August 4, 2015

Mr. Kirk Vodopals
Humboldt Redwood Company
P.O. Box 712
Scotia, CA 95565

Dear Mr. Vodopals:

Subject: Notice of Applicability (NOA) for Coverage under the State Water Resources Control Board General 401 Water Quality Certification Order for Small Habitat Restoration Projects SB12006GN

File: Lawrence Creek Off-Channel Small Habitat Restoration Project; CW-815322; WDID No. 1B15051WNHU

This letter is to certify coverage of Humboldt Redwood Company's *Lawrence Creek Off-Channel Small Habitat Restoration Project* (Project) under the General 401 Water Quality Certification Order for Small Habitat Restoration Projects; Order No. SB12006GN (General 401 Order). Juvenile coho salmon seek slow velocity areas when the rivers rise during storm events. Studies have shown significant increase in juvenile coho growth when they have access to slow water refuge in off-channel features during these storms. The proposed project includes construction of an off-channel feature containing pool and shallow edge water habitat, as well as large wood structures to provide food resources, cover and diversity.

Background

On May 6, 2015, the North Coast Regional Water Quality Control Board (Regional Water Board) received a Notice of Intent (NOI) from Humboldt Redwood Company (Applicant) to comply with the terms of, and obtain Project coverage under, the General 401 Order for the Project.

Regional Water Board staff required modifications to the monitoring plan of the original NOI. Required modifications included: (1) extending the monitoring period to at least

three years following Project implementation; (2) incorporating two cycles of ATM site monitoring (2016 and 2018); (3) modifying the post-project reporting plan to address the success of the Project in addition to providing photographs and reports from the ATM stations; and (4) include post-construction cross sectional information of conditions immediately following project implementation and then during two subsequent years to determine whether the project is self-maintaining.

Project Location

The Project is located on Lawrence Creek, within the Yager Creek Hydrologic Sub-Area 111.23. Coordinates of the project are 40.5886° N, 123.9822° W (Figure 1).

