe is perforated and installed horizontally behind a natural rock outcrop within the bed of the river. The pipe is connected to a ¾ hp diversion pump, which delivers water to the 80,000 gallon storage

tank system that was installed in Fall 2013. A clarity filter is installed upstream of the storage tanks to ensure water will not deteriorate during storage. From the storage system, water flows to a treatment system then to the two 2,500 gallon treated water storage tanks that supply the school.

Because the treatment system is located downstream of the tanks, all water diverted and used by the school is routed through the storage tank system throughout the year.

The treatment system begins with a primary sand filter followed by two canister carbon filters. After this, water is fed to an Eagle WC1800 reverse osmosis system whose output is 2 gpm. Following reverse osmosis the water is fed into a 100 gallon chlorine treatment contact tank prior to being pumped up to the two 2,500 gallon primary storage tanks. These tanks have a bypass valve and only one tank is active in normal operations. The storage tanks are filled by float valve on-demand from the chlorine treatment contact tank. From the storage tanks water is gravity fed down to the school building.

The wastewater stream consists of two types: (1) Effluents from the reverse osmosis water treatment system, and (2) mixed residential effluent from kitchen and bathrooms. The water treatment effluent is stored in a tank outside of the pump house near the diversion intake and is pumped up to a larger storage tank at the top of the school property. It is then used for irrigation of outdoor plantings. The residential effluent from the kitchen, bathrooms, sinks and water fountains is treated via an on-site septic and leach field system.

Calculation of Requested Annual Storage Amount

Because all the school's annual water use is routed through the storage system, the quantity of storage requested equals the total amount of combined annual beneficial use under this right and the school's existing 1976 water right permit. This equals:

1,000 gpd X 365.25 days = 365,250 gallons = **1.12 acre-feet**.