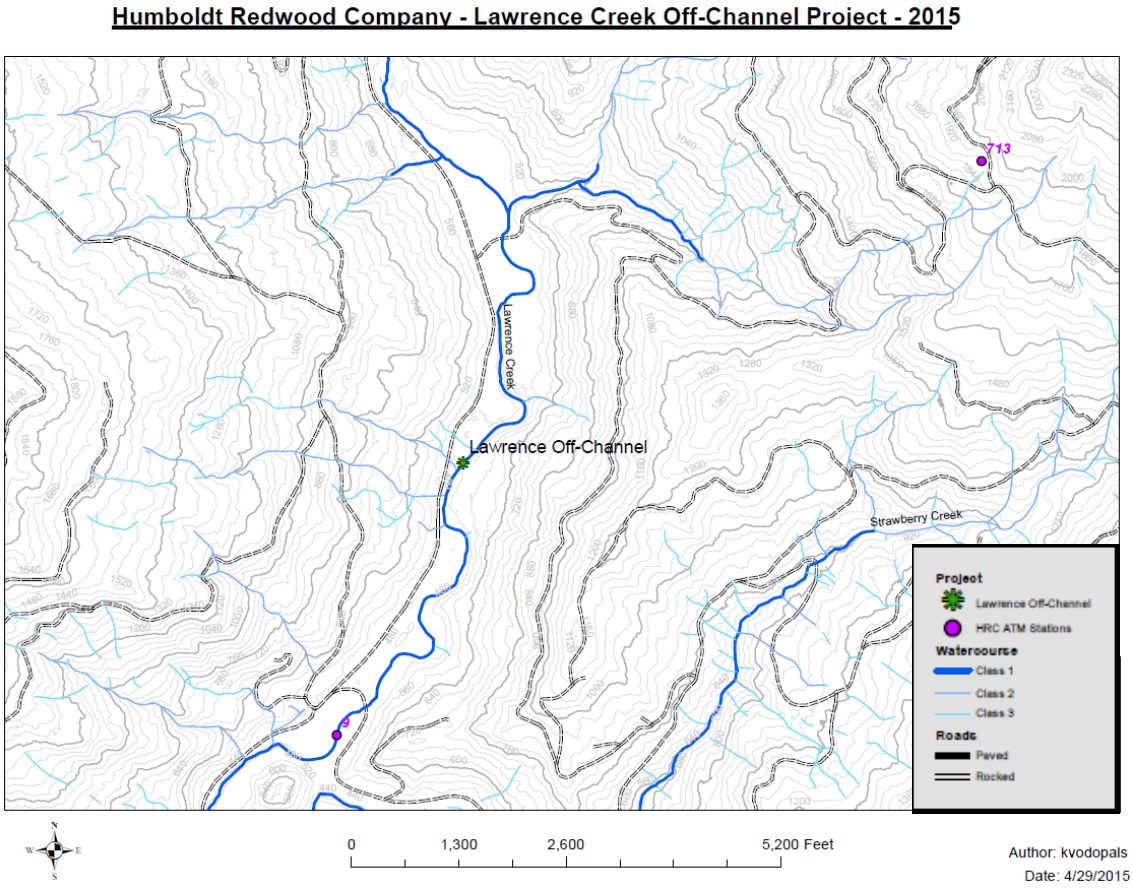

Figure 1 shows the project location and the proposed access route.

Project Description

The proposed project includes construction of an approximately 150 foot long by 45 foot wide off-channel feature (Figure 2). The feature will contain two pools ranging from four to six feet deep and shallow edge water ranging from one to two feet deep to provide temperature and food diversity for salmonids, and will also provide habitat for native

amphibians and waterfowl. The estimated total excavation volume is 580 cubic yards and the spoils will be trucked out of the floodplain and secured in an upland location. Up to 6 large wood structures with rootwads and small woody debris will be placed in the pools to provide food resources, cover and diversity. The entrance to the off channel habitat feature will be a 15 foot long narrow channel about 14 feet wide at the existing ground surface and two feet wide at the base. The thalweg elevation of the channel will be set at 100.2 feet relative to the profile survey, which is also the bank elevation of the lowest flow channel of Lawrence Creek. The existing large wood structure located in Lawrence Creek at the inlet of the pond will provide a slow backwater area that will optimize entrance conditions to the pond. The existing structure will also provide the scouring necessary to maintain the entrance connectivity to the pond.

All exposed soil will be mulched with slash and/or straw upon completion of soil disturbing activities to a point where no less than 90% of disturbed areas are covered with a minimum of 2" of mulch. Where feasible, mulch shall be kneaded or tracked into the soil, and all excavator tracks will run parallel to topographic contours. If necessary, additional erosion control measures will be taken.

The project applicant provided additional project detail in an attachment to the application package titled *Lawrence Creek Off-channel Habitat Feature Design*. The attachment provides additional information related to project location and description, environmental need, environmental monitoring data, design criteria, assessment of project area flora and fauna, monitoring and reporting plans, and environmental protection measures. The proposed activities and environmental protection measures included therein are considered and enforceable component of this water quality certification and are attached for reference (see attachment).

Project Size

The total of ground disturbance associated with the Project is estimated to be approximately 0.15 acres and 150 linear feet of streambank. The proposed project size does not exceed what is allowed for coverage under the General 401 Water Quality Certification Order for Small Habitat Restoration Projects and associated Categorical Exemption (15333) from the California Environmental Quality Act.

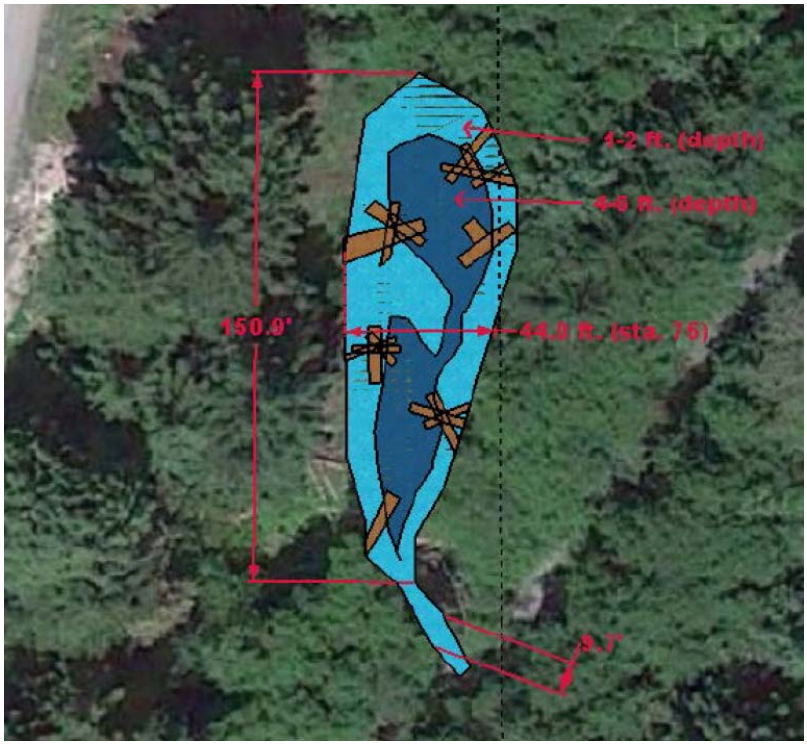

Figure 2. Rough Project design sketch

Project Associated Discharge
The discharge of material into waters of the State resulting from the Project include those associated with the individual logs and rootwads, as well as some incidental sediment discharges associated with operating heavy equipment at the project site.

Project Time Frame
Proposed project start date: September 1, 2015
Expected date of completion: December 31, 2018
Seasonal work window: September 1 – November 1

Monitoring Plan
Monitoring of physical stream parameters will be conducted both before and after project implementation. Pre-project monitoring was conducted by Humboldt Redwood Company as part of the *Yager-Lawrence Watershed Analysis* and *Aquatic Trends Monitoring* programs. Post-project monitoring will occur during the annual *Aquatic Trends Monitoring Program* in Lawrence Creek and shall include pre- and post-project photos taken at flagged photo points.

Three years of post-project monitoring will be provided. An assessment of the annual and final changes to pool volume, substrate conditions, and large woody debris trends will be provided following the third year of monitoring.

Following the completion of each seasonal work period, an annual report will be submitted to all appropriate agencies (NMFS, ACOE, NCRWQCB, and CDFW). This annual report will include the findings that result from pre- and post-project monitoring. These findings should indicate the achievement of performance standards that are relative to the project goals. Each report will also include the following information:

a. Summary of findings
b. Identification and discussion of problems with achieving performance standards
c. Proposed corrective measures as needed (requires Regional Water Board approval)

Agency Permits

The applicant has also submitted applications for permitting and/or coverage of:

a. Army Corp of Engineers Section 404 Permit – Nationwide Permit 27 – Aquatic Habitat Restoration, Establishment, and Enhancement Activities pursuant to Section 404 of the Clean Water Act
b. NOAA/NMFS Consistency Determination with Biological Opinion No. 151422SWR2006SR00190:JMA
c. California Department of Fish and Wildlife – Streambed Alteration Agreement

Notice of Applicability & Project Determination

Regional Water Board staff has determined that the proposed activities as described in the NOI are categorically exempt from CEQA review and may proceed under the General 401 Water Quality Certification Order for Small Habitat Restoration Projects.

Receiving Water:	Lawrence Creek Yager Creek Hydrologic Sub-Area 111.23
Filled / Excavated Area:	580 cubic yards
Total Impacts:	Acreage Temporarily Impacted: 0.15 Length Temporarily Impacted: 150 feet
Dredge Volume:	None
Discharge Volume:	25 pieces of large woody material, 5 rootwads
Latitude/Longitude:	Project Center : 40.5886° N, 123.9822° W

Reporting

As required in Section B, Item 4, of the *General 401 Water Quality Certification Order for Small Habitat Restoration Projects*, Monitoring Reports be submitted at least annually documenting the achievement of performance standards and project goals. In addition, a Notice of Completion (NOC) shall be submitted by the applicant no later than 30 days after the project has been completed. A complete NOC includes at a minimum: photographs with

a descriptive title, the date each photograph was taken, the name of the photographic site, the WDID number indicated above, and success criteria for the project. The NOC shall demonstrate that the Project has been carried out in accordance with the Project description as provided in the applicant's NOI. Please include the project name and WDID number with all future inquiries and document submittals. Document submittals shall be made electronically to: NorthCoast@waterboards.ca.gov

The State Water Resources Control Board General 401 Water Quality Certification Order for Small Habitat Restoration Projects SB09016GN can be found here: http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/generalorders/shrpcert032713.pdf

Please call Jonathan Warmerdam at (707) 576-2468 or Jake Shannon at (707) 576-2673 if you have any questions.

Sincerely,

Matthias St.John 2015.08.04 13:42:10 -07'00'

Water Boards

Matthias St. John
Executive Officer

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Attachment: *Lawrence Creek Off-channel Habitat Feature Design*,
Humboldt Redwood Company

cc: Allan Renger, California Department of Fish and Wildlife
Allan.Renger@wildlife.ca.gov

Cameron Purchio, Army Corps of Engineers
Cameron.R.Purchio@usace.army.mil

Bob Pagliuco, National Oceanic and Atmospheric Administration
Bob.pagliuco@noaa.gov

Lawrence Creek Off-channel Habitat FeatureDesign:

Background - Juvenile coho salmon seek slow velocity areas when the rivers rise during storm events. Studies have shown significant increase in juvenile coho growth when they have access to slow water refuge in off-channel features during these storms. Humboldt Redwood Company (HRC) has identified an abandoned overflow channel that has recently connected at the low end with Lawrence Creek. The area has dimensions of a preexisting channel with a lot of dead trees on the surface with evidence of buried wood.

Project Description - The proposed off-channel featureis designed to be approximately 150 feet long, 45 feet wide with two separate pools from 4 to 6 feet deep. In addition to these deeper features, the pools will have shallow edgewater from 1-2 feet deep to provide temperature and food diversity for salmonids and will also provide habitat for amphibians and waterfowl. The pool profile is shown in Figure 1. The design cross sections are shown in Figure 2, Figure 3, and Figure 4. The estimated total excavation volume is 580 cubic yards and the spoils will be trucked out of the floodplain and secured in an upland location identified by HRC.Up to 6 large wood structures with root wadsand small woody debris will be placed in the pools to provide food resources, cover and diversity. The entrance to the off channel habitat feature will be a 15 foot long narrow channel about 14 feet wide at the existing ground surface and two feet wide at the base. The thalweg elevation of the channel will be set at 100.2 feet relative to the profile survey (Figure 3), which is also the bank elevation of the lowest flow channel of Lawrence Creek. The existing large wood structure located in Lawrence Creek at the inlet of the pond will provide a slow backwater area that will optimize entrance conditions to the pond. The existing structure will also provide the scouring necessary to maintain the entrance connectivity to the pond.

Table 1 Estimated Excavation Volume

Cross section	Distance from Lawrence right bank (ft)	volume (sq. ft)	average end area (cubic yards)
entrance	0	-	13
station 14	14	24	24
station 37	37	32	149
station 75	75	180	119
station 90	90	248	276
station 150	150	0	0
Total (cubic yards)			580

Hydrology:

Topographic and water surface elevation data were collected on February 12, 2015 using a laser level. Because there is no stream gage on Lawrence Creek, the Van Duzen River was used to estimate flow frequencies. The stream flow of Lawrence Creek on the day of the survey was assumed to be about equal or slightly higher exceedence value (more frequent) than the mainstem Van Duzen River. The Van Duzen streamflow on 2/12/2014 was 281 cubic feet per second, equal to the 44% exceedence flow based on the 1950-2014 period of record. The daily average flow exceedence value on the day of survey is estimated to be about the 45 percent (percent of the time the flow is higher).Figure 1 shows the level of this flow relative to the annual hydrograph. This flow typically occurs around April as the flow recedes toward the summer low flows. In a study of the Humboldt Coastal streams by NMFS, the 35% exceedence value has been found to represent flows when the river just begins to "green" up after the brown of sediment laden storm flow. The Lawrence Creek off-channel pond is intended to provide resting areas for flows above the 35% flow, so the entrance needs to be lower than the 35% exceedence flow to provide enough depth for juvenile fish to enter the pond. The flow rate similar to the one occurring on the day of the survey seems appropriate for the lowest elevation of the entrance to the pond. The entrance is narrow and could be manually manipulated with hand tools after construction to target the best inundation frequency and to provide an opportunity for adaptive management as this off channel feature matures.

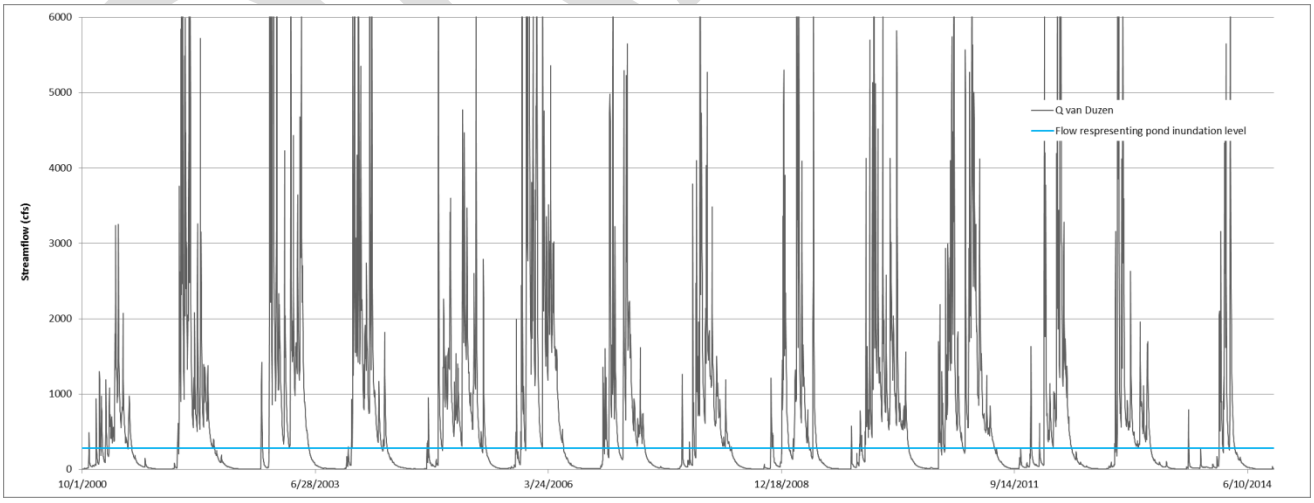

Figure 1 Van Duzen River hydrograph of last 14 years. The solid light blue line showing the flow of day of the survey.

Figure 2 Rough sketch of Lawrence Creek off-channel pond location and shape.

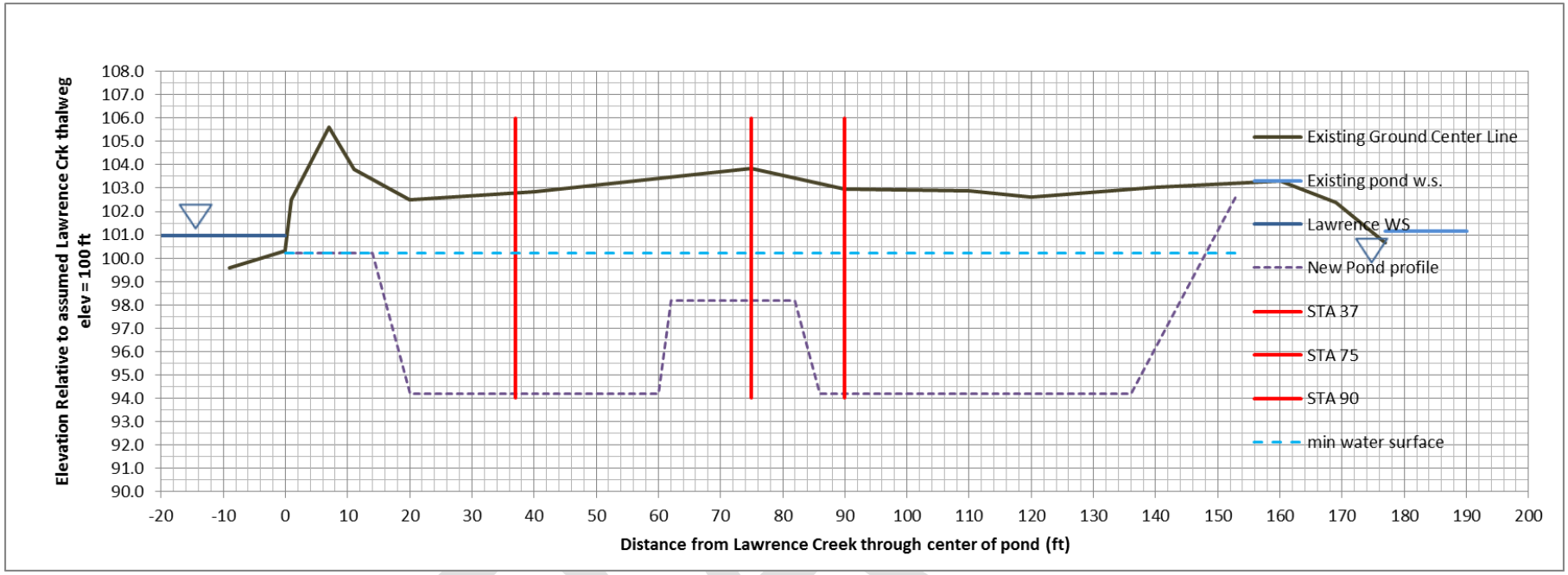

Figure 3 Pond profile from right bank of Lawrance Creek.

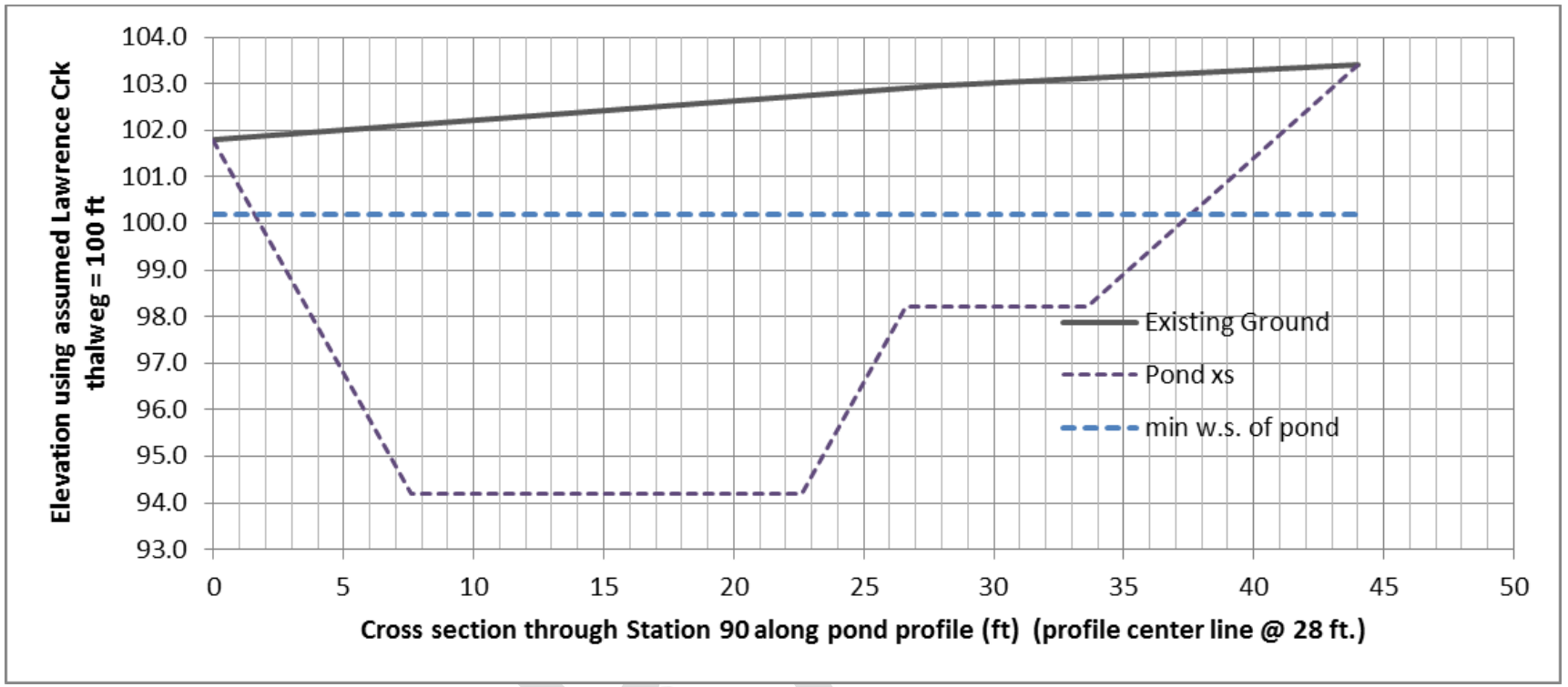

Figure 4 Station 90 cross section view.

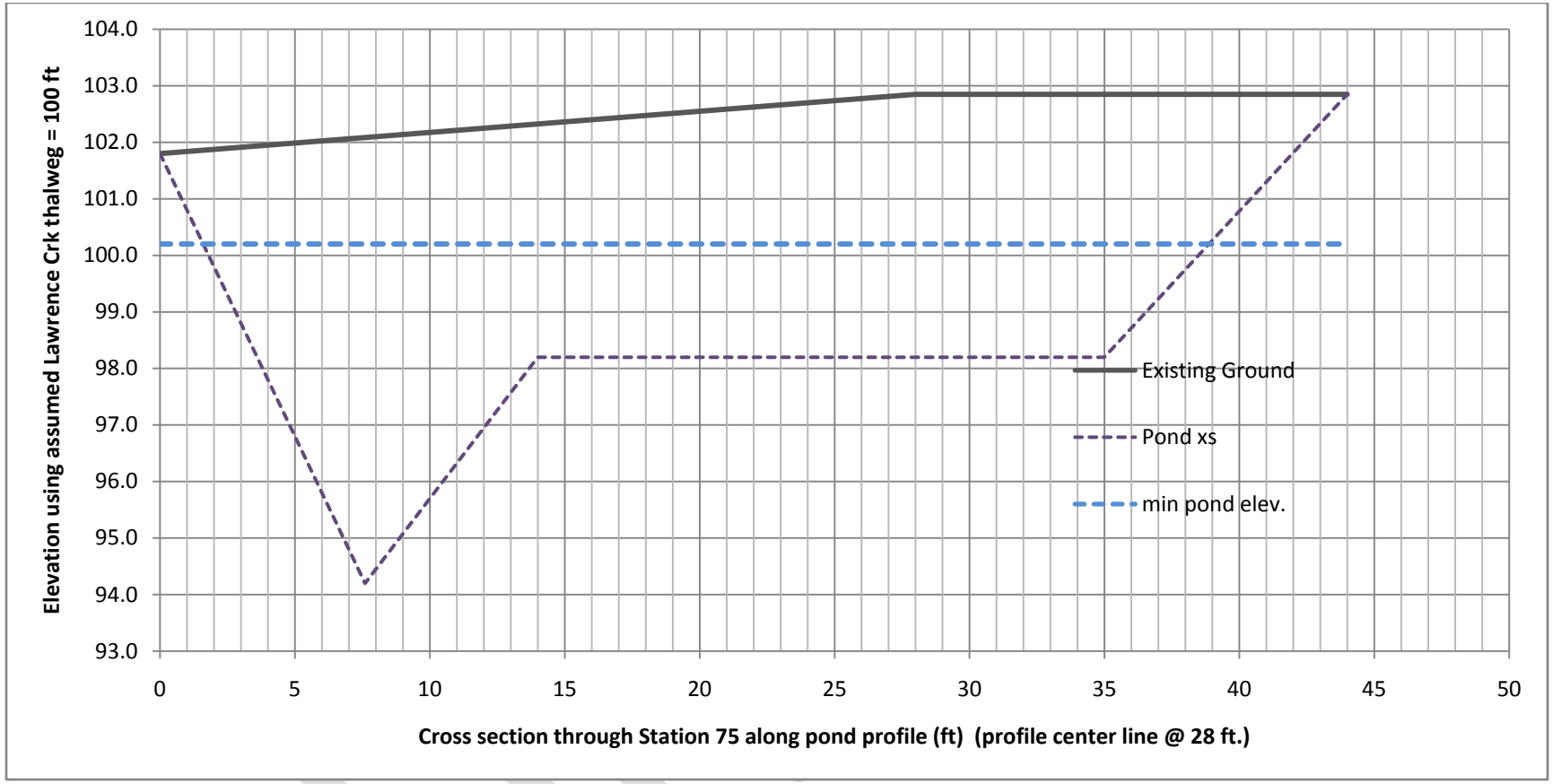

Figure 5 station 75 cross section view.

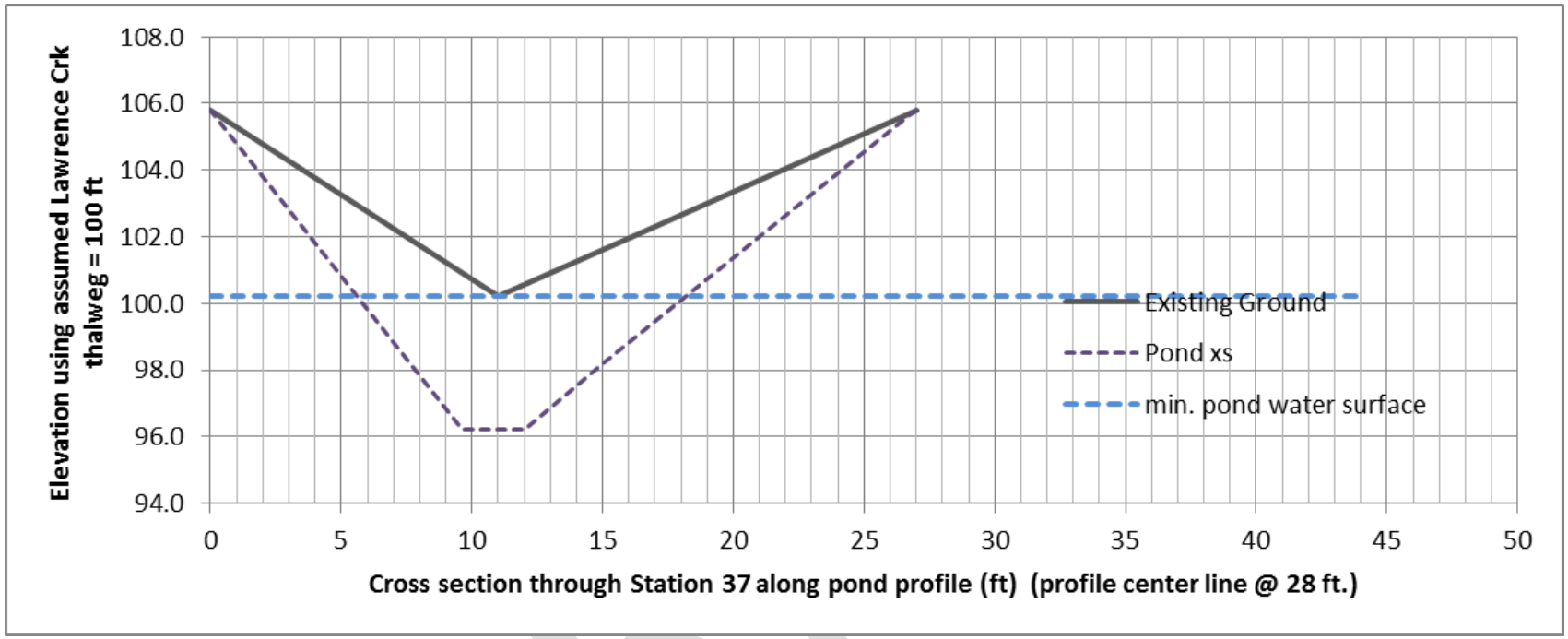

Figure 6 Station 37 cross section view